

CRS Report for Congress

The Transition to Digital Television: Is America Ready?

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Summary

The Deficit Reduction Act of 2005 (P.L. 109-171) directs that on February 18, 2009, over-the-air full-power television broadcasts — which are currently provided by television stations in both analog and digital formats — will become digital only. Digital television (DTV) technology allows a broadcaster to offer a single program stream of high definition television (HDTV), or alternatively, multiple video program streams (multicasts). Households with over-the-air analog-only televisions will *no longer be able to receive full-power television service* unless they either: (1) buy a digital-to-analog converter box to hook up to their analog television set; (2) acquire a digital television or an analog television equipped with a digital tuner; or (3) subscribe to cable, satellite, or telephone company television services, which will likely provide for the conversion of digital signals to their analog customers.

Households using analog televisions for viewing over-the-air television broadcasts are likely to be most affected by the digital transition. Of particular concern to many policymakers are low-income, elderly, disabled, non-English speaking, and minority populations. Many of these groups tend to rely more on over-the-air television, and are thus more likely impacted by the digital transition.

The Deficit Reduction Act of 2005 established a digital-to-analog converter box program — administered by the National Telecommunications and Information Administration (NTIA) of the Department of Commerce — that will partially subsidize consumer purchases of converter boxes. NTIA provides up to two forty-dollar coupons to requesting U.S. households. The coupons are being issued between January 1, 2008, and March 31, 2009, and must be used within three months after issuance towards the purchase of a stand-alone device used solely for digital-to-analog conversion.

The preeminent issue for Congress is ensuring that American households are prepared for the February 17, 2009 DTV transition deadline, thereby minimizing a scenario whereby television sets across the nation “go dark.” Specifically, Congress is actively overseeing the activities of federal agencies responsible for the digital transition — principally the Federal Communications Commission (FCC) and the NTIA — while assessing whether additional federal efforts are necessary, particularly with respect to public education and outreach. The Congress is also monitoring the extent to which private sector stakeholders take appropriate and sufficient steps to educate the public and ensure that all Americans are prepared for the digital transition. Numerous DTV-related bills (H.R. 608, H.R. 2566, H.R. 2917, H.R. 3862, H.R. 5435, H.R. 5682, H.R. 5696, S. 2125, S. 2507, and S. 2607), have been introduced into the 110th Congress. At issue is whether the federal government’s current programs and reliance on private sector stakeholders will lead to a successful digital transition with a minimum amount of disruption to American TV households or, alternatively, whether additional legislative measures are warranted.

This report will be updated as events warrant.

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The Transition to Digital Television: Is America Ready?

Introduction

Under current law, after February 17, 2009, households with over-the-air analog-only televisions will *no longer be able to receive full-power television service* unless they either (1) buy a digital-to-analog converter box to hook up to their analog television set; (2) acquire a digital television or an analog television equipped with a digital tuner;¹ or (3) subscribe to cable, satellite, or telephone company television services, which are expected to provide for the conversion of digital signals to their analog customers. The Deficit Reduction Act of 2005 (P.L. 109-171) directs that on February 18, 2009, over-the-air full-power television broadcasts — which are currently provided by television stations in both analog and digital formats — will become digital only.² Analog broadcast television signals, which have been broadcast for over 60 years, will cease, and full-power television stations will broadcast exclusively digital signals over channels 2 through 51.

The preeminent issue for Congress is ensuring that American households are prepared for the transition, thereby minimizing a scenario whereby television sets across the nation “go dark” on February 18, 2009. Specifically, Congress is actively overseeing the activities of federal agencies responsible for the digital transition — principally the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA) — while assessing whether additional federal efforts are necessary. The Congress is also monitoring the extent to which private sector stakeholders take appropriate and sufficient steps to educate the public and ensure that all Americans are prepared for the digital transition.

¹ As of March 1, 2007, *all* analog televisions manufactured, imported, or shipped across state lines are required to have a built-in digital tuner, and will therefore not require a converter box. Retailers are permitted to sell analog-only devices from existing inventory, but are required by the FCC to display a “consumer alert” label explaining that the device will require a converter box in order to receive over-the-air television signals after February 17, 2009.

² The February 17, 2009, deadline applies only to full-power television stations. Low-power television stations, including Class A stations and translator stations, will transition to digital broadcasting at a date yet to be determined by the FCC.

What is Digital Television?

Digital television (DTV) is a new television service representing the most significant development in television technology since the advent of color television. DTV can provide movie-quality pictures and sound far superior to traditional analog television. Digital television technology allows a broadcaster to offer a single program stream of high definition television (HDTV) or, alternatively, multiple video program streams (“multicasts”) of standard or enhanced definition television, which provide a lesser quality picture than HDTV, but a generally better picture than analog television. DTV technology also makes possible an interactive capability, such as “pay-per-view” service over-the-air.

In order to receive and view digital television service, consumers must have a digital television set equipped with a digital tuner capable of receiving the digital signal that is provided either over-the-air (in which case an antenna is required) or via cable or satellite television systems. Additionally, consumers can view high definition programs with a digital high definition TV attached to a high definition DVD player (i.e., a Blu-Ray Disc player).

Why is the Nation Transitioning to Digital Television?

One of the key drivers behind the digital transition is reclaiming a portion of the analog spectrum (broadcast channels 52 through 69, also known as the 700 MHz band) currently occupied by television broadcasters. Digital television uses radio frequency spectrum more efficiently than traditional analog television, thereby “freeing up” bandwidth. The goal of the FCC and Congress has been to complete the transition to DTV as quickly as is possible and feasible, so that analog spectrum could be reclaimed and subsequently reallocated for other purposes. Some of the analog spectrum has been auctioned for commercial wireless services (including wireless broadband), and some will be used for new public safety communications services. Additionally, it is mandated that some of the revenue raised in the spectrum auction will be returned to the U.S. Treasury, thereby contributing toward federal deficit reduction. For more information on the auction and use of the analog television spectrum, see CRS Report RS22218, *Spectrum Use and the Transition to Digital TV*, by Linda K. Moore.

Another rationale often cited for the digital transition is that — aside from offering a superior television viewing experience to consumers — DTV will give over-the-air broadcasters the capability to offer more channels of programming (via multicasting, if they so choose) as well as the ability to offer similar digitally-based services (such as pay-per-view or other interactive services) offered by cable and satellite television providers.

Who is Likely to be Most Affected by the Transition?

Households using analog televisions for viewing over-the-air television broadcasts are likely to be most affected by the digital transition. Estimates vary over the number of analog TV sets and households affected. According to Nielsen Media Research, as of April 30, 2008, nearly 25 million TV households had at least one television not ready for the digital transition. Specifically, Nielsen found that 9.4% of TV households (roughly 10 million homes) were completely unready for the digital transition, and an additional 12.6% of households were partly unready.³ The National Association of Broadcasters (NAB) has estimated that there are 69 million analog television sets that will be potentially impacted by the digital transition,⁴ consisting of 19.6 million households (17% of all households) relying exclusively on over-the-air analog television sets and an additional 14.7 million cable and satellite households receiving some over-the-air programming on analog sets.⁵ The Consumer Electronics Association (CEA) has estimated that 36.5 million analog televisions (comprising 13.5 million households) will require converter boxes; according to CEA, an additional 30 million analog sets are used for non-broadcast purposes such as playing video games or watching DVDs, and will therefore likely not require converter boxes.⁶

Of particular concern to many policymakers are low-income, elderly, disabled, non-English speaking, and minority populations. Many of these groups tend to rely more on over-the-air television, and are thus more likely to be impacted by the digital transition. A survey commissioned by the Association of Public Television Stations (APTS) indicated that Americans aged 65 and older are consistently more likely to receive television signals via an over-the-air antenna than are Americans under 65. The survey found that during the first quarter of 2007, 24% of households with Americans 65 and older received their TV programming over-the-air, while only 19% of younger households were over-the-air. The study also found that of Americans aged 65 and older who rely solely on over-the-air connections to television programming, only 17% own a digital TV.⁷

A 2008 Government Accountability Office (GAO) survey (conducted March and April of 2008) found that households at risk of losing all television service (“high

³ Stelter, Brian, *New York Times*, “In Move to Digital TV, Some Will Be Left Behind,” May 27, 2008.

⁴ Testimony of K. James Yager on behalf of the National Association of Broadcasters and the Association for Maximum Service Television, hearing before the House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet, March 28, 2007, p. 11. Available at [http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.032807.Yager-testimony.pdf].

⁵ Letter from Jack Sander, Joint Board Chair, National Association of Broadcasters, to the Honorable Kevin Martin, Chairman, FCC, Re: *In the Matter of DTV Consumer Education Initiative*, MB Docket No. 07-148, p. 1.

⁶ *National Journal's Technology Daily*, PM Edition, March 16, 2007, Vol. 10, No. 9.

⁷ Association of Public Television Stations, “APTS Study Shows Older Americans Less Prepared for the Digital TV Transition,” Press Release, July 24, 2007.

risk households”) are more likely to be lower income. Specifically, the GAO survey found that households with yearly incomes of less than \$50,000 contain 19% high risk households, as opposed to households with incomes of \$50,000 to \$100,000 (14% high risk) and households with incomes over \$100,000 (7% high risk).⁸ According to Nielsen Media Research, Hispanic households would currently be most impacted by the DTV transition. While Nielsen found that 9.4% of all U.S. households are completely unready for the transition, 19.9% of Hispanic households are completely unready. Of African-American households, 16.3% are completely unready for the transition.⁹

How Will the Digital Transition Affect Cable and Satellite Households?

Multichannel video programming distributor (MVPD) households — consisting of households receiving cable, satellite, or telephone company television services — constitute approximately 85% of all U.S. television households. Many of these households will likely continue to use analog televisions after the transition. For those customers, it is expected that providers will handle the digital-to-analog conversion, either at the “head end” by providing downconverted analog signals, or at the customer premises via a set top box provided by the cable or satellite company. At the same time, many cable and satellite households also have spare televisions relying on over-the-air broadcasts. These stand-alone over-the-air analog televisions will no longer function unless they are equipped with a converter box.

On September 11, 2007, the FCC adopted rules intended to ensure that cable customers continue to receive local TV stations after the transition. Specifically, the FCC will require cable operators to comply with a “viewability requirement” by choosing to either 1) carry the “must carry” signal in analog as well as digital formats (dual carriage), or 2) carry the “must carry” signal in a digital only format, provided that all subscribers have set-top boxes which will enable them to view digital broadcasts on their analog TVs. The viewability requirement extends to February 2012, at which time the FCC will reassess the need for the requirement. Small cable companies — which had sought an exemption — are permitted to request a waiver of the viewability requirement. The FCC is considering an additional order which could further modify the carriage obligations of small cable companies.

⁸ U.S. Government Accountability Office, Statement of Mark L. Goldstein, Testimony before the House Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, *Digital Television Transition: Broadcasters’ Transition Status, Low-Power Station Issues, and Information on Consumer Awareness of the DTV Transition*, June 10, 2008, p. 12. Available at [http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.061008.Goldstein-testimony.pdf]

⁹ Eric Rossi, Senior Product Manager, Media Product Leadership, The Nielsen Company, Testimony before the House Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, June 10, 2008, p. 4. Available at [http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.061008.Rossi-testimony.pdf]

The Digital-to-Analog Converter Box Program

After February 17, 2009, analog-only televisions will no longer be able to receive over-the-air broadcast signals from full-power stations, unless those televisions are equipped with a digital-to-analog converter box. A separate converter box, available for \$40 to \$70, will be required for each analog over-the-air television set. Converter boxes will not only enable analog televisions to function, they should also provide better reception, additional features such as closed captioning and parental controls, and allow the viewing of multicasted channels. However, a converter box hooked up to an analog TV will not enable the viewer to watch a broadcast in the high-definition format.

The 109th Congress acted to establish a digital-to-analog converter box program that will partially subsidize consumer purchases of converter boxes. Title III of the Deficit Reduction Act of 2005 (P.L. 109-171) directed the National Telecommunications and Information Administration (NTIA) of the Department of Commerce to provide up to two forty-dollar coupons to requesting U.S. households. According to the statute, the coupons are to be issued between January 1, 2008, and March 31, 2009, and must be used within three months after issuance towards the purchase of a stand-alone device used solely for digital-to-analog conversion.

The converter box program is funded by receipts from the auction of the analog television spectrum. P.L. 109-171 designated \$990 million for the converter box program, including up to \$100 million for administrative costs (of which no more than \$5 million can be used for consumer education). In the event that NTIA notifies Congress that additional funding is needed, the total may be raised up to \$1.5 billion, including up to \$160 million for administrative costs.

On March 12, 2007, NTIA released its final rule implementing the converter box program.¹⁰ The final rule stated that starting on January 1, 2008, for the initial \$990 million program (the “Initial Period”), up to two forty-dollar coupons will be available to any and all requesting U.S. households to be used towards the purchase of up to two digital-to-analog converter boxes. Coupons mailed to consumers will be accompanied by information listing converter box models and local (and online) retailers certified to participate in the converter box coupon program. In the event that NTIA determines that the additional \$510 million is needed, only exclusively over-the-air households will be eligible for coupons during this “Contingent Period.”

During the “Contingent Period,” households will be required to self-certify that they are exclusively over-the-air and do not subscribe to cable, satellite, or other pay television services. Cable and satellite households that contain extra over-the-air televisions **will** be eligible for coupons during the “Initial Period” of the program (the first \$990 million), but **will not** be eligible for coupons if there is a second phase (“Contingent Period”) of the program (the additional \$510 million).

¹⁰ U.S. Department of Commerce, National Telecommunications and Information Administration, “Rules to Implement and Administer a Coupon Program for Digital-to-Analog Converter Boxes,” 47 CFR 301, *Federal Register*, Vol. 72, No. 51, March 15, 2007, pp. 12097-12121.

The rule also set forth procedures and requirements for manufacturers and retailers who wish to participate in the converter box program. Participation in the converter box program is voluntary. Manufacturers must submit test results and sample converter boxes to NTIA for approval. Approved devices must meet prescribed technical specifications that are intended to ensure an affordable state-of-the-art converter box. Additional permitted features include a smart antenna interface connector and program guide. Features that would disqualify a converter box from being covered by the coupon program include video recording, playback capability, or other capabilities that allow more than simply converting a digital over-the-air signal.¹¹

Meanwhile, retailers must receive a certification from NTIA in order to participate in the converter box coupon program. Certified retailers must agree to have systems in place capable of processing coupons electronically for redemption and payment, track every transaction and provide reports to NTIA, train employees on the purpose and operation of the coupon program with NTIA-provided training materials, use commercially reasonable methods to order and manage inventory, and assist NTIA in minimizing incidents of waste, fraud, and abuse, including reporting suspicious patterns of customer behavior. Retailers are not responsible for verifying household eligibility.¹²

On August 15, 2007, NTIA announced it had entered into a contract with IBM to run the Digital-to-Analog Converter Box Coupon program. The total award is \$119,968,468, which breaks down to \$84,990,343 for the initial period and \$34,978,125 for the contingent period. The contract performance began immediately and is to close out on September 30, 2009. The IBM-led team will provide services in three areas: consumer education, coupon distribution to consumers and retail store participation, and financial processing to reimburse retailers, to maintain records, and to prevent fraud, waste, and abuse.

As of January 1, 2008, consumers could apply to NTIA for up to two converter box coupons, either by logging onto [<http://www.dtv2009.gov>], or by calling the toll-free number: 1-888-DTV-2009 (1-888-388-2009). The following are some issues that have surfaced since the converter box program has begun.

Supply of Coupons

As of June 18, 2008, NTIA had accepted requests from 9.27 million households for 17.47 million coupons, equal to 74% of the 22.25 million coupons available in

¹¹ National Telecommunications and Information Administration, *DTV Converter Box Program Information Sheet for Manufacturers*, March 2007, available at [<http://www.ntia.doc.gov/dtvcoupon/DTVmanufacturers.pdf>].

¹² National Telecommunications and Information Administration, *DTV Converter Box Program Information Sheet for Retailers*, September 2007, available at [<http://www.ntia.doc.gov/dtvcoupon/DTVretailers.pdf>].

the program's Initial Period.¹³ For the program's Contingent Period (occurring when the Initial Period funds are exhausted and available only to exclusively over-the-air households) 11.25 million coupons will likely be made available. According to NTIA, at the current rate of coupon requests, funds for the Initial Period will run out in August 2008, and NTIA will likely request Congress to release additional funds for the Contingent Period.¹⁴

Coupon Eligibility

Under current regulations (47 CFR 301), households eligible for converter box coupons must have a United States Postal Service (USPS) mailing address. Post office (P.O.) box addresses are not accepted unless the applicant is a resident of an Indian reservation, Alaskan Native Village, or other rural area without home mail delivery. The effect of this regulation is that NTIA has been denying applications from nursing home residents (who do not have a unique USPS mailing address) and from residents who prefer to utilize post office boxes.

On April 24, 2008, the NTIA issued a Notice of Proposed Rulemaking which proposes certain waivers to NTIA regulations regarding household eligibility and the necessity of a USPS mailing address.¹⁵ Specifically, NTIA is proposing to permit seniors in nursing homes to receive one coupon under certain circumstances, and to permit applicants using post office boxes to receive coupons if the applicant can provide proof of physical residence as part of the application process. NTIA will make a final decision on this issue after reviewing public comments on these proposals.

Coupon Expiration

According to the Deficit Reduction Act of 2005 (P.L. 109-171), "all coupons shall expire 3 months after issuance" (section 3005(c)(1)(C)). Coupons first issued in February 2008 expire in May 2008. Because some lower-cost or more desirable converter box models were initially not readily available (particularly boxes with "analog pass-through" necessary to watch analog low-power television stations) there have been calls to allow consumers to reapply for new coupons if their unused coupons expire after 90 days. A February 12, 2008 letter to NTIA from majority members of the House Energy and Commerce Committee stated that "it is consistent with our reading of the statute for households whose coupons have expired to apply to have them reissued," and urged NTIA to "allow coupons to be re-issued under

¹³ For the latest statistics on the converter box coupon program, see [https://www.dtv2009.gov/docs/Weekly_Stats_Report_en.pdf].

¹⁴ *Consumer Electronics Daily*, "NTIA to Seek \$450 More in DTV Coupon Funds," March 20, 2008.

¹⁵ Department of Commerce, National Telecommunications and Information Administration, Notice of Proposed Rulemaking; Request for Comments, "The Household Eligibility and Application Process of the Coupon Program for Individuals Residing in Nursing Homes and Households that Utilize Post Office Boxes; Waiver," *Federal Register*, Vol. 73, No. 80, April 24, 2008, pp. 22120-22124.

such circumstances provided that there are sufficient funds remaining in the TV converter box coupon program to support such reissuance.” NTIA’s February 21, 2008 response to the Committee promised to address this issue and stated that “NTIA will have a better understanding of the impact of the 90-day expiration and the demands on Coupon Program funds as consumers begin to redeem coupons in the coming months.”

On May 7, 2008, the Chairman and Ranking Minority member of the Senate Committee on Commerce, Science and Transportation, along with nine other Senators, sent a letter urging NTIA to allow consumers to reapply for coupons, funds permitting, and to examine novel approaches to ensure consumers are able to purchase converter boxes in cases where there is a shortage. One possibility, according to the letter, would be the use of coupons to preorder converter boxes that are out-of-stock or not yet available.¹⁶

As of June 18, 2008, over 1,000,000 coupons had expired.¹⁷

Reception of Digital Signals

A converter box must be attached to an antenna in order to receive digital signals over-the-air. Antennas can range from simple indoor “rabbit ears” to large rooftop antennas of various shapes and configurations. According to the FCC, over-the-air households that currently receive good quality reception of an analog television signal should be able to receive a digital signal (via a converter box or digital television) with the same antenna previously used to receive analog TV signals. However, some viewers — particularly those living near obstructions or towards the outer edges of a station’s broadcasting range — may have difficulty receiving a digital signal, and may require a bigger or different type of antenna. Also, some television stations are temporarily operating their digital signal at a reduced power level or at a different channel than will be used after February 17, 2009.¹⁸ The FCC provides a publication, *Antennas and Digital Television*, which offers tips and advice for consumers with over-the-air digital signal reception problems.¹⁹

¹⁶ *Communications Daily*, “NTIA Asked to Allow Reissue of Expired DTV Coupons,” May 8, 2008.

¹⁷ NTIA, TV Converter Box Coupon Program Weekly Status Update, June 11, 2008.

¹⁸ In a survey conducted December 2007 through February 2008, the General Accountability Office (GAO) found that 68% of responding stations were operating their digital signals at full power, and that 68% of stations were transmitting their digital signal on the channel from which they will broadcast after the transition. See GAO, *Digital Television Transition: Majority of Broadcasters Are Prepared for the DTV Transition, but Some Technical and Coordination Issues Remain*, GAO-08-510, April 2008, 34 pp. Available at [<http://www.gao.gov/new.items/d08510.pdf>].

¹⁹ Available at [<http://www.fcc.gov/cgb/consumerfacts/dtvantennas.html>].

Low-Power Television and the Digital Transition

Unlike full-power television stations, low-power television (LPTV) stations, along with Class A stations and translator television stations,²⁰ are *not* required to convert to digital broadcasting by February 17, 2009. With a later deadline for LPTV digital conversion (possibly in 2012) still to be set by the FCC, most LPTV stations will continue to broadcast analog signals after February 17, 2009. A growing issue of concern to LPTV, Class A, and translator stations is the capability of digital-to-analog converter boxes to either pass through or receive broadcasted analog signals in addition to receiving and converting digital signals. A household that receives both full-power and LPTV broadcast signals, and that installs a converter box in order to receive the full-power station's digital signal, will not be able to receive the LPTV station's analog signal unless the converter box is equipped with an analog signal pass-through capability or an analog tuner. NTIA permitted but did not require manufacturers to install an analog signal pass-through capability in certified converter boxes, arguing that such a requirement could raise the cost of the boxes and pose possible interference problems for the digital signal. To date, the NTIA has approved 96 models of coupon eligible converter boxes (CECBs); of these, 25 offer an analog pass-through capability.²¹ CECBs that receive an analog signal (with tuners capable of receiving both digital and analog signals) are not eligible under the coupon program.

The Community Broadcasters Association (CBA), representing LPTV and Class A stations, argues that the widespread use of converter boxes without an analog reception or pass-through capability would effectively cause many of these stations to go out of business. The CBA has filed a complaint at the FCC asserting that the NTIA-certified converter boxes violate the All-Channel Receiver Act of 1962 if they block reception of analog over-the-air television broadcast signals.²² On February 12, 2008, FCC Chairman Martin wrote a letter to the broadcasting, cable, satellite, consumer electronics, and consumer electronics retailing industries, asking each to voluntarily take specific steps to lessen the adverse effects of the digital transition on LPTV, Class A, and translator stations.²³ On March 26, 2008, the CBA petitioned the U.S. Court of Appeals for the District of Columbia Circuit to direct the FCC to

²⁰ Low-Power Television (LPTV) was created by the FCC in 1982 to serve rural areas and individual communities within larger urban areas. Class A stations are former LPTV stations with certain interference protection rights not available to LPTV stations. TV translator stations rebroadcast programs of full-power stations in remote or mountainous areas. According to the FCC, as of December 31, 2007, there were 2,295 licensed LPTV stations, 556 Class A stations, and 4,271 TV translator stations. A list of LPTV, Class A, and translator stations is available at [<http://www.ntia.doc.gov/dtvcoupon/LPTVmap.html>].

²¹ For the latest listing of NTIA-approved coupon eligible converter boxes, see [https://www.ntiadtv.gov/cecb_list.cfm]

²² Community Broadcasters Association, *Petition for Declaratory Ruling, In the Matter of Compliance of Digital Converter Boxes With the All Channel Receiver Act*, filed before the Federal Communications Commission December 7, 2007, 11 p. Available at [<http://www.dtvnow.org/documents/dtvconv5.pdf>].

²³ Letter from FCC Chairman Kevin J. Martin to industry stakeholders. Available at [http://www.fcc.gov/commissioners/martin/cm_letter_021208.pdf].

immediately enforce the All-Channel Receiver Act and to stop the marketing and distribution of all converter boxes that do not receive an analog signal (e.g. all CECBs). However, on May 7, 2008, the Court dismissed the CBA lawsuit.

The Deficit Reduction Act of 2005 established two grant programs administered by the NTIA designed to assist low-power television stations with the digital transition.²⁴ Section 3008 provides funding not to exceed \$10 million during FY2008-FY2009 (starting October 1, 2007) to compensate low-power television stations (including Class A, translator, or booster television stations) for the cost of a digital-to-analog conversion device in order to convert the digital signals received from their corresponding full-power television stations and provide analog signals to their customers. In no case shall the compensation for a single digital-to-analog converter device exceed \$1,000. On October 29, 2007, NTIA announced the start of the LPTV Digital-to-Analog Conversion grant program that will help low-power television stations continue analog broadcasts. The program provides funds to eligible low-power stations that must purchase a digital-to-analog conversion device to convert the incoming digital signal of a full-power television station to analog for transmission on the low-power station's analog channel. Applications are being accepted between October 29, 2007, and February 17, 2009.

Section 3009 provides funding not to exceed \$65 million that will be made available no earlier than October 1, 2010, to reimburse low-power television stations for equipment to upgrade stations from analog to digital in eligible rural communities.²⁵ Priority reimbursements will be given to stations with licenses held by non-profit corporations and stations that serve rural areas with less than 10,000 viewers. Details on the implementation of the Low-Power Television and Translator Upgrade Program will be announced by NTIA at a future date. Motivated by concerns that LPTV, Class A, and translator stations should be able to convert to digital as soon as possible (and to fix a technical inconsistency in the statute) legislation was introduced into the 110th Congress that would move up the effective date of the low-power television and translator upgrade program. S. 2607 (introduced by Senator Snowe on February 7, 2008) and H.R. 5696 (introduced by Representative DeFazio on April 3, 2008) would make grant money available for low-power television and translator station digital upgrades on or after February 18, 2009, rather than on October 1, 2010. On April 24, 2008, S. 2607 was reported without amendment by the Senate Committee on Commerce, Science, and Transportation. On May 15, 2008, the Senate Appropriations Committee adopted an amendment to the War Supplemental Appropriations bill (H.R. 2642) that would incorporate the language of S. 2607/H.R. 5696. However, the DTV provision was not included in the final Senate bill. Subsequently, S. 2607 passed the Senate with an amendment by Unanimous Consent on June 19, 2008.

²⁴ For further information on NTIA's LPTV grant programs, see [<http://www.ntia.doc.gov/lptv/index.html>].

²⁵ Eligible rural community is defined as "any area of the United States that is not contained in an incorporated city or town with a population in excess of 20,000 inhabitants." (7 U.S.C. 950bb(b)(2))

Status of DTV Public Education

With the February 17, 2009 deadline for the digital transition approaching, and with the public launching of the converter box program in January 2008, Congressional concern is focusing on the adequacy of efforts to inform the public of the digital transition. A primary goal is preventing analog over-the-air households from losing television service in the event that these households do not purchase a converter box or take other measures to ensure the ability to receive digital broadcasts after February 17, 2009.

In an April through May 2008 survey sponsored by the National Association of Broadcasters (NAB), 90% of those surveyed reported they were aware of the February 17, 2009 digital transition deadline, and 70% reported having seen a DTV public service announcement on television.²⁶

Meanwhile, the March/April 2008 survey conducted by GAO found that 84% of people have heard of the transition. However, GAO found that only a third of those planning to buy a converter box know how to obtain coupons, and that 45% of households who are at risk plan inadequate or no action to prepare for the transition.²⁷

Two federal agencies — the NTIA and the FCC — are directly engaged in consumer education efforts regarding the digital transition. Currently, the NTIA is statutorily funded (by P.L. 109-171, the Deficit Reduction Act of 2005) at “not more than \$5,000,000 for consumer education concerning the digital television transition and the availability of the digital-to-analog converter box program.” The NTIA’s DTV consumer education efforts is focused on raising awareness of the coupon program, particularly with five target groups most likely to be affected by the digital transition: senior citizens, the economically disadvantaged, rural residents, people with disabilities, and minorities. To reach those groups and the American public in general, the NTIA is pursuing a strategy of leveraging its resources by partnering with private sector stakeholder groups representing those constituencies most at risk. NTIA is also working with the DTV Transition Coalition, a broad-based coalition of business, trade, and industry groups as well as grass roots and membership organizations. In addition to working with private sector groups, NTIA is working with federal government agencies that target economically disadvantaged Americans.²⁸

²⁶ Eggerton, John, “NAB Poll: 90% Aware of DTV Transition,” *Broadcasting & Cable*, June 16, 2008. Available at [<http://www.broadcastingcable.com/article/CA6570715.html>].

²⁷ U.S. Government Accountability Office, Statement of Mark L. Goldstein, Testimony before the House Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, *Digital Television Transition: Broadcasters’ Transition Status, Low-Power Station Issues, and Information on Consumer Awareness of the DTV Transition*, June 10, 2008, p. 3-4. Available at [http://energycommerce.house.gov/cmt_e_mtgs/110-ti-hrg.061008.Goldstein-testimony.pdf]

²⁸ For information on NTIA DTV consumer education efforts, see Testimony of John Kneuer, Assistant Secretary for Communications and Information, National Telecommunications and Information Administration, hearings held by the Senate (continued...)

On May 15, 2008, the Senate Appropriations Committee adopted an amendment to the War Supplemental Appropriations bill (H.R. 2642) that sought to increase NTIA funding for DTV consumer education. Although the DTV provision was not included in the final Senate bill, the DTV consumer education provision was subsequently incorporated into S. 2607 (The DTV Transition Assistance Act), which was passed by the Senate on June 19, 2008. S. 2607 would give NTIA the authority to take unused funds from the low-power television Digital-to-Analog Conversion grant program (established at \$10 million by section 3008 of the Deficit Reduction Act of 2005) and use remaining amounts for consumer education and technical assistance. Such an education program would address the DTV transition needs of vulnerable populations and the need for education plans regarding analog pass-through converter boxes in areas served by low-power or translator stations.

The Joint Explanatory Statement accompanying the Consolidated Appropriations Act, 2008 (P.L. 110-161) provided the FCC with \$2.5 million for the digital television consumer education and outreach initiative, an increase of \$1 million over the Administration's FY2008 budget request. In the Administration's FY2009 budget proposal, the FCC is requesting \$20 million for DTV education and outreach. Similar to the NTIA, the FCC is pursuing collaborative partnerships with private and public sector entities to target outreach to vulnerable populations and to raise the general awareness of the American public about the DTV transition. The FCC has become a member of the DTV Transition Coalition, prepared and issued consumer publications and web materials, and is promoting DTV awareness by attending and holding events and conferences.²⁹

The significant reliance of the FCC and the NTIA on the private sector for DTV public education has led some to question whether the federal government should assume a more proactive role in promoting DTV public education activities. In response to criticisms and suggestions on DTV consumer education raised by a May 24, 2007 letter³⁰ from the House Energy and Commerce Committee, the FCC released on March 3, 2008, a *Report and Order* on DTV consumer education.³¹ The FCC order requires various stakeholders (e.g. broadcasters, MVPDs, television manufacturers, 700 MHz spectrum auction winners, and others) to provide and promote DTV consumer education.

²⁸ (...continued)

Committee on Commerce, Science and Transportation, "Preparing Consumers for the Digital Television Transition," July 26, 2007. Available at [http://commerce.senate.gov/public/_files/JohnMRKneuerTestimonyv2.pdf].

²⁹ Testimony of Catherine Seidel, Chief, Consumer and Governmental Affairs Bureau, Federal Communications Commission, hearings held by the Senate Committee on Commerce, Science and Transportation, "Preparing Consumers for the Digital Television Transition," July 26, 2007. Available at [http://commerce.senate.gov/public/_files/WrittenStatementofCathySeidel7262007Hearing.pdf].

³⁰ Available at [http://energycommerce.house.gov/Press_110/FCC.052407.Martin.ltr.DTV.pdf].

³¹ FCC, *Report and Order, In the Matter of DTV Consumer Education Initiative*, MB Docket No. 07-148, FCC 08-56, 82 p.

A major component of any DTV public education campaign is likely to be the airing of public service announcements (PSAs). On October 15, 2007, the National Association of Broadcasters (NAB) announced a \$697 million consumer education campaign, including DTV spots, crawls, and 30 minute educational programs.³² In September 2007, the National Cable & Telecommunications Association (NCTA) began running on cable channels a \$200 million English and Spanish language advertising campaign on the digital transition; NCTA will continue the advertising spots through February 2009.³³ The *FCC Report and Order* imposes education and reporting requirements on broadcast stations, but gives broadcasters the option of complying with alternate plans and guidelines developed either by the FCC, the NAB, or (for noncommercial stations) the Association of Public Television Stations.

On May 8, 2008, FCC Chairman Kevin Martin announced a DTV transition test pilot program in which most broadcast stations in the city of Wilmington, North Carolina, will turn off their analog signal on September 8, 2008. The early DTV transition is intended to give the FCC, the NTIA, and broadcasters a “test case” that should supply valuable experiences that can be applied to the nationwide transition in February 2009. In preparation for the early transition, the FCC is coordinating with local officials and community groups in the Wilmington, NC, area to accelerate and broaden consumer education outreach efforts.

Meanwhile, in testimony before the Senate Special Committee on Aging, the Government Accountability Office (GAO) stated that difficulties remain in implementing consumer education programs. GAO testified that because private sector DTV outreach efforts are voluntary, government cannot be assured of their extent and that “given the different interests represented by industry stakeholders, messages directed at consumers vary and might lead to confusion.”³⁴ As requested by the House Committee on Energy and Commerce, GAO is performing an ongoing assessment of public and private sector DTV consumer education programs and is conducting a series of consumer surveys leading up to the transition date.

Key Issues

The Deficit Reduction Act of 2005 set a February 17, 2009 deadline for the digital transition and established a digital converter box coupon program to mitigate the switch-over costs to consumers with analog televisions. The key issue for Congress is the extent to which American households will be ready for the digital transition, and whether measures taken by the government and the private sector are

³² Associated Press, “Broadcasters unveil \$697 million digital TV campaign,” October 15, 2007.

³³ National Cable & Telecommunications Association, Press Release, “Cable Launches \$200 Million Digital TV Transition Consumer Education Campaign,” September 6, 2007.

³⁴ Government Accountability Office, Testimony Before the Senate Special Committee on Aging, *Digital Television Transition: Preliminary Information on Initial Consumer Education Efforts*, GAO-07-1248T, September 19, 2007, p. 9. Available at [<http://www.gao.gov/new.items/d071248t.pdf>].

sufficient to ensure that televisions across America do not “go dark” on February 18, 2009.

Two lines of inquiry have repeatedly been raised in Congressional hearings. First, are public education and outreach efforts sufficient, and is the federal government playing a sufficient role in leading that effort? With limited funding, both the FCC and the NTIA are relying heavily on a strategy of leveraging private sector efforts. On the one hand, private sector groups have a market incentive to ensure that the public is ready for the digital transition: for example, the consumer electronics industry wants to sell DTV products, and broadcasters want their viewers to be able to continue watching their local broadcasts. Accordingly, industry groups have begun to launch multifaceted public outreach campaigns. On the other hand, critics question whether market forces will ensure that public outreach efforts are sufficiently targeted to those segments of American society (the elderly, non-English speakers, rural areas, disabled citizens, minorities, the economically disadvantaged) that may be more at risk of being adversely affected by the digital switch-over.

Critics also assert that industry outreach will likely reflect each industry sector’s interests, and that a formal federal coordination and leadership effort — such as a task force — is needed to ensure that a unified, consistent, and balanced message is conveyed to the public. The Government Accountability Office (GAO) has found that “no comprehensive plan exists for the DTV transition,” and that without such a plan, “meaningful guidance for coordinating responsibilities and measuring progress might not be available to the private or public sector.”³⁵ GAO further determined that the FCC has existing authority, under the Federal Advisory Committee Act (FACA), to convene an advisory committee consisting of private as well as public sector members.³⁶ However, at hearings before the House Energy and Commerce and Senate Commerce, Science, and Transportation Committees, FCC and NTIA officials stated that coordination is already sufficient, and that it is not necessary for a single entity to be in charge.³⁷ A February 8, 2008 letter to the President from the Chairmen of the House Committee on Energy and Commerce and the Senate Committee on Commerce, Science, and Transportation requests the immediate establishment of a federal interagency DTV task force headed by the FCC. On May 1, 2008, H.Con.Res. 339 was introduced, expressing the sense of Congress that an interagency task force should be established to improve awareness of the digital transition among older individuals and their families.

A second major question is the extent to which NTIA’s converter box program will meet the needs of analog television households. Given that private sector

³⁵ U.S. Government Accountability Office, Statement of Mark L. Goldstein, *Digital Television Transition: Preliminary Information on Progress of the DTV Transition*, Testimony before the House Subcommittee on Telecommunications and the Internet, October 17, 2007.

³⁶ U.S. Government Accountability Office, *Questions on Issues Related to the DTV Transition*, Letter to the Honorable John Dingell, Chairman, House Committee on Energy and Commerce, GAO-08-297R, November 19, 2007, p. 3.

³⁷ *Communications Daily*, “Democrats Fear Lack of Leadership on DTV Transition,” October 18, 2007.

participation in the converter box program is voluntary, will sufficient numbers of converter boxes be manufactured, and will retail outlets — whether large or small stores, whether in urban, suburban, or rural areas — stock sufficient numbers of boxes to meet the demand of consumers seeking to redeem the \$40 coupons? Also, given that coupons will expire three months after households receive them, how effectively will NTIA be able to assess and monitor the balance of the demand for coupons with the local supply of converter boxes? How effectively will fraud, waste, and abuse be avoided and combated, particularly among vulnerable populations such as the elderly? And finally, will funding for the coupons — \$990 million in the initial period and a possible additional \$510 million in a contingent period — be sufficient to meet the total demand?

No definitive answers to these questions are possible until the converter box program is implemented and the digital transition proceeds. The best-case scenario is that public awareness of the digital transition will become ubiquitous during 2008, that converter boxes will be readily available to all who want them, and that the digital transition will proceed smoothly. The worst-case scenario is that public awareness of the digital transition will continue to lag and that converter boxes will not be uniformly available in retail outlets, leading to widespread confusion and frustration in many American households. At issue for Congress is whether the federal government's current programs and reliance on private sector stakeholders will lead to a successful digital transition with a minimum amount of disruption to American TV households or, alternatively, whether additional legislative measures are warranted.

Activities in the 110th Congress

Congress is closely monitoring and overseeing federal and private sector efforts to ensure a digital transition that proceeds as smoothly as possible. **Table 1** shows a listing of hearings held in the 110th Congress on the DTV transition.

Table 1. DTV Hearings Held in the 110th Congress

Date	Committee	Topic
March 28, 2007	House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet	"The Status of the Digital Television Transition"
July 26, 2007	Senate Committee on Commerce, Science and Transportation	"Preparing Consumers for the Digital Television Transition"
September 10, 2007	Senate Special Committee on Aging	"Preparing for the Digital Television Transition: Will Seniors Be Left in the Dark?"

Date	Committee	Topic
October 17, 2007	House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet	“Status of the DTV Transition — Part 2”
October 17, 2007	Senate Committee on Commerce, Science and Transportation	“The Digital Television Transition: Government and Industry Perspectives”
October 31, 2007	House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet	“Status of the DTV Transition — Part 3”
February 13, 2008	House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet	“Status of the DTV Transition — 370 Days and Counting”
April 8, 2008	Senate Committee on Commerce, Science and Transportation	“Oversight of the DTV Transition”
May 7, 2008	House Committee on Small Business	“The DTV Transition and Small Businesses: Small Firms Contributing to a Big Change”
June 10, 2008	House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet	“Status of the DTV Transition: 252 Days and Counting”

The following are DTV-related bills introduced into the 110th Congress:

H.R. 608 (Barton). Digital Television Consumer Education Act of 2007. Requires the FCC to create a DTV public education program, to convene a DTV Advisory Group to coordinate consumer outreach, and to report to Congress every six months on the progress of consumer education efforts. Requires NTIA to report to Congress every 90 days on the progress of the converter box coupon program. Requires retailers, cable and satellite operators, and broadcasters to take various measures to inform the public about the digital transition. Introduced January 22, 2007; referred to Committee on Energy and Commerce.

H.R. 2566 (Engel). National Digital Television Consumer Education Act. Requires TV retailers and distributors to place signs next to all analog TV displays with an advisory that a set-top box is necessary after February 17, 2009, to continue using the TV. Also requires broadcasters to air Public Service Announcements for more than a year before the transition to inform the public about the change and the set-top box subsidy program. Introduced June 5, 2007; referred to Committee on Energy and Commerce.

H.R. 2829 (Serrano). Financial Services and General Government Appropriations Act, 2008. House Appropriations Committee report H.Rept. 110-207, passed by the House on June 28, 2007, would provide \$2 million to the FCC for DTV consumer education. Senate Appropriations Committee report (S.Rept. 110-129) does not address DTV. Placed on Senate Legislative Calendar, July 13, 2007.

H.R. 2917 (Butterfield). Transition Education Accountability Report Act of 2007. Requires the FCC to submit a report to Congress describing the measures taken by the FCC, NTIA, and other federal agencies to inform the public of the transition to digital television. Introduced June 28, 2007; referred to Committee on Energy and Commerce.

H.R. 3862 (Wynn). Preparing America's Seniors for the Digital Transition Act of 2007. Establishes an interagency federal taskforce to educate older Americans on the DTV transition. Requires retailers, cable and satellite operators, and broadcasters to take various measures to inform the public about the digital transition. Directs the FCC to award grants for DTV public education. Requires modifications in the digital-to-analog converter box program. Requires the NTIA and the FCC to provide 90-day progress reports to Congress. Introduced October 16, 2007; referred to Committee on Energy and Commerce.

H.R. 5435 (Solis). DTV Border Fix Act of 2007. Provides for television broadcast stations along the Mexican border to continue analog broadcasts through February 17, 2014, subject to certain conditions and limitations. Introduced February 13, 2008; referred to Committee on Energy and Commerce.

H.R. 5635 (Kind). Digital Television Transition Consumer Relief Act of 2008. Suspends temporarily the duty on digital-to-analog converter boxes. Introduced March 13, 2008; referred to Committee on Ways and Means.

H.R. 5682 (Allen). Rural America Communication Expansion for the Future Act of 2008. Authorizes grants to rural public television stations for digital conversion. Introduced April 2, 2008; referred to Committee on Energy and Commerce and in addition to the Committees on Ways and Means and Agriculture.

H.R. 5696 (DeFazio). A bill to make a technical correction to section 3009 of the Deficit Reduction Act of 2005. Directs NTIA to make grant money available for low-power television and translator station digital upgrades on February 18, 2009, rather than on October 1, 2010 (as is prescribed in current law). Introduced April 3, 2008; referred to Committee on Energy and Commerce.

H.Con.Res. 339 (Butterfield). Expresses the sense of Congress regarding the necessity to improve public awareness in the United States among older individuals and their families and care givers about the impending Digital Television Transition through the establishment of a federal interagency taskforce between the Federal Communications Commission, the Administration on Aging, the National Telecommunications and Information Administration, and the outside advice of appropriate members of the aging network and industry groups. Introduced May 1, 2008; referred to Committee on Energy and Commerce.

S. 2125 (Kohl). Preparing America's Seniors for the Digital Television Transition Act of 2007. Establishes an interagency federal taskforce to educate older Americans on the DTV transition. Requires retailers, cable and satellite operators, and broadcasters to take various measures to inform the public about the digital transition. Directs the FCC to award grants for DTV public education. Requires modifications in the digital-to-analog converter box program. Requires the NTIA and the FCC to provide 90-day progress reports to Congress. Introduced October 2, 2007; referred to Committee on Commerce, Science and Transportation.

S. 2507 (Hutchison). DTV Border Fix Act of 2007. Provides for television broadcast stations along the Mexican border to continue analog broadcasts through February 17, 2014, subject to certain conditions and limitations. Introduced December 18, 2007; referred to Committee on Commerce, Science and Transportation. Ordered to be reported favorably with an amendment in the nature of a substitute April 24, 2008.

S. 2607 (Snowe). DTV Transition Assistance Act. Makes technical corrections to section 3009 of the Deficit Reduction Act of 2005 by directing NTIA to make grant money available for low-power television and translator station digital upgrades on February 18, 2009, rather than on October 1, 2010 (as is prescribed in current law). Additionally, gives NTIA the authority to take unused funds from the low-power television Digital-to-Analog Conversion grant program and use remaining amounts for consumer education and technical assistance focusing on vulnerable populations and the need for education plans regarding analog pass-through converter boxes in areas served by low-power or translator stations. Introduced February 7, 2008; referred to Committee on Commerce, Science and Transportation. Ordered to be reported favorably without amendment April 24, 2008. Reported without amendment June 10, 2008 (S.Rept. 110-348), and placed on Senate Legislative Calendar. Passed Senate with an amendment by Unanimous Consent June 19, 2008.

S.Res. 576 (Hatch). Designates August 2008 as "Digital Television Transition Awareness Month." Introduced May 22, 2008; referred to Committee on Judiciary. Reported by Committee on Judiciary, June 12, 2008, and placed on Senate Legislative Calendar.

For Further Information

A variety of websites have been established to provide basic information to consumers on many aspects of the digital transition. The following is a partial listing.

Federal Communications Commission (FCC)
[<http://www.dtv.gov>]

National Telecommunications and Information Administration (NTIA)
[<https://www.dtv2009.gov/>]
[<http://www.ntia.doc.gov/dtvcoupon/index.html>]

DTV Transition Coalition
[<http://www.dtvtransition.org/>]

National Association of Broadcasters (NAB)
[<http://www.dtvanswers.com/>]

Consumer Electronics Retailers Coalition (CERC)
[<http://www.ceretailers.org/transtodtv.htm>]

Consumer Electronics Association (CEA)
[<http://www.digitaltips.org/>]

National Cable & Telecommunications Association (NCTA)
[<http://www.getreadyfordigitaltv.com/>]

Satellite Broadcasting and Communications Association of America (SBCA)
[http://www.sbca.com/hdtv_index.asp]

Community Broadcasters Association
[<http://www.keepuson.com/index2.php>]

National Association of Regulatory Utility Commissioners (NARUC)
[<http://www.naruc.org/dtv/>]

Consumers Union
[<http://www.hearusnow.org/tvradio/12/>]