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THE DIGITAL TELEVISION TRANSITION

HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

JULY 12, 2005

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

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THE DIGITAL TELEVISION TRANSITION

TUESDAY, JULY 12, 2005

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10 a.m. in room SR–253, Russell Senate Office Building, Hon. Ted Stevens, Chairman of the Committee, presiding.

OPENING STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Good morning. Thank you all for coming.

This hearing is going to examine issues relating to setting a hard date to complete the DTV transition. We believe a hard date is necessary. The issue has been in the works since 1996. Public safety needs spectrum for interoperability for new services. Consumers need to get better video and audio services and more over-the-air programming. And consumers will also get a new series of services recovered from the 700 megahertz spectrum that will be—such as wireless broadband.

It's the feeling of this committee that we must balance broadcast cable and satellite interests with regard to digital and analog carriage after the analog broadcasts cease. Broadcasters want to ensure that all of their signals are seen by as many viewers as possible. Cable wants time to proceed with their own digital transition, and doesn't want to have to immediately deploy cable converter boxes to all of the analog subscribers. And satellite is worried about spectrum concerns related to high definition that could force them to significantly reduce the number of local-to-local markets that they can serve due to capacity restraints.

So, we look forward to receiving your testimony. And there's going to be some coming and going here today, I'm sure.

Senator McCain, do you want to go first, please?

STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM ARIZONA

Senator MCCAIN. Thank you, Mr. Chairman. And thank you for holding this hearing.

I believe that retrieving the analog spectrum and completing the digital television transition is the most critical communications issue facing the 109th Congress.

For over 20 years, regulators in Washington have been debating the transition to digital television. It was during the 1980s that broadcasters first brought forth policy proposals on high-definition

television. Some believe that broadcasters sought the transition, not to provide clearer pictures and better sound to their viewers, but, rather, to prevent competition from the new broadcast stations and wireless carriers that the FCC had considered licensing on unused channels.

According to one observer, Tom Hazlett, the history of DTV reads like a Russian novel. It was born not in the laboratory, but on K Street, an attempt by broadcasting lobbyists to block land-mobile services from gaining access to UHF spectrum, despite pressing demands for more wireless telephone competition. In an aggressive lobbying campaign, Congress was to give broadcasters new spectrum for digital broadcasting for free. I have often referred to this as the Great $70 Billion Giveaway. And according to the Telecommunications Act of 1996, this great taxpayer rip-off was to occur by December 31, 2006; thereby, allowing the broadcasters over 10 years to prepare viewers and stations for this new age of television. However, shortly thereafter, broadcasters changed their mind and persuaded Congress, in 1997, the Balanced Budget Act, to provide an exception to the December 31, 2006, date by requiring communities to meet an 85 percent penetration test before analog broadcasting could end.

Last year, at a Commerce Committee hearing, then-FCC Chairman Michael Powell testified that this 85 percent penetration test could result in the DTV transition being put off for decades, or multiple decades.

I remind my colleagues that it took color television 20 years to hit 85 percent penetration, and VCRs 16 years to reach that penetration. The problem is, we don't have another 20 years to wait. The spectrum controlled by television broadcasters is essential to providing our police, fire, and other emergency-response personnel the necessary tools to communicate with each other in the event of another—national emergency.

The use of this spectrum for public safety communications was one of the key recommendations of the 9/11 Commission, still attempting to be blocked by the National Association of Broadcasters. The bombings last week in London reinforced the immediate need for the spectrum. CNN reported that members of Scotland Yard were unable to communicate during their response to the bombings, because they lacked sufficient spectrum. Scotland Yard had to borrow spectrum from a wireless carrier, Vodafone; thereby, preventing millions of callers from reaching loved ones on their cell phones to share news of their safety.

We can act now to prevent a similar problem in the United States. Our Nation can't wait any longer. Last month, I introduced S. 1268, the Spectrum Availability for Emergency Response and Law Enforcement to Improve Vital Emergency Services Act, which would provide our Nation's first responders with additional spectrum by January 1, 2009. I wish the date could have been sooner, but, after talking to public safety organizations and broadcasters, I thought, and decided, that December 31, 2008, presents the most reasonable deadline. I introduced this bill, Mr. Chairman, because I promised police, firefighters, and other emergency-response personnel I would continue the fight on their behalf.

I'm proud that Chairman Stevens has announced his intention to provide the spectrum to public safety organizations by January 1, 2009. I hope that others will join in ensuring that public safety personnel have the communications tool necessary to protect our Nation.

Mr. Chairman, I don't have to repeat again the benefits of completing this transition. They're not only are related to our Nation's public safety; the liberation of spectrum will unleash a multitude of new commercial wireless services, and new opportunities for more broadband deployment and competition. Freeing the spectrum would allow us to rely more heavily on the market, rather than government, to regulate telecommunications.

Mr. Chairman, I hope that we can act, and act quickly, on this issue. If there is another national emergency, the first responders are unable to communicate with each other. I think one of the most disgraceful chapters in the history of this committee, and Congressional oversight, is the way that the National Association of Broadcasters has continued to block this transition, and free up this transition. If there's a national emergency before our first responders get this spectrum, they bear a heavy burden.

Mr. Chairman, I thank you.

The CHAIRMAN. Senator Burns?

STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Senator BURNS. I want to reiterate and build off of what Senator McCain has said. I think he makes a point. But one thing that we have not done in this whole transition thing is to make sure that the market works, and that consumers get what they want. The discussion has been about hard dates, mandates, new FCC rules, and the like. I wonder whether we should be listening to consumers, who are our constituents, a great deal more than we have so far before making any big decisions. But, at the same time, there is also evidently not much awareness out there—in fact, I would say pretty close to none at all—that this is really happening, and that government is getting ready to take away analog spectrum; and so, make literally millions of television sets inoperable in every home in America.

So far, the public education effort seems to have been inadequate, to say the least. So, I would hope that we would hear testimony this morning that would give us some indication in which direction the market wants to go. And our dedication to the people, not only that are charged with the responsibility of broadcasting, whether it be cable, or dish, or over-the-air, that—where the consumers are. And I think we have to, in order—if we are to fulfill our responsibility in promoting diverse information, news, and public safety, and also entertainment, then all of them have to be considered on that basis.

So, I thank the panel for attending this morning. We look forward to your hearing. But, I'll tell you right now, I'm looking at the consumers, their cost, and whether the market can make the adjustment.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Lautenberg?

Senator LAUTENBERG. I would defer to Senator Inouye.

STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

Senator INOUYE. I would ask that my statement be made a part of the record.

[The prepared statement of Senator Inouye follows:]

PREPARED STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

I want to thank the Chairman for holding two hearings today on the many issues raised by the digital television transition. Over the course of these hearings, I am optimistic that the testimony will not only help us understand these difficult issues, but provide us with the tools to address them successfully.

Not a single stakeholder denies that we need to bring the digital television transition to a successful close. We all benefit by bringing consumers better quality television service, providing public safety with the spectrum it needs to protect our communities, and unleashing new and innovative wireless services using the spectrum that will be reclaimed.

Only with a realistic "hard deadline" will we reap these rewards. More important that being realistic in terms of timing, any legislation establishing a hard deadline must include a plan to ensure that all consumers can transition to digital with relative ease. It also must establish what carriage requirements should apply to local broadcast signals during and after the transition. Finally, it must maximize the benefits to consumers from the return of the analog spectrum.

To be successful, we must address these complex public policy issues head on. A decision driven purely by budget considerations, rather than good public policy, will fail to generate the benefits we all hope to achieve. Moreover, if we fail to tackle the difficult issues that confront us, we will only create an artificial and illusory deadline.

First and foremost, our efforts to bring the digital transition to a close must respond to challenges that consumers will face in meeting any date certain. Even today, citizens all across this country are purchasing analog sets with an expectation they would work for the life of the set. They did not ask for a digital television transition and, in many cases, are still unaware that the country is in the midst of a transition. Regardless of the total number of affected television sets, those citizens reliant on over-the-air television signals face the prospect of a total loss of television service. The magnitude of this potential disruption demands that we do more than simply hope for the best.

This transition will only go smoothly if we help these consumers acquire the equipment necessary to receive the digital signal, and this means subsidizing the purchase of digital-to-analog converters. If we attempt to end analog television service for the cheapest possible cost and create a meager consumer subsidy based on the study projecting the lowest number of affected sets, I believe we are inviting problems.

If, instead, we create a robust subsidy program with a comprehensive consumer education and outreach plan, and all affected parties come to the table with innovative solutions, the result may well be that the number of affected consumers will be smaller than projected and the excess funds can be returned to the Treasury.

We know well that the potential benefits of this transition are substantial, including economic growth and job opportunities from the new uses of the returned spectrum. And I am certain that those benefits will be cited repeatedly today in support of a hard deadline. We will also hear that the estimate from the Congressional Budget Office that the auction of the analog spectrum will bring the Treasury $10 billion is conservative.

In the current budget climate, we face difficult decisions about how to use our limited funding resources, but we must not be penny-wise and pound foolish. If we are unwilling to commit up-front the necessary funds and to create the comprehensive education and outreach plan that is required to ensure a smooth transition, we risk delaying unnecessarily the economic and public safety benefits from reclaiming the analog spectrum.

Thank you, Mr. Chairman. I look forward to the testimony of the witnesses on these complex issues.

STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Senator LAUTENBERG. Thank you very much, Mr. Chairman. And it's good that we're holding this hearing, both hearings today, on the transition to digital television.

Now, we know from our listening sessions in recent months, and from the diverse constituencies that are represented here today, that this transition poses many opportunities, but also many challenges. However, upon completing the DTV transition, consumers will enjoy a better television viewing experience. DTV is going to provide viewers with sharper pictures, wider screens, CD-quality sound, and better color rendition, all distinct advantages.

Unfortunately, most Americans have little or no awareness about the magnitude of this transition that's about to occur. And, also, they don't really understand what it is that they're going to get, the benefits that will accompany this change. And later on we're going to hear from the public safety community, which will be one of the main beneficiaries of the transition.

The transition to digital television will free up valuable spectrum, which will improve the safety of the public, as our Chairman announced this morning, through enhanced communications and reduced interference for first responders.

This morning's hearing is also important because we need broadcasters, cable, satellite, and public television to work together and to make the transition as smooth and as fair as possible. The transition will ultimately be, as I said, a truly positive step, not just in terms of what's gained by the return of the analog spectrum, but also the improvement from digital programming.

And I take the public-interest obligation of our broadcasters very seriously. I know that our Nation's public television stations strive to offer innovative, educational, and community programs. And there are many examples of that in the State of New Jersey. WNJN, the New Jersey Network, was already using its digital signal to transmit job-training data last year. And I want to hear from those on the panel about other ways that DTV transition can enhance local content, and increase civic and educational programming.

So, Mr. Chairman, again, I think you've handled this extremely well, in terms of the listening sessions, in terms of having all of the voices that really have something constructive to say about how we get—where we go and how we get there. So, I look forward to hearing from all sides as we review the best approach to the looming DTV transition. It can't be a spectators' game, as far as we're concerned. We have to encourage the pace and the quality of the change, and the cost.

The CHAIRMAN. Thank you very much, Senator.

Senator DeMint?

STATEMENT OF HON. JIM DEMINT, U.S. SENATOR FROM SOUTH CAROLINA

I would like to ask that my complete statement be put in the record.

Senator DEMINT. Thank you, Mr. Chairman.

I would like to just thank you for holding this very important hearing. I know there are a lot of different interests that we'll hear from in this panel, and one later on, from broadcasters, to cable operators, to electronics producers.

For me, this is a quality-of-life issue for the public. We've got issues here related to improving education, homeland security, and, I think, in a large way, American competitiveness. I think it's time to get on with this transition. I think the taxpayers have paid dearly for this transition to occur.

I'm looking forward to hearing from all of the panelists today on how we can make this happen, as soon as possible, in a way that would be least disruptive to those in the industry, but the most beneficial for our consumers and taxpayers.

So, with that, Mr. Chairman, I yield back.

[The prepared statement of Senator DeMint follows:]

PREPARED STATEMENT OF HON. JIM DEMINT, U.S. SENATOR FROM SOUTH CAROLINA

Good afternoon. Thank you, Chairmen Stevens and Inouye for holding this second DTV hearing of the day, this one focusing on the spectrum issues and public safety aspects to digital television transition.

The lesson of the 9/11 attacks was clear. Public Safety needs interoperable communications. Providing public safety with the needed spectrum will be the start of that.

Unfortunately, public safety cannot start until the digital transition in complete and the broadcasters vacate the analog spectrum.

One of the short-term risks we face in cutting off the analog broadcasts is the reliance on free-over-the-air television in the event of a natural disaster. This is of particular concern to me as a Senator from a coastal state. I would like to see the various facets of the telecom industry meet the demand for emergency information, much like the Amber Alert system. I think this would go a long way to saving lives in all kinds of emergencies.

I thank the witnesses for coming here this afternoon to share their expertise and recommendations with us on how best to achieve this goal as quickly and efficiently as possible.

The CHAIRMAN. Thank you very much, Senator.

Senator Sununu?

STATEMENT OF HON. JOHN E. SUNUNU, U.S. SENATOR FROM NEW HAMPSHIRE

Senator SUNUNU. Thank you, Mr. Chairman.

This is something that we very much need to get done. And maybe the good news is that everyone who steps up to this debate suggests that this is important, this is a transition we're all committed to. I think there's general consensus that we need to set a date for the transition. But, unfortunately, that seems to be about where the agreement ends.

We will not get this done, and we will not—certainly not get it done successfully—unless we're willing to make some difficult decisions, unless we're willing to show some leadership on this issue, and unless we're willing, frankly, to set aside a lot of the competing interests here and really focus on what makes the most sense for our public-spectrum policy, and what makes the most sense for the consumers.

If we want to complete the digital conversion, then we need to set a date and work to make sure that that date that's set is successful in its implementation. If we don't want to make this transi-

tion, if we don't actually want to complete this, then I think people that have a vested interest in slowing down or opposing the process should be honest and step forward and say, "You know, we're not for this. We actually don't want to go ahead into an all-digital world, because we think it will hurt our business model," or, "We think we'll lose money," or, "We don't want to return the spectrum." Whatever your issue may be, you need to put it on the table and be honest about it.

When we go to a fully digital world, there are some television sets manufactured in the 1970s, and the 1980s, and the 1990s, and even a few in the 2000 era, that will not directly receive digital transmissions. We need to deal with that. We will deal with that.

But one thing we should not have in this debate is interests using consumers as a scapegoat, as a boogeyman, in order to further their own interests. I think that's something that we need to avoid. It's been done across the board. Congress is doing this because we believe a digital system is in the consumer's interest and in the public interest. And I think the consumers will be well served. I think it's shortsighted at best, disingenuous at worst, to argue a position that consumers aren't intelligent enough to handle this transition. That's essentially what we're getting from some interests—again, across the spectrum.

The broadcasters argue that the consumers won't be well served and consumers won't be able to handle this transition, in order to slow it down or to prevent certain frequencies from going to the public-safety interest. The cable operators argue that they need down-conversion; otherwise, consumers will be confused, and they won't be able to get their MTV or whatever other program it is that they're used to or expecting. The public interest and consumer groups argue that consumers will be confused unless we have large government subsidies and new government mandates. Everyone is using the specter of consumer confusion to further their own interest. And I think—well, I think it does the American public a disservice to suggest that they can't handle this transition.

When we set a date, we will—and, I think, we must, set a firm date—we're going to have subsidies for the conversion, of some sort. I think we all recognize that. We shouldn't make it a cumbersome program. We should target that subsidy, to the extent that it's needed. But we will have a mechanism in place for this.

We will have to tackle two new mandates; so the number of TVs that are sold that will not be able to receive digital TVs directly will continue to shrink. I hope, and I believe, that the providers of subscription services, whether it's cable or satellite, will argue that their number of consumers will increase, and that will also minimize the dislocation and the difficulty of consumers. There are a lot of things that will be put in place in this legislation to minimize the difficulties of consumers when the transition takes place. But, for those consumers that might need to go out and buy an $80 or $100, or even a $200, converter box, I don't think it will cause a national crisis, when and if we reach that day, when there is a small percentage that are in that position. To suggest that there will be some national crisis, in order to defend your political or financial interests, I don't think serves the crafting of this legislation very well.

I hope that those are principles or concerns that color this debate, Mr. Chairman. I hope that members of this committee show a little bit more leadership on this issue than, perhaps, we've had in the past, because that's going to absolutely be required if we're going to get any legislation done.

Thank you.

The CHAIRMAN. Thank you very much.

All statements of the Senators, opening statements, will be placed in the record as though read.

My intention is to ask each of the witnesses at the table now to present their comments, not more than 5 minutes, if you will. And we will print all of your statements in the record completely, also. And then we'll have a series of questions from our committee.

So, because of no reason, other than you're over there, Mr. Fritts, we'll call on you first.

STATEMENT OF EDWARD O. FRITTS, PRESIDENT/CEO, NATIONAL ASSOCIATION OF BROADCASTERS (NAB)

Mr. FRITTS. Thank you, Mr. Chairman and Co-Chairman Inouye, and members of the Committee.

In 1996, local television broadcasters and Congress entered into a public/private partnership to bring the future of television to the American consumer. When we undertook this endeavor, Congress was seeking to promote a number of goals. Key among them was ensuring that America's system of broadcasting remains the most technologically-advanced source of news, local information, and entertainment.

Local television is as vital a part of America's way of life today as it was when we started the journey, back in 1996. This past weekend, with the Florida hurricane, local Florida television stations kept the public informed, calm, and safe. Yesterday, the President of the American Red Cross commented on our stations, and I quote, "Time and again, Americans rely on local broadcasters to provide critical information that saves lives and offers hope in times of need," unquote. It's valuable services like these that will be strengthened and enhanced when the digital television transition is successfully completed.

Broadcasters accept—let me underscore—broadcasters accept that Congress will implement a 2009 hard date for the end of the analog broadcasts. And we're ready. We've done our part. We've invested billions to put up more than 1,500 local digital stations on the air, right now.

As Congress and the affected parties work to end this transition, one stakeholder must be central, and that's the consumers. This committee and Congress should ensure that consumers—our viewers, your constituents—can enjoy the benefits of a fully developed, free, local digital television system. For instance, after the transition in 2009, if you're a cable subscriber with both analog and digital sets in your home, you'll want the analog sets to work in analog, and you'll want your digital sets to work in digital. Consumers should be empowered to make that choice about which signal to receive, not the cable gatekeeper.

Consumer interest should also drive the debate in the area of full-signal carriage. Today, some 585 television stations across the

country are using DTV to split their signal into multiple programming streams. This practice, called multicasting, holds one of the great promises of the digital transition; namely, more free local programming options for the public.

What's taking place in the market right now? An example: WDBJ, in Roanoke, Virginia, broadcasts CBS programming in HDTV; and, through multicasting, the station also offers a programming feed with extended coverage of breaking news, ACC sports, and Virginia Tech football games. And dozens of market stations are multicasting to supply network programming that was previously not there. For example, in Tallahassee, CBS affiliate WCTV uses multicasting to also supply the UPN Network to programming viewers.

Multicasting means greater opportunities to serve diverse demographics. Ninety stations nationwide are multicasting in foreign-language programming. The languages range widely from German, to Korean, to Spanish, to Vietnamese. And most important from the consumer standpoint, these services are free. Regrettably, in many cases cable operators refuse to provide these services to their subscribers. If the cable monopolies strip these free services from broadcaster signals, it will be difficult for stations to fully develop multicasting.

The history of the television industry offers some lessons here. It was only after Congress passed the 1992 Cable Act, that guaranteed cable carriage, that networks like FOX, UPN, the WB, Telemundo, and Univision fully matured. Likewise, cable carriage would be necessary for new multicasting programming to bloom.

Let's be clear, the multicast issue is not about capacity. Regardless of whether they multicast or do a single stream of HDTV programming, a broadcaster's digital signal takes up no more bandwidth on the cable system. In fact, with new compression technologies, whether a station multicasts or not, they will occupy one-half of the cable bandwidth they took up in the analog world. The cable system will get back the rest.

So, Mr. Chairman, the move to DTV has always been, first and foremost, about consumers—your constituents and our viewers. America's local broadcasters share your goal of successfully completing this DTV transition. We are here to work with you in moving this legislation that will complete this transition; that will free the analog spectrum for other uses, and, ultimately, will bring the full benefits of the highest digital technology to the American television viewer.

Thank you for the opportunity to participate, and I look forward to your questions.

[The prepared statement of Mr. Fritts follows:]

PREPARED STATEMENT OF EDWARD O. FRITTS, PRESIDENT/CEO, NATIONAL ASSOCIATION OF BROADCASTERS (NAB)

Thank you, Mr. Chairman, for the opportunity to appear before the Commerce Committee today. I am Edward O. Fritts, President and Chief Executive Officer of the National Association of Broadcasters (NAB). NAB is a nonprofit, incorporated association of radio and television stations, which serves and represents the American broadcasting industry.

The television broadcast industry as a whole will spend, by the end of the transition process, approximately 10–16 billion dollars to convert from analog technology

to digital technology. Today, 1,508 television stations are broadcasting digital signals, which reach over 99.9 percent of the television households in the country. The promise of this technology for both television broadcasters and viewers is great. Broadcasters will be better able to serve their audiences by offering vastly improved picture quality including high definition (HD), more diverse program offerings on multiple streams, and even nonprogram services such as data services. The promise of digital television services for broadcasters and viewers alike will be curtailed, however, and broadcasters' investment at least partially stranded, if cable operators are allowed to exercise unchecked their power to refuse carriage of multiple streams of digital broadcast material.

Accordingly, my remarks today will address the importance—for both the broadcast industry and the viewing public—of cable carriage for local broadcasters' full digital signals, including their multicast programming streams. Full signal carriage will help ensure a vibrant, free over-the-air digital broadcasting system, and the development of diverse programming to even better serve broadcasters' local communities. It will also advance the digital transition, thereby speeding the clearing of spectrum for the provision of vital public safety services. Moreover, the rapid growth of cable capacity in recent years has rendered negligible any burden that carriage of broadcasters' full digital signals (including any multicast programming streams) imposes on cable operators. Particularly in light of this tremendous growth in cable capacity, a Congressional requirement that cable operators carry local broadcasters' multicast programming streams offered free over-the-air will clearly pass Constitutional muster.

Full Signal Carriage Will Help Preserve Our System of Free, Over-the-Air Local Broadcast Television in the Digital Age

The Cable Television Consumer Protection and Competition Act of 1992 (Cable Act), was based on the premise that "must-carry" would preserve the benefits of free, over-the-air local broadcast television, particularly for those viewers who did not subscribe to cable.[1] The Supreme Court agreed and recognized that preservation of our system of broadcasting was "an important governmental interest."[2] As we change our system of broadcasting from analog to digital, there is no reason to divert from this simple truth. Cable carriage of the full digital signal, whether one HD or multiple program streams, would similarly help preserve our system of free, over-the-air local broadcasting, especially for the benefit of viewers solely dependent on this means of receiving programming.

In the 1992 Cable Act, Congress made "unusually detailed statutory findings" regarding the ability and incentive of cable operators to refuse carriage of the signals of many broadcasters, as well as the harm resulting from that refusal. *Turner,* 512 U.S. at 646. Congress found that "because cable systems and broadcast stations compete for local advertising revenue," and "because cable operators have a vested financial interest in favoring their affiliated programmers over broadcast stations," cable operators have a "built-in economic incentive" not to "carry local broadcast signals." *Id.* Congress concluded that "absent a requirement that cable systems carry the signals of local broadcast stations, the continued availability of free local broadcast television would be threatened." *Id.* Indeed, without the 1992 Cable Act, "cable systems would likely carry significantly fewer over-the-air stations," "station revenues would therefore decline," and the "quality of over-the-air programming on these stations would almost inevitably suffer."[3]

The Federal Communications Commission's refusal to recognize a carriage requirement for broadcasters' multicast programming streams within their digital signals has endangered the vibrant, free over-the-air service that Congress explicitly sought to protect in the Cable Act.[4] Cable operators today compete with local broadcast stations even more fiercely for advertising revenue, and continue to have "a vested financial interest in favoring their affiliated programmers over broadcast stations," thus retaining an "economic incentive" to refuse to "carry local broadcast signals."[5] The consequences of the FCC's action giving cable operators the power to refuse carriage of significant broadcast programming makes effective competition between broadcasters and cable operators virtually impossible. Cable systems now have the ability to deny their direct competitors—the broadcasters—access to their subscribers, totaling two-thirds of the potential audience, for any innovative digital multicasting services. Broadcasters deprived of the ability to take advantage of the full economic opportunity that digital technology offers will be unable to compete effectively for the critical advertising revenue upon which broadcasters (unlike cable operators) almost solely depend. The absence of a multicast carriage requirement therefore threatens to undermine the viability of local broadcast stations in the digital age, leading to precisely the decline in the quality and diversity of over-the-air programming that Congress sought to forestall in the Cable Act. And not only will

television stations and our system of local broadcasting be injured—viewers who depend on over-the-air broadcasting for their entertainment and information will be the ultimate losers.

The dangers presented by the FCC's refusal to grant full signal carriage will be particularly acute for over-the-air viewers served by broadcasters in small and medium markets. As the Commission itself has recognized, "the ability of local stations to compete successfully in the delivered video market [has been] meaningfully (and negatively) affected in mid-sized and smaller markets."[6] Given the already fragile financial condition of many smaller market television broadcasters, the economic threat posed by cable companies' failure to carry multicasting streams is real. Lack of full signal carriage will have a major impact on broadcasters' ability to sustain the very significant costs associated with the digital transition, including the costs of developing new and innovative programming for multicast channels. These costs are proportionally much greater for broadcasters in small and medium-sized markets. Multicasting would permit broadcasters to spread the costs of providing this new programming (including local news and information) over more revenue streams. Offering multiple programming streams will also enhance broadcasters' ability to compete with multichannel cable operators for the limited pool of advertising dollars. Thus, the absence of a full signal carriage requirement will be especially deleterious for broadcasters in medium and small markets and for smaller, less profitable broadcasters in all markets, the very stations that will likely not be carried via retransmission consent negotiations.

For these reasons, the governmental interest in a vibrant, free over-the-air local broadcasting system would be directly advanced by preventing cable operators from blocking the growth of new programming options, including multicast program streams. Congress has a clear "interest in preserving a multiplicity of broadcasters to ensure that all households have access to information and entertainment on an equal footing with those who subscribe to cable." *Turner,* 520 U.S. at 194. A full signal carriage requirement is essential to preserving a competitively healthy local broadcasting system providing a rich mix of over-the-air programming, especially for viewers solely dependent on free television.

Full Signal Carriage Will Promote the Development of Diverse Programming for the Viewing Public as a Whole

Beyond preserving the benefits of free, over-the-air broadcasting, Congress found in the 1992 Cable Act, that "must-carry" promoted the widespread dissemination of information from a multiplicity of sources.[7] When approving the analog must-carry rules, the Supreme Court agreed that this also is an important governmental interest. *Turner,* 512 U.S. at 662–63. A full digital carriage requirement would similarly promote the development and dissemination of diverse programming from a variety of sources for all television viewers, whether they subscribe to cable or not.

Broadcast signals are the only channels on a cable system (except for local access and PEG channels) that are not under the control of a single voice, the cable operator. Congress has found that a "primary objective and benefit of our Nation's system of regulation of television broadcasting is the local origination of programming," and that "[b]roadcast stations continue to be an important source of local news and public affairs programming and other local broadcast services critical to an informed electorate."[8] Increasing the opportunity for local television stations to provide new and innovative digital services directly advances these Congressional goals, particularly in light of current concerns over clustering and consolidation in the cable industry.[9] Carriage of broadcasters' multicast program streams will in fact guarantee that additional programming sources not under the control of a cable operator, are widely accessible and added to the information mix available to both cable subscribers and over-the-air viewers alike in communities throughout the country.

A brief sampling of the multicast services that television stations are currently providing, or plan to offer, is instructive. As shown below, local broadcasters are using, and plan to use digital multicasting streams to provide a wide variety of programming that is currently not available either over-the-air or on most cable systems. And much of this programming is exactly the type of local and informational programming that Congress sought in the Cable Act to promote.

According to Decisionmark, a media technology company, 585 television stations currently offer at least some multicast programming, and many of these stations offer three or more multicast channels. This programming includes news, weather, sports, and religious material. This multicast programming also includes content in foreign languages ranging from Arabic to Vietnamese, with a number of stations providing Spanish multicast programming.

Broadcasters have also described their multicast programming and their plans for multicasting in numerous submissions to the FCC.[10] For example, NBC affiliated

stations want to multicast weather channels, as well as local alerts, and traffic and travel-related information. CBS and NBC affiliates are planning local news channels that would offer local news and extended coverage of local events, local sports, and AMBER alerts for missing children.[11] The New York Times Broadcasting Group is exploring ways to use multicasting to provide focused local news to viewers in particular towns and communities. The CBS affiliate in Toledo, Ohio, is exploring opportunities for multicasting state legislative debates, mayoral press conferences, city council hearings, and school committee hearings. The ABC affiliate in Fresno, California, aired full screen election results on its second channel during the gubernatorial recall election. Beyond utilizing multicast capabilities to offer increased local news and other local programming including public affairs, weather and sports, broadcasters have also indicated their interest in using multicasting to air minority-oriented, children's, and educational programming.[12]

Broadcast stations are currently offering multicast programming and hope in the future to offer even greater amounts and types of multicast services. However, the absence of any assurance of multicast carriage is a powerful disincentive for broadcasters to invest the considerable sums needed to develop multiple streams of locally-oriented and other innovative multicast programming. For example, DIC Entertainment has stated that its plan to offer nationally a free, advertiser-supported, over-the-air digital children's television service is practically infeasible in the absence of mandatory carriage for multicast streams.[13] No free, over-the-air service dependent upon advertising revenue can hope to survive if it is not carried by cable systems, and can therefore be received only by that relatively small segment of the viewing public that does not subscribe to cable. Broadcasters will be reluctant to bring their multicast service plans to fruition in the absence of a clear full digital signal carriage requirement. Stations rightly fear that they will be unable to obtain carriage on many cable systems, and that their substantial investments in multicast services will be stranded. As a result, cable subscribers and non-subscribers alike will be deprived of the full benefits that digital technology enables, including multicast programming selected to reflect the tastes and needs of their local communities.

Commercial broadcasters have in fact experienced substantial difficulties in obtaining full signal carriage through negotiations with cable operators.[14] The agreement reached between public television stations and the cable industry pertaining to carriage rights does not in any way suggest that commercial broadcast stations will be similarly successful in negotiating carriage for multicast programming on reasonable terms. Unlike public stations, commercial stations directly compete with cable for advertising dollars, so cable operators have greatly increased incentives to deny full signal carriage to commercial stations.[15]

In light of the multicast services currently offered by broadcasters and their plans to develop further multicast streams to serve their local communities with a wide range of programming, allowing cable operators to exercise unchecked their power to refuse carriage of this valuable programming does not serve the public interest. A full signal carriage requirement would ensure that broadcasters' multicast programming streams can be accessed by that majority of the viewing public subscribing to cable, and would therefore serve Congress' interest in promoting the development and dissemination of a wide variety of programming from a multiplicity of sources.

Full Signal Carriage Will Advance the Digital Transition

The offering of attractive digital programming, including multicast programming, by local television stations will provide incentives to consumers to purchase digital reception capability (such as an HD receiver or a converter that will allow viewing of digital programs on analog sets), thereby facilitating the end of the digital transition.[16] For example, WDBJ in Roanoke, Virginia, which provides two locally-originated multicasting services, "is helping to stimulate consumer sales of digital tuners in [its] viewing area." To accelerate the digital transition, the station "has fostered two-way communication with viewers owning digital receivers and HDTV sets" by sending regular e-mail updates about WDBJ's digital HD and multicast services to customers who have told the station they have digital sets.[17]

If, however, broadcasters' multicast programming streams are *not* carried on cable systems, then viewers subscribing to cable will be unable to receive those programming streams even if they purchase digital receivers—which will obviously reduce the incentive of consumers to obtain digital reception capability. The absence of a full signal carriage requirement will accordingly retard the pace of the digital transition, which does not serve the public interest. Beyond clearing spectrum for auction and, ultimately, the provision of new wireless and other services for consumers,

advancing the digital transition will, most importantly, clear spectrum for the provision of vital public safety services.

Particularly in Light of the Rapid Growth in Cable Capacity, the Burden of Full Signal Carriage on Cable Operators Would Be Negligible

Not only will requiring carriage of multicast digital programming streams provide myriad benefits to the viewing public and to our system of free, over-the-air broadcasting, such a carriage requirement will entail little burden on cable operators, particularly in light of the tremendous expansion in cable capacity in recent years. In fact, requiring digital cable carriage of *all* of the separate free programming streams of a broadcaster's digital signal imposes no greater burden than requiring carriage of a broadcaster's single digital channel (which is clearly already required by the 1992 Cable Act). A digital broadcast signal will include 19.4 megabits per second of data within 6 MHz of spectrum whether it contains one program stream or multiple streams. From the perspective of the cable operators' capacity to carry the digital broadcast, there is simply no difference between a broadcaster's decision to broadcast its signal as a single stream or as multiple streams.

As an absolute matter, moreover, the total cable capacity to be used by a digital broadcast signal is substantially less than the capacity used to carry a single analog signal. Because of modulation techniques available to digital cable operators, carriage of the entire digital broadcast signal will use only 3 MHz of cable capacity. Indeed, cable systems, when responding to an FCC survey about cable capacity, agreed that while cable carriage of one analog broadcast television signal required a full 6 MHz cable channel, two digital broadcast television signals could be carried on that same channel.[18] Thus, at the end of the digital transition, digital cable systems will use only half the capacity to transmit local broadcast signals than they needed for the same stations' analog signals. And, as discussed above, a broadcaster using its digital channel to air multiple standard definition streams occupies no more cable capacity for the digital signal, as a practical matter, than a broadcaster airing a single HD programming stream, which cable operators will clearly be required to carry pursuant to existing statutory mandates.

The alleged burden on cable operators of carrying broadcasters' digital multicast programming streams is further shown to be insignificant when one considers the remarkable growth in the capacity of cable systems in recent years. One estimate, drawn from the cable industry's own responses to an FCC survey, concluded that cable program capacity increased 83.5 percent from 1999 to 2003, and additional increases in capacity have and will continue to come online. *Weiss Study* at 27. The capacity of the average cable system has grown so large that, combined with the benefits of digital compression technology, requiring cable systems to carry all free programming streams of digital stations would not foreclose cable systems from carrying other programs of their choice. Likewise, it would not diminish cable programmers' opportunities to place their programs onto cable systems.

Indeed, the announced plans of cable operators belie their claims that capacity is limited. *Multichannel News* recently reported that "[a]ll the major MSOs have announced plans to launch digital simulcast—or are actively launching it—in their systems."[19] Digital simulcasting involves carrying *all signals* on a cable system—cable and broadcast—in both analog and digital formats. Although carrying all programming in both digital and analog formats would certainly use far more capacity than carriage of local broadcasters' digital signals (including their multicast program streams), Comcast's Senior Vice President of Engineering Operations stated, "[w]e have plenty of capacity on the network side."[20] As another news reports concluded, "[i]t would seem unlikely that [Comcast and Time Warner] would have a capacity problem with dual carriage" (*i.e.,* carrying *both* broadcasters' analog and digital signals during the digital transition), if "voluntary dual carriage is their publicly announced business plan."[21] This committee, therefore, cannot take seriously cable operators' claims that carriage of broadcasters' digital multicast program streams imposes a material capacity burden on cable systems.

Requiring Cable Operators To Carry Local Stations' Full Digital Signals Would Clearly Be Constitutional

In the absence of a burden on cable systems from the carriage of broadcasters' multicast programming streams, a full signal carriage requirement would pass constitutional muster. Indeed, given the expansion of cable capacity previously described, carriage of local broadcast digital signals would not have a material impact on cable speech, and thus a full signal carriage rule should not even be subject to a First Amendment question.

As discussed in detail above, the burden imposed by carriage of multiple broadcast streams of a single digital signal is no more than the burden imposed by car-

riage of a single digital broadcast signal. Further, the burden imposed by carriage of a digital broadcast signal—whether multiple streams or a single stream—is less as an absolute matter than the burden imposed by analog must-carry approved by the Supreme Court in the *Turner* cases.[22] In addition, due to the explosion of cable capacity, and the lack of any significant increase in the number of full power local television stations, the relative burden imposed by carriage of these stations' signals is now a fraction of that approved in the *Turner* cases. Indeed, even the carriage of *both* the analog and digital signals of all local commercial television stations would occupy a far smaller percentage of cable capacity than did carriage of only analog stations when the must-carry statute went into effect.[23] The Supreme Court in *Turner* regarded that burden as minimal and acceptable, particularly in light of the important benefits afforded by must-carry.[24] Clearly, the smaller burden presented by requiring carriage of broadcasters' digital multicast programming streams should not raise any serious First Amendment questions.

In sum, given the increase in cable capacity in recent years, only a tiny fraction of that capacity will be devoted to carrying local broadcasters' digital signals, including their multicast programming streams. Consequently, a full signal carriage requirement would not have a remotely significant impact on the programming choices made by cable systems, or the opportunity of cable programmers to obtain carriage. Because cable programming choices would not be materially affected by any digital must-carry obligations, no First Amendment issue would even be implicated by a full digital signal carriage requirement.[25] By upholding the analog must-carry rules, which represented an absolutely and relatively greater burden on cable operators than digital must-carry obligations would, the Supreme Court settled the question of the constitutionality of any full signal carriage requirement.

Conclusion

Mr. Chairman, NAB and its television stations members are committed to completing the digital transition expeditiously, and to bringing the benefits of digital technology to viewers throughout the country. Digital broadcasting promises both to enhance the competitive viability of local commercial television stations, and to bring improved video services to the viewing public. But the full benefits of digital technology may not be realized if cable operators are allowed to prevent the vast majority of television viewers from accessing the multiple streams of digital broadcast material offered by local television stations. Requiring cable systems to carry broadcasters' multicast programming streams will help ensure a vibrant, free over-the-air local broadcasting system, will promote the development of diverse digital programming, and will advance the digital transition. These benefits can, moreover, be achieved without burdening cable systems or infringing the First Amendment rights of cable operators. Again, NAB wishes to express its appreciation to the members of the Commerce Committee for the opportunity to testify and for their attention today.

ENDNOTES

[1] 47 U.S.C. § 521 note (Cable Act § (2)(a)(12)).

[2] *Turner Broadcasting System, Inc.* v. *FCC,* 512 U.S. 622, 662–63 (1994).

[3] *Turner Broadcasting System, Inc.* v. *FCC,* 520 U.S. 180, 228 (1997) (Breyer, J., concurring).

[4] The FCC has erroneously concluded that there is no requirement under the Cable Act for cable systems to either: (i) carry both the analog and digital signals of local commercial television stations during the digital transition; or (ii) carry multicast programming even after the transition is completed. *See* Second Report and Order and First Order on Reconsideration, *Carriage of Digital Television Signals,* CS Docket 98–120, FCC 05–27 (rel. Feb. 23, 2005). NAB and other broadcast groups have requested the FCC to reconsider this decision.

[5] In both percentage and absolute terms, cable's advertising revenues (for which cable companies compete with broadcasters) have skyrocketed since 1992. Between 1992 and 2003, cable revenue from local advertising increased 367 percent, and is estimated to have increased another 13.5 percent in 2004. *See* NCTA, *Cable Developments 2004* at 15 (2004); Eleventh Annual Report, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming,* at ¶ 29, MB Docket 04–227, FCC 05–13 (rel. Feb. 4, 2005) (*Eleventh Annual Report*).

[6] Report and Order and Notice of Proposed Rulemaking, *2002 Biennial Regulatory Review,* 18 FCC Rcd. 13620, 13698 (2003). NAB has also demonstrated that the profit margins for network-affiliated stations in medium and small markets have declined in recent years. Indeed, low-rated network affiliates in smaller markets are actually losing money, not earning profits. *See id.*

[7] 47 U.S.C. § 521 note (Cable Act § 2(a)(6)).

[8] 47 U.S.C. § 521 note (Cable Act § 2(a)(10) and (11)).

[9] In June 2004, the four largest cable operators served about 58 percent of all U.S. cable subscribers. *Eleventh Annual Report* at ¶ 15. This consolidation will only increase in the future, as Comcast and Time Warner are acquiring Adelphia's systems.

[10] *See, e.g.,* Special Factual Submission by the CBS Television Network Affiliates Association in Support of Multicast Carriage Requirement, CS Docket 98–120 (filed Jan. 13, 2004); Special Factual Submission in Support of Multicast Carriage by the NBC Television Affiliates Association, CS Docket 98–120 (filed Jan. 8, 2004).

[11] WRAL–DT, the CBS affiliate in Raleigh, North Carolina, has been offering its viewers HD programming and a full-time local news service on its digital channel for several years. Similarly, KTVB–DT, the NBC affiliate in Boise, Idaho, offers 24-hour local news on a multicast channel.

[12] *See* Special Factual Submissions of the CBS and NBC Television Affiliates Associations; *see also Ex parte* submissions of the Minority Media & Telecommunications Council; Black Education Network; DIC Entertainment; and the National Medical Association in CS Docket 98–120.

[13] *See* Petition for Reconsideration of DIC Entertainment Corporation, CS Docket 98–120 at 3 (filed April 21, 2005). DIC stated that no competitive children's service of the kind it envisioned can expect to arrange reasonable carriage terms with cable operators "that have significant reasons to protect the children's services they are already carrying." Because a number of cable operators now have their own local or regional news channels, they are also unlikely to carry a competitive multicasting news stream from a local broadcast station.

[14] Decisionmark has noted the substantial percentage of multicasting commercial stations that cannot obtain carriage for even one multicasting service. Even large television groups, including LIN Television, Hearst-Argyle Television, and the New York Times Broadcasting Group, have cited their inability to successfully negotiate with many cable operators for multicast carriage. And if these groups cannot obtain carriage for their multicast services, then smaller broadcast groups or stand-alone stations would very likely experience even greater difficulties in obtaining carriage. For instance, Marantha Broadcasting Company in Pennsylvania has reported that it has been unable to negotiate carriage with large cable operators for its 24-hour local weather multicast service.

[15] *See* 47 U.S.C. § 521 note (Cable Act § 2(a)(15)). And as discussed above, broadcasters and cable operators compete much more fiercely today for advertising revenue than they did when the Cable Act was passed.

[16] Either purchase would count a household toward the 85 percent requirement of Section 309(j)(14)(B)(iii)(II), signaling the end of the digital transition. *See* 47 U.S.C. § 309(j)(14)(B)(iii)(II).

[17] Declaration of Robert G. Lee, President and General Manager, WDBJ(TV)(DT), Roanoke, Virginia, at ¶ 5 (Jan. 8, 2004), Attached to Submission of CBS Television Network Affiliates Association, CS Docket No. 98–120 (Jan. 13, 2004).

[18] *See* Merrill Weiss Group, *Analysis of Cable Operator Responses to FCC Survey of Cable MSOs,* at 12, Attachment A to Reply Comments of NAB/MSTV/ALTV, CS Docket 98–120 (filed Aug. 16, 2001) (*Weiss Study*).

[19] *Multichannel News,* May 23, 2005 at 1, 76. According to this report, Comcast will launch digital simulcast on most of its systems in 2005, and Charter Communications, Cox Communications, Time Warner Cable, Insight Communications, and Adelphia Communications also said they would start digital simulcast conversion. These operators serve over 70 percent of all cable subscribers.

[20] *Multichannel News,* May 23, 2005 at 78.

[21] *Multichannel News,* May 30, 2005 at 4.

[22] *Turner Broadcasting System, Inc.* v. *FCC,* 512 U.S. 622 (1994); *Turner Broadcasting System, Inc.* v. *FCC,* 520 U.S. 180 (1997). As set forth above, cable systems can carry two 6 MHz digital broadcast signals in one 6 MHz cable channel, rather than carrying just one 6 MHz analog signal in one cable channel.

[23] According to the *Weiss Study,* based on the cable industry's own reports of its capacity, in 1993, when the (analog) must-carry rules first became effective, carriage of local commercial stations occupied 13.35 percent of the capacity of the average cable system. By 1999, cable capacity used by local commercial stations fell by more than half to 6.25 percent. The study estimated that only 8.46 percent of cable capacity would be needed for transmission of *both* analog and digital local commercial signals when all stations were transmitting two signals during the digital transition. And the study concluded that when analog broadcasting ceased altogether, carrying all local digital commercial signals would occupy only 2.63 percent of cable capacity. *Weiss Study* at 14.

[24] *Turner,* 520 U.S. at 215 (affirming constitutionality of must-carry because the "burden imposed" is "congruent to the benefits it affords").

[25] The Supreme Court in the first *Turner* case stressed the importance of evidence establishing the "actual effects," if any, on the programming choices of cable systems in analyzing the constitutionality of the must-carry rules. *See Turner,* 512 U.S. at 667–68 (remanding the case to obtain further evidence of the extent the must-carry rules burdened speech, particularly the extent to which cable operators would, "in fact, be forced to make changes in their current or anticipated programming selections; the degree to which cable programmers will be dropped from cable systems to make room for local broadcasters; and the extent to which cable operators can satisfy their must-carry obligations by devoting previously unused channel capacity to the carriage of local broadcasters").

The CHAIRMAN. Thank you. I failed to mention Mr. Fritts was speaking for the National Association of Broadcasters.

And next, Manuel Abud, Vice President and General Manager of Station KVEA–TV, Telemundo.

STATEMENT OF MANUEL ABUD, VICE PRESIDENT/GENERAL MANAGER, KVEA–TV, LOS ANGELES, CA; ON BEHALF OF TELEMUNDO

Mr. ABUD. Thank you, Mr. Chairman, Co-Chairman Inouye, members of the Committee.

My name is Manuel Abud. I'm Vice President and General Manager of KVEA Television, Channel 52, which is a Television Telemundo Station, in Los Angeles. And I thank you for the opportunity to testify today on behalf of Telemundo regarding issues surrounding the digital television transition.

My appearance before you today is not simply as a Telemundo executive, or even as a broadcaster; I'm also testifying in my capacity as a member of the Hispanic community. My community is dependent on Spanish-language over-the-air broadcasting as a primary source of news and local information. My station alone does 19.5 hours per week of local Spanish-language news to serve our viewers.

Forty-three percent of Spanish-speaking households watch over-the-air television, exclusively. Moreover, digital television technology has failed to make significant inroads into the Hispanic community. If Congress produces DTV legislation that fails to extend the benefits of DTV to all consumers, Spanish-language television viewers will be disproportionately harmed.

Telemundo supports a hard cutoff date for ending analog broadcasts, but setting a hard deadline remains only one piece of the puzzle. Several other components must be addressed in order to ensure that the transition to digital television is one that consumers will view as a net gain, and not as a net loss.

First, a subsidy is needed for consumers to purchase digital-to-analog converters. We must ensure that households that rely exclusively on over-the-air broadcasting, such as the mainly Spanish-speaking households, are not literally left in the dark once analog television is shut off. Failure to include a consumer assistance program in DTV legislation will have a disproportionately negative impact on Spanish-language households.

Second, MVPD carriage of digital multicast is essential. The ability to send multiple additional free channels of programming without using additional spectrum allows broadcasters to serve their local communities better than ever before through hyper-local news

and community information, local political coverage, and local weather and traffic. Multicast channels also permit more rapid, detailed, and geographically targeted dissemination of local and national emergency information.

What excites me most about multicasting is that it would enable Telemundo to greatly expand the amount, breadth, and quality of free broadcast programming serving Hispanic communities. This could make a very meaningful, positive contribution to Spanish-speaking citizens. Absent a meaningful, must-carry requirement that includes multicast carriage, this digital dividend will be sacrificed.

Without having assurances that the entire Spanish-language audience will have access to multicast programming channels, we cannot create a workable business model with which to fund this initiative. As a result, ironically, as Congress is requiring millions of consumers to invest in new digital equipment in order to watch television, it will simultaneously be depriving them of one of the most important benefits they will receive for their purchases.

Third, consumers must have access to DTV signals in un-degraded form. A conversion to DTV that requires consumers to purchase new equipment, and yet diminishes or denies consumers access to HDTV, a paramount benefit of digital television technology, makes absolutely no sense. Multichannel video-programming providers must be required to retransmit any and all broadcast signals, including high-definition programming on their basic tier in its original format and quality to all subscribers. Additionally, if a cable operator chooses to down-convert any digital broadcast signal at the cable headend, it should be permitted to do so only as long as the cable operator does the same for all broadcast channels it retransmits. Absent such a requirement, a cable operator could choose to provide an analog feed of only the top network affiliates, and leave in the lurch the analog viewers of smaller religious and foreign-language broadcast channels, including Telemundo.

Finally, every stakeholder has a responsibility to augment their efforts to educate Americans about the digital transition. Telemundo supports mandated point-of-sale consumer notices by retailers and manufacturers.

Thank you, again, for this opportunity to appear before you today and share with you concerns of Spanish-speaking Americans who have much to gain, but also much to lose in this digital transition.

[The prepared statement of Mr. Abud follows:]

PREPARED STATEMENT OF MANUEL ABUD, VICE PRESIDENT/GENERAL MANAGER, KVEA–TV, LOS ANGELES, CA; ON BEHALF OF TELEMUNDO

Chairman Stevens, Senator Inouye, and members of the Committee, my name is Manuel Abud, and I am the Vice President and General Manager of KVEA–TV, Channel 52, Telemundo's station in Los Angeles, California. Thank you for the opportunity to testify before you today on behalf of Telemundo regarding issues surrounding the transition to digital television.

I testify today not simply as a Telemundo executive, or even just as a broadcaster, but also as a member of the Hispanic-American community, and as a Spanish language speaker. Many members of my community speak Spanish as their primary language, and are dependent on Spanish language over-the-air broadcasting as their primary source of news and local information. We are the "go to" source for news and information for the Spanish speaking community. The work of this committee ultimately will determine to what extent Spanish language television viewers con-

tinue to have critical access to free over-the-air Spanish language television in the digital era.

Households where Spanish is the primary language are far more likely to rely on over-the-air television than other households. Nationally, 43 percent of households where Spanish is the primary language spoken watch over-the-air television exclusively. At the same time, analysis of the consumer market reveals that digital television technology has failed to make significant inroads into the Hispanic community. Nielsen data indicates that the use of DTV receivers in Hispanic households nationally is the lowest among all consumer groups. As a result, if Congress fails to produce a final DTV transition plan that focuses on extending the benefits of DTV to all consumers, Spanish language television viewers will be subject to a disproportionate share of the resulting harm. In short, we really need the Congress to get the DTV transition RIGHT.

Getting it right means ensuring that Spanish-speaking consumers have access to the revolutionary benefits that digital television offers, especially high-definition television programming and multicasting. It also means that our audiences are not disenfranchised, whether they rely on over-the-air broadcasting, cable, or satellite for their television. The disruption and cost accompanying the DTV transition must be kept to a minimum.

As this committee works to craft digital television transition legislation, it is critical to strike a balance between the need to bring the digital television transition to a close, while also protecting the overwhelming majority of consumers who still only have analog television sets, and ensuring that the exciting new services that digital technologies enables are available and enjoyed by *all* consumers, especially minority and lower-income consumers.

Telemundo supports a hard cut-off date for ending analog broadcasts. But setting a hard deadline remains only *one piece* of the puzzle. Several other components also must be addressed—simultaneously—in order to ensure that the transition to digital television is one that consumers will view as a *net gain* and not a *net loss.* For instance, the millions of consumers who rely exclusively on over-the-air broadcasting—many of whom are Hispanic and lower-income—must have some Federal support for their purchase of equipment that will ensure their sets do not go black the day analog broadcasts cease. These consumers, as well as those receiving local broadcast signals via cable or satellite, also cannot be denied the full value and suite of benefits offered by digital television—this especially includes additional free digital channels that broadcasters provide, and HDTV without degradation. Finally, especially if a hard deadline is set, every stakeholder has a responsibility—actually, I believe it's more of an *opportunity*—to educate every American about the transition and what they need to know to make it themselves. I address each of these issues briefly below.

A Subsidy Is Needed for Consumers To Purchase Digital-to-Analog Converters

There has been much discussion of the need for some form of Federal assistance to consumers—especially those, like many Hispanic and lower-income citizens, who rely exclusively on over-the-air broadcasting—who will need to purchase additional equipment to receive digital television signals. While Telemundo is not suggesting any particular approach, we do support the inclusion of a consumer assistance program that, at a minimum, ensures that households exclusively reliant on over-the-air broadcasting are not literally left in the dark once analog television is shut off. As I previously noted, failure to include a consumer assistance program in DTV legislation will have a disproportionately negative impact on Spanish language households, who are not currently purchasing DTV products, and who will be hit hardest when the final cut-off date arrives. A subsidy program to defray the costs of a digital-to-analog converter box is a necessity in any mandated end to the digital television transition.

MVPD Carriage of Digital Multicast Programming Is Essential

Digital television enables broadcasters to offer four or more programming channels in place of their one analog channel without using any additional spectrum. Multicasting allows broadcasters to serve their local communities better than ever before by providing multiple streams of locally-produced or community-oriented programs, including but not limited to: "hyper-local" news, covering smaller parts of large metropolitan areas, programming that covers local political issues and candidates; newscasts that serve specific segments of the local market; local events, including school and amateur sports activities; and local weather, traffic, and emergency information.

In this time of heightened alert against terrorism, local broadcast stations are the first providers of emergency news and information to the public concerning not only actual or potential terror threats to public safety, but also local emergency incidents such as chemical spills, dangerous storms, floods, escaped prisoners, and similar incidents of urgent import. Multicast channels permit the rapid dissemination of such information in much greater detail by enabling stations to target information for particular communities on particular streams.

Beyond emergency or local information, the increasingly diverse character of American society makes the availability of Spanish language, local television programming critically important in permitting Spanish language speaking residents to become better integrated into, and function more effectively in the communities in which they reside. Multicasting increases the ability of broadcast stations to transmit Spanish language programming to Spanish speaking populations within their service area. Absent a meaningful must-carry requirement that includes multicast carriage, this digital dividend will be sacrificed.

Telemundo and other broadcasters cannot avail themselves of the powerful benefits of multicasting in the marketplace absent cable and satellite carriage of multicast programming channels. Broadcast television in any language is advertiser supported, and our ability to attract advertising dollars is directly tied to the number of viewers we have the opportunity to attract to our programming. The majority of all television viewers watch broadcast television via cable or satellite, and if those services do not carry multicast programming services the overwhelming majority of television viewers will not have the opportunity to see them.

As a result, the fundamental basis upon which must-carry has been traditionally supported by Congress—the preservation of free over-the-air television—is critical in the context of multicasting. Absent Congressional support for multicast must-carry, Telemundo and other Spanish language broadcasters will have no economic model upon which to rely to offer Spanish language viewers new and innovative multicast programming services. As Congress is requiring millions of consumers to invest in new digital equipment in order to watch television, it will simultaneously be depriving them of one of the most important benefits they will receive for their purchases. Failure to include multicast must-carry in a final DTV transition bill strikes at the core of the critical balance between reward and risk, upon which the success of the DTV transition rests.

Consumers Must Have Access to DTV Signals in Un-Degraded Form

A conversion to DTV that requires consumers to purchase new equipment, and yet diminishes or denies consumers' access to HDTV—a paramount benefit of digital television technology—makes absolutely no sense at all. Multichannel video programming providers must be required to retransmit any and all broadcast signals—including high definition programming—in its original format and quality to all subscribers. Moreover, any DTV transition legislation should require that digital broadcast signals be carried on a basic tier of service. Both of these requirements serve consumers of pay television services well because they will ensure they can receive one of the principal benefits of DTV technology—the glorious video and audio quality of high definition—at affordable rates.

If Cable Operators Are Given Flexibility To "Down-Convert," They Must Be Required To Do So on a Nondiscriminatory Basis

Should a cable operator wish to downconvert a digital signal at the cable headend to ensure continued service to analog cable subscribers, it should be permitted to do so only *so long as* the cable operator *also* provides an undegraded digital signal on the same tier as that down-converted signal. However, if a cable operator avails itself of this option, it must be required do so on a nondiscriminatory basis. Absent such a requirement, a cable operator could choose to provide an analog feed of only the top network affiliates its carries, and leave in the lurch the viewers of smaller, religious and foreign-language broadcast channels, including Telemundo. This would make us unacceptably vulnerable to losing our analog cable subscribers unless cable operators decide to give all analog cable subscribers a set top box. Don't bet on that.

Cable industry leaders have repeatedly stated that they do not want to disrupt analog cable subscribers as the DTV conversion occurs. All we are saying, to quote President Reagan, is: "Trust, but verify."

Consumer Education

Finally, a hugely important component of any DTV transition legislation must be consumer education—every stakeholder: retailers, manufacturers, cable operators, and, of course, local broadcasters and broadcast networks, must significantly ratchet up their efforts to inform consumers about the impending shut off of analog tele-

vision, and their need to purchase digital tuning equipment in order to continue to receive free broadcast services.

This must be done as soon as possible. It must be well-coordinated, understandable to the average citizen, and ubiquitous. In particular, Telemundo believes it is critical that consumers considering the purchase of an analog-only television be informed at the point-of-purchase—by the retailer or other seller, whether in a brick-and-mortar retail store or a website, and by manufacturers, through a product label, about the conversion date, the need for digital tuning capability, and the potential limitations of analog-only equipment.

I appreciate the opportunity to appear before you today, and share with you concerns of Spanish speaking Americans who have much to gain but also much to lose in the digital television transition. I stand ready to work with each Member of this Committee to ensure that final digital television transition legislation serves the interests of our Nation and of all television viewers.

The CHAIRMAN. Our next witness is Kyle McSlarrow, President and CEO of the National Cable & Telecommunications Association.

STATEMENT OF KYLE MCSLARROW, PRESIDENT/CEO, NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION (NCTA)

Mr. MCSLARROW. Mr. Chairman, Mr. Co-Chairman, members of the Committee, I appreciate your invitation to appear here today.

I applaud your committee's leadership to address the return of the analog spectrum from broadcasters, particularly for public-safety purposes. That is why, Mr. Chairman, when you asked us for our assistance we committed to provide a constructive solution for cable customers.

Our proposed solution is to provide cable operators the flexibility, once the analog spectrum has been returned, to down-convert the digital signals from must-carry broadcasters. What this means, as a practical matter, is that the over-40-million cable customers who can only receive an analog service will enjoy the same service the day after the transition that they received the day before. It means that many stations, including public television stations, network affiliates, and other stations that have negotiated agreements with the cable industry, would be carried in digital, just as they are today. It means that those of our customers who have the capability to receive high-definition television signals will continue to receive increasing numbers of high-definition channels from among the 23 cable networks offering high definition, and many commercial and public broadcasters, as well. And, though it will cost the cable industry tens of millions of dollars to re-engineer our facilities to provide for down-conversion, it won't cost the government a dime. But, instead of embracing this solution, the broadcasters continue to ask you for special favors.

Mr. Chairman, the broadcasters are urging you to impose requirements on the cable industry that they have repeatedly failed to convince Congress and the FCC to impose and that would be unconstitutional under the *Turner* line of Supreme Court cases.

The most plausible interpretation is that the broadcasters hope to goad the cable industry into joining them in their passive-aggressive opposition to a hard date. Perhaps a more charitable interpretation is, they view this as one more opportunity to make a land grab. In any event, they are making your task harder, not easier.

Broadcasters are not the only ones in America making the transition to digital, and they should not be given preferential treatment

in a competitive marketplace, especially by government mandate. However they describe it, what they're asking for is obvious: government-mandated carriage of both an analog and a digital version of the same signal, and carriage of multiple streams of programming.

The broadcasters seem not to understand that cable, in addition to being a television provider, is also the largest broadband provider in the United States. We have one pipe, upgraded with fiberoptic technology, with very robust capacity, but it is not unlimited. By law, we already have to offer public access and other public educational and governmental video programming. We also have to offer carriage to every broadcaster who chooses must-carry. We offer increasing numbers of digital and high-definition programming. And that one cable connection to the home allows us to offer not just linear channels of video, we plan to offer video-on-demand, including high-definition video-on-demand. That one cable connection allows us to offer highspeed Internet services. It allows us to offer circuit-switch telephone services and, increasingly, Voice-over-Internet-protocol telephone service. That pipe also allows us to pass data back and forth for current and new applications of two-way services.

All of this requires a lot of capacity, but we are in an incredibly competitive market. We have to continue innovating. So, for example, in the next few years we plan to offer Internet speeds of up to 160 megabits per second, compared with the average of, say, 5 megabits per second today. That is the kind of broadband deployment that most of the members of this committee want to see deployed. But to do that means we have to use from four to eight times the bandwidth, or capacity, as we do today to deliver this next generation of high-speed Internet service.

That kind of innovation doesn't just happen; it requires a regulatory framework that provides certainty and that rewards investment. And the kind of investment we have made, nearly $100 billion over the least 10 years, is what it took to put us in this position. That kind of investment will not happen if someone can just come off the sidelines and take capacity for themselves. If that happens, innovation will suffer, because some services won't stay on our pipe, and some services will never make it on. That is precisely the kind of choice about innovation and services that a free market should determine, not a government mandate.

Mr. Chairman, I would just make one final point. This committee can discharge its responsibilities and advance public safety without wading into this morass. Nothing the broadcasters have proposed has the slightest bearing on how you can best ensure the return of the spectrum, and how you can do so with a minimum of inconvenience to consumers.

We have tried to provide you a sensible approach to assist your efforts, and we look forward, Mr. Chairman, to continuing to work with you and members of this committee on this important legislation.

Thank you.

[The prepared statement of Mr. McSlarrow follows:]

PREPARED STATEMENT OF KYLE MCSLARROW, PRESIDENT/CEO,
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION (NCTA)

Introduction

Mr. Chairman, Mr. Co-Chairman, members of the Committee, my name is Kyle McSlarrow. I am the President and CEO of the National Cable & Telecommunications Association, and it is a privilege to appear before you today. NCTA is the principal trade association for the cable television industry in the United States. It represents cable operators serving more than 90 percent of the Nation's 66 million cable television households and more than 200 cable program networks, as well as equipment suppliers and providers of ancillary services to the cable industry.

I appreciate your invitation to testify on pending Congressional efforts to speed the transition to digital television. As I have mentioned during our listening sessions with this committee, cable is at the forefront of the digital revolution and was the first industry to deliver on the promises of the 1996 Telecommunications Act, including high-speed access to the Internet and facilities-based competition for the telephone companies. Cable was also the first in 2002 to respond to the FCC's calls for assistance in expediting the broadcasters' transition to digital television.[1]

Mr. Chairman, while the cable industry has taken no formal position on a "hard date" for the broadcasters' return of the analog spectrum, we understand and applaud your committee's leadership in grappling with the important policies inherent in the return of that spectrum, particularly for public safety purposes.

That is why when you asked us for our assistance, we committed to providing a constructive solution for an early return of the spectrum that would ensure all cable customers would face a seamless transition at no cost to the government.

Our solution is to provide cable operators the flexibility, once the analog spectrum has been returned, to "down-convert" the digital signals from must-carry broadcasters at the cable headend.

What this means, as a practical matter, is that the over 40 million cable customers who can only receive an analog service will not lose access to must-carry stations, and will enjoy the same service the day after the transition that they received the day before.

It means that many stations—including public television stations, network affiliates, and other stations that have negotiated retransmission consent agreements with the cable industry—would be carried in digital as well, just as they are today.

It means that those of our customers who have the capability to receive high definition television signals will continue to receive increasing numbers of high definition channels from among the 23 cable networks offering high definition and many commercial and public broadcasters as well.

And, although it will cost the cable industry tens of millions of dollars to re-engineer our facilities to provide down-conversion, *it won't cost the government a dime.*

Our solution is straightforward. Our solution does not attempt to make other industries' businesses more difficult. And our solution allows this committee, and Congress, to concentrate on how to address those Americans who only receive over-the-air video programming.

But instead of embracing our down-conversion solution, the broadcasters continue to ask for special favors.

Mr. Chairman, the broadcasters are urging you to impose requirements on the cable industry that they have repeatedly failed to convince Congress and the FCC to impose, and that would be unconstitutional under the *Turner* line of Supreme Court cases.

Broadcasters are not the only ones in America making the transition to digital, and they should not be given preferential treatment in a competitive marketplace—especially by government mandate.

Whether the proposal is called "either/or," or down-conversion "in addition" to digital must-carry, what they are asking for is obvious: carriage of both an analog and a digital version of the same signal. But dual must-carry—and multicast must-carry, another one of the broadcasters' proposals—will do nothing to forward the

[1] In 2002, the cable industry was the first to embrace then-FCC Chairman Powell's call for voluntary industry action to speed the digital television transition. Ten top cable operators—AT&T Broadband, AOL Time Warner, Comcast, Charter Communications, Cox Communications, Adelphia Communications, Cablevision Systems, Mediacom Communications, Insight Communications, and CableOne—pledged to support the DTV transition by: (1) carrying a complement of commercial and public television stations and cable program networks that offered HDTV programming, (2) offering value-added DTV programming that would create an incentive for consumers to purchase DTV sets, (3) placing orders for integrated HD set-top boxes with digital connectors, and (4) providing these boxes to customers who requested them.

digital transition and harms consumers, cable operators, and cable programmers alike.

The broadcasters' attempts to appropriate additional channel capacity on cable systems through dual and multicast must-carry will harm consumers by slowing the deployment of broadband and a host of other new digital services. The reason is simple: these services—such as 100+ megabits per second Internet access, VoIP telephone service, and digital programming tiers—all compete for a finite amount of space on cable systems. The more the broadcasters get, the less capacity there is for innovative new applications sought by our customers.

Awarding the broadcasters dual or multicast must-carry rights would do nothing to further ensure the viability of programming from a multiplicity of sources. It would, however, use valuable capacity on cable systems that would otherwise be available to cable operators and non-broadcast cable program networks to offer the array of services that provides the greatest value to consumers. Both dual must-carry and multicast must-carry are at odds with fundamental First Amendment and Fifth Amendment rights, and do not pass muster from either a public policy or legal standpoint.

However, this committee can discharge its responsibilities and advance public safety without wading into this morass. Current law, which gives broadcasters the right to mandatory carriage of their primary digital video stream after the transition is complete and the broadcasters are transmitting exclusively in digital, presumes a world in which the vast majority of consumers have digital televisions. An early return of the spectrum before most customers have purchased TVs with digital tuner changes that picture and requires a little flexibility. If you adopt our down-conversion proposal, you can guarantee that 66 million cable households will have access to the same programming the day after the transition as the day before. You will also allow the cable industry to continue to rollout broadband services and serve greater numbers of customers with digital and high definition programming.

The Cable Industry Is Leading the Broader National Transition to the Digital Age

In the United States, the broadcasters' transition from analog to digital is only a small part of the larger digital transition that is occurring in every area of our Nation's economy. Since 1996, when Congress enabled cable's investment in new technology and programming by substantially reducing regulation, cable operators have nearly rebuilt their facilities.[2] With an investment of almost $100 billion, operators have replaced coaxial cable with fiber optic technology, and installed new digital equipment in homes and system headends, thus enabling the transmission of voice, video, and Internet services in digital format. As a result, cable customers are already enjoying a full complement of digital programming and advanced information services independently of the broadcasters' conversion to digital.

For example, cable customers can purchase digital programming tiers that include a diverse array of video networks and commercial-free music channels. Digital customers also have access to video-on-demand programming, digital video recording, and enhanced electronic program guides. These features allow programs to be viewed at the customer's convenience and at a time of the customer's choosing. They also allow cable subscribers to block access to programming they do not want their children or households to see. All of cable's digital services can be enjoyed by consumers with analog TV sets who use digital set-top boxes that convert digital signals to analog. More innovative interactive video services are on the way, in addition to the Internet and digital telephone services that are already attracting large numbers of customers.

Cable customers with high definition TV (HDTV) sets have even more options.[3] They can receive a wide selection of programming transmitted in high definition, including 23 HD cable networks that transmit much of their programming in high definition.[4] In addition, cable operators are now voluntarily carrying the digital chan-

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[2] In return for deregulation, the cable industry promised Congress and American consumers that it would provide: (1) facilities-based competition to the telephone companies, and (2) a new generation of advanced information and video services—both of which we have done.

[3] The cable industry is rapidly rolling out high definition programming. As of January 1, 2005, cable companies had launched high definition television service on systems passing 92 million homes. At least one cable operator in *all* of the top 100 markets now offers HDTV, and HD over cable is available in 184 of the 210 U.S. television markets.

[4] Including Cinemax HDTV, Comcast SportsNet HDTV, Discovery HD Theater, ESPN HD, ESPN2 HD, FSN HD, HBO HD, HDNet, HDNet Movies, INHD, INHD2, MSG Networks in HD, NBA TV, NFL Network HD, Outdoor Channel 2 HD, Showtime HD, Spice HD, STARZ! HDTV, The Movie Channel HD, TNT in HD, Universal HD, and YES–HD.

nels of a substantial number of over-the-air broadcast stations in addition to those stations' analog signals—either through retransmission consent agreements with individual commercial stations[5] or voluntary initiatives such as cable's recent carriage agreement with public television stations.[6] Significantly, cable's contractual carriage agreement with public television stations was reached through private negotiations—not Federal legislation or FCC regulations.

Cable's Carriage of Broadcast Signals Today

The vast majority of cable customers have analog television sets, and most of those sets—as in over-the-air households—are not equipped with digital set-top boxes.[7] Today, cable operators provide the *analog* signals of virtually all local television stations, which can be viewed by all customers—those with and without digital boxes, and those with and without digital television sets. In addition, operators provide the *digital* signals of some, but not all, broadcast stations—especially those that provide compelling digital programming that is likely to enhance the value of cable service for the growing number of customers with high definition sets.

Cable's current carriage practices fully comply with what both the marketplace and the "must-carry" rules dictate. Existing law requires cable operators to carry the analog signals of all "must-carry" broadcast stations during the digital transition, while making carriage of the digital signals optional and subject to "retransmission consent" agreements with broadcasters. The FCC has recognized that requiring "dual carriage" of the analog and digital signals of all must-carry stations—regardless of whether the digital programming is valuable to the cable households capable of viewing it on their TV sets—would do nothing to further the purposes of the must-carry requirements, or the digital transition while unduly burdening the First Amendment rights of cable operators and programmers.

This sensible balance, which serves the interests of must-carry broadcasters, cable operators, cable programmers, and cable customers alike, can be preserved without any disruption to cable customers after broadcasters stop transmitting analog signals—with one key adjustment. Current law requires cable operators to carry must-carry signals without "material degradation." The FCC has interpreted this to mean that—after the transition, when broadcasters are transmitting only in digital—"*a broadcast signal delivered in HDTV must be carried in HDTV.*"[8] This "no material degradation" requirement makes sense if—as is the case under current law—the transition to digital-only broadcasting does not occur until most households are equipped to receive digital signals on their television sets. However, if Congress is going to impose a "hard date" *before* most consumers have digital sets or set-top boxes, then the requirement to transmit the broadcasters' digital signals in "un-degraded" digital format will be costly and disruptive for cable customers who do not have digital TVs or set-top boxes, *i.e.,* most of our subscribers. It will require them to acquire digital sets or set-top boxes to continue watching the same broadcast programming that they watch today.

To prevent this costly disruption, Congress should allow cable operators to "down-convert" the digital signals of must-carry broadcasters to analog at the headend and provide the primary video programming stream of those down-converted signals to cable homes *in lieu of* the primary digital video stream. This will ensure that *all* cable households can receive the programming provided by those must-carry broadcasters without having to purchase digital television sets or digital set-top boxes.

Households with HDTV sets would, of course, be able to watch the increasing number of HD channels, as they do now. I would note that cable operators would still have every incentive to *voluntarily* provide the digital signal—as they frequently do today—in addition to the down-converted analog signal if the digital

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[5] As of January 1, 2005, cable operators voluntarily carried 504 digital broadcast signals—a 66 percent increase over the 304 stations carried in December 2003.

[6] On January 31, 2005, NCTA reached agreement with the Association of Public Television Stations (APTS) to ensure that the digital programming offered by local public TV stations is carried on systems serving the vast majority of cable subscribers across the Nation. The boards of NCTA, APTS, and PBS ratified the agreement on February 4, 2005.

[7] There are approximately 172 million television sets in the 66 million cable households across the country. 26 million cable homes subscribe to digital service, but not all digital households have digital boxes on all their TVs. This means that there are approximately 28 million analog TVs in digital homes that will require boxes after the transition. If one adds these 28 million sets to the approximately 106 million analog TVs in homes with only analog cable service (41 million), there are a total of around 134 million analog TV sets in cable homes that will require digital boxes in order to get digital service. The cost of deploying 134 million set-top boxes is $9 billion for a simple $67 digital-to-analog box and $29 billion for a $200 interactive digital cable box.

[8] *In re Carriage of Digital Television Broadcast Signals,* First Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 2598, 2629 (2001) (emphasis added).

version were uniquely compelling and attractive to customers with digital and HDTV equipment. As a result, a "hard date" transition to digital broadcasting would be seamless and non-disruptive for cable customers.

Today, we offer analog to our analog customers, analog and digital to our digital customers, and increasingly the opportunity for customers with high definition sets to watch a growing number of channels in high definition. In addition, many of our operators have already announced their own plans to simulcast analog channels in digital. And what is true today will still be true the day after the transition under our proposal. In the meantime, increasing numbers of our subscribers will continue to switch to digital services, and many of them will become high definition subscribers. We believe our proposal minimizes costs and inconvenience to consumers, and allows you as policy-makers not to have to worry about disrupting anyone who is a cable customer—*and to do so at no cost to the government.*

We are pleased to see that the SAVE LIVES Act (S. 1268), introduced by Senators McCain and Lieberman, appears to recognize the consumer benefits of permitting down-conversion *in lieu of* digital carriage.[9] While we have concerns about the bill's "convert one-convert all" obligation on any operator who chooses to down-convert, the bill recognizes that this obligation should end when it is no longer necessary to ensure the continued ability of audiences for foreign-language and religious television broadcast stations to view the signals of such stations. Finally, the bill also recognizes that only a single digital program stream from each broadcaster should be entitled to carriage on a cable operator's basic service tier. Thus, S. 1268 offers a sound starting point for crafting a digital transition bill that best serves the interests of consumers and is fair to all of the affected industries.

Dual and Multicasting Must Carry Are Likely To Be Found Unconstitutional

A. Down-Conversion and Dual Carriage

Cable operators seek authority to fulfill their must-carry obligations in some cases by carrying a down-converted analog signal *in lieu of* a broadcaster's digital signal. Some commercial broadcasters are insisting, however, that cable operators be permitted to carry down-converted analog versions of their digital signals only *in addition to*—not instead of—the original signals. This would effectively impose a dual carriage obligation if operators wanted to make broadcast signals readily available to the majority of their customers who do not have digital equipment—as they would obviously have to do. Any such dual carriage requirement would impose untenable burdens on cable operators and programmers alike and should be rejected.

- By preempting an excessive amount of capacity on cable systems, dual carriage would interfere with the ability of cable operators to offer consumers the broadest array of programming, and to deploy broadband and innovative digital services.
- Dual must-carry would be especially unfair to non-broadcast program networks (such as A&E's Biography Channel, C–SPAN, Discovery Kids Channel, Hallmark Channel, The Outdoor Channel, Oxygen, Sí TV, and TV One), which have *no guarantee* that their programming will be carried in analog or digital format—much less in *both.*

As the FCC has determined, imposing such burdens on cable operators' and programmers' speech would raise serious Constitutional problems, because it would not advance the governmental interests identified by the Supreme Court as justifications for "must-carry" rules—or any other valid government interest. Specifically,

- *Dual carriage will do nothing to preserve or enhance the availability or quality of broadcast signals available to over-the-air viewers.* To the contrary, guaranteed carriage of a broadcaster's signal in analog and digital format will diminish the broadcaster's incentive to provide programming that is uniquely compelling in its digital format, *e.g.,* HDTV.
- *Dual carriage will do nothing to promote the dissemination of information from a multiplicity of sources since the two channels would simply be digital and down-converted analog versions of the same programming.* Indeed, it would have the opposite effect: it would decrease the multiplicity of voices by granting preferential treatment to one broadcaster over different programming from other sources.

[9] While S. 1268 establishes a baseline digital carriage requirement with respect to any must-carry station that relinquishes its analog spectrum, it gives cable operators the flexibility to convert digital signals to analog at the headend "notwithstanding" this baseline requirement.

- *Dual carriage will do nothing to promote the purchase of digital sets by consumers or set-top boxes by cable operators since cable systems already provide a broad array of digital and high definition programming* (both broadcast and non-broadcast). In these circumstances, the additional carriage of *must-carry* broadcast stations in digital format will provide no additional incentive to cable customers to purchase digital equipment.

Not surprisingly, the FCC has voted twice (by a margin of 5–0 in 2005) that dual carriage would raise serious First Amendment problems, and should not be imposed under the current must-carry statute. Changing the law to allow cable operators to carry down-converted analog versions *in lieu of* digital versions of must-carry signals makes good sense. But changing the law in a manner that effectively requires cable operators to carry must-carry signals in both digital *and* analog formats would not only be counterproductive and contrary to the public interest, it would be unconstitutional as well.

B. Multicast Must Carry

If Congress grants cable the authority to fulfill its must-carry obligations by carrying down-converted analog signals, *all* cable customers will be able to watch those signals—the same channels of programming that we are required to carry today—without having to acquire additional set-top boxes or new digital television sets. Meanwhile, cable operators would continue, voluntarily, and pursuant to retransmission consent, to carry *additional* digital signals from broadcasters who provide compelling high definition and multicast programming that is attractive to cable customers.

But commercial broadcasters are continuing to urge Congress to force cable operators to carry *every* digital multicast channel from *every* must-carry broadcast station.[10] Never mind that they failed to persuade the FCC that such a requirement was in any way necessary to preserve the viability and availability of over-the-air broadcast stations, or that it would promote the availability of broadcast programming from a variety of sources. The broadcasters also failed to persuade the FCC that such a requirement could be implemented without burdening cable operators and programmers in a way that raised serious Constitutional problems. But broadcasters are now hoping that the same arguments that failed to persuade the Commission will somehow prove persuasive here.

There is no reason why they should. A multicast must-carry requirement would force cable operators to use channel capacity that they spent nearly $100 billion deploying (so that they could offer compelling programming and advanced broadband services) to carry the broadcasters' multicast programming instead. While this trade-off would reduce the value of cable service to cable customers, it would do nothing to preserve the availability—and would be more likely to diminish the quality—of over-the-air television from a multiplicity of sources.

First of all, we should put to rest the notion, which the broadcasters keep resuscitating, that cable operators have anticompetitive reasons for refusing to carry the broadcasters' multicast programming—even if consumers find it attractive. In 1992, when Congress enacted the current must-carry provisions, it worried that such discrimination might occur with respect to the broadcasters' analog signals. But when the Supreme Court narrowly upheld (5–4) the Constitutionality of analog must-carry, a majority of the Court found that this was *not* a supportable justification for the rules.[11]

Whatever fears Congress may have had in 1992, the subsequent launch of two vigorous and successful national direct broadcast satellite (DBS) services has removed any likelihood that a cable operator could profitably refuse to carry a programming service—broadcast or non-broadcast—that would attract a significant viewership and might be carried by its competitors. The Supreme Court found no basis for such fears in 1997, and today, with satellite competition stronger than ever, the prospect of anticompetitive conduct by cable operators is even more remote. As an argument for multicast must-carry, it is a red herring.

In fact, where broadcasters are currently offering compelling digital content, cable operators are voluntarily agreeing to carry such programming. At present, cable operators have agreed to carry the digital signals of over 500 unique broadcast stations, and this includes not only HDTV signals but also multicast streams. Of course, operators continue to carry the broadcasters' analog channels as well.

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[10] *See, for example, "Completion of the Digital Television Transition"* (June 24, 2005), a paper being circulated in Congress by the National Association of Broadcasters.

[11] *See Turner Broadcasting System, Inc.* v. *FCC,* 520 U.S. 180, 225 (1997) (Breyer, J., concurring in part) ("I join the opinion of the Court except insofar as [it] relies on an anticompetitive rationale.")

- As of May 2005, cable operators were carrying commercial broadcasters' multicast programming in over 50 markets ranging from many of the Nation's largest (including at least 7 of the top 10 markets)[12] to numerous small to mid-sized markets across the country. For example, in the Washington metropolitan area, Comcast is carrying WJLA's local Weather Now channel (ABC) and WRC's Weather Plus channel (NBC), as well as WETA's Prime, Kids, and Plus channels (PBS).
- In January 2005, NCTA and the Association of Public Television Stations (APTS) entered into an agreement that ensures that local public television stations' digital programming—including multicast channels—is carried on cable systems serving the vast majority of cable customers across the Nation.
- Comcast has digital carriage agreements with public broadcasters in at least 45 markets, and has reached digital multicast carriage agreements with a growing number of commercial broadcasters for channels that Comcast believes bring value to its customers.
- During the recent NCAA men's college basketball tournament, CBS stations in a dozen markets offered—and cable operators agreed to carry—extra games on multicast channels.

The Supreme Court found that the analog must-carry requirements were justified as a means for preserving the viability of over-the-air broadcast stations and the availability of programming from a multiplicity of sources. It found, after remanding the matter to the FCC to develop an extensive evidentiary record,[13] that non-carriage of a broadcaster's *single* analog channel *would* threaten the viability of a significant number of broadcasters, and therefore, threaten to reduce the diversity of programming sources available over-the-air. But there is no reason to believe that mandatory carriage of multiple program streams provided by every broadcaster is necessary to protect against such threats.

Although the broadcasters persistently claim that a multicast must-carry requirement is essential to maintain their economic viability, they have not produced a shred of evidence demonstrating that this is the case. They certainly had ample opportunity to do so throughout the FCC's lengthy rulemaking proceeding. Yet the Commission found nothing in the record to support their claim:

> Unlike in the analog carriage debate, here broadcasters fail to substantiate their claim that mandatory multicasting is essential to ensure station carriage or survival. Broadcasters argue that carriage of multicast streams is essential to help them develop and support additional programming streams, but they have not made the case on the current record that these additional programming streams are essential to preserve the benefits of a free, over-the-air television system for viewers. Broadcasters will continue to be afforded must-carry for their main video programming stream, which can be in standard definition or high definition, and any additional material that is considered program-related. Broadcasters can also rely on the marketplace working without mandatory carriage in order to persuade cable systems to carry additional streams of programming. There is evidence from the record, as well as news accounts, that cable operators are voluntarily carrying the multiple streams of programming of some broadcast stations, including public television stations, that are currently multicasting. . . . Under these circumstances, the interests of over-the-air television viewers appear to remain protected.[14]

Indeed, while broadcast groups have argued that multicast carriage is especially vital to the survival of smaller and financially weaker broadcast stations, one independent broadcaster, Entravision Holdings, LLC, specifically told the FCC that it

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[12] In at least one additional top 10 television market, cable carried the multicast signal of the recent NCAA men college basketball tournament games.

[13] In remanding the case, the Court made clear that it is not sufficient merely to assert that must-carry rules are necessary to prevent some hypothetical harm: "That the Government's asserted interests are important in the abstract does not mean, however, that the must-carry rules will in fact advance those interests. When the Government defends a regulation on speech as a means to redress past harms or prevent anticipated harms, it must do more than simply 'posit the existence of the disease sought to be cured.' *Quincy Cable TV, Inc.* v. *FCC,* 768 F. 2d 1434, 1455 (CADC 1985). It must demonstrate that the recited harms are real, not merely conjectural, and that the regulation will in fact alleviate these harms in a direct and material way." *Turner Broadcasting System, Inc.* v. *FCC,* 512 U.S. 622, 664 (1994).

[14] *Carriage of Digital Television Broadcast Signals: Amendments to Part 76 of the Commission's Rules,* Second Report and Order and First Order on Reconsideration, 20 FCC Rcd. 4516, 4534–35 (2005) (footnotes omitted) ("Second Report and Order").

and other similarly situated independent broadcasters have little to gain—and much to lose—from a multicast must-carry requirement. According to Entravision:

> Network-affiliated broadcasters have characterized multicast services as an integral component of the future business plans of broadcasters, and as indispensable to a successful DTV transition and the continuing vitality of free over-the-air television service. However, while digital multicast services may already be a reality for some network affiliates with the programming and financial resources to advance and support such technology, independent stations simply do not have access to the programming or the capital to invest in such technology at this time, or in the foreseeable future. [15]

As a result, Entravision noted that ". . . multicasting will simply increase the power of network-affiliated stations and further diminish the ability of independent broadcasters to make their voices heard." [16]

As this broadcaster suggests, a multicast carriage requirement will not serve—and may actually disserve—the purpose of promoting the availability of programming from a variety of sources. The FCC itself found it hard to see how carriage of multiple streams from the *same* broadcast station could serve such a purpose:

> [B]ased on the current record, there is little to suggest that requiring cable operators to carry more than one programming stream of a digital television station would contribute to promoting "the widespread dissemination of information from a multiplicity of sources." Under a single-channel must-carry requirement, broadcasters will have a presence on cable systems. Adding additional channels of the same broadcaster would not enhance source diversity. Furthermore, programming shifted from a broadcaster's main channel to the same broadcaster's multicast channel would not promote diversity of information sources. Indeed, mandatory multicast carriage would arguably diminish the ability of other, independent voices to be carried on the cable system. [17]

Nor would a multicast carriage requirement do anything to promote the digital transition by accelerating the acquisition and use of digital equipment—television sets or set-top boxes—by cable customers. Cable customers already have access to hundreds of channels of programming, including many channels of high definition programming. It is unlikely that the availability of additional digital multicast programming will persuade any additional customers to acquire digital sets or set-top boxes.

Since a multicast carriage requirement would not serve the purposes that justified the analog must-carry provisions—or any other important government policy—*there is no basis, Constitutional or otherwise, for imposing the burdens of such a requirement on cable operators and programmers.*

But that does not deter the NAB, which asserts that mandatory carriage of multicast streams would not require any more capacity than is required of cable operators under current law, and would pose no Constitutional problems. The broadcasters' claim is wrong, both as a matter of fact and as a matter of law.

First, if Congress adopts a hard date that ends the transition before most cable customers have purchased digital television sets or digital set-top boxes, a multicast requirement almost certainly *will* take up more capacity than is currently used to carry broadcast stations. This is because cable operators will need to down-convert and carry each broadcaster's primary video signal in analog format, using the same 6 MHz they use today to carry such stations. Any requirement to carry additional digital multicast signals will *add* to this burden on cable's capacity.

Second, "current law" contemplates that broadcasters must return their free analog spectrum and that they are entitled to carriage of their one "primary" *digital* video signal after the transition. Adding a multicast carriage requirement to this obligation obviously increases the burden on a cable system's capacity, and restricts an operator's ability to deploy significant new services and applications that enhance the value of cable service to local consumers.

In any event, the burden of a must-carry requirement, for Constitutional purposes, is not simply the physical amount of channel capacity an operator is required to devote to must-carry, but the extent to which must-carry obligations: (1) intrude on a cable operator's editorial discretion to use his system's capacity in a manner

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[15] "Why The Commission Should Not Promulgate A Digital Multicast Must-Carry Requirement At This Time Given The Harm Such A Decision Could Inflict On Independent Broadcasters" Ex Parte Filing of Entravision Holdings, LLC, CS Docket No. 98–120, March 1, 2004 (emphasis added).

[16] *Id.*

[17] Second Report and Order, *supra,* 20 FCC Rcd. at 4535 (footnote omitted).

that best serves viewers, and (2) discriminate against cable programmers who do not have the broadcasters' preferential, guaranteed access to channels on a cable system.

As I have mentioned, cable operators have invested nearly $100 billion in facility upgrades to bring a variety of new digital broadband services to their customers. Each channel that would have to be used to carry a must-carry stream of broadcast programming *in lieu of* some other service imposes an incremental burden that can only be justified if it advances an important government interest.

Any multicast programming that is likely to be attractive to viewers will be—and is already being—carried by cable operators. But requiring cable operators to carry every multicast stream of every broadcast station would impose significant burdens on the speech rights of cable operators and cable program networks, and would disserve the interests of cable customers. Imposing a multicast requirement would raise serious Constitutional problems under the First Amendment. A multicast carriage requirement, like dual must-carry, would also raise serious Fifth Amendment problems. It would result in the permanent, physical occupation of a substantial portion of a cable operator's system without just compensation—indeed, without any compensation at all.

Conclusion

Congress should reject the broadcasters' renewed calls for digital must-carry, including dual must-carry and multicast must-carry. When the broadcasters suggest that they are not asking for dual must-carry but want "either/or" carriage or carriage of "just" their digital signal, policymakers should realize that these proposals are tantamount to dual must-carry. In what is still primarily an analog television world, cable companies cannot plausibly be expected to cutoff the bulk of their video customers by carrying only digital signals during the broadcasters' transition to DTV.

If Congress decides that the analog spectrum needs to be returned before most television viewers are equipped to receive digital signals, *there is a way of minimizing consumer costs and service disruptions.* Instead of permitting operators to carry down-converted signals *in addition to* mandated carriage of the digital signals transmitted by must-carry broadcasters, one need only to allow carriage of down-converted signals *in lieu of* the digital signals, while giving operators the *discretion* to carry both the down-converted and digital versions of the signal. Mandating dual carriage or multicast carriage would do nothing further to advance any legitimate public policy objective, and would only impose Constitutionally impermissible burdens on cable operators and cable program networks.

I am grateful for this opportunity to discuss the transition to digital television with you. We look forward to continuing to work with this Committee on these important issues.

The CHAIRMAN. Thank you very much.

Our next witness is Mr. Patrick Knorr, Vice Chairman of the American Cable Association.

Mr. Knorr?

STATEMENT OF PATRICK KNORR, GENERAL MANAGER, SUNFLOWER BROADBAND; VICE CHAIRMAN, AMERICAN CABLE ASSOCIATION (ACA)

Mr. KNORR. Thank you, Mr. Chairman, and members of the Committee.

My name is Patrick Knorr, and I am General Manager of Sunflower Broadband, an independent cable business based in Lawrence, Kansas, currently serving 35,000 customers.

Senator BURNS. Do you want to pull that microphone up? There you go.

Mr. KNORR. Is that better?

Senator BURNS. Pull it up closer to you. Is it on?

Mr. KNORR. We provide cable television, digital cable, highspeed Internet, local phone service, digital video recorders, and other advanced services in eight smaller communities and rural areas throughout Northeast Kansas.

I'm also Vice Chairman of the American Cable Association, whose member companies provide cable and broadband service in rural areas in every state represented on the Committee.

I believe you stand at a historic moment when we shift from the analog world to the exciting digital future. As you consider how best to address the DTV transition, there are two separate, but intertwined, sets of issues: first, the cost and the technical challenges with completing the transition, and, second, the problems with retransmission consent and programming practices.

For the transition to be a success, it must work for all Americans, including those in more rural areas. The cost of the transition will have a disproportionate impact on rural customers and systems. ACA has some ideas on how to deal with this, and I'd like to highlight two.

First, that cable operators need to have the flexibility to down-convert digital signals without the burden of mandated dual carriage. Smaller systems need this flexibility, because they cannot support the costly infrastructure necessary to provide these redundant channels. What may be more compelling for you is that, by facilitating down-conversion, it will minimize the cost of the transition by ensuring that the government will not have to put a box in every TV in every customer's home.

And, second, satellite-delivered local-to-local signals need to be available to rural cable operators on a nondiscriminatory basis. In some markets, digital signals will not be strong enough to reach the headend, meaning that viewers who previously could receive an analog signal are now left without a picture, a situation known as the "digital cliff." The price of not fixing this problem is that many consumers in compliant systems will find themselves staring at blank TV screens.

As for the second set of issues, outdated retransmission consent and programming rules must be addressed during this transition. Many of us are already seeing abusive behavior by big broadcasters as they exploit government-granted powers for their benefit. My company, like many ACA member companies, have invested millions of dollars to do its part to embrace the transition by upgrading systems to launch DTV, only to have some broadcasters use their market power to hold up retransmission consent. Some are demanding unreasonably high fees just to grant access to DTV signals, and, incredibly, others will not even have the courtesy to return our calls as we seek to carry those signals.

And it gets worse, some broadcasters are now demanding substantial cash payments from smaller cable operators. Typically, I'm hearing demands of 50 cents to a dollar more per channel, which adds up to rate increases of two to five dollars per month for each subscriber for the same broadcast signals they receive today. In some markets, these demands are only made of the small operators. Big cable companies are paying nothing, while rural customers are being gouged for cash. The sole reason this can occur, broadcasters have market power granted to them by the laws and regulations of the analog era. I believe the intent of the retransmission consent laws were to protect localism, not to promote profiteering. This situation occurs for many reasons, but, most impor-

tantly, broadcasters use exclusivity to block cable operators from obtaining network signals at a lower cost.

Fortunately, there are solutions to this problem, and I will suggest three here. One, eliminate exclusivity when a broadcaster elects retransmission consent and seeks additional consideration for carriage. Two, prohibit any party, including a network, from preventing a broadcast station from granting retransmission consent. And, three, to codify the retransmission consent conditions imposed on the NewsCorp/DIRECTV merger to apply to all retransmission consent agreements.

In summary, the retransmission consent and broadcast exclusivity regulations have been used by the networks and stations to raise rates and force unwanted programming onto consumers. This must stop. But it won't, unless Congress acts.

Finally, I would encourage you to at least pierce the programming veil of secrecy by authorizing the FCC to obtain specific programming contracts and rate information in order to develop a programming price index. The PPI would be a simple, yet effective, way to gauge how programming rates rise and fall, while still protecting the proprietary elements of individual contracts.

Mr. Chairman, this committee stands today at the threshold of a new digital world, but the challenges are many and the risks are great. Clearly, rural America and its service providers have unique financial and geographic challenges to face when making this conversion. Additionally, outdated regulatory structures that raise rates and force programming on our constituents must be abandoned.

I hope that you will be able to address both of these problems, and I appreciate the opportunity to testify on ACA's views.

[The prepared statement of Mr. Knorr follows:]

PREPARED STATEMENT OF PATRICK KNORR, GENERAL MANAGER, SUNFLOWER BROADBAND; VICE CHAIRMAN, AMERICAN CABLE ASSOCIATION (ACA)

Introduction

Thank you, Mr. Chairman and members of the Committee.

My name is Patrick Knorr, and I am General Manager of Sunflower Broadband, an independent cable business based in Lawrence, Kansas, currently serving 35,000 customers. My company provides cable television, digital cable, high-speed Internet, local phone service, digital video recorders, and other advanced services in eight smaller systems and rural areas throughout Northeast Kansas.

I am also the Vice Chairman of the American Cable Association. ACA represents nearly 1,100 smaller and medium-sized independent cable businesses. These companies do one thing—serve our customers, who are found in areas the bigger companies don't serve. ACA members don't own programming or content; nor are they run by the large media companies. Collectively, ACA members serve nearly 8 million customers, mostly in smaller markets. Our members serve customers in every state, particularly those of this committee.

I believe you stand at an historic moment, when we shift from the 1970s-era policies of the analog world to the exciting and enticing future that the digital revolution can provide. All of us here today want our constituents and customers to receive the best in advanced, high-speed, digital services. The transition to digital television is an important step in the right direction. But at the same time, all of us here today want to ensure that no one is left behind as we actually move from analog to digital.

As we look today at ideas and proposals concerning the transition to digital television, there are two realities this Committee must take into account.

The first reality is that the transition to digital television is both a question of technology and of public policy—a reality recognized by the existence of this hearing and the very necessity of a DTV bill. Many very important and relevant public pol-

icy issues exist today concerning the digital pipe and the content that flows through it. Issues such as "rising cable and satellite rates," "media consolidation," "indecency," "retransmission consent abuse," "family programming tiers" and the "Digital Divide," cannot be viewed as separate from the DTV transition. In fact, these policy issues are the central focus of your constituents and our customers. Moving a limited DTV bill will only postpone and exacerbate marketplace, media, programming, and pricing problems that already exist back home in your districts. The transition from analog to digital, and the underlying need for legislation to facilitate that shift, provides you with the first appropriate opportunity to address these germane issues in a comprehensive manner, and I encourage you to take advantage of this moment.

Digital platforms can provide consumers with a wondrous world of new and valuable programming. But if you allow the old rules to stay in place, it will just be more of the same. To move forward on just one technological aspect of the digital revolution without moving forward on the broader content and programming issues would be the equivalent of putting a fancy new engine in a rusty old car, thus severely limiting how far and how fast you can really go. To provide consumers with the greatest benefit, it is imperative that you break with the past and recognize that some old ideas no longer serve the greater good.

I strongly urge this committee to seize this moment to restore the balance of power between programmers, operators, media consortiums, and broadcasters. In short, it's time to recalibrate for the digital world so that each is subject to the creative power of competitive market forces and to the consumers they serve.

Moving on to the *second reality,* DTV transition proposals that require dual carriage of broadcast signals will threaten ACA members' very survival and ability to provide advanced services such as high-speed Internet, VoIP and VOD. Unless the specific financial realities of smaller, independent providers are addressed in any DTV bill, consumers and communities across America will lose access to signals and services they rely on today. In fact, what worries me is that without efforts to help these systems make the transition, many of the small businesses that provide video and broadband services in rural America will cease to exist, and the digital divide will actually grow.

Out in the smaller communities ACA members serve, literally from Alaska to Maine, Hawaii and Florida, it is our core video business that allows us to finance and provide the high-speed services, including digital television, which everyone wants in order to bridge the Digital Divide. It is independent cable companies like mine that provide broadband services to small towns throughout the country. Satellite providers, telephone giants, or major cable companies—unlike ACA's members—are not rushing to serve these communities, and I can appreciate why. Large companies will never come rushing into these communities because of the cost and difficulty of providing service in rural America. The headlines you read about in the media are about new services and suites of services offered to larger communities. If ACA members' video service cannot survive, I can assure you we will not be around to offer the cable modem services these communities need, and the DTV services this committee wants. In short, video programming is not "just" about programming choices and rates, but it is also the foundation upon which advanced services, including DTV, are built.

As a result, there are four fundamental and specific changes that must be made if your goal is to provide the greatest diversity of video, DTV and advanced services, and to ensure that all consumers—even in smaller markets and rural areas—have access to them. The four changes are:

1. Ensure that consumers in smaller markets and rural areas are not left behind in the digital transition. Take into account and address the unique financial, technical, and operational requirements of those companies that will be providing DTV service in rural America.

2. Update and change the current retransmission consent rules to help remedy the imbalance of power caused by media consolidation.

3. Correct rules that allow for abusive behavior because of media consolidation and control of content.

4. Make access to quality local-into-local television signals available.

What Needs To Be Changed and Why

1. Ensure That Consumers in Smaller Markets and Rural Areas Are Not Left Behind in the Digital Transition—Take Into Account and Address the Unique Financial, Technical, and Operational Requirements of Those Companies That Will Be Providing DTV Service in Rural America

Several current DTV legislative proposals would require cable operators to carry the primary digital signal of all broadcast stations, but allow the cable operator to also simultaneously down-convert certain commercial and educational stations to analog, and then require the cable operator to carry both digital and analog signals all on the broadcast basic tier. From the perspective of the independent cable operators serving rural America today, this is no choice at all for the following reasons:

Dual Carriage. Independent cable operators in smaller markets and rural areas cannot afford the transition and equipment costs to transmit solely digital signals. They will need to down-convert digital signals to analog so that their subscribers in smaller markets and rural America will have a signal to receive. If dual carriage is the only option, most small systems will be unable to comply because of the limitations of their systems will prevent them from carrying those signals—the actual carrying capacity of the pipe into the home will be too small. In addition, the cost of just carrying the digital signal for most ACA members would be more than $1,000 per subscriber. That's a cost that many smaller systems cannot support. Additionally, such a solution would force every customer in my market to have a set-top box or new digital television set for every TV in the house. In short, the requirement for dual carriage of both the digital and analog signal will impose significant additional unrecoverable costs, and siphon off precious bandwidth used today to offer advanced communications services like high-speed Internet, VoIP, and VOD, to name a few.

Hard Deadline. Current DTV proposals would impose a hard deadline of December 31, 2008, when all analog transmission by broadcast stations must cease. The "hard deadline" for the digital transition will disproportionately impact ACA members in rural America and their subscribers in at least two ways:

- Some ACA members in remote areas are subject to the "digital cliff" effect. When broadcasters turn off their analog signal these members will be unable to pick up *any* signal to retransmit to their subscribers because of the technical characteristics of the digital signal. If a cable operator cannot pick up the digital signal, its subscribers are even less likely to be able to pick up the off-air signal with a home antenna.
- Cable subscribers in rural areas are less able to afford digital receivers or converters than subscribers in urban areas.

Retransmission consent. As previously discussed, some broadcasters are already using their DTV signal as a lever to impose more tying demands and higher fees for retransmission consent on cable operators. In some cases, some of the largest broadcasters have ignored ACA members request for DTV retransmission consent. When a broadcaster refuses to grant consent to a smaller operator, or demands exorbitant fees or costly tying arrangements, this behavior impedes the DTV transition. The bill must address these problems to ensure the increased bandwidth available in the digital world will not just become increased opportunity for more unwanted programming and higher rates to be leveraged-down to consumers in rural America.

Digital-to-analog conversion. ACA members support the concept of allowing the digital-to-analog conversion, without imposition of a dual carriage requirement. Such a decision would allow smaller systems to minimize the disruption to their consumers and would ensure our continued viability. Unfortunately, current DTV proposals will first require consumers to purchase new equipment. Second, these proposals will place an insurmountable economic burden on operators by forcing them to replace their networks. (See Exhibit 1) The simplest solution would be to give operators the flexibility to down-convert digital signals at the headend without the dual carry obligation.

The stark reality is that ACA members, without changes to current DTV proposals that reflect their unique circumstances, face serious financial hardship. This means that consumers served by ACA members in most of the states represented on this committee may lose their provider and all of the advanced services these companies provide.

Some may say that the loss in the marketplace of certain providers like ACA members is simply a function of survival-of-the-fittest. We would argue that rural America deserves competition in the video marketplace just like the rest of the country. They also deserve to experience the advanced services that bigger entities

are rushing to provide in more populated and profitable areas. The reality is that in the rural markets ACA member companies serve and operate, larger cable television providers will not fill in the service gaps if ACA members are forced to exit their business.

Solutions to ensure no consumer, community, or provider are left behind in the DTV transition:

- Provide the ability to down-convert digital signals to analog without the obligation for dual carriage;
- Assist independent cable operators to upgrade facilities to avoid the digital cliff effect and to be able to receive and transmit DTV signals to their consumers;
- Allow waivers of the carry-one-carry-all requirement to ease the burden on smaller operators;
- Make adjustments to retransmission consent rules and exclusivity regulations.

ACA and its members understand and support the need for the Committee to move swiftly to recapture analog spectrum for other noble purposes. However, we strongly caution the Committee to consider the real possibility of leaving consumers, and providers in smaller markets and rural America, out in the cold with no choices, no signals and lost services. We hope to work with the Committee to develop a DTV transition bill that will recognize the unique circumstances faced by providers and consumers in smaller markets and rural areas so that the DTV transition will take place in positive ways for all consumers, not just those located in populated areas.

2. Current Retransmission Consent Rules Must Be Updated To Help Remedy the Imbalance of Power Caused By Media Consolidation

The current retransmission consent and broadcast exclusivity laws and regulations limit consumer choice, and impede independent cable operators' ability to compete in smaller markets and rural America by permitting distant media conglomerates to charge monopoly prices for programming. This situation must not be carried forward into the post-DTV world.

Current laws and regulations allow broadcasters to combine retransmission consent and market exclusivity into a monopolistic hammer. Both of these rules were created to preserve local broadcasting, but now large media companies use those rules to hold localism hostage to increase profits, and gain wide distribution for niche programming like SoapNet and more recently LOGO, a gay-themed Viacom Network. These same practices that were used with analog broadcasting are already being applied to the digital world, accelerating the problem.

Across America our association members and their customers are seeing early signs that broadcasters are using this leverage to lean excessively on independent cable operators to extract cash. ACA member's systems usually serve only a small fraction of the households in any DMA and have no leverage in negotiations with broadcasters. Collectively our ACA members serve no more than 8 percent of all television households and most of rural America. We estimate that this year broadcasters will leverage retransmission consent rules to extract an additional $1 billion from consumers served by ACA members for the "privilege" to receive free over-the-air signals. The average increase in basic cable rates as a result could well be $2–$5 per subscriber per month! Remember, for the consumer, they will not experience any improvement in service, nor receive any new programming despite being forced to pay this increase.

And broadcasters don't only demand cash for the right to carry their local television stations. Some members of the largest media conglomerates require our cable companies to carry affiliated satellite programming in local systems, and even in systems outside of the member's local broadcast market. In this way, ownership of a broadcast license is used to force carriage of, and payment for, affiliated programming by consumers who do not even receive the broadcast signal at issue. These forced carriage requirements are also responsible for forcing on some of the most objectionable and indecent content on television today, such as SpikeTV, F/X, and Soap Net, among many others.

Unless this Committee addresses these issues, price increases from broadcaster demands for cash and additional channels will continue unabated in the digital world. In fact, increased bandwidth will only add fuel to this fire. Large media companies are using the free spectrum licenses granted by the government for local broadcasting to pad margins and to leverage often questionable nationally delivered content. How those licenses are used is fundamentally part of Congress's obligation in managing the transition of licenses from analog to digital. Congress created the retransmission consent laws in 1992, to protect localism and must change them in

2005, to protect consumers from the consequences of media consolidation in a new digital world.

Broadcasters and programmers get away with these abuses today because the pricing of retransmission consent does not occur in a competitive market. Under the current regulatory scheme, media conglomerates and major affiliate groups are free to demand monopoly "prices" for retransmission consent, while blocking access to readily available lower cost substitutes.

They do so by two methods:

- *First,* the network non-duplication and syndicated exclusivity laws and regulations allow broadcasters to block cable operators from cable-casting network and syndicated programming carried by stations outside of the broadcaster's protected zone. In other words, the conglomerate-owned station makes itself the only game in town, and can charge the cable operator a monopoly "price" for its must-have network programming. The cable operator needs this programming to compete. So your constituents end up paying monopoly prices.
- *Second,* the media conglomerates require network affiliates to sign contracts that prevent the affiliate from selling their programming to a cable operator in a different market. Again, the conglomerate-owned and operated stations are the only game in town.

In these situations, the cable companies' only defense is to refuse to carry the programming. This has virtually no effect on the media conglomerates, but it prevents your constituents from receiving must-have network programming and local news. This result directly conflicts with the historic goals and intent of the retransmission consent and broadcast exclusivity rules, which were to promote consumer choice and localism.

There are ready solutions to this dilemma. When a broadcaster seeks a "price" for retransmission consent, give independent, smaller and medium-sized cable companies the ability to shop for lower cost network programming for their customers.

Accordingly, in our March 2, 2005, Petition for Rulemaking to the FCC, ACA proposed the following adjustments to the FCC's retransmission consent and broadcast exclusivity regulations:

- *One:* Maintain broadcast exclusivity for stations that elect must-carry or that do not seek additional consideration for retransmission consent. This ensures must-carry remains the primary option for programmers and ensures "localism."
- *Two:* Eliminate exclusivity when a broadcaster elects retransmission consent and seeks additional consideration for carriage. If the programmer decides to forego their must-carry rights in the hopes of putting together a business deal with an operator, allow the operator to negotiate freely without having their hands tied.
- *Three:* Prohibit any party, including a network, from preventing a broadcast station from granting retransmission consent.

On March 17, 2005, the FCC released ACA's petition for comments. By opening ACA's petition for public comment, the FCC has acknowledged that the current retransmission consent and broadcast exclusivity scheme requires further scrutiny. Before codifying a new regulatory regime for digital television that carries all of the baggage from the analog world with it, Congress should ask similar questions, and make the important decision to update current laws to rebalance the role of programmers and providers.

Congress, too, should revisit the retransmission consent laws to correct the imbalance caused by the substantial media ownership concentration that has taken place since 1992. One solution is to codify the retransmission consent conditions imposed on Fox/News Corp./DIRECTV to apply across the retransmission consent process. The three key components of those conditions include: (i) a streamlined arbitration process; (ii) the ability to carry a signal pending dispute resolution; and (iii) special conditions for smaller cable companies.

In summary, the retransmission consent and broadcast exclusivity regulations have been used by the networks and stations to raise rates and to force unwanted programming onto consumers. This must stop, but it won't unless Congress acts. If a station wants to be carried, it can elect must-carry. If a station wants to charge for retransmission consent, let a true competitive marketplace establish the price.

3. Correct Rules That Allow for Abusive Behavior Because of Media Consolidation and Control of Content

What most consumers do not understand is that my independent company, and ACA member companies, must purchase most of their programming wholesale from

just four media conglomerates, referred to here as the "Big Four"—Disney/ABC, Viacom/CBS, News Corp./DIRECTV/Fox, and General Electric/NBC. All of these companies have at their core one of the top four national broadcast networks. In dealing with the Big Four, all ACA members continually face contractual restrictions that eliminate local cable companies' flexibility to package and distribute programming the way our customers would like it. Instead, programming cartels, headquartered thousands of miles away, decide what they think is "valuable" content and what our customers and local communities see. On a basic level the digital transition is a fundamental paradigm shift that could be very disruptive for consumers. Addressing these abuses is an opportunity for Congress to: (1) provide tangible benefits to consumers; (2) fulfill the true promise of the digital transition by providing more choice and control to consumers; and, (3) to make a consolidated media more accountable to people they serve.

To fix this situation, Congress must update and reform the rules so that:

a. *Local providers of all forms and customers have more choice and flexibility* in how programming channels are priced and packaged, including the ability to sell programming channels on a theme-based tier if necessary;

b. *Tying through retransmission consent must end.* Today, the media giants hold local broadcast signals hostage with monopolistic cash-for-carriage demands or demands for carriage of affiliated media-giant programming, which was never the intention of Congress when granting this power;

c. *The programming pricing gap between the biggest and smallest providers is closed* to ensure that customers and local providers in smaller markets are not subsidizing large companies and subscribers in urban America; and,

d. *The programming media giants must disclose, at least to Congress and the FCC, what they are charging local providers,* ending the strict confidentiality and non-disclosure dictated by the media giants. Confidentiality and non-disclosure mean *lack* of accountability of the media giants.

Let me explain.

Forced Cost and Channels

For nearly all of the 50 most distributed channels (see Exhibit 2), the Big Four contractually obligate my company, and all ACA members, to distribute the programming to all basic or expanded basic customers regardless of whether we think that makes sense for our community. These same contracts also mandate carriage of less desirable channels in exchange for the rights to distribute desirable programming.

A small cable company that violated these carriage requirements would be subject to legal action by the media conglomerates, and for ACA's members, this is a very real threat.

These carriage restrictions prohibit ACA members from offering more customized channel offerings that may reflect the interests and values of our specific community. Thus, any interest we may have in offering a family tier as the basic tier to our constituencies is made virtually impossible because of the corporate decisions made by the Big 4 and the terms and conditions they impose on our companies.

More Forced Cost and Channels Through Retransmission Consent

As previously discussed, retransmission consent has morphed from its original intent to provide another means to impose additional cost and channel carriage obligations. As a result, nearly all customers have to purchase basic or expanded basic packages filled with channels owned by the Big Four (See Exhibit 3).

Forced Carriage Eliminates Diverse Programming Channels

The programming practices of certain Big Four members have also restricted the ability of some ACA members to launch and continue to carry independent, niche, minority, religious, and ethnic programming. The main problem: requirements to carry Big Four-affiliated programming on expanded basic eliminate "shelf space" where the cable provider could offer independent programming.

If new independent programmers are to provide outlets for this type of programming to reach consumers, you must ensure that they are not subject to the handcuffs current programming practices place upon them.

Local Flexibility Is Needed

In order to give consumers more flexibility and better value, changes in current wholesale programming practices and market conditions are needed for all providers. Operators must be given more flexibility to tailor channel offerings that work best in their own local marketplaces.

As I have stated, the Big Four condition access to popular programming on a range of distribution obligations and additional carriage requirements. These restrictions and obligations eliminate flexibility to offer more customized channel packages in local markets.

It's important to point out that neither my company, nor any ACA member, controls the content that's on today's programming channels. That content—decent or not—is controlled by the media conglomerates that contractually and legally prevent us from changing or preempting any questionable or indecent content.

However, if my company and other ACA members had more flexibility to package these channels with the involvement of our customers, current indecency concerns raised by both Congress and the FCC could also be addressed.

Price Discrimination Against Smaller Cable Companies Makes Matters Worse

The wholesale price differentials between what a smaller cable company pays in rural America, compared to larger providers in urban America, have little to do with differences in cost, and much to do with disparities in market power. These differences are not economically cost-justified and could easily be replicated in the IP world as smaller entrants are treated to the same treatment our members face.

Price discrimination against independent, smaller and medium-sized cable companies and their customers is clearly anti-competitive conduct on the part of the Big Four—they offer a lower price to one competitor and force another other competitor to pay a 30–55 percent higher price *for the same programming.* In this way, smaller cable systems and their customers actually subsidize the programming costs of larger urban distributors and consumers. This sad reality should not carry-over with the digital transition.

In order to give consumers in smaller markets and rural areas more choice and better value, media conglomerates must be required to eliminate non-cost-based price discrimination against independent, smaller and medium-sized cable operators and customers in rural America.

With less wholesale price discrimination, ACA members could offer their customers better value and stop subsidizing programming costs of large distributors.

Basis for Legislative and Regulatory Action

Congress has the legal and Constitutional foundation to impose content neutral regulation on wholesale programming transactions. The program access laws provide the model and the vehicle, and those laws have withstood First Amendment scrutiny. This hearing provides the Committee with a key opportunity to help determine the important governmental interests that are being harmed by current programming practices.

Furthermore, based in large part on the FCC's actions in the DIRECTV-News Corp. merger, there is precedent for Congress and the FCC to address the legal and policy concerns raised by the current programming and retransmission consent practices of the media conglomerates. The FCC's analysis and conclusions in the News Corp. Order persuasively establish the market power wielded by owners of "must have" satellite programming and broadcast channels, and how that market power can be used to harm consumers. That analysis applies with equal force to other media conglomerates besides News Corp.

Pierce the Programming Veil of Secrecy—End Nondisclosure and Confidentiality

Most programming contracts are subject to strict confidentiality and nondisclosure obligations, and my company, and ACA members are very concerned about legal retaliation by certain Big Four programmers for violating this confidentiality. Ask me what I have to pay to receive a given channel and I cannot tell you because of terms and conditions the conglomerates insist upon. Why does this confidentiality and nondisclosure exist? Who does it benefit? Consumers, Congress, the FCC? I don't think so. Why is this information so secret when much of the infrastructure the media giants benefit from derives from licenses and frequencies granted by the government?

Congress should obtain specific programming contracts and rate information directly from the programmers, either by agreement or under the Committee's subpoena power. That information should then be compiled, at a minimum, to develop a Programming Pricing Index (PPI). The PPI would be a simple, yet effective way to gauge how programming rates rise or fall while still protecting the rates, terms, and conditions of the individual contract. By authorizing the FCC to collect this information in a manner that protects the unique details of individual agreements, I cannot see who could object.

Armed with this information, Congress and the FCC would finally be able to gauge whether rising cable rates are due to rising programming prices as we have claimed, or whether cable operators have simply used that argument as a ruse. A

PPI would finally help everyone get to the bottom of the problems behind higher cable and satellite rates. We at ACA are so convinced that this type of information will aid you in your deliberations that we challenge our colleagues in the programming marketplace to work with us, and this committee, to craft a process for the collection of that data.

In short, without disclosure, there is no accountability. The digital transition is about how to manage broadcasting in America, and is an opportunity to make things fundamentally better for consumers.

4. Make Access To Quality Local-Into-Local Television Signals Available

In the first section of my testimony, I outlined the enormous technical, financial, and operational challenges facing independent cable in smaller markets and rural areas to accomplish the DTV transition. While we are committed to making the transition work, it will be no small feat to make this transition happen in ACA members' marketplaces without putting the many advanced services we now provide at great risk.

Another important reality about digital signals is that they will not likely have the same distribution range as the analog signals they replace. One way to help solve this problem is to grant cable access to local-into-local television signals already being delivered by direct broadcast satellite (DBS) companies.

The digital spectrum assigned will not have the same propagation qualities as many of the analog signals they replace. As a result, while most metropolitan cable operators and DBS will have access to improved digital signals, some rural cable operators will find they no longer can receive any usable signal at all. This is what is refered to as the digital cliff. In local-into-local markets, DBS can deliver clear, local broadcast signals regardless of distance from transmitters. ACA members and their buying representative, the National Cable Television Cooperative in Lenexa, Kansas, have asked both DIRECTV and EchoStar for the right to buy and pay for access to DBS' local-into-local signals where a good quality signal is not available over-the-air. However, the DBS duopoly refuses to allow rural cable systems to receive these DBS-delivered broadcast signals, even though DBS now sells the same signals to private cable operators, satellite master antenna system owners, and several Bell companies.

Ironically, DBS now refuses to grant access to its programming, despite the favored regulatory treatment it received to have access to cable programming. The ability to receive local broadcast signals was the reason Congress enacted the Satellite Home Viewer Improvement Act in 1999, which Congress recently reauthorized through SHVERA. But SHVERA does nothing to solve the local signal problem for rural cable operators and customers.

Congress can solve this problem by revising the retransmission consent laws as follows:

> In markets where a satellite carrier delivers local-into-local signals, that satellite carrier shall make those signals available to MVPDs of all types on non-discriminatory prices, terms and conditions where the MVPD has the consent of the broadcaster to retransmit the signal.

ACA's recommended revisions to the laws and regulations governing retransmission transmission consent and broadcast exclusivity are modest. But they will advance the widespread dissemination of good, quality local broadcast signals to your constituents, and will address the serious competitive imbalance currently hurting small market and rural cable systems. Carrying this restrictive situation into the DTV world would further compound this mistake. All video vendors must be able to have access to quality signals if they are going to be viable competitors within in the DTV marketplace.

Conclusion

This Committee stands today at the threshold of the new digital world, but it is also a precipice. The challenges are many and the risks are great.

The DTV transition provides you with the power to determine whether to recognize that rural America and its service providers have unique financial and geographic challenges to face while making this conversion. At the same time you have the opportunity to repudiate outdated regulatory structures that raise rates and force programming on your constituents, while replacing it by injecting market-based solutions.

I hope you will be able to address both halves to this problem, and I appreciate the opportunity to testify on behalf of the ACA's many members' views on these matters.

EXHIBIT 1—EXPECTED COST OF THE DIGITAL TRANSITION

	Upgrading headends to receive and transmit digital signals	Upgrading headends to downconvert signals to analog
Cost per headend	$9,000	$4,500
Cost per set-top box	$400	
Cost per subscriber	$5,000	

Per-Company Costs To Upgrade Facilities To Receive and Transmit Digital Signals

Company #1

Number of current non-digital subscribers: 360,000.

	Avg. 1 TV per household	Avg. 2 TVs per household
Total capital outlay for 2006–2008	$87,300,000	$135,540,000
Percent of annual capital budget	49.32 percent	76.58 percent

Company #2

Total subscribers: 50,679.
Cost per encrypted HD channel: $4,587–$6,407.

Company #3

Total subscribers: 35,000.
Total capital outlay for 2006–2008: $85,000,000–$135,000,000.

EXHIBIT 2—OWNERSHIP OF THE TOP 50 PROGRAMMING CHANNELS

Channel	Ownership
BET	Viacom/CBS
CMT	Viacom/CBS
MTV	Viacom/CBS
Nickelodeon	Viacom/CBS
Spike	Viacom/CBS
TV Land	Viacom/CBS
VH1	Viacom/CBS
Comedy Central	Viacom/CBS
ABC Family	Walt Disney Co./ABC
Disney	Walt Disney Co./ABC
ESPN	Walt Disney Co./ABC
ESPN2	Walt Disney Co./ABC
Lifetime	Walt Disney Co./Hearst
A&E	Hearst/ABC/NBC
History	Hearst/ABC/NBC
CNBC	GE/NBC
MSNBC	GE/NBC
Sci-fi	GE/NBC
USA	GE/NBC
Bravo	GE/NBC
Shop NBC	GE/NBC
Fox News	News Corp.
Fox Sports	News Corp.
FX	News Corp.
Speed	News Corp.
TV Guide	News Corp.
CNN	Time Warner/Turner
Headline News	Time Warner/Turner
TBS	Time Warner/Turner
TCM	Time Warner/Turner
TNT	Time Warner/Turner
TOON	Time Warner/Turner
Court TV	Time Warner/Liberty Group
Animal Planet	Liberty Media
Discovery	Liberty Media

Channel	Ownership
Travel	Liberty Media
TLC	Liberty Media
Golf	Comcast Corp.
Outdoor Life	Comcast Corp.
E!	Comcast Corp.
QVC	Comcast Corp.
HGTV	Scripps Company
Food	Scripps Company
AMC	Rainbow/Cablevision Systems
C-Span	National Cable Satellite Corp.
C-Span II	National Cable Satellite Corp.
WGN	Tribune Company
Hallmark	Crown Media Holdings
Weather	Landmark Communications
HSN	IAC/InterActiveCorp.

EXHIBIT 3—CHANNELS CARRIED THROUGH RETRANSMISSION CONSENT

Program Service	Ownership
FX	News Corp.
Fox News	News Corp.
Speed	News Corp.
National Geographic	News Corp.
Fox Movie Network	News Corp.
Fox Sports World	News Corp.
Fuel	News Corp.
ESPN2	Walt Disney Co./ABC
ESPN Classic	Walt Disney Co./ABC
ESPNews	Walt Disney Co./ABC
Disney from premium to basic	Walt Disney Co./ABC
Toon Disney	Walt Disney Co./ABC
SoapNet	Walt Disney Co./ABC
Lifetime Movie Network	Walt Disney Co./Hearst
Lifetime Real Women	Walt Disney Co./Hearst
MSNBC	GE/NBC
CNBC	GE/NBC
Shop NBC	GE/NBC
Olympic Surcharges for MSNBC/CNBC	GE/NBC
Comedy Central	Viacom/CBS
MTV Espanol	Viacom/CBS
MTV Hits	Viacom/CBS
MTV2	Viacom/CBS
Nick GAS	Viacom/CBS
Nicktoons	Viacom/CBS
Noggin	Viacom/CBS
VH1 Classic	Viacom/CBS
VH1 Country	Viacom/CBS
LOGO	Viacom/CBS

Comparing this with the Top Fifty Channels in Exhibit 1 demonstrates how certain members of the Big Four have used retransmission consent to gain a significant portion of analog and digital channel capacity.

The CHAIRMAN. Well, thank you very much.

Our next witness is Richard Slenker, the Executive Vice President of DIRECTV.

STATEMENT OF RICHARD SLENKER, EXECUTIVE VICE PRESIDENT, TECHNOLOGY AND ENGINEERING OPERATIONS, DIRECTV, INC.

Mr. SLENKER. Chairman Stevens, Senator Inouye, and members of the Committee, my name is Richard Slenker, and I'm the Executive Vice President of Technology and Engineering Operations at

DIRECTV. Thank you for inviting me to testify on behalf of DIRECTV regarding the digital television transition.

I have two simple messages today. First, DIRECTV is spending billions of dollars on satellites that will allow us to offer as many as 1,500 local channels in high definition by 2008, all without a government mandate of any kind. Second, DIRECTV's ability to offer these local high-definition channels will be seriously compromised, if not totally eliminated, if Congress adopts onerous carriage requirements.

While the requirements would burden cable operators, they would cripple DIRECTV's high-definition local plans. In 1999, Congress granted satellite operators the right to carry local broadcast stations. In doing so, Congress created a "carry one/carry all" regime for satellite that reflected the technological differences between satellite and cable. This unleashed, for the first time, real competition to cable, and the result has been nothing short of astounding.

In 1999, the DBS industry had ten million customers. Today, satellite has more than 25 million customers. This extraordinary success is due, in no small measure, to the fact that Congress recognized the differences between satellite and cable technology, and crafted a law that takes these differences into account. As a result, DIRECTV has invested billions of dollars to provide analog local broadcast stations in 135 local markets serving over 93 percent of U.S. television households.

We are now extending this commitment to the provision of high-definition local broadcast channels, once again investing billions of dollars to design and launch four next-generation satellites. This investment will drive vigorous competition with cable, and hasten the digital transition, all to the benefit of the American public.

Our ability to bring this digital and high-definition broadcast programming to U.S. consumers will collapse if satellite operators are forced to carry broadcasters' multicast channels or all free bits. Any material increase in existing carriage obligations will cripple our high-definition plans and undermine the ability of DBS to compete effectively with cable.

To appreciate why any additional carriage requirements on DBS would have such a devastating effect, it's important to understand the capacity limitations and technical differences between satellite and cable.

Quite simply, satellite has far less capacity to carry local signals than do cable operators. This reflects the differences between offering local signals on a national satellite platform versus a local cable system. While a typical cable system may only retransmit 10 to 15 broadcast signals at a time, DIRECTV must simultaneously retransmit over 1,000 broadcast signals from a single satellite constellation.

DIRECTV has met this challenge by employing state-of-the-art technology. First, DIRECTV has launched spot-beam satellites that create additional capacity by reusing spectrum in different geographic areas. Second, we increase capacity by using advanced compression, a technique for mathematically removing redundant and unneeded digital bits.

DIRECTV believes its future lies in bringing its customers more high-definition programming, particularly local stations in high definition. Our plans depend critically on two factors: first, the ability to use cutting-edge technology, especially use of advanced compression techniques; and second, the carriage of a broadcaster's primary signal only. Both of these elements are crucial, because even compression has its limits. The amount of underlying broadcast content to be carried must be reasonable.

If DIRECTV must carry each broadcaster's multicast programming, we will be forced to cut back dramatically on the number of markets we currently serve. Thus, it is imperative that the satellite carriers be allowed to transmit only the compressed primary video signal if they are to continue providing local-into-local service in a substantial number of the Nation's markets.

DIRECTV is able to retransmit local broadcast signals in the first place because the "carry one/carry all" rules specify only that DIRECTV retransmit the primary video and accompanying audio signals of local broadcast stations, and specifically permits DIRECTV to use reasonable compression techniques in such retransmissions. DIRECTV can, thus, meet its statutory obligations, all the while maintaining the digital clarity that has become the hallmark of our service.

Imposing a multicast, must-carry, or all-free-bits obligation on DBS would force DIRECTV to scrap its local-into-local high-definition plans and shrink its local-into-local broadcast service, casting an ominous shadow over what has been an extremely successful Congressional effort to promote competition in the video marketplace. We encourage Congress to maintain policies that preserve a vibrant, competitive video marketplace that has reaped enormous benefits for the American public.

Mr. Chairman, and members of the Committee, I'd like to thank you for allowing me to give DIRECTV's perspective on these issues, and I'm happy to take your questions.

[The prepared statement of Mr. Slenker follows:]

PREPARED STATEMENT OF RICHARD SLENKER, EXECUTIVE VICE PRESIDENT, TECHNOLOGY AND ENGINEERING OPERATIONS, DIRECTV, INC.

Chairman Stevens, Senator Inouye, and members of the Committee, my name is Richard Slenker and I am the Executive Vice President, Technology and Engineering Operations at DIRECTV Inc. (DIRECTV). I am responsible for the day-to-day operations of DIRECTV's satellites, broadcast centers, and other technologies used to provide direct broadcast satellite (DBS) service. Thank you for inviting me to testify on behalf of DIRECTV regarding the digital television (DTV) transition.

I have two simple messages for you today. First, DIRECTV is spending billions of dollars on satellites that will allow us to offer as many as 1,500 local channels in high-definition (HD) by 2008—all without a government mandate of any kind. Second, DIRECTV's ability to offer these local HD channels will be seriously compromised, if not totally eliminated, if Congress adopts onerous carriage requirements. While such requirements would burden cable operators, they would cripple DIRECTV's HD local plans.

In 1999, Congress granted satellite operators the right to carry local broadcast stations. In doing so, Congress created a "carry one carry all" carriage regime for satellite that reflected the technological differences between satellite and cable. This unleashed, for the first time, real competition to cable, and the result has been nothing short of astounding. In 1999 the DBS industry had 10 million customers—and today satellite has more than 26 million customers. This extraordinary success is due in no small measure to the fact that Congress recognized the differences between satellite and cable technology, and crafted a law that takes these differences

into account. As a result, DIRECTV has invested billions of dollars to provide *analog* local broadcast stations in over 135 local markets, serving over 93 percent of U.S. television households.

We are now extending this commitment to the provision of *high definition* local broadcast channels. We are investing billions more to design and launch four next-generation satellites over the next several years. These satellites, which markedly extend the state-of-the-art in the satellite industry, will have the capacity for as many as 1,500 high definition local broadcast channels. This investment will drive vigorous competition with cable and hasten the digital transition, all to the benefit of the American public.

I must caution members of the Committee that our ability to bring this digital and high definition broadcast programming to U.S. consumers will collapse if satellite operators are forced to carry broadcasters' multicast service or "all free bits." Any material increase in existing carriage obligations will cripple our high definition plans and undermine the ability of DBS to compete effectively with cable.

DIRECTV urges Congress not to let this happen. Congress should build on the success of "carry one/carry all" such that the "the practical differences between the two industries are recognized and accounted for" in the digital world. In this way, Congress will ensure that the vibrant competitive marketplace we experience today will continue to exist tomorrow.

DIRECTV Relies on State-of-the-Art Technology To Retransmit Local Stations

Given its dominance in the video market, it is understandable that the focus of the policy debate has centered on cable television. But it is critically important for policymakers to account for the capacity limitations and technical differences between DBS and cable in any DTV legislation. Otherwise, expanded digital carriage requirements will threaten DIRECTV's HD rollout in markets across the country, which would only serve to harm competition in the video marketplace.

First, satellite *has far less effective capacity to carry local signals than do cable operators*. This reflects the difference between offering local signals on a national satellite platform vs. a local cable system.

A typical cable central office, or "headend," collects over-the-air broadcast signals from the surrounding community and retransmits those signals to viewers. Thus, a cable system will typically retransmit ten to fifteen broadcast signals at a time. DIRECTV, by contrast, must retransmit broadcast signals in markets from coast to coast from a single satellite constellation, the satellite equivalent of the cable headend. DIRECTV today retransmits the signals of over 1,000 local stations simultaneously. This requires an enormous amount of capacity and has been the principal engineering challenge DIRECTV has faced over the past 5 years.

DIRECTV has met this challenge by employing state-of-the-art technology. First, DIRECTV has launched *spot-beam satellites* that create additional capacity by reusing spectrum in different geographic areas. The more traditional CONUS-beam satellites have a single, multi-frequency (or multi-transponder)[1] footprint that covers the entire continental United States. While CONUS satellites are excellent for retransmitting *national* programming, using them to retransmit *local broadcast* programming is a very wasteful use of spectrum. For example, if DIRECTV wanted to retransmit a Boston station on a CONUS satellite, it would have to retransmit the station to the entire United States, even though, by law, only Boston-area subscribers could watch it. Naturally, if one were to try to retransmit local broadcast stations in every market throughout the country via CONUS satellites, capacity on the satellites would quickly be exhausted leaving little, if any room for national cable programming.

By contrast, spot-beam satellites are much better for the retransmission of local broadcast signals because, rather than "seeing" the entire United States with a large number of transponders, they "see" multiple, discrete areas, each with only one or two transponders. Spot beam satellites thus allow the geographic "reuse" of satellite frequencies—as transponders operating over the same frequencies can simultaneously transmit signals to Houston and Chicago. This reuse is akin to your car radio—there might be FM stations operating at 99.5 in Washington, D.C., New York, and Boston, and, as long as they are far enough apart, they do not interfere with one another. Thus, the 99.5 frequency is "re-used" among these three cities.

[1] A single DBS transponder covers 24 MHz of spectrum.

By covering discrete and non-overlapping geographic areas, satellite spot-beams can accomplish much the same thing.[2]

The second technique used to increase capacity is *compression,* a technique for mathematically manipulating information to remove redundant and unneeded bits. In the early 1990s, compression rates were roughly 5:1 (meaning that you could fit five cable channels or broadcast signals on a standard 24 MHz DBS transponder). Today, for standard definition television signals, compression rates are typically between 11:1 to 12:1, and further improvements are on the horizon. Compression rates for HD signals are, of course, much lower—but these, too, are expected to improve.

Take, for example, the Washington D.C. designated market area. DIRECTV satellites have a spot beam with two transponders covering the region around Washington, D.C. At 12:1 compression, the retransmission of each of Washington's 12 analog broadcast stations in standard definition format can be achieved while leaving additional capacity for carriage of local signals in the other markets covered by the same spot beam. However, if DIRECTV were required to carry each station's multicast signal without using compression, it would have to allocate up to an entire transponder to each station. Under this scenario, DIRECTV could carry only two Washington stations, and thus, under the current "carry one carry all" rules, DIRECTV could not retransmit *any* local signals to Washington (much less have capacity remaining to support local service in other markets within the beam). Accordingly, the spot beam infrastructure that DIRECTV has developed, and deployed at a cost of billions of dollars, would be rendered essentially useless. Moreover, even if it were possible to take all of the frequencies DIRECTV currently uses for local signal carriage nationwide and dedicate them to providing local stations in Washington at a 1:1 compression ratio, there still would not be sufficient capacity to serve even this single market.

The bottom line is that, if you want to know how much capacity a satellite operator has to retransmit local broadcast signals in a particular market, you need to know not just how many transponders the satellite operator has, but also how many transponders are available *in the spot beam* covering that market, as well as *how much the satellite operator is able to compress the signal* while still maintaining signal quality.

When the Transition Ends, Cable Will Set Aside *Less* Bandwidth for Broadcast Signals While DBS Will Dedicate *More*

The cable industry does not face the same technological hurdles or bandwidth constraints as DBS when it comes to delivering local broadcast stations. And more importantly, the end of analog broadcasting will result in a huge spectrum windfall for the cable industry. Today, cable provides local broadcast signals in an analog format. Assuming the absence of additional carriage obligations, by switching to digital and employing compression techniques, cable operators will be able to *reduce* the amount of bandwidth they set aside for broadcasters by at least 100 percent, and in many cases, much more. The same is not true for DBS. We have always been digital, and have already realized the efficiencies and bandwidth savings made possible by advanced modulation, coding, and most importantly, digital compression. As these techniques have improved, DIRECTV has been able to "fit" more analog broadcast channels into spot beams. HD programming, however, contains far more data than analog, requiring far more capacity even after compression. Thus, HD broadcasting will require significantly more bandwidth than DIRECTV dedicates to broadcasters today. And, any kind of multicasting or "free bit" requirement would only further exacerbate this discrepancy imposing a far greater burden on DBS than on cable.

Multicast Proposals Would Cripple DIRECTV's Local-Into-Local HD Service

DIRECTV is able to retransmit local broadcast signals in the first place because the "carry one carry all" rules specify only that DIRECTV retransmit the "primary video [and] accompanying audio" signals of local broadcast stations. They rightfully do not mandate the amount of *bandwidth* that DIRECTV must use to retransmit the signals, or that DIRECTV must retransmit signals that do not relate to the primary video feed. Indeed, the law specifically permits DIRECTV to use "reasonable compression techniques" in such retransmissions. DIRECTV can thus meet its stat-

[2] To give you an idea of how important this technology is, DIRECTV has 46 DBS frequencies, 10 of which have been dedicated for use in spot beams to deliver nearly 900 local broadcast stations. If these same frequencies were used in CONUS beams, they could carry only on the order of 120 stations. Clearly, DIRECTV's use of advanced spot beam technology has been the lynchpin of its local service capability.

utory obligations, while reducing the bandwidth of the signals, all the while maintaining the digital clarity that is a hallmark of our service.

Some broadcasters, however, want to change this formulation for the retransmission of DTV signals. They say that satellite carriers should be required to retransmit not just the "primary video" of digital signals, but also multicast services or in the alternative "all free bits." What that really means is that satellite carriers would be required to retransmit the entire bit stream of a broadcaster's digital transmission—including redundant and other bits unnecessary for a quality digital video signal, and even bits that have nothing to do with video service at all.[3] Were such a rule applied under today's carry one carry all regime, this would mean that satellite operators would have to offer such a "pipe" to *all* broadcasters in a market before retransmitting the digital signals of *any* such broadcaster. As my earlier discussion of the Washington, D.C. market illustrates, if that were the rule, DIRECTV would be carrying local stations in a handful of markets versus the 135 we are in today.

DIRECTV believes its future lies in bringing its customers more high-definition signals, particularly local stations in high definition. Moreover, those signals will have to be of sufficient quality to compete with the high-definition offerings of cable operators, or DIRECTV will likely lose subscribers to cable. Our plans depend critically upon two factors: (1) the ability to use cutting-edge technology, especially the use of advanced compression techniques, and (2) the carriage of a broadcaster's primary video signal only. If DIRECTV is required to carry each broadcaster's multicast programming, we will be forced to cut back dramatically on the number of digital markets we can serve.

Multicast Must Carry Penalizes Creative Entrepreneurs and Threatens MVPD Competition

Our decision to invest billions of dollars in order to provide a local-into-local HD broadcast service is a response to the demands of our customers and the competitive environment in which we operate. It would truly be unfortunate if Congress were to jeopardize this competition, and our ability to meet consumer demand, by imposing a multicast must-carry obligation on DBS.

Quite frankly, the broadcasters have not made a compelling case as to why their existing must-carry rights—carriage of their primary video and accompanying audio signal—should be dramatically increased in a digital world. Broadcasters play an important role in their local communities and are required to serve the public interest in exchange for their use of the public airwaves. They play a special and unique role in our society and enjoy a special and unique privilege in the guaranteed carriage of their programming on cable and satellite systems. That privilege will remain undiminished once the transition to digital broadcasting is complete. But if the broadcasters want to exploit the opportunities that the digital era offers by creating new content and new services, there is simply no reason why they shouldn't have to compete with every other entrepreneur with a good idea. Mandating the carriage of any new service a digital broadcaster may offer is unfair to every other non-broadcast programmer, and will force MVPD platforms to use precious bandwidth based on government fiat rather than consumer demand.

The MVPD marketplace is competitive and will respond to compelling ideas. If broadcasters create new programming services that consumers demand, competing distribution platforms will want to carry it (to the extent they have capacity to do so). Conversely, imposing a multicast must-carry obligation on DBS would force DIRECTV to scrap its local into local HD plans and shrink its local into local broadcast service, casting an ominous shadow over what has been a successful Congressional effort to promote multichannel video competition.

We encourage Congress to maintain policies that preserve a vibrant competitive video marketplace that has reaped enormous benefits for the American public.

Mr. Chairman and members of the Committee, I would like to thank you for allowing me to give DIRECTV's perspective on these issues. I am happy to take your questions.

The CHAIRMAN. Thank you very much.

The last witness is Mr. John Lawson, President and CEO of the Association of Public Television Stations.

Mr. Lawson?

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[3] *See, e.g.,* Letter from Henry L. Baumann, NAB, *et al.,* to Chairman Michael Powell, FCC, MB Docket No. 98–120 (Sept. 5, 2002) (suggesting that cable operators not be permitted to "alter the bits within the 'data packets' of the broadcast DTV stream").

STATEMENT OF HON. JOHN LAWSON, PRESIDENT/CEO, ASSOCIATION OF PUBLIC TELEVISION STATIONS (APTS)

Mr. LAWSON. Mr. Chairman, Mr. Co-Chairman, it's good to see you again. I'm still exhausted after the CPB hearing yesterday, and I'm not sure how you do this every day. Members of the Committee, thank you for inviting me to testify on behalf of the local public television stations.

Public television has been a leader in the digital transition. We've raised, with your help, over $1.1 billion for the digital buildout. We've launched exciting new services in high definition, multicasting, and wireless data delivery.

Last January, we concluded a landmark agreement that guarantees that multiple digital channels from every public television station will be carried on every major cable system in America. And my Association and the Department of Homeland Security have a cooperative agreement to use digital public television to upgrade the aging Emergency Alert System.

We're truly serious about completing the transition. We're prepared to work with you to provide solutions to make a hard date a reality. The single-greatest barrier to success is the public's lack of understanding about the conversion to DTV and what it really means for them. There needs to be a well-planned, adequately funded, closely coordinated campaign to reach, especially, the tens of millions of households who depend upon over-the-air reception. We need to make it seamless for them to go digital. This campaign should begin soon, and continue until every household is converted. Without this focus, Congress and we will have a consumer train wreck on our hands, and the hard date could be postponed for years.

Public television would prefer to be part of a large coalition of stakeholders informed by the SwitchCo model in the U.K. But, whatever the model, public television is willing to play a leading role in this campaign. And we're suited to do this for a number of reasons:

First, the over-the-air-reliant TV viewers are our viewers. Research indicates that the over-the-air households correlate strongly with public television's viewer base. When they watch television, these people tend to watch PBS. Other OTA viewers are disproportionately low-income, rural, Spanish-speaking, and elderly, and we also effectively reach them with our programming.

Based on examples from Europe, consumers will actually buy set-top boxes if they see a value in doing so, which usually means they get more free channels through DTV. Public television, here, provides that value, because we offer multicast programming, new free channels that are only available through digital reception.

Finally, Americans trust public television, as confirmed in poll after poll. And we have a Universal Service mandate. We believe public television is in a unique position to reach the last holdouts, and help them go digital.

Is there a cost to supporting consumer education? Yes. But combined with appealing new digital broadcast services, it could mean the government pockets a greater share of auction revenue. The set-top-box subsidy could be reduced, because consumers will actually seek the converter box in the marketplace.

Senators, you have assisted public television immensely in converting to DTV. Now is the chance to leverage that investment, to make us partners in completing the digital transition.

We also believe other elements are needed for success:

First, our agreement with NCTA guarantees carriage of our multicast programming on cable systems. We're also talking with ACA. But there are no provisions in law, and no voluntary agreements in place yet, with the direct broadcast satellite operators; and, one way or the other, we must guarantee digital carriage on DBS.

Second, we need guaranteed carriage on new technology platforms, and we are having promising discussions with the telco's, I'm happy to report.

Third, along with libraries, museums, and universities, we urge passage of S. 1023, the Digital Opportunity Investment Trust, or DOIT, which was introduced this year by Senators Dodd, Snowe, Durbin, and Burns. DOIT proposes to use a portion of spectrum auction revenue to capitalize a trust fund which would support the creation of digital content to serve the education needs of this country. DOIT is a historical descendant of the Land Grant College Act and the GI bill, both of which led to monumental expansions in educational access for Americans.

Finally, we hope the Senate will continue its historic bipartisan role in support of public broadcasting. The Labor-HHS appropriations bill is being marked up today, and we urge you to provide full funding for public television and radio. And we greatly appreciate the positive comments yesterday. Investing in public television is a great investment for the digital transition.

Thank you.

[The prepared statement of Mr. Lawson follows:]

PREPARED STATEMENT OF HON. JOHN LAWSON, PRESIDENT/CEO, ASSOCIATION OF PUBLIC TELEVISION STATIONS (APTS)

Mr. Chairman, Senator Inouye, other members of the Committee, thank you for inviting me to testify on behalf of the local public television stations.

Public television has been a leader in the digital transition.

- We've raised, with Congress' help, over $1.1 billion for the digital build-out.
- We've launched exciting new services in HDTV, multicasting, and wireless data delivery.
- Last January, we concluded a landmark agreement that guarantees that multiple digital channels from every public television station will be carried on every major cable system in America.
- And my Association and the Department of Homeland Security have a cooperative agreement to use digital public television to upgrade the aging Emergency Alert System.

We are truly serious about completing our march to what we call digital-only broadcasting. For these reasons, we are prepared to do what we can to make a "hard date" a reality. We want to work with you to provide solutions for a successful transition.

The single most significant barrier is the American public's lack of understanding about the conversion to digital television and what it means to them. There needs to be a well-planned, adequately funded, closely coordinated effort to educate and inform the general public. We must reach the tens of millions households who depend upon over-the-air reception and make it seamless for them to go digital. Without this focus, we, and Congress, will have a consumer train wreck on our hands, and the hard date could be postponed by years.

We need a consumer awareness campaign that begins soon and continues until every household has been converted. And like any campaign, it should use a variety of media and outreach tactics—especially television spots.

Public television would prefer to be part of a large coalition of stakeholders, informed by the SwitchCo model in the United Kingdom. But whatever the model, PTV is willing to play a leading role in this campaign.

We are in a unique position to play a central role for a number of reasons.

- The over-the-air reliant TV viewers are *our* viewers. Research indicates that the OTA households correlate strongly with public television's viewer base. When they watch television, these people tend to watch PBS, even more than people with cable or satellite.
- Other OTA viewers are disproportionately low-income, rural, Spanish-speaking, and elderly viewers, all of whom we reach with our programming, in some cases more than any other medium.
- Based on examples from Europe, consumers will actually *buy* set-top boxes if they see a value in doing so, which usually means they get more free channels through DTV. Public television here provides that value, because we offer multicast programming—new free channels that are only available through digital reception. We are the leaders, by far, in the broadcasting industry, in offering new digital channels.
- Finally, there is the trust factor. Americans trust public television, as confirmed in poll after poll. We also have a Universal Service mandate. We believe public television is in a unique position to reach the last hold-outs and help them go digital.

Is there a cost to supporting consumer education? Yes, but I also believe the more we invest in consumer education, the less the government will have to use auction revenue to subsidize set-top boxes. Ultimately, consumer education, combined with appealing new digital broadcast services, could mean the government pockets a greater share of auction revenue, because consumers will seek the converter boxes in the marketplace. (Please refer to Appendix A for a more detailed description of a proposed consumer education campaign involving the public television system.)

Senators, you have assisted public television immensely in converting to DTV. Now is a chance to leverage that investment, to make us partners in our Nation's drive to complete the digital transition.

Beyond consumer education and technical assistance, we believe there are other elements necessary for a successful transition.

- First, our agreement with the National Cable & Telecommunications Association and its members, guarantees carriage of public television's multicast programming on cable systems. But there are no provisions in law, and there are no voluntary agreements to ensure carriage of broadcasters' digital signals on direct broadcast satellite systems. One way or another, we must guarantee carriage of our digital signals on DBS.
- Second, we need guaranteed carriage on new technology platforms. We are having promising discussions with the telcos, who tell us that they want public television's digital content. But again, one way or the other, we need to ensure public television is carried and every American has access.
- Third, the Department of Homeland Security has extended its agreement with our Association under which we have conducted a pilot project to develop the Digital Emergency Alert System for the National Capital Region. We are now entrusted with planning the *national* rollout of the D–EAS using digital public television stations and the PBS satellite interconnection system as the backbone. DHS is creating a system—through the dual use of our infrastructure—that enables the President to communicate instantly, through many different communications devices, to the greatest number of Americans in a national crisis. We are requesting an authorization to fund additional connections to this backbone so that state and local authorities can also originate emergency alerts for distribution over the system.
- Fourth, APTS urges the passage of S. 1023, the Digital Opportunity Investment Trust (DOIT), which was introduced this year with Senators Dodd, Snowe, Durbin, and Burns as co-sponsors. DOIT proposes to use a portion of spectrum auction revenue to capitalize a trust fund, which would support the creation of digital content to serve the education needs of this country. This proposal is the historical descendant of the Land Grant College Act and the GI Bill, both of which led to monumental expansions in educational access for Americans.

- Finally, we hope the Senate will continue its historic, bipartisan role in support of public broadcasting. The Labor-HHS-Education appropriations bill is being marked up today, and we urge you to provide full funding for public television and radio. It is a great investment in the digital transition.

Thank you.

APPENDIX A—HOW TO MAKE THE "HARD DATE" LESS HARD ON VIEWERS: A PROPOSED CONSUMER EDUCATION INITIATIVE BY PUBLIC TELEVISION STATIONS

Public Television has embraced the digital transition for one simple reason: we recognized early the rich dividends in expanded services—from HD to multicasting to data-casting—that digital technology would make possible for our stations to deliver. For Public Television, the transition is succeeding on the provider side, but we fear the consequences for households relying on over-the-air (OTA) service if we fail to prepare them for the final chapter of the transition.

The Problem: Shutting Off Analog Means Potentially Stranding Viewers

Whether viewed from a political, economic, or public service perspective, stranding large numbers of viewers when analog signals are turned off is an outcome all stakeholders in the digital transition want to avoid. It is estimated that up to 22 million households rely exclusively on analog service—and that those households are disproportionately lower-income, rural, and/or elderly.

The Solution: Public Television Stations Lead a Public Education Effort

The key to a successful transition for OTA households is reaching the affected households with good information. With nearly 90 million viewers tuning in each week, and nearly 70 percent of households tuning in at least once a month, Public Television has the capacity to reach nearly every American affected by the analog shut-off.

We propose a public education effort that might include, but is not limited to:

- The creation of *on-air spots* to alert viewers to the impending analog shut-off, explain why the conversion is taking place, and inform them of the steps they can take to receive a digital signal by the shut-off date;
- The creation of local *non-broadcast outreach* efforts aimed at educating targeted audiences about the transition, and the means to ensure continuation of service in a digital format;
- Convening *local partnerships*, including retailers, other broadcasters, consumer electronics manufacturers, and social service organizations to reach affected consumers throughout each community;
- Serving as a *local dissemination* point of contact for set-top boxes (STBs) to eligible households as defined by Congress; and
- Provide *technical assistance* for consumers to help ensure they can install the needed technology and receive over-the-air digital signals.

Why Public Television?

Public Television reaches 99 percent of the American public. Moreover, a recent study commissioned by the Corporation for Public Broadcasting found that households dependent on over-the-air reception are more likely than others to be regular public television viewers.

More importantly, we know we can effectively educate Americans about the value of digital broadcast technology because we've already done it. Long before there were any transmitters up and operating:

- In 1998–99, PBS and the Harris Corporation created the DTV Express, a 66-foot truck carrying a fully integrated digital television station and HD theater. The DTV Express traveled the country, providing seminars for state legislators, educators, funders, engineers, and consumers.
- PBS created HD spots for major retailers—including Best Buy, Circuit City, Sears, and Costco—who used them to promote HD and sell HDTV sets.
- Local stations have engaged in extensive outreach and education to consumers and potential content providers—from the local Rotary club to the annual meeting of the National Association of State Universities and Land Grant Colleges.
- *PBS.org* features a special DTV section including a layman's "crash course" on DTV, local station guides, technical information, and related links. Local station websites are providing similar information.

Thanks in part to these efforts, Public Television has raised approximately $1.1 billion, including $479 million from state governments, to fund the digital build-out. We are grateful to have the Federal Government as a major partner in this regard; beginning in Fiscal Year 2001, Congress has appropriated about one-third of the funding raised to date.

Americans Trust Their Local Public Television Stations

Polling consistently confirms the high degree of value and trust that Americans place in public broadcasting. At a time when we are asking Americans to "surrender" a technology to which they have grown accustomed, and embrace a new technology, it makes sense to place a trusted, local institution at the center of a comprehensive public education initiative. We see this as a natural extension of our public service mission.

APPENDIX B

LOOKING OUT FOR NUMBER TWO

By Mark Schubin (May 2005)

The Balanced Budget Act of 1997, says U.S. analog TV may not be broadcast after December 31, 2006. So why does House Commerce Committee head Joe Barton want new legislation with a "hard date"? It's because the 1997 Act has three exceptions.

The first is rarely mentioned. It states that, if an ABC, CBS, Fox, or NBC outlet is legitimately not yet broadcasting digitally by the end of 2006, no station in its market need shut down its analog TV broadcasts. No one expects that.

The third is often mentioned. It's referred to as the "85 percent rule," though that percentage doesn't appear in the Act. It allows analog broadcasts to continue in any market where 15 percent of households or more do not have digital TV reception equipment and also don't subscribe to a cable, satellite, or other service providing signals from each digital station in that market.

There are questions about whether cable systems carry *each* TV broadcaster in all markets. Fifteen markets have more than 19 stations each, and in each there are stations more than 55 miles from the center. But the FCC could come up with a definition of "market" that eliminates those problems, and the proportion of U.S. households that subscribe to a multichannel service are already around 85 percent and growing.

That leaves exception number two. Analog TV may continue in any market where "digital-to-analog converter technology is not generally available."

The FCC's "tuner mandate" has dramatically increased the number of digital-TV receivers. It kicked in last July only for 50 percent of TVs larger than 35-inches, and by year end, it had already caused a 150 percent increase in digital-TV reception devices. But that's *receivers,* not *converters.*

In February 2004, KCSM, a public-TV station in San Mateo, CA, found out that its lease on its analog transmission tower would not be renewed. The station had been broadcasting digitally since September 2003, and was in a market that had greater-than 80 percent cable penetration and 9 percent local-into-local satellite carriage. So they decided—pending FCC approval—to drop their analog transmissions.

They did everything right. They contacted all of the cable and satellite systems serving their market to ensure continued carriage via their digital broadcasts. They contacted local retailers. They informed viewers of the impending change on the air and via their website. They compiled lists of receivers. They provided reception instructions. They trained staff to field inquiries from viewers. Then, in late May 2004, they pulled the plug.

Viewers whose screens went dark overwhelmed the station with calls. About 10 percent "would not be consoled." Another 45 percent wanted to keep watching but didn't want cable, satellite, or new equipment. The remaining 45 percent wanted to learn what they had to do to keep watching. So the station staff told them.

Then, according to KCSM Director of Technology, Michelle Muller, reporting on the experience at the PBS Technology Conference last month, the station got a different kind of call. A local retailer begged them to stop sending customers over because there was nothing to sell them.

Consider a consumer electronics manufacturer's position. The "tuner mandate" requires TVs to be equipped with digital-reception circuitry, and most households subscribe to cable or satellite and, therefore, don't need a "digital-to-analog converter." So why build and distribute them? The proportion of digital-TV reception provided by converters is steadily dropping.

On February 28, the FCC Media-Bureau staff issued a report indicating that a "natural retirement" analog-TV shut-down date—when all analog sets wear out and are replaced—would be 2032. As for KCSM, they lost 38 percent of their audience.

The CHAIRMAN. Thank you all.

I'm going to have some written questions that we'll submit to you. I believe it would be best if we moved through to every member, if possible, this morning.

But I do have one question of Mr. Knorr. Tell me, what's a "digital cliff"?

Mr. KNORR. A "digital cliff" is—the digital signals work differently than the analog signals. You might think of it—people are more familiar with cell phones, and an analog cell phone, when you're on the edge of the signal, you could still talk, but it might be fuzzy. When you have a digital cell phone, you either can talk or you can't. The signal just goes off. And that is what's commonly referred to as a "digital cliff," is that it either works or it doesn't. There is no inbetween. There's no little-bit-fuzzy with a digital signal.

And so, a cable operator, as many of our members are, that are on the fringe of a broadcaster's signal, they can receive that signal today, but it's very likely that, when the conversion to digital happens, that signal will go away——

The CHAIRMAN. Oh, I see.

Mr. KNORR.—and they will not be able to receive it.

The CHAIRMAN. They would not receive the signal that would be digital, then, right?

Mr. KNORR. Correct.

The CHAIRMAN. Even though they were receiving analog, even though maybe dimly, right?

Mr. KNORR. Correct.

The CHAIRMAN. Thank you very much.

Senator Inouye?

Senator INOUYE. Thank you very much.

The CHAIRMAN. If there's no objection, we'll take a 5-minute round. That'll take us an hour.

Senator INOUYE. Mr. Fritts, before I proceed, I gather that this is your last year as President and CEO. If that's the case, I wish you very well.

Mr. FRITTS. Thank you very much. I appreciate it.

Senator INOUYE. Thank you for all your service these past years. I appreciate it very much.

Mr. FRITTS. Thank you.

The CHAIRMAN. You're presuming we won't get him up here again.

[Laughter.]

Senator INOUYE. Mr. Lawson just spoke of the successful negotiations he's had, and you suggested that your broadcasters may have some difficulty because you compete with cable operators. Do you have any evidence of this?

Mr. FRITTS. Senator Inouye, we have met with the cable industry, at the request of some members of this committee, on several occasions, and have advanced the same ideas that we're advancing, in terms of multicasting, and have been soundly turned away for that. And I think it's for competitive reasons.

If a local station is able to offer new services—take, for instance, the services that the public stations—arrangement that they have made with the cable association. They are no threat to the cable industry. They don't compete. These are public stations that are offering additional services.

Many of the services that broadcasters would offer would be presumed to be somewhat competitive to the cable industry. The cable industry, as you know, owns not only the pipe, but they also own a large chunk of the programming that goes down that pipe; and, therefore, it's been difficult for us to get a dialogue started.

And what we're proposing is the same amount of spectrum be used that was approved by the Supreme Court in the 1992 Cable Act. And we believe that by not using more spectrum—and, in fact, less spectrum in the future—that this will provide additional free services to the American consuming public. And I would think that ultimately would provide additional interest in cable carrying those signals.

Senator INOUYE. Mr. Knorr, do you wish to comment?

Mr. KNORR. Yes. We, as a cable operator, someone who's in the field—I like more local content, if it's real local content. That is beneficial for me in a competitive environment. I mean, that's why we carry PBS Kids. I mean, it's a very valuable—it's good-quality programming for our consumers.

What we can't afford to do with our spectrum is carry what may be a national weather feed from every broadcaster in the market that's completely redundant, or to carry additional shopping channels from broadcasters, and use up that spectrum. And to say that we're going to use less spectrum is false. Maybe in 10 years, we'll use less spectrum. But, in the short term, it's critical, as even NAB has stated, to provide, where possible, analog and digital signals. I mean, that's a competitive advantage that we want to do, if we have the capacity to do it.

The problem that—as a cable operator, that I have is, we've spent millions of dollars to invest to create capacity to provide new and advanced services; whereas, broadcasters have been granted spectrum, and then granted additional spectrum to get through this transition for free. And then now they are trying to dictate what to do with the spectrum that we paid to install, and not give us the ability to manage that to the benefit of our consumers.

Mr. FRITTS. Just to follow up on that, in terms of multicasting, we have said that we would be glad to engage with the Committee, both here and in the House, to provide quantifiable public-interest obligations on these multicast channels. And we would be happy to engage in that dialogue to make sure that these services that are going to be offered are relevant to the local community and important to all consumers.

Senator INOUYE. Do you have any views on down-conversion by cable operators?

Mr. FRITTS. As we embrace this transition and go forward, what we're proposing is what the former Chairman of NCTA proposed, Michael Willner, in testimony before Congress, wherein he supported legislation and positions saying that analog sets should be carried in analog and digital sets should be carried in digital as we go through this transition.

Ultimately, the transition will be over, analog will be shut off, presumably at a date in 2009. And, when that occurs, obviously that spectrum goes back, much of it, to the cable industry, and, obviously, a large amount, one-third of it, goes back for governmental purposes.

Senator INOUYE. Mr. McSlarrow, do you have any views?

Mr. MCSLARROW. What happens when you get to the date of the transition is that, as Eddie just said, an analog signal goes away and a digital signal comes in. So, if you're a cable operator, you're taking a digital signal, but most of our customers today, and in 2009, are going to be customers who can only receive an analog signal, one way or another. So, what we have proposed is that we down-convert the digital signal to make sure everybody who has got an analog receiver is going to receive an analog signal. But recall that even today many people are digital cable customers and receive many digital channels. That will still be the case in the future. And, in fact, it'll be increasing in numbers. And many—and we're hoping growing numbers—receive high definition today. And that will continue to be the case, and into the future.

So, in terms of our proposal, the transition is seamless. People, from 1 day before to the day after, will not notice a difference.

There is a semantic difference between what NAB is saying and what we're saying, that makes all the difference in the world. We're saying, give us the flexibility to down-convert. We're the ones who have to respond to the customer. We don't deliver, they go to my colleague over here, two steps down. So, we have every incentive. The government can't give us any more incentive to make this work right for our consumers.

What Eddie, and NAB are saying is, instead, force us to carry both the digital signal and the analog signal for every must-carry station in every market for every operator in America. And they don't all have the capacity.

Mr. FRITTS. And we're not—if I could follow up on that—we're not suggesting that cable systems that don't have the capacity be burdened with this. The Supreme Court said one-third of the capacity on cable carriage, and very few, if any, cable systems have approached must-carry of up to one-third of channel capacity in this. And so, what we're saying is, when the conversion date occurs, in 2009, analog signals go away, and then it all becomes digital, and then analog spectrum goes back to the government, and the cable industry recaptures that which was being used to transmit the analog signals.

Senator INOUYE. My time is up, Mr. Chairman.

The CHAIRMAN. Yes. I would urge that—I assume the witnesses can see the lights, as we can see them, I hope, but we are on a tight time frame here this morning, so I would hope that we'd stay within 5 minutes.

Senator McCain?

Senator MCCAIN. Thank you, Mr. Chairman.

I am concerned about a lot of aspects of this issue, and a lot of them are being explored by other questions, but I'm most concerned about the freeing-up of spectrum for first responders. Events in London indicated that this should reinforce our view of this as a compelling issue.

As you may know, I served on the Commission that the President appointed to examine the weapons of mass destruction issue. Every witness before that Commission said they believed there would be another attack on the United States. Today, our first responders do not have the ability to communicate with each other.

So, I have a simple question. And now we're looking at December 31, 2008, which is two and a half years from now. I'm not sure that the United States of America can wait that long. I have one question for the panel. What do we need to do to free-up this spectrum for first responders as quickly as possible, and how soon can that be?

And I'll begin with you, Mr. Lawson.

Mr. LAWSON. Senator, I believe the key is to provide for a smooth transition for the over-the-air——

Senator MCCAIN. How long would that be, Mr. Lawson?

Mr. LAWSON. Well, we're not afraid of an end-of-2008 hard date——

Senator MCCAIN. End of 2008.

Mr. LAWSON.—but there has to be—I believe that even if you establish a hard date, it could fail. You could end up pushing that date back if the consumer side of this transition is not carefully, carefully managed.

Senator MCCAIN. Mr. Slenker?

Mr. SLENKER. Senator, we would agree with the date that the Congress put forth, in terms of a hard date. I do——

Senator MCCAIN. You know, we've had hard dates before, Mr. Slenker.

Mr. SLENKER. Yes, and what I was going to say is that I think the hard facts of the matter are that there are hundreds of millions of analog television sets in use in the United States. And so, that date should—and I agree with you—should be based on a date that is something that can be achieved, while also providing the coverage that's required by consumers and the American public.

Senator MCCAIN. Go ahead, Mr. Knorr.

Mr. KNORR. I think we could support an end-of-2008 hard date. The issue for us is—just as everybody has articulated—would be consumers. And for—as a cable operator, if we have the flexibility to manage our bandwidth and our capacity, I think we'll be in a good position to help manage that transition.

Mr. MCSLARROW. If you told us today that we were going to move to a hard date, we'd need 18 months to re-engineer our facilities to do down-conversion. And so, we'll be ready whenever you set a date.

Senator MCCAIN. How would that happen, to get it done in 18 months, Mr. McSlarrow?

Mr. MCSLARROW. Basically, we have to go into each of our cable headends and re-engineer them, and allow for the digital signal to go analog out. Some clearly would happen earlier than 18 months, but to get them all done throughout America would be about 18 months.

Senator MCCAIN. And that would mean provision of set-top boxes for over-the-air television viewers?

Mr. MCSLARROW. No. In this case, if we do it at the headend, we won't have to do truck rolls, and it won't require delivering set-top

boxes to each consumer. We could just—we can re-engineer the cable headend to take care of all the customers delivered service by that headend.

Mr. ABUD. Senator, we're ready, and we support a hard date. But please remember that the hard date is only one component in the big puzzle of this new transition. But, as far as a broadcaster, I'm currently broadcasting analog and digital. So——

Senator MCCAIN. Yes, I know you are. I know very well that you are. In fact, you will continue to broadcast analog, which is what we need for the first responders now, for many, many years. And if the 85 percent penetration rule continues, as Chairman Powell stated before this committee, it could be decades—decades before we get the analog spectrum for the first responders.

Mr. Abud, what do I tell the Fire Chief and the Police Chief in my home state, in Phoenix, Arizona? What do I tell them? That they're not going to get this spectrum that they need to communicate with each other until you decide that every "i" is dotted and every "t" is crossed?

Mr. ABUD. Senator, we're ready. And——

Senator MCCAIN. Tomorrow.

Mr. ABUD. The headend is only one part of this puzzle, but we are ready——

Senator MCCAIN. You're ready to give up your analog spectrum tomorrow to the first responders.

Mr. ABUD. In most of the stations we are, and we will be ready by December 2008.

Senator MCCAIN. Mr. Fritts?

Mr. FRITTS. Senator McCain, we understand the December 31, 2008, or somewhere in 2009, hard date. We assume that the 85 percent goes away as a part of the—enacting legislation that you're——

Senator MCCAIN. Although you supported strongly the 85 percent rule as it was put in previously.

Mr. FRITTS. That is true. And I will say to you——

Senator MCCAIN. Knowing full well that it would take decades, as Chairman Powell stated, before there would be 85 percent penetration?

Mr. FRITTS. I will say to you that our board met just 3 weeks ago and indicated that we would accept a hard date, as selected by this committee, and understood the fact that when that hard date took place the 85 percent would go away. And that's the position that the NAB is taking now.

Senator MCCAIN. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Burns?

Senator BURNS. When the cables—Mr. McSlarrow, when the cables talk about—or Mr. Knorr—I think—better directed at him. You spoke awhile ago about free spectrum and the transition over. And what spectrum do you use in a cable business that you had to purchase?

Mr. KNORR. What we have to do is, we have to invest in the electronic hardware that is installed in people's backyards that deliver the signal to the homes. And those vary——

Senator BURNS. In other words, when you talk about that, you don't talk about spectrum, you talk about capacity, as far as bandwidth, is that correct?

Mr. KNORR. Correct.

Senator BURNS. In other words, you just buy a bigger pipe.

Mr. KNORR. Well, we have to—yes, we have to upgrade our technology, and we use spectrum up to—cable operators use it up to—one gigahertz is the spectrum we use, but it is confined to the wire and is not over-the-air spectrum.

Senator BURNS. That's what I thought. When you talk about spectrum, you talk about bandwidth on a wire.

Mr. KNORR. Correct.

Senator BURNS. You didn't purchase that. You purchased it because you had to buy a bigger wire, more than anything else.

Mr. KNORR. Correct.

Senator BURNS. But you're going to have to have some sort of a wire, whether it be optics or whether it be cable or copper. And, of course, all of that is—the old copper and the old cable is gone. In other words, you're in optics right now, and that's where the future is, because that gives you increased capacity without increasing the size of your pipe. And that sometimes is—the American public, they don't understand that. Spectrum is—spectrum is what we use over-the-air. That's what you buy, or that's what you have. And that's where I'm going.

Mr. KNORR. I think an important consideration is that, either way, it's capacity. And just like the—a broadcaster could not broadcast a digital and analog signal on the capacity they had 15 years ago; they had to get additional capacity, and that's in the form of over-the-air spectrum. And, in our case, that additional capacity is in the form of more expensive wires and fiberoptics.

Senator BURNS. If they operate all of those in six megahertz, does that impact on your capacity?

Mr. KNORR. If they could provide the analog signal, and the HD signal, and the multicast all in the six megahertz, it is true that it would not impact us. However, that is not the case. It's misleading to say that cable gets that spectrum back, because, as Mr. McSlarrow said, the customers can—will continue to have analog sets past 2009. And unless you want to increase the problem and make it larger, cable operators need the flexibility to down-convert and to help make that problem smaller.

Senator BURNS. But could they operate in that six megahertz? Could you broadcast an analog and a——

Mr. KNORR. No.

Senator BURNS.—digital signal in that six megahertz?

Mr. KNORR. No, we cannot.

Senator BURNS. OK.

The CHAIRMAN. Can I ask a question? It won't——

Senator BURNS. Yes.

The CHAIRMAN.—come off your time. Won't you be sending a digital signal to your digital subscribers at the same time?

Mr. KNORR. Yes.

The CHAIRMAN. But you say——

Mr. KNORR. But we'd need additional capacity to do——

The CHAIRMAN. When a broadcast signal comes through, it has to be down-graded to analog.

Mr. KNORR. For it to reach analog sets, we'd have to down-convert it, so that's all I—that's our spectrum problem, is, we have to send out multiple signals to our customers.

The CHAIRMAN. What about the subscribers out there that have gone digital?

Mr. KNORR. We would send out a digital signal to them, where we have the capacity to do——

The CHAIRMAN. Digital for the over-the-air/must-carry group. You say you would downgrade the analog signal. So it would be passed through only as analog, right?

Mr. KNORR. I'm sorry?

Mr. MCSLARROW. Mr. Chairman?

The CHAIRMAN. Isn't that right? Am I hearing right?

Mr. MCSLARROW. You are right. I mean, what we're suggesting is that we take the digital signal and, for the analog customers, down-convert it to analog. The digital customers are going to receive many of the same digital signals they receive today.

The CHAIRMAN. But are you transmitting that over-the-air broadcasted digital signal to that digital——

Mr. MCSLARROW. In most cases, yes—and increasing.

The CHAIRMAN. In most cases.

Mr. MCSLARROW. In most cases. And there may be a station somewhere, where we don't have enough capacity to do both, but it is our intent today, just as we do today, to continue doing both.

The CHAIRMAN. I'm sorry. Mr. Burns?

Senator BURNS. I'm going to sit here and listen, because I'm—I would turn back the balance of my time. I've just got some questions that have to be asked, sort of, privately, so go to the next person.

[Laughter.]

The CHAIRMAN. You shouldn't say that. You shouldn't say that. That's——

Senator BURNS. Why? If they can be private, I can be private.

The CHAIRMAN. Yes, sir, you may.

[Laughter.]

The CHAIRMAN. You're the boss. Sorry to interrupt you, though. I didn't mean to interrupt your train of thought.

Senator BURNS. No, I've got—go to the next guy.

The CHAIRMAN. All right. The next person, then, is Senator DeMint.

Senator DEMINT. Senator Burns, I probably should ask mine privately, too——

[Laughter.]

Senator DEMINT.—because I'll show my ignorance here.

But I'm trying to imagine the industry in a few years, with a lot of new technology. I know Mr. Fritts is—one of the issues that's difficult for you is the required multicast on cable, DIRECTV. But you will continue—broadcasters will continue to broadcast a digital signal. Am I correct? I mean, it will be a broadcast signal that I could still receive at my home with digital receiver capabilities, correct?

Mr. FRITTS. That's correct, yes, sir.

Senator DEMINT. In the future, if I wanted to be hooked up to my local cable operator to receive all the channels I wanted, but also have a little switch where I could receive ten multicast stations from my local NBC affiliate, that that technology is not difficult, correct?

Mr. FRITTS. Depending on whether you get close enough to the television station to get a good signal, that's correct.

Senator DEMINT. Right. If I'm within—whatever—I can receive that. So, it sounds like with—in the future, that if I want multicast local television programming, if I want to receive dozens of multicasts from my local affiliates, that I could easily have that technology available, if, as a consumer, I wanted it, at no additional cost to myself, because you're going to continue to broadcast that digitally. Is that correct?

Mr. FRITTS. That is correct.

Senator DEMINT. OK. So, the argument that we must force these cable folks to carry five or ten stations from all broadcasters, in my mind, is somewhat questionable that that needs to be a government mandate if, as a consumer, I can receive it free, with probably a little additional technology at home.

Mr. FRITTS. Senator DeMint, you have the same situation today that this committee and this Congress, in 1992, looked at and thought that there was a governmental interest in carrying local television stations on the cable system. And it went to the Supreme Court.

Senator DEMINT. You're talking about primary carry.

Mr. FRITTS. I'm talking about the carriage. And what we're talking about now is not increasing the bandwidth or the space that's used; we're talking about—when we are all digital—let's say, in 2009—we're talking about returning all of our analog spectrum, which is a third of what we use now; plus, the cable gets additional spectrum, because we are taking the analog signal off of cable, because we're broadcasting only digitally.

Senator DEMINT. Right. But you are talking about using the transition to digital as a way to get additional requirements of stations that you broadcast imposed on cable and DIRECTV. I mean, this was——

Mr. FRITTS. It's the same amount of space. If we wanted to slice that space up and have one HDTV channel, it uses the same amount of space. If, on the other hand, the broadcaster wanted to provide additional services for the local community—and, again, we've agreed that we would be happy to sit down and discuss quantifiable public-interest obligations of broadcasting local services for that—so, we're using the same amount of spectrum, we're just slicing it, for a period of time, to multicast.

Senator DEMINT. I understand. Thank you, sir.

I yield back, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Allen?

STATEMENT OF HON. GEORGE ALLEN,
U.S. SENATOR FROM VIRGINIA

Senator ALLEN. Thank you, Mr. Chairman.

The questions from Senator Inouye, I thought, got the folks engaged in trying to get this into a practical understanding for us, as well as the questions of Senator DeMint.

My goal, by the way, in all of this, is to get to wireless broadband, which I think is very important for rural areas. And I understand the needs for public safety and so forth, but I think the innovations and the technology advancements, particularly in getting wireless broadband into rural areas—for that matter, anywhere else—as another option is the most compelling reason for this.

Hearing all the witnesses here, they're all for a general hard date, as opposed to—including listening to Mr. Fritts and the 3-week-old position of the National Association of Broadcasters—and just having a hard date, rather than some quantifiable level of capabilities for customers, consumers, to receive over-the-air broadcasting, which gets to the main problem that I—you're all talking about all of your different angles and what's your competitive advantage, one way or the other. And I understand. I don't like government mandates. I'm thinking, though, of how many television sets right now are not capable of receiving digital broadcasts, whether via cable, via, obviously, over-the-air, and, I suppose, as well, on satellite.

The reality is, my household is probably like many others who receive cable, and that is, you have certain TVs that are on cable, and you have some TVs that are over-the-air. In your family room, it's cable. Maybe your bedroom, it's cable. But then, in the kitchen, the guest bedroom, so forth, if you have a little TV, it's over-the-air.

So, if you could—our experts here, could you share with us just the very practical problem of not wanting TVs to go off. If you want an uproar from the people of this country, have their TVs go off. And I find it very interesting that the date for this is December 31, 2008, as opposed to the Summer of 2008, where you know darn well what the issue would be, in all of those elections. And it's about a bunch of irate people who, whether they live in cities or out in the country, are upset that this isn't working out, or you have folks coming in, putting set-top boxes on.

So, here's what we need to solve. How can we make sure that these investments that people have made in these TV sets—and, unfortunately, TV sets are being sold, today, that are not digital-capable. I understand the marketplace. The reason for it is that those digital TV sets cost substantially more than an analog set, so people make that decision.

If any of you could share with the Committee and the American people how many TVs right now—if this were done, let's say, next month, how many TVs would not be capable of receiving a digital signal? And then, what is a practical way that we can absolutely ensure, as best we can, logically—and we're never—it's never going to be perfect, especially when the Government's involved—but, how can we assure that, when this date occurs, you're not going to have a lot of people with sets that they turn on, on that morning of January 1, New Year's Day, not on for broadcast airwaves?

Mr. FRITTS. We have done some research on that, Senator Allen, and what we've learned is that there are roughly 20 million homes that are not connected to cable or to satellite.

Senator ALLEN. How many television sets are not?

Mr. FRITTS. Seventy-three million television sets are unwired in today's marketplace. We have entered into a joint venture to help build—or to help get an RFP started to build a converter box that will convert those over-the-air sets and make them digital-capable through the converter box. Now, they're analog sets with a converter box that'll down-convert the digital signal, and hopefully in the $50 to $70 price range.

There has been a discussion at this table—and in the House, as well—about some form of taking some of the money from the auctions and providing that for a subsidy. Our position on that is to leave that to you, Members of Congress, as to determine best how to go about that.

The numbers that we're quoting are also essentially the same numbers the GAO is reporting, and also the same numbers that the Consumer Federation reported. Actually, the Consumer Federation was a little higher than ours.

So, if, on January 1, 2009, all analog broadcasting ceased, we would have to have an education campaign in advance of that. We would have to have converter boxes—which, by the way, we're willing to undertake—over-the-air radio and television is willing to undertake this campaign to help assure that Americans——

Senator ALLEN. Let me interrupt, because my time is running out.

Mr. McSlarrow talked about the down-converting as—that's only going to work, though, for those television sets that are actually hooked up to the cable. It seems to me a logical approach. What's your view on allowing them to do that, rather than having to put boxes on sets that are hooked up to cable?

Mr. FRITTS. As long as all stations in the marketplace are covered, we agree with that. We think it makes sense.

Mr. ABUD. Senator, just quickly, if I may?

Senator ALLEN. Sure.

Mr. ABUD. Just remember that in the case of the Hispanic audience, 43 percent of my audience rely on over-the-air television. And, ironically, this segment of the population relies more on the services we provide as a local television station.

Senator ALLEN. So, you would see this as a practical problem, going into those households of your population that you're talking about, and putting in boxes—set-top boxes.

Mr. ABUD. Yes.

Senator ALLEN. Thank you, Mr. Chairman. My time's up.

The CHAIRMAN. Senator Rockefeller?

STATEMENT OF HON. JOHN D. ROCKEFELLER IV, U.S. SENATOR FROM WEST VIRGINIA

Senator ROCKEFELLER. Thank you, Mr. Chairman.

And I, like Senator McCain, have a variety of areas of interest in this, but none more important than the first-responder.

The year 2008—and I agree with the Constitutional State of Virginia Senator's analysis, it's a little unsettling. Some could—said

you could do that before that, but we need to free up spectrum for first responders. I don't know how many people think that there will be an attack on this country before 2008, or before 2007, but my guess would be it's a majority of people, who know what they're talking about. And so, this isn't just, kind of, a telecommunications discussion; this is a question of questions, bottom-line matters. It's also a question of national responsibility, national security, which changes the whole debate.

So, to me, we need to have a significant portion of the spectrum proceeds to be set aside for first responders, some of whom are—just don't have the infrastructure—or maybe I should say, many of whom don't have the infrastructure to be able to receive what they will need. And so, you know, I fully support making first responders in New York City and Los Angeles fully able. I also know very well the situation in my own state, which is a highly rural one, where first responders cannot communicate with each other. I've met with, I think, virtually all of them and—in the counties—and some of them still use 911 when they're trying to get attention. And I don't like that. I don't know how much money's going to be available, in terms of the spectrum. Senator McCain's bill talked about a billion dollars. That was a good start on it. But the auction of the broadcast spectrum provides an opportunity to be able to help some of these first responders. And I'm interested in the difference between the need to help them and the question of running a business, and how those two may or may not conflict.

[The prepared statement of Senator Rockefeller follows:]

PREPARED STATEMENT OF HON. JOHN D. ROCKEFELLER IV,
U.S. SENATOR FROM WEST VIRGINIA

Mr. Chairman, thank you for having this hearing today. Mr. Chairman, I know we have a number of witnesses before us today so I will be very brief.

I support the adoption of a hard date of January 1, 2009, as you have suggested for completing the digital television transition. I believe that we must move as quickly as possible to free-up the broadcast spectrum for our first responders.

As importantly as freeing-up spectrum for first responders is, I believe we should seriously consider setting aside a significant portion of the proceeds of the spectrum auction for grants to first responders for emergency communications equipment and infrastructure.

I fully support making sure first responders in urban areas have the spectrum they need, but for West Virginia, at least, the biggest obstacle to creating an interoperable public safety communications network is not available spectrum, but rather available funds for equipment purchase. I know our Co-Chairman knows very well the tightness of the budget for the foreseeable future. The auction of the broadcast spectrum provides a source of funding that our first responders urgently need.

Much of the discussion today will center on how to make sure consumers are not left in the dark after the transition to digital television. I believe that the Committee should create as a robust consumer subsidy plan as necessary to make sure no one will lose their over-the-air signals.

Finally, I believe the Committee needs to address the size of the blocks of spectrum that will be auctioned off from the transition. Because spectrum is sold in large blocks, my state often does not see the level of investment in wireless technologies as it might otherwise. I believe we need to allocate smaller blocks of spectrum so smaller companies in rural areas can purchase spectrum to build wireless networks where larger national companies choose to not to invest.

Again, thank you for holding this important set of hearings, and I look forward to hearing from our panel.

Mr. MCSLARROW. Well, Senator, I'll take a crack at it. I think—the way I think about this is, there are really two large groups of

people out there who are affected by the transition, in terms of the spectrum——

The CHAIRMAN. They can't hear you in the back of the room.

Mr. MCSLARROW. Is that better? OK.

Two groups of people. One are the over-the-air customers of broadcasters. The other are cable and satellite. There is one set of issues related to those customers who are over-the-air. But, in our case, there are really two ways of coming at this. If the spectrum goes away for the public safety purposes you just identified, which we all in this room acknowledge are important, either you can hand everybody a box—$67 for a box, for a cheap digital-to-analog converter, $200 for a fully interactive two-way box—or you can allow the cable industry to spend its own money and down-convert at the headend. And the difference is, if you had to hand everybody a box, it would be about $9 billion. Some of that, most of that, would probably have to be subsidized by the government, because there's no principled reason why a cable customer should not receive a subsidy if over-the-air customers are receiving a subsidy. We're proposing a solution that means you don't have to deal with that at all. We'll take care of it.

So, that's the tradeoff, in terms of the two types of universes that you have as a business matter, taking into account the important public policies that you've identified.

The CHAIRMAN. For the information of everyone, this afternoon—that covered system there—we will demonstrate the signal that will come over on analog or on digital to—this afternoon.

Mr. SLENKER. Currently, DIRECTV, as part of its service, provides boxes that, in fact, do this. And we provide that equipment today for free, as a part of this monthly subscription that takes the local channels in the 130-plus markets and analog-to-digital converts them, so that, on a regular analog set at home, a digitized version of the local stations are there. And I'd like to think that's part of the growth that satellite has experienced. It hasn't all come from cable; it's come from some over-the-air folks that now are able to get good, crisp, digital signals of their over-the-air stations locally, now through this satellite technology.

Mr. KNORR. I think there is an important piece that is almost whizzing by. A lot of times—NAB's numbers, when they talk about cable getting spectrum back, or they talk about only this many million customers being affected, they're overlooking—both of those can't be true at the same time. If only that many customers are going to be affected, cable has to have the opportunity to down-convert and offer signals to those analog customers that don't have a box, or else that problem becomes infinitely larger, as much as tenfold.

To use your example, those TVs, if you're a cable customer, they're not being counted in NAB's numbers, because you have cable, so obviously you have those signals. And, through cable, if we can down-convert and continue to provide analog signal, you can get those—you can hook those up to cable. I mean, that's the advantage of cable.

In rural markets, some of those systems don't have the capacity, and they may even need assistance to down-convert those signals, but those customers will not suffer, as NAB describes, by not being

able to get the digital signal, because of my friend to the left. I mean, those markets are competitive. If a cable operator doesn't have the capacity to offer those digital signals, they can still get those digital signals, and that becomes a free-market competitive issue to determine whether or not that cable operator can afford to upgrade its capacity.

Senator ROCKEFELLER. OK, can I—Mr. Chairman, can I just—thank you for allowing me to interrupt and point out that the funding for first responders is about a half-billion dollars, so far, less than it was last year. So, I think this is—puts, in some conflict, bottom-line thinking and national need.

Thank you.

The CHAIRMAN. Senator Ensign?

STATEMENT OF HON. JOHN ENSIGN, U.S. SENATOR FROM NEVADA

Senator ENSIGN. Thank you, Mr. Chairman.

I want to make a couple of points, and then get to a couple of quick questions.

You know, if we're looking at this from the consumer standpoint, in my mind, the more free-market this is, the less government-mandated it is. The bottom line, the consumer's going to benefit in the end. We do have some national security concerns with the first responders, especially today, that indicate the importance of freeing-up this spectrum. As far as jobs in the United States, the innovation that can happen if this spectrum is freed up, we can't even imagine the type of technologies that will develop when this spectrum is freed up. There are a lot of compelling reasons. And I'm glad to hear everybody—that everybody is for a hard date today, and we need to make that, and we need to stick to a hard date.

And I think some of the concerns that we've heard today about—Senator Allen, when you talked about making sure that nobody's set is turned off. A lot of this, and almost all of it, is really just a technology issue. It really is. None of those sets need to be turned off with a hard date. It's a question of how, though, we do the subsidy, how we get those converter boxes to those analog televisions. And I believe that all of that can be worked out amongst the Committee, as we move forward with a bill.

What I want to get to is, because we've heard about this down-conversion, and there are different issues, from what I understand—down-conversion cable versus satellite. Because we heard about the capacity on this must-carry. We've heard the broadcasters say that they want basically the same amount of spectrum that they have today. When they give up the analog spectrum, they just want the same amount of spectrum they now have on cable. From what I understand, especially with satellite, that's different. You're going to need—if you have that down-conversion, you're going to have limitations, when you down-convert, on what you could carry. And it would hurt local-in-local programming on the satellite if all of these must-carry channels were required for you.

Mr. Slenker, could you address that?

Mr. SLENKER. That's absolutely correct, Senator. I think, as we've pointed out, we have fixed licensed spectrum for satellite, and we literally count the amount of digital bits today that we can

fit into that fixed spectrum. We use state-of-the-art compression technology to maximize the number of local stations in a spot-beam market-by-market fashion, to squeeze as many markets within the United States with the full number of stations in that market. But should we be required to carry additional content in those markets, that will exceed the available—not only the available spectrum, but also the state-of-the-art, in terms of technology.

Senator ENSIGN. I want to explore this whole must-carry, you know, today versus what the broadcasters would like to see in the future. Mr. Fritts, your—let's just say, for instance, that some kind of compromise was reached, and, instead of everything that you want, there was, you know, one or two stations, or whatever, additional that you were putting in the pipe. And a lot of the argument has been because of local programming. OK? Would you support, for instance, say, something like that, if a compromise was reached, an additional station, or whatever it was, that the 80 percent of the content is original local programming—that kind of a test for that addition?

Mr. FRITTS. Senator Ensign, I think what we would be happy to do is sit down and figure out what makes sense, what the right number is. I don't know if it's 80, or 50, or 40, or whatever the right number is. But, please understand, we would be happy to sit down and guarantee that there would be quantifiable public-interest obligations on those additional channels that would be under the multicasting rules.

Senator ENSIGN. The reason I bring this up is because I think that the consumers are really the ones who will make the choice in the future. In other words, if—you know, the consumer's not going to want 82 shopping channels or 82 weather channels, or whatever it is, and—because I guarantee if cable—if the consumer wanted it, and cable wasn't providing it, these satellite guys will. And if the consumer—if your content is good enough, if your demand is good enough, they're going to have to carry it. And it would seem to me that the consumers making the choice when we're going through, that's—we should not be picking the winners and losers here. We should be allowing the consumer to pick the winners and losers amongst you, and let you all compete. And, you know, some of you might have a little bloody nose at the end of the day, but the bottom line is, is that's what a free market is supposed to be about, is government not picking the winners and losers, or at least as much as possible.

Now, we are making a transition—and there are always winners and losers when you go in a transition area—but, in the future, we need to get out of this business, as much as possible, and let you all compete, as much as we possibly can.

Mr. Chairman, I think that in the future, as we go to this—you know, determining the subsidy, that is something that we're going to have to determine. You know, should it be a government fund? Should it be a private grant out there that people can apply to? Should it be means tested? Should—all of those issues need to be addressed, because I don't believe that, you know, people like myself—maybe I do have a—you know, a set in the back, you know, that—I don't think that I should get a government subsidy just because I have to—if I want one of my analog sets to have a con-

verter box—you know, whether they're $40, $50, $60—I just don't think that somebody in upper income should have a subsidy. But, for some people, for some seniors who, necessarily, can't afford it, some kind of subsidy should be available for those. And the technology, then, would take care of that.

So, thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Snowe?

STATEMENT OF HON. OLYMPIA J. SNOWE, U.S. SENATOR FROM MAINE

Senator SNOWE. Thank you, Mr. Chairman.

Well, obviously, there is a governmental interest in this whole process, because the Government is requiring people to make investment in digital television, of some kind with this hard-fast date, for the obvious, you know, good public-policy reasons, because we need the spectrum for first responders, and otherwise.

My concern is continuing to preserve the free over-the-air television, and whether or not we're going to undermine local programming on the question of whether or not cable is required to carry multicasting programming. And, really, that's the essence for me, because, in the final analysis, we have to ensure that local programming continues.

Frankly, I don't happen to think it should be, sort of, an option. I realize you'd have to, you know, download the analog signal, but I'm trying to figure out what is the picture in the future.

And I would like to start with you, Mr. Fritts. What is the picture in the future if cable is not required to carry multicasting programming? What would that mean for local programming, primary broadcasters, from your standpoint?

Mr. FRITTS. If cable were not required to carry any of the multicast channels——

Senator SNOWE. Right.

Mr. FRITTS.—67 percent of the households, presumably, would never get a chance to sample those, never get a chance to see them, never know that they are there. And, while there are 70 million sets in 20 million households, probably not enough to sustain a substantial market.

Currently, if public interest obligations were imposed on local broadcasters, which they are currently under the governmental interest and must-carry regime, what we're saying is, actually, when we turn the analog off, and cable compresses the six megahertz, it becomes three megahertz; and so, they get 50 percent back at the end of the transition. And what we're saying is that if there is local programming that deserves to be shown by local people, then the local cable monopoly ought to carry it.

Think about this. Comcast owns everything on the eastern seaboard, with the exception of Fairfax County. Cable has a very strong monopoly position. They can tell a broadcaster what gets on and what doesn't get on in this current regime. There's only one cable operator in all of these regions, and there are not two in Fairfax County, there are not two in these areas up and down the eastern seaboard. So, with their monopoly power, we think that it's

only fair that local broadcasting be continued and furthered by virtue of must-carry.

Mr. ABUD. If I may, Senator, in the case of Spanish-language television, we have a very close relationship with our audience. We provide them with news and information locally that they cannot get anywhere else. By not forcing the cable companies to carry our signals, we will be keeping the benefits of digital television from the consumer. And, you know, because of that relationship that we've established with our audience, we think that's crucial for this segment of the population.

Senator SNOWE. Mr. McSlarrow?

Mr. MCSLARROW. Senator, I will avoid the use of the tired, hackneyed term "monopoly," which everybody throws around. The fact is, the only person who can actually force carriage on anyone is a broadcaster forcing must-carry on cable. It's interesting, cable networks can go up to a broadcaster and say, "Hey, carry me. The law tells you to." So, that's the state of the law. We live with it.

In the future, with multicasting, what's not being said today is that we have an agreement, as John Lawson said, with the public television stations all around the country to carry their multicast signals. We carry, today, 500 multicast signals around the Nation. It's all voluntary. We have C–SPAN cameras here that the cable industry funded as a public-interest obligation.

Senator SNOWE. But I understand——

Mr. MCSLARROW. It's all voluntary.

Senator SNOWE. Yes, I understand that. But, in the absence of any requirements, what ultimately happens? That's optional. It's voluntary. But if the Government views that there's a public interest in continuing free over-the-air television, that you have local programming, where does that stand in the long-term future, beyond 2009? And it is no different than the 1992 Cable Act, when we required a must-carry provision. I'm not sure I see a major distinction in that regard. We're just moving to an advanced stage of technology now, that we're requiring, we're imposing on consumers. But yet we don't want to lose the public interest of having free over-the-air television.

That's what I'm grappling with here, because I really do see that as the essence——

Mr. MCSLARROW. I don't think——

Senator SNOWE.—of what it's all about.

Mr. MCSLARROW.—I don't think anybody disagrees with the importance of over-the-air broadcasting. And I have no doubt that it will maintain a viable presence in the future. And I have no doubt that, just as we do today, voluntarily, we will increasingly carry multicast signals from many commercial broadcasters, as well as the public television stations around the country. That is a different thing from saying that, in every circumstance, multicast carriage should be mandated.

Mr. KNORR. I'd like to even further expand on that. Where we see—I mean, there are many broadcasters that barely make the minimum requirements for local content today with their primary signal. In addition, as the question was asked earlier about an 80 percent local content, and the response was, "Oh, maybe that should be 60, or 40, or whatever make sense, as long as it's meas-

urable." Well, 1 percent's measurable. I mean, what—how much local coverage there is from broadcasting is going to be up to broadcasters, not cable companies.

In our market, we're not a Comcast, we invest in a local channel that we carry only on our cable system, and it is the only local coverage for the markets we serve. The broadcasters don't serve that. We step up, as a cable operator, and do live 6 and 10 o'clock news to cover our market area, because local is very important.

So, I think, as a cable operator, I am happy to embrace local, as long as it's really local and not just a facade of local to put in a shopping channel or some other filler.

Senator SNOWE. Did you want to speak to that?

Mr. SLENKER. Yes, Senator, if I may. Senator, DIRECTV believes so much in the importance of the primary local television signal, the single local television signal, that we are, without government mandate, spending billions of dollars to build-out the ability to retransmit 1,500 local high-definition signals. So, I would like to think we're in the forefront of delivering those high-definition local digital signals to the American public without any kind of government mandate.

Mr. FRITTS. Well, in fact, they do have a government mandate: carry-one/carry-all. If they carry one local, they have to carry all.

The CHAIRMAN. Senator Vitter is recognized for 5 minutes.

STATEMENT OF HON. DAVID VITTER,
U.S. SENATOR FROM LOUISIANA

Senator VITTER. Thank you, Mr. Chairman.

I wanted to build on Senator Allen's comments and questions about the challenge of conversion. And I guess my comments and questions are really focused by the last several weeks, in my part of the world, in Louisiana.

We had a tropical storm. We barely missed a hurricane. Louisiana is a relatively poor state. We have a much, much higher percentage of non-cable-hookup sets. And so, that over-the-air broadcast is an absolutely essential component for public safety, particularly when we face regular threats on the Gulf from hurricanes. So, making sure that every set gets this capability to remain operating is no trivial matter, and it's not merely a matter of convenience. It absolutely goes to the core of public safety.

I'm concerned about first responders, and homeland security, and all of that. That's a legitimate concern essentially on the other side of the issue, pushing for quicker conversion. But, in my part of the world, the dominant concern is the one I'm talking about with regard to weather and hurricane threats.

And so, I guess, to be very blunt, I hear this talk, "Well, it's just a matter of technology. Clearly, this can be done." I think it is a much, much bigger project, with a lot more room for pitfalls than that sort of throwaway response admits to. I mean, this is a big project, to make sure that TV sets, particularly in rural areas and where poor folks live, aren't just shut off. And I guess I'd invite some more elaboration on how we really get that done and don't leave people, particularly poor folks and those in rural areas, in the lurch, not just for entertainment, but for essential public safety information.

Mr. LAWSON. Senator, we had an experience in the San Francisco Bay area last year. Our station, KCSM, the public station, the community-college licensee, had a tower issue, and they really had to make a choice between analog broadcasting and digital broadcasting. They chose digital, and they did everything right. They went on the air for weeks and months. They did publicity. They tried to negotiate carriage with cable and satellite, with some success.

The day comes that they turn off analog, and it was chaos. The retailers in the area called the station saying, "Don't send people to us. We don't have converter boxes to sell them. We can get them on the Internet for $400 that will do high-definition TV." But these are people—elderly people, who wanted to do their yoga in the morning. The station ends up losing 38 percent of its audience share.

I agree. I share your concerns, and Senator Allen's concerns. We can make a hard date, but you're talking about a major project. We're talking about a Y2K-level project, to convert 21 million people.

As I said to the listening session, that was a successful model. Let's look at the conversion of the metric system as a model that didn't work. So, it has to be carefully planned.

And, in terms of public safety, I would like to reiterate that public broadcasters working with our commercial colleagues of all different media are making bandwidth available to the Department of Homeland Security for an upgrade to the Emergency Alert System. And that will depend, in part, upon over-the-air, but there are also—we're looking to get that signal to all sorts of devices, like cell phones. But it still depends on a robust digital over-the-air broadcast signal.

Mr. ABUD. If I may add, like I was talking about, the—our relationship with the Hispanic community, our consumer really needs us. They look at us as a lifeline, which is not the case of the general-market audience. Sometimes they call us, even before they call 911, to report issues or problems. And in order for us to give them better service, just to give you an example, we have initiatives right now with the Los Angeles education school district. We are the partners to provide support to the parents in how they help their kids going through school. Having the multicast will allow us to expand on those services, but I need to have the must-carry in order for those services to reach all of the population and not only those that get over-the-air.

Mr. FRITTS. Senator, I used to operate radio stations in Louisiana, so I'm familiar with the territory, and also concur that this is a herculean problem. But if the Congress says 2009 is the date, we will run the necessary campaigns. We'll help develop the technology to make sure that as few people as possible are displaced. Because every time we lose a television set to technology, if you will, we've lost an opportunity. Our audience falls.

And we agree with you that local television is so important, especially when you have so many hurricanes, and tornadoes, and bad weather that comes through. Not just that, but on everyday local information. And we think the best way to do it is to continue the

must-carry regime that was laid out in 1992, following the governmental interest, which was supported by the Supreme Court.

Senator VITTER. Can I just interject? How does that continuation of must-carry really address the conversion issue I'm talking about? I don't get it. I mean, I'm talking about people without cable. So, what does must-carry have to do with that?

Mr. FRITTS. It doesn't have anything to do with people without cable.

Senator VITTER. OK. That's what I'm talking about.

The CHAIRMAN. Gentlemen, if I may, we're going to have a follow-on hearing at 2:30 today. I have just a couple of questions, if I might ask. I didn't ask any at the beginning.

Mr. Fritts, after you go digital, what's the future of the over-the-air broadcasting for those people who don't want to pay, who want their own set free to the consumer, but supported by advertisers? What's the future of that system?

Mr. FRITTS. We think it's going to be robust, a robust system that will continue providing—it's going to be in a very competitive world, even more competitive in the future than it has been. Broadcasters who specialize in localism, who provide more localism, rather than less, will be successful. Those who scale away from that and try to provide just a national service only, in my view, will have a more difficult time——

The CHAIRMAN. Congress has mandated that we'll be digital after a certain date.

Mr. FRITTS. That's correct.

The CHAIRMAN. But we will have set-top boxes that will reduce the digital to analog during the period until the people get digital TV, right?

Mr. FRITTS. That's the current plan, yes, sir.

The CHAIRMAN. Now, Mr. McSlarrow, what do we do about the emergency over the—emergency concepts in areas that are just totally cable, and cable goes off the air?

Mr. MCSLARROW. Well, I mean, we have to rely on the fact that we have other ways to communicate.

The CHAIRMAN. I want to know what that is. You know, it's—you don't carry—you don't have the ability for emergency broadcasting back over-the-air again, do you?

Mr. MCSLARROW. No, not currently. No, you'd have to rely on either radio, or wireless, or some other form of communication.

The CHAIRMAN. So, in the things that Senator Vitter is talking about—and, God knows, we all have our own earthquakes, and tornadoes, and tidal waves—is over-the-air system still in the national interest that we preserve over-the-air, and preserve it in a digital basis, if possible?

Mr. MCSLARROW. Absolutely.

The CHAIRMAN. Well, then, why do you suggest, once we go through the process of converting over-the-air to digital, you want to downgrade it to analog until your customers get over the—set-top boxes? You don't want us to provide set-top boxes to your customers. Why is that?

Mr. MCSLARROW. I think it's more you don't want to, because it'll cost $9 billion; whereas, we can down-convert at the headend, take care of this at our own cost, give people exactly the same service.

The reason we need to down-convert is, we have 40 million households——

The CHAIRMAN. But if those customers out there don't have digital, they're your guys'.

Mr. MCSLARROW. Right.

The CHAIRMAN. They have a set. They could pick up the over-the-air digital if they had a set-top box.

Mr. MCSLARROW. Actually, if they have a digital TV, they could pick it up over-the-air, as well.

The CHAIRMAN. But, by definition, they don't have a digital TV. We're talking about your——

Mr. MCSLARROW. Our analog customers? Correct.

The CHAIRMAN. Your analog customers are sitting out there in rural Louisiana, or an island in Hawaii or somewhere in Alaska, but they're on a cable system, but those sets will pick over-the-air broadcasting if they dial it in right, right?

Mr. MCSLARROW. If they have a digital-to-analog converter box with it, yes.

The CHAIRMAN. Yes. But these signals are going to be digital now.

Mr. MCSLARROW. Correct.

The CHAIRMAN. But those sets are still analog. And you want us to maintain them in analog for a period of time, until you get ready to convert them. I don't understand that.

Mr. MCSLARROW. No, Mr. Chairman. I'm sorry, I haven't been clear. No, we're all for the transition to digital. What we're saying is, when it comes down to the point where we have to distribute a signal to an analog customer, we need to be able to give them an analog signal. Digital signals will go to digital customers. So we're not——

The CHAIRMAN. But your signals are going out in digital to your cable clients that have them, aren't they?

Mr. MCSLARROW. And we can do both.

The CHAIRMAN. Well, why don't you want to do both—do must-carry?

Mr. MCSLARROW. We don't want to do both in every single circumstance for every single operator for every single station. That's when you get into real capacity crunches. But we would love to be able to carry as much as we can. And we will.

The CHAIRMAN. I promised we'd be finished by noon. One last question.

How many analog customers do you expect to have on your system in 2009, if we make that the hard date? How many sets will still be on cable systems that are analog, and will remain analog until something changes?

Mr. MCSLARROW. We currently have—I think our estimate's 134 million analog TV sets in cable customer households, and 40 million of those households are just analog, period. I don't know what our estimates are for 2009. I don't think it will be too much different. We have 26 million digital subscribers now. We're adding, you know, probably a million a year. But you're still going to probably have roughly 50 percent of our customers, by 2009, who will still receive analog——

The CHAIRMAN. And unless we do something about it, these foreign producers of our TVs—and I don't know of any that are produced at home—will continue bringing into the United States sets that look like they're digital, but they're not digital-ready. Unless we do something, all the televisions that come in from now on will still be analog until we mandate it, isn't that right?

Mr. MCSLARROW. Well, you can buy—I mean, you can buy them today.

The CHAIRMAN. But they're not all——

Mr. MCSLARROW. I think——

The CHAIRMAN.—they could bring in digital sets starting in October if we told them that's all they could bring in.

Mr. MCSLARROW. Well, they sell digital sets now, Mr. Chairman. And I think the key is notice, notice to consumers.

The CHAIRMAN. How much longer do you think we should allow the sale of analog sets in the United States?

Senator BURNS. To follow up on that, if the Senator would yield, what if we mandated a chip in every television—new television set to be sold today, that it could receive analog or digital already built into the set? What would happen?

Mr. KNORR. I think——

The CHAIRMAN. The price would go up.

Mr. KNORR. Yes, I think that would be a question for the electronics—but I assume that price might go up, but I think that the sooner the digital chips are in the TV sets, the sooner that accelerates the transition. I mean, as a cable operator, I have no problem with the government wanting to buy converter boxes for all my analog customers. You know, I don't have any objection to that. But I think we can make that not necessary. As several people have outlined, the natural transition process, from the time the signals are available, which has really only been the past couple of years, is a 10-, to 15-, to even 20-year process. And what we're saying is, as cable operators, we can facilitate that natural process by, at the same time, getting spectrum released sooner, without forcing customers to accelerate that natural transition process.

The CHAIRMAN. Thank you all very much.

We're going to convene this afternoon at 2:30. And at the beginning of that meeting, we will have the demonstration of the improved signal concept.

Thank you.

[Whereupon, at 11:55 a.m., the hearing was recessed.]

THE DIGITAL TELEVISION TRANSITION—AFTERNOON SESSION

TUESDAY, JULY 12, 2005

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 2:30 p.m. in room SR–253, Russell Senate Office Building, Hon. Ted Stevens, Chairman of the Committee, presiding.

OPENING STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

The CHAIRMAN. The second session of this DTV hearing will focus on the use of analog spectrum by public-safety and high-tech groups. It will also consider consumer education about the DTV transition. And, last, we'll examine how a subsidy program for set-top boxes should be designed, and what it would cost.

We have six witnesses. But before we start, I want to begin with a demonstration of the set-top boxes, which Mike Kennedy, from Motorola, has agreed to demonstrate for us.

Now, Mike, you might want to wait, though, for some of the other, sort of—we call them, tardy, OK?

[Laughter.]

[Senators appear.]

The CHAIRMAN. We do believe we're going to have a full—not almost—an almost full bench. I'd prefer it to wait, if that's all right with you. You're going to be here for a while, anyway. Can we put that off?

Mr. KENNEDY. That's fine. Absolutely fine.

The CHAIRMAN. And then, after it's over, for the audience's information, Mr. Kennedy has agreed to turn this thing around and let you all see the same thing. We couldn't set it up on both sides at the same time.

So, why don't we start, then, with the concept of the hearing? Let me first call upon Mike Kennedy, Senior Vice President of Motorola. What we're going to do—do you all have any opening statements here this afternoon?

Well, we'll just go across the panel, as we did this morning, and then have questions from each Senator, when they come in. But we'll pause, when we get a sufficient number, to have Mr. Kennedy's presentation of this.

Mike?

STATEMENT OF MICHAEL D. KENNEDY, SENIOR VICE PRESIDENT, AMERICAS COUNTRY MANAGEMENT; DIRECTOR, GLOBAL GOVERNMENT RELATIONS, MOTOROLA

Mr. KENNEDY. Good afternoon, Chairman Stevens, and members of the Committee.

My name's Mike Kennedy, and I have responsibility for Country Management for North and South America, as well as Government Relations, for Motorola, worldwide. It's an honor to be here with you today.

As you know, Motorola is the original high-tech startup company, with over 75 years of technology heritage. We developed the first cell phone, and have a 65-year history of providing ever-advancing communications systems for public safety. Today, Motorola is a leading provider of solutions for cellular, wired, and wireless broadband, first responders, and cable communications.

I want to thank you, Mr. Chairman, for scheduling this hearing, and I appreciate the opportunity to appear before you today to discuss the promise of completing the DTV transition for America's consumers and first responders.

Before I discuss the importance of the spectrum for public safety, I would like to talk briefly about the benefits that will arise from portions of the 700 megahertz spectrum that are to be used for commercial services. The characteristics of this spectrum provide a unique opportunity for the development of new wireless broadband service providers, particularly in rural areas. The favorable propagation characteristics of the 700 megahertz band means that broadband services could be initially deployed with only one-quarter of the infrastructure that would be necessary in other spectrum allocations commonly used for WiFi-type services.

Affordable wireless broadband will provide enormous benefits to the American public, including providing access to information and services such as telemedicine, so that doctors can remotely treat patients, assist in delicate medical procedures, and transmit large medical files; telework, allowing work from home or other locations, thereby reducing travel time, increasing efficiency, and providing people in remote areas greater opportunities for employment; and distance learning, providing greater opportunities for America's youth to get a quality education. These are just a few of the examples of the almost limitless applications and opportunities provided by affordable broadband.

In addition, we can improve the quality of mission-critical information to our front-line responders. For example, an officer or an agent could transmit video of a potential biological weapon and get real-time counsel from a remote expert. Police could instantly send or receive a photograph of an abducted child. Firefighters could access building blueprints, hydrant locations, and hazardous-material data. Unfortunately, these benefits for our safety and security await Congressional action on DTV.

As you explore ways to complete the DTV transition, we encourage you to continue your examination of the provision of converter boxes to analog TV consumers who do not subscribe to cable or satellite TV services. To make the transition a success, consumer education, the converter box, and a hard date will combine for a pain-free end to antique analog TV services.

Motorola estimates the price to a consumer for a digital-to-analog converter box that would facilitate the transition on January 1, 2009, to be $50. Anybody—this is an example—in fact, this is a working converter box here that I will demonstrate at your pleasure a little later—anybody can make this box. It's a one-time marketplace. And we would encourage you to examine it. As you look to craft policy to provide converters for Americans who watch TV over-the-air with analog sets, we think the affordable price of this box can really help.

Mr. Chairman, at that point, what I would like to do is hold the rest of my remarks. And I'll be happy to offer the demonstration when you want me to.

[The prepared statement of Mr. Kennedy follows:]

PREPARED STATEMENT OF MICHAEL D. KENNEDY, SENIOR VICE PRESIDENT, AMERICAS COUNTRY MANAGER; DIRECTOR, GLOBAL GOVERNMENT RELATIONS, MOTOROLA

Good morning, Chairman Stevens, Co-Chairman Inouye, and members of the Committee.

My name is Mike Kennedy, and I am the Americas Country Manager for Motorola and head of Global Government Relations for the company. We have served state, and local public safety and Federal law enforcement and their technology needs for more than 65 years. We also created the walkie-talkie for the warriors of WWII, the pager, the satellite phone, the cell phone, and now we are working to obsolete the cell phone with mobile devices that will be more like universal remote controls for life.

I want to express my appreciation to you, Mr. Chairman, for scheduling this hearing to address the need to provide timely and specific access to much-needed spectrum in the 700 MHz band to America's first responders and for other wireless broadband purposes. You and Senator Inouye have been great champions for the public safety community and the need to end the digital television transition with a fixed date.

As you know, the report of the National Commission on Terrorist Attacks Upon the United States (hereinafter the "Report") highlighted the critical need of the public safety community to have access to additional spectrum for its mission-critical communications needs.

It is an honor to be here with you today to discuss how we can implement one of the recommendations of the Report that remains un-legislated, and provide for a safer America by ensuring that first responders have the resources needed for life-saving communications. The horrible events last week in London further amplify the need to provide our emergency responders with the tools necessary to respond as quickly and effectively as possible.

Ending the digital television transition, as you know, also frees up spectrum for advanced commercial services. These services will enable greater connectivity for rural areas, greater competition in the provision of broadband, and new mobile applications to link people with technology's promise no matter where they may be: in the home, at work, in the car, or out and about going about living their lives.

Motorola's Technology Heritage

Motorola is a leading provider of communications and information solutions, including public safety, private, commercial wireless, cable, and wireline communications. We have more than six decades of experience in meeting the mission-critical needs of our public safety customers. We offer an extensive portfolio of solutions specifically designed to meet the rapidly evolving safety and security needs of these customers. Our solutions include interoperable mission-critical radio systems based on the P25 public safety interoperability standard; command and control solutions; identification and tracking solutions; information management for criminal justice and civil needs; and physical security and monitoring solutions.

In 2002, our public safety business in Motorola received the Malcolm Baldrige National Quality Award, the Nation's premier award for performance excellence and quality achievement. We continually strive to translate the quality processes upon which this award was based into high quality and reliable communications systems for our public safety customers. Motorola works very closely with our customers to help them implement communications capabilities needed for both every day mission critical needs and catastrophic events.

Motorola invented the cell phone in 1973. Today we are leader in multi-mode, multi-band communications products and technologies and are transforming the device formerly known as the cell phone into a universal remote control for life. We are advancing seamless mobility with innovative technology solutions and delivering proven capabilities in cellular, wireless broadband and wireline access technologies, with recognized leadership in integrating core networks through wireless IP, wireless softswitch and IP multimedia subsystems. As the largest cable set-top box provider, we are providing scalable, integrated end-to-end systems for the delivery of broadband services that keep consumers informed, entertained, and connected.

As a company, Motorola has also been a leader in developing and providing technology for the broadcast and cable industries. In 1947, we built one of the first affordable TV sets, which was offered to consumers for under $200. In 1957, the company built the technology for the first pay-per-view cable event. In 1963, as TV upgraded from black and white to color, Motorola developed the first truly rectangular picture tube for color television in a joint venture with the National Video Corporation. The tube quickly became the standard for the industry. In 1972, we developed the first remote-controlled set-top box, and in 1992, Motorola helped launch the digital revolution by proposing to the government a concept that no one else had seriously considered—transitioning from analog to digital technology to drive the market to high-definition TV (HDTV) and facilitate the recovery of spectrum.

Recommendations of the 9/11 Commission Report

The Report by the 9/11 Commission extensively reviewed how emergency responders communicated or, in too many cases, were unable to communicate, during the tragic events of September 11, 2001. The Report notes that there was substantial inability to communicate on the needed level of interoperability at the World Trade Center, the Pentagon, and in Somerset County, Pennsylvania.

While it is clear that prior coordination, advanced preparation, and training by responding agencies greatly enhanced communications among emergency personnel when it was done, all too often this prior planning, coordination, and training did not occur, and the ability of multiple agencies to work together to maximize their life-saving efforts was frustrated.

Planning and coordination can only go so far, however, to provide effective communications in an emergency. Absent proper equipment and resources communications capabilities can quickly become overwhelmed, greatly diminishing their effectiveness. Proper resources not only include radios that can interoperate among agencies using a common standard, but also spectrum to ensure the availability of sufficient system capacity. The 9/11 Commission recognized this fact and recommended that Congress legislate the expedited and increased assignment of radio spectrum for public safety.

Motorola, the Nation's major law enforcement and fire fighting organizations, as well as the associations representing America's cities, counties, and mayors fully support this recommendation. The spectrum referred to in the report is in the 700 MHz band. Public safety identified the need for this spectrum 8 years ago in a September 11, 1996 report by the Public Safety Wireless Advisory Committee. That report, rather eerily, indicated that the 24 MHz under consideration today should be available within 5 years. As we all know, 5 years later the horrific terrorist attacks on our soil gave rise to the 9/11 Commission, which again, urged that these frequencies be made available to public safety. In the absence of these frequencies being available to public safety for their critical communications needs, the Nation unfortunately is needlessly less equipped than it should be—in an area we know how to fix—to protect the American people. After the first report was published, Congress acted quickly, to allocate this spectrum to public safety in 1997. Unfortunately, since then, public safety's ability to use this spectrum has been greatly hampered or stopped in the areas where it is most needed—the major urban centers. The reason is the continued use of the spectrum for analog broadcast television services absent a date-certain as to when the spectrum will be fully transferred to public safety's use. The communication needs of public safety are too important to allow this uncertainty to continue.

Swift action by this Congress can provide public safety access to one of the fundamental building blocks of an effective communications system—spectrum. Congress' commitment made in the Intel Reform bill, passed in December, to pass legislation this year to end the DTV transition was excellent, and we urge you not to be deterred.

Current law sets December 31, 2006, as the date for clearing television from the band. However, this is not a firm date. Broadcasters do not have to clear the band until 85 percent of the households in their service areas have the capability to receive digital TV signals, an environment unlikely to be met by year-end 2006.

Under current law, while TV incumbents are required to vacate this spectrum at the end of 2006, they can receive an *unlimited* extension of this deadline based on the state of the transition in their particular market. So, in reality, there is no "hard date" when the transition will end and the spectrum will really be accessible to public safety and wireless broadband service providers everywhere. This is not the optimal situation for the public safety or high tech communities and those they serve. We commend and encourage efforts by this Committee to act on the recommendation of the 9/11 Commission that legislation be enacted that would clear this spectrum nationwide for public safety as close to year-end 2006 as possible. We also applaud Senators McCain and Lieberman for their dedicated efforts to help advance this need with their SAVE LIVES Act. We eagerly look forward to the direction that you, Mr. Chairman, will take and offer our support, in advance, to you on this vitally important initiative.

Converters Can Enable a Date-Certain for the Transition, Increase Channels, and Provide a Clearer Picture for Consumers With Analog TVs

While clearing the 700 MHz spectrum for public safety will affect a small number of viewers relative to the improved security gains for many, Motorola believes there are options for mitigating the over-the-air impact while affording the invaluable benefits of completing the full transition to digital television. Completing the transition to digital television will have numerous benefits, including spectrum for advanced public safety and consumer services, enhanced and expanded viewing options for the public, more efficient use of the spectrum, and the likelihood that digital stations will provide a wide variety of data and other services to the public.

The Congress could realize the gains of the transition as early as possible by setting a hard date for the transition, and ensuring that viewers continue to have access to free over-the-air television by providing inexpensive digital-to-analog over-the-air converter boxes to those that need them. A similar approach was used in Berlin, Germany, to ensure a seamless and pain-free crisp analog-to-digital TV transition. This was achieved through the provision of converter boxes to some TV consumers who did not subscribe to cable or satellite TV service and maintained an analog TV set. We believe this is a positive step that could provide a real path forward on how to solve the transition here in the U.S. The Berlin Model worked. To make it a success, consumer education, a converter box subsidy, and a hard transition date combined for a real win. This type of approach can allow this Congress to reach a solution that addresses the needs of all stakeholders. The *status quo* cannot be allowed to stand. A simple technology solution that you can enable will guide the public and industry through the transition, and fulfill the Committee's years old vision of making available the advanced services in the 700 MHz band that will benefit the American people.

Motorola is a TV set-top box provider. In comments to the FCC almost one year ago, we stated that—assuming that the market is driven by a hard deadline of December 31, 2006, for the end of the DTV transition—we estimated that the cost of a digital-to-analog over-the-air converter box would be approximately $67 per unit. That estimate was based on the best possible foreseeable technology and implementation information available at that time. Today, we are pleased to be able to say that our estimate was a conservative one. Suppliers are making changes that provide better integration of the converter components, and prices are moving down. We would now expect that a $67 dollar price would be achievable earlier than originally expected, and believe that this downward trend will continue. We expect that by January 1, 2009, converters would be available for approximately $50 assuming that a hard deadline for the end of the digital transition is set.

The implications of this $50 figure are profound. Such a price per unit would peg the cost of providing one digital-to-analog converter box for every exclusively over-the-air household, based on studies by the Consumer Electronics Association,[1] at around $660 million. Asking consumers to contribute $20 toward the box would reduce the government cost to around $400 million, and also help minimize fraud. While the population will grow, these over-the-air TV numbers will continue to decline dramatically by January 1, 2009. As CEA testifies today, in 2005, approximately 12 percent of the Nation's households rely on over-the-air TV, and at the end of 2008, they project the number to drop to 6.8 percent, or about 60 percent of what it is today. *Applying this trend to the above figures, a $50 converter box provided to every exclusively over-the-air household would cost the government approximately*

[1] Letter dated June 7, 2005 from Mr. Gary Shapiro, CEO of the Consumer Electronics Association, to Congressmen Barton, Dingell, Upton, and Markey, citing 13.2 million over-the-air households and 38.3 million over-the-air televisions nationwide at the present.

$400 million without a consumer contribution, and $250 million with a $20 contribution.

The cost to provide converters to those who need them is much less than the anticipated spectrum auction proceeds for the commercial digital wireless broadband licenses that would occupy the reclaimed analog TV spectrum.

Upon conclusion of the transition, viewers who receive their television programming through cable or satellite will not have to make any changes to continue using their existing analog television sets. The relatively small percentage of viewers who receive their television programming directly from over-the-air broadcasts will be able to continue using their existing television sets, although a digital-to-analog converter will be needed to do so.

The converter receives the digital signal and converts it to an analog signal that analog TVs recognize. They are easy to install and use. The converter is connected between the antenna and television using standard cables and connections. The connections are compatible with even the oldest television sets.

There are a number of advantages to receiving digital signals even while viewing an analog television. Digital TV signals are less prone to interference and generally provide a clearer picture than analog signals. The converted digital signals are free from the "ghosts" and "snow" experienced with off-air analog signals. This provides an improved viewing experience and a significantly better picture over fair quality analog transmissions. Going digital also gives broadcasters the opportunity to provide over-the-air viewers with more channels and viewing options. With digital, broadcasters can send multiple channels of programming in the same space that one analog channel occupies. The digital-to-analog converter recognizes all of these channels and displays them independently on existing analog televisions. Many broadcasters are already taking advantage of this opportunity to provide viewers with more programming and information by providing multiple channels of over-the-air content, including additional programming or local news and weather information.

Setting a firm transition date is critical to resolve the current chicken and egg conundrum of the DTV transition. As you know, doing so will not only provide critically needed spectrum for public safety, but will also unlock new entertainment and information services for consumers, and will provide additional opportunities for American industry. Wireless communications provide our first responders with the *right information, at the right time* and *in the right place,* whether that information is voice, data, or video.

Public Safety Needs 700 MHz Spectrum for Critical Technologies

Motorola's partnership with the public safety community over the years has taught us that first responders need systems designed specifically for mission critical operations to get the job done. For example, as with most of the Northeast and Midwest, the State of Michigan was confronted with a large-scale emergency during the August 2003 blackout. Despite the failures experienced by various commercial carrier networks in Michigan, and surrounding states, due to these power outages, Michigan's nearly 12,000 public safety radios experienced no interruptions in communications. Police officers, firefighters, and EMS providers worked as a team in real-time to serve the public. Michigan had control over its communications because it had created a statewide mission critical network designed specifically for catastrophic situations and events, including the disruption of normal power sources. While many public safety entities also use public carrier networks for less critical communications, there is no substitute for mission critical systems when the safety of first responders, and the public they serve is at risk.

Effective mission critical mobile and portable communications systems are absolutely essential to public safety operations. Police officers, firefighters, emergency medical personnel, and their departments use mobile and portable communications to exchange information that can help protect public safety officials and the citizens they serve. Traditionally, this information was mostly exchanged by voice. Increasingly, as public safety entities strive to increase efficiency and effectiveness in today's world, they also need the capability to reliably transmit and receive high performance data, still images, and video. Spectrum is the road upon which such communications travel, and increased communications requirements lead to the need for more spectrum.

Based on a thorough justification of need, Congress and the Federal Communications Commission dedicated 24 MHz of spectrum in the 700 MHz band to state and local public safety in 1997. The FCC established specific nationwide interoperability channels within this spectrum allocation, as well as both narrowband and broadband channels to support a variety of identified public safety communications requirements.

However, 8 years later, incumbent television stations operating on channels 62, 63, 64, 65, 67, 68, and 69 prevent public safety access to this essential resource in most major urban areas where the demand for more spectrum is the greatest. The recent focus on increased interoperability and Homeland Security make availability of this public safety spectrum nationwide even more critical.

These channels are critical to public safety for two reasons:

(1) Together, the new 700 MHz and current 800 MHz bands provide the best opportunity to integrate interoperable communications. The 700 MHz band's proximity to the 800 MHz band allows public safety agencies to expand their current 800 MHz narrowband voice and data systems for interoperability and regional coordination on an "intra" as well as "inter" agency basis. Equipment operating in these combined frequency bands on the FCC-endorsed Project 25 interoperability standard is commercially available today. The FCC has granted each state a license to operate such narrowband communications in the 700 MHz band. Localities throughout the country are actively engaged in spectrum planning at 700 MHz, a prerequisite for obtaining their own FCC licenses. For example, after a year-long review by the FCC, the Southern California regional plan was approved, but TV incumbency prevents actual use of the spectrum in much of that area.

(2) 700 MHz is the only dedicated spectrum allocation where public safety can implement advanced mobile wide area systems that bring high-speed access to databases, the intranet, imaging, and video to first responders out in the field.

This technology offers a whole new level of mobile communications capabilities, which is far beyond today's voice and low-speed data applications. For example:

a. An officer or agent could transmit video of a potential bomb, or biological weapon and get real-time counsel from an expert in another location.

b. Local or State police could instantly send or receive a photograph of a missing or abducted child.

c. Crime scene investigators can transmit live video of footprints, fingerprints, and evidence to speed analysis and apprehension of perpetrators.

d. Firefighters can access building blueprints, hydrant locations hazardous material data, and other critical information.

e. Paramedics can transmit live video of the patient to doctors at the hospital that would help save lives.

Motorola previously conducted wideband trials together with public safety entities in Pinellas County, Florida and the City of Chicago. We are also proud to be part of the broadband demonstration that is being led by the Office of the Chief Technology Officer for the District of Columbia Government (OCTO). That system provides coverage throughout most of the District, and is providing valuable information to law enforcement agents. We are proud to be working with the OCTO on an innovative solution that will deliver powerful applications to the front-line first responders here in our Nation's Capitol. All of these trials operate under experimental 700 MHz licenses from the FCC. The capabilities demonstrated are the emerging powerful multi-media applications that will bring public safety communications into the Twenty-First Century.

As you know, the 24 MHz of spectrum in the 700 MHz band is allocated for state and local public safety use. Congress, in the *Intelligence Reform and Terrorism Prevention Act of 2004* (Public Law 108–458), signed into law in December, directed the Federal Communications Commission, along with the Department of Homeland Defense and the National Telecommunications and Information Administration, to conduct an assessment of public safety spectrum needs to determine whether this allocation is sufficient to meet the communications needs of public safety. This effort is ongoing, and is especially important as we see the demand for information, exemplified by trials like the one here in the District, grow for access to full broadband services for public safety.

In addition, while this allocation will be available for state and local law enforcement, no comparable spectrum allocation exists for meeting the Homeland Security requirements of Federal agencies or critical infrastructure entities. Such interoperability among state and local first responders, Federal agencies and critical infrastructure entities will best be achieved through the availability of comparable spectrum resources. These issues must be carefully considered in order to provide a comprehensive and long-term solution that meets America's security needs.

Once cleared, the original 24 MHz of spectrum allocated to Public Safety in 1997, will support narrowband and wideband applications for State and Local government agencies. Narrowband 12.5 kHz channels provide the capacity for voice and text-like

data. This will help promote interoperability as public safety entities necessarily expand their capabilities. Notably, narrowband radios which support both 700 and 800 MHz in one radio are already available. As users purchase additional radios for their 800 MHz systems, they will have the capability to use the 700 MHz band once it is cleared. Wideband spectrum at 700 MHz supports applications such as image-rich records access and higher speed video streaming over wide areas.

The Public Safety community, the FCC and multiple equipment manufacturers have already spent considerable time and resources to develop the operational and technical rules for that 24 MHz of spectrum. In addition, both narrowband and wideband interoperability standards have been developed and are supported by multiple competitive manufacturers. For example, the TIA902 SAM standard for wideband public safety operations at 700 MHz has been developed and unanimously adopted by the public safety community and multiple competitive manufacturers. Subsequently, the TIA 902 wideband standard was endorsed by the Public Safety community and specifically recommended for FCC adoption.

700 MHz Spectrum Holds the Promise of Economic Benefits and Growth

In addition to the 24 MHz of spectrum allocated to public safety in the 700 MHz band, there is 84 MHz of spectrum allocated for commercial uses. Of this, 24 MHz has already been licensed, although use is severely limited due to continued use of the spectrum by TV broadcasters. Of the 108 megahertz to be reclaimed, 60 megahertz remain to be licensed. This spectrum holds tremendous promise as a home for another generation of advanced wireless broadband services that that will provide American citizens with greater access to information, and provide immense economic benefits from greater productivity.

The societal benefits of providing access to broadband services can not be questioned. Broadband access enables powerful applications. For example:

- Telemedicine so that doctors can remotely treat patients that are too frail or injured to travel to an expert medical facility, to remotely assist in a delicate medical procedure, or to transmit large medical files or information for evaluation at an expert specialized facility.
- Telework, which allows workers to work from home or other locations outside of the regular company office. This reduces travel time to work, can increase efficiency and provide people in remote areas greater opportunities for employment.
- Digital government so that leaders can provide citizens greater access to government services through e-government initiatives.
- Advanced farming to improve and increase the efficiency of monitoring and controlling of agricultural resources, increasing crop and livestock yields by alerting farmers to problem areas, and providing farmers access to the information necessary to take corrective action. These technologies can reduce the costs associated with distribution of farm products, and can increase the safety of food supply by enabling better tracking of products through the production and distribution network.
- Distance learning so that all Americans have access to the best possible education on an equal footing.
- Increased access to services and opportunities for persons with disabilities will strengthen their participation in the information economy.

These are just a few examples of the almost limitless applications and opportunities provided by broadband.

While the benefits of broadband are clear, America's commitment to widespread cost-effective deployment of broadband is not. The United States has steadily slipped down the broadband deployment slope compared to the rest of the world, and now ranks 16th in broadband subscribers as a percentage of the population. The spectrum that will be made available at 700 MHz as a result of the transition to digital television provides a unique opportunity to provide facilities-based competitive broadband services. The favorable propagation characteristics of the 700 MHz band will allow broadband services to be initially deployed with approximately 25 percent of the infrastructure that would be necessary in the 2.4 GHz band, which is commonly used for WiFi today, considerably reducing the costs of deployment. These propagation characteristics also allow for easier penetration through and around potential obstacles to deploying wireless services in higher frequency bands. The characteristics of this spectrum make it ideal for both mobile and fixed services.

Exclusive licenses for use of these frequencies will allow operators to provide the highest quality service in terms of reliability, and will provide incentives for efficient

use. Such an opportunity could significantly advance efforts to provide broadband services to all Americans.

The economic benefits of this spectrum are enormous. Estimates of the auction revenues from this spectrum range from $10 billion toward $30 billion. This pales in comparison, however, to the economic benefits to society. When considering such implications as increased productivity for the Nation, and lower costs of services to consumers due to making this spectrum available for better uses than merely analog TV, the economic benefit to America was recently estimated at $233 billion to $473 billion dollars in a report by the Analysis Group.[2]

Significant steps have already been taken that will provide for rapid commercial use of this spectrum when it is fully available. Standards bodies, including the 3rd Generation Global Partnerships and the Telecommunications Industry Association have already adopted standards for use of technology in this spectrum.[3] Standardized technology will lower the cost of equipment and provide for rapid acceptance of equipment and services. In addition, companies that have licenses in this spectrum band have begun to deploy systems in the limited areas not encumbered by broadcast stations. For example, Qualcomm has developed its MediaFLO™ system to provide voice and data multimedia to mobile devices. Such innovative technologies hold the promise of providing consumers with access to exciting new levels of information and entertainment.

In closing, Mr. Chairman, and members of the Committee, we urge you not to be deterred from sticking as close as possible to the original December 31, 2006 goal. Making this spectrum available for new innovative technologies to support first responders and consumers nationwide anytime near the end of 2006, will not happen without you. The Report of the 9/11 Commission has reaffirmed the need for this spectrum and added new impetus to making it available to our Nation's First Responders. We urge you to take swift action this year to make this important long-awaited objective a reality for law enforcement, fire fighters, emergency medics, and your constituents. As we have just seen, our allies in London were attacked by terrorists. All of the experts tell us that it is not a matter of if, but when, will they strike us here again. Communications tools are vital in these emergencies. We know this and we know how to make them available—it starts with ending the DTV transition.

Motorola stands ready to support this Committee to help minimize the impact on the viewing public of making 700 MHz spectrum available, and to put this spectrum to its highest and best use—protecting American citizens. We respectfully urge the Congress to take action to implement the recommendation of the 9/11 Commission to make the 700 MHz spectrum fully available to public safety by a date certain as soon as possible.

Thank you.

The CHAIRMAN. Well, thank you for your courtesy.

Our next witness is Harlin McEwen, International Association of Chiefs of Police, Communication, Technology Committee. He's chairman of that committee.

Mr. McEwen?

STATEMENT OF HARLIN R. MCEWEN, CHAIRMAN, COMMUNICATIONS & TECHNOLOGY COMMITTEE, INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE (IACP); COMMUNICATIONS ADVISOR, MAJOR CITIES CHIEFS ASSOCIATION (MCC), NATIONAL SHERIFFS' ASSOCIATION (NSA), MAJOR COUNTY SHERIFFS' ASSOCIATION (MCSA)

Mr. MCEWEN. Thank you, Mr. Chairman, and members of the Committee, for an opportunity to appear before you today.

My name is Harlin McEwen, and I am a retired Police Chief of the City of Ithaca, New York. And I'm also retired as the Deputy Assistant Director of the Federal Bureau of Investigation here in

[2] *Analysis of an Accelerated Digital Television Transition,* Colman Bazelon, Analysis Group, May 27, 2005.

[3] See, TIA standard TIA–1030 *http://www.3gpp2.org/Public_html/specs/C.S0057-0 v1.0_020904.pdf* and 3GPP TS 45.005 (*http://www.3gpp.org/ftp/Specs/archive/45_series/45.005/45005-710.zip*).

Washington, D.C. I serve as the Chairman of the Communications and Technology Committee of the International Association of Chiefs of Police, a position I've held for more than 27 years. I also serve as the Communications Advisor for the Major City Chiefs Association, the National Sheriffs Association, and the Major County Sheriffs Association.

In addition to these organizations, today I'm also speaking on behalf of the Association of Public Safety Communications Officials International, better known as APCO, the Police Executive Research Forum, the International Association of Fire Chiefs, the Congressional Fire Services Institute, National Association of State EMS Directors, the National Association of Counties, and the National League of Cities.

Citizens rely upon their local and state police agencies, sheriffs offices, fire departments, emergency medical services, and other public-safety agencies to come to their assistance wherever and whenever needed, whether it is a crime in progress, a civil disturbance, a building fire, a forest fire, an automobile accident, a health emergency, a natural disaster, or, as we learned on 9/11, a terrorist attack. Citizens assume that those first responders will get the call, and will have the communications tools they need to address emergencies quickly and efficiently.

Radio spectrum is critical for public-safety agencies to maintain the communications capability they need to protect the safety of life and property. However, in 1996, a blue-ribbon committee determined that public-safety agencies did not have sufficient radio spectrum to do their jobs.

Congress responded in 1997, by directing the FCC to reallocate 24 megahertz of spectrum in the 700 megahertz band for public-safety services. Unfortunately, the 700 megahertz band public-safety spectrum continues to be blocked by television stations on Channels 63, 64, 68, and 69, and, to some degree, on adjacent Channels 62, 65, and 67, especially in the major metropolitan areas. Under current law, these stations are permitted to stay in the band until December 31, 2006, or when 85 percent of the households in their market areas have the ability to receive DTV signals, whichever is later.

In the meantime, the public-safety spectrum needs identified in 1996 have worsened, especially since 9/11, as police, sheriffs, fire, and EMS, and other public-safety agencies are being asked to assume greater roles in protecting homeland security. A current example is last week's tragic bombings in London, and the heightened security now placed on our Nation's public transportation systems.

Anytime there is a terrorist attack against the U.S., or in any other part of the world, public safety must have even more effective and interoperable radio communications capability. Therefore, the public-safety community supports legislative efforts that call for an early and firm date by which broadcasters must clear the channels occupied in the 700 megahertz band.

The 700 megahertz band is critical for public-safety agencies to alleviate dangerous congestion on many existing radio systems, which places first responders and the public at risk. The spectrum also will facilitate new and expanded multi-agency communications

systems to promote interoperability among first responders in the field.

Finally, additional spectrum will allow for deployment of new public-safety communications technologies. However, until the Congress establishes a date certain for TV broadcasters to vacate the 700 megahertz band, most public-safety agencies, and state and local governments cannot begin significant planning and funding for new radio systems on that spectrum. The 9/11 Commission specifically recommended that Congress support legislation providing for the expedited and increased assignment of radio spectrum for public-safety purposes. In response to this recommendation, the Intelligence Reform and Terrorism Prevention Act of 2004, included a sense of the Congress that this issue must be addressed in the First Session of the 109th Congress.

In addition to our urgent need for the 24 megahertz of spectrum previously allocated by Congress for public safety, the tragic terrorist acts of September 11, 2001, and advances in technology have intensified the need for further allocations to provide for public-safety-area wireless broadband data networks.

In order to aid this effort, the Intelligence Reform Act required the Department of Homeland Security and the Federal Communications Commission to analyze this spectrum requirement and report back to Congress later this year. Therefore, we support language in S. 1268, the SAVE LIVES Act, that would permit Congress to designate additional public-safety spectrum in the 700 megahertz band following completion of those studies.

In closing, I would again stress that the public-safety community supports legislative efforts that call for an early and firm date by which broadcasters must clear these channels occupied in the 700 megahertz band.

Thank you very much.

[The prepared statement of Mr. McEwen follows:]

PREPARED STATEMENT OF HARLIN R. MCEWEN, CHAIRMAN, COMMUNICATIONS & TECHNOLOGY COMMITTEE, INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE (IACP); COMMUNICATIONS ADVISOR, MAJOR CITIES CHIEFS ASSOCIATION (MCC), NATIONAL SHERIFFS' ASSOCIATION (NSA), MAJOR COUNTY SHERIFFS' ASSOCIATION (MCSA)

Thank you, Mr. Chairman, and members of the Committee for the opportunity to appear before you today.

My name is Harlin McEwen and I am the retired Police Chief of the City of Ithaca, New York, and I am also retired as a Deputy Assistant Director of the Federal Bureau of Investigation in Washington, D.C. I serve as the Chairman of the Communications and Technology Committee of the International Association of Chiefs of Police (IACP), a position I have held for more than 27 years. I also serve as the Communications Advisor for the Major Cities Chiefs Association (MCC), the National Sheriffs' Association (NSA), and the Major County Sheriffs' Association. In addition, today I am speaking also on behalf of the Association of Public Safety Communications Officials—International (APCO), the Police Executive Research Forum (PERF), the International Association of Fire Chiefs (IAFC), the Congressional Fire Services Institute (CFSI), the National Association of State EMS Directors (NASEMSD), the National Association of Counties (NACo), and the National League of Cities (NLC).

Citizens rely upon their local and state police agencies, sheriffs' offices, fire departments, emergency medical services, and other public safety agencies to come to their assistance wherever and whenever needed, whether it is crime in progress, a civil disturbance, a building fire, a forest fire, an automobile accident, a health emergency, a natural disaster, or, as we learned on 9/11, a terrorist attack. Citizens

assume that those first responders will get the call, and will have the communications tools they need to address emergencies quickly and efficiently.

Radio spectrum is critical for public safety agencies to maintain the communications capability they need to protect the safety of life and property. However, in 1996, a blue ribbon committee (the Public Safety Wireless Advisory Committee or "PSWAC") determined that public safety agencies did not have sufficient radio spectrum to do their jobs. Among PSWAC's recommendations was that 25 MHz of spectrum be made available from TV channels 60–69 (the 700 MHz band) within 5 years.[1] Congress responded in 1997, by directing the FCC to reallocate 24 MHz of spectrum in the 700 MHz band for public safety services.

Unfortunately, the 700 MHz band public safety spectrum continues to be blocked by television stations on channels 63, 64, 68, and 69 (and, to some degree, adjacent channels 62, 65, and 67), especially in major metropolitan areas. Under current law, these stations are permitted to stay in the band until December 31, 2006, or when 85 percent of the households in their market areas have the ability to receive DTV signals, whichever is later.

In the meantime, the public safety spectrum needs identified in 1996 have worsened, especially since 9/11, as police, sheriffs, fire, EMS, and other public safety agencies are being asked to assume greater roles in protecting homeland security. A current example is last week's tragic bombings in London, and the heightened security now placed on our Nation's public transportation systems. Any time there is a terrorist attack against the U.S. or in any other part of the world, public safety must have even more effective and interoperable radio communications capability. Therefore, the public safety community supports legislative efforts that call for an *early* and *firm* date by which broadcasters must clear the channels occupied in the 700 MHz band.

The 700 MHz band spectrum is critical for public safety agencies to alleviate dangerous congestion on many existing radio systems, which places first responders and the public at risk. In much of the nation, there are no longer *any* frequencies available for new or expanded public safety radio systems. As a result, too many first responders are crowded on common channels, blocking critical communications, both on a day-to-day basis and, especially, when major emergencies occur. Once cleared of TV stations, the 700 MHz band channels will facilitate expansion of public safety systems already operating in the adjacent 800 MHz band, and the construction of many new public safety radio systems across the Nation.

A key benefit of the 700 MHz band spectrum is that it will allow for new and expanded multi-agency communications systems to promote interoperability among first responders in the field. While there are many causes and solutions to the interoperability problem, in many cases the most effective long-term solution is to consolidate agencies on the same radio system, or at least on systems in compatible frequency bands. Some states and counties have built such multi-agency systems (often in the now-crowded 800 MHz band), and many others would do so if sufficient radio spectrum were available. Clearing the 700 MHz spectrum would also allow many existing 800 MHz systems to expand their capacity to accommodate additional public safety agencies. The FCC rules for the 700 MHz band also ensure that all radios operating within the 700 MHz band will include designated interoperability channels and a common digital interoperability standard (Project 25).

Additional spectrum will also allow for deployment of new public safety communications technologies, such as mobile data networks that will provide first responders with access to critical information in the field. Today, agencies seeking to implement new data networks are often stymied by the lack of sufficient radio spectrum.

The public safety benefits of the 700 MHz band are very real. However, until Congress establishes a *date certain* for TV broadcasters to vacate the 700 MHz band, most public safety agencies and state/local governments cannot begin significant planning and funding for new radio systems in that spectrum.

The 9/11 Commission specifically recommended that Congress support legislation providing "for the expedited and increased assignment of radio spectrum for public safety purposes." In response to this recommendation, the Intelligence Reform and Terrorism Prevention Act of 2004, included a Sense of Congress that this issue must be addressed in the First Session of the 109th Congress.

In addition to our urgent need for the 24 MHz of spectrum previously allocated by Congress for public safety, the tragic terrorist acts of September 11, 2001, and advances in technology have intensified the need for further allocations to provide for public safety wide-area wireless broadband data networks. The National Intel-

[1] As I and others have often noted, the date of the PSWAC report was September 11, 1996. Exactly 5 years later, on September 11, 2001, the spectrum identified by PSWAC was still not available for public safety use in most of the Nation.

ligence Reform Act of 2004, requires the Department of Homeland Security (DHS) and the Federal Communications Commission (FCC) to analyze this spectrum requirement and report back to Congress later this year. Therefore, we support language in S. 1268 (The SAVE LIVES Act) that would permit Congress to designate additional public safety spectrum in the 700 MHz band following completion of those studies.

In closing I would again stress that the public safety community supports legislative efforts that call for an *early* and *firm* date by which broadcasters must clear the channels occupied in the 700 MHz band.

The CHAIRMAN. Thank you.

The next witness is Charles Townsend, who is the Chairman—I guess you're CEO of Aloha Partners.

STATEMENT OF CHARLES C. TOWNSEND, PRESIDENT/CEO, ALOHA PARTNERS, LP

Mr. TOWNSEND. Thank you.

Good afternoon, Chairman Stevens, Co-Chairman Inouye, and members of the Committee.

My name is Charlie Townsend, and I'm President and Founder of Aloha Partners. I've been in the telecommunications industry for the past 25 years, and I have founded two cellular telephone companies, and been President of one cable TV company.

About 5 years ago, I concluded that wireless broadband business had the potential to be as successful as the cellular telephone business is today; however, the key to that success will be the spectrum that is used to deliver the service.

I believe that 700 megahertz is the optimum spectrum to deliver wireless broadband. As a result, I founded Aloha Partners in 2001, and was the largest buyer of licenses in the original 700 megahertz auction. Aloha has invested over $100 million in 700 megahertz licenses. It is now the largest 700 megahertz licensee, holding licenses that cover over 175 million people, roughly 60 percent of the United States.

Aloha has been actively evaluating potential uses for 700 megahertz spectrum for the past 3 years, and is planning on launching several market trials in the next 12 months. Aloha has also been approached by a number of Fortune 500 companies about potential joint ventures and uses of the spectrum.

As a result, Aloha is in a unique position to provide the Committee with information regarding potential uses of the 700 megahertz spectrum, who is likely to bid for the remaining licenses in the 700 megahertz auction, and what the benefits of the DTV transition are likely to be.

The DTV transition offers five major benefits for U.S. households. I will focus on two of them today:

The first is broadband. The United States is lagging behind other developed countries in broadband penetration. This is primarily due to two factors—the lack of availability of broadband in rural regions of the United States, and the lack of broadband competition in urban markets.

Last year, the Pew Charitable Trust conducted an extensive study of broadband in rural and urban markets. The study showed that 25 percent of all American homes only have access to one or no broadband providers. The study also showed that nearly one in three rural homes do not have access to any form of broadband.

Seven hundred megahertz frequencies have the potential to solve both of these problems, because 700 megahertz is the most cost-effective frequency available to provide wireless broadband service.

In addition to broadband, Aloha believes a number of Fortune 500 companies plan to use 700 megahertz for new wireless services. These companies fall into two groups: the companies planning to use 700 megahertz for WiMAX broadband technology and companies planning to use 700 megahertz for mobile TV. Aloha believes that the companies that will participate in the 700 megahertz auction include major cable companies, such as Comcast, Cox, and Time Warner. These companies recognize that they need a wireless product to bundle with their telephone and video offerings. Major ISPs like AOL, AT&T, and Covad recognize that they can no longer rely on the Bell operating companies to deliver their broadband product, and they will need 700 megahertz spectrum to bridge the last mile.

Aloha believes that a second group of bidders is interested in offering mobile TV and mobile music. Most major entertainment companies are likely to recognize that mobile TV and music services will be the next major growth industry in the entertainment business. As a result, potential bidders may include companies like Sony, Disney, and Time Warner that will want to control the technology and method of distribution for this market.

However, it is important to appreciate that all of these companies recognize that time-to-market is critical for their success. At present, it appears that the remaining 60 megahertz of 700 megahertz spectrum will not be available for another 3 years. Any further delay in getting to market is likely to influence their willingness to participate in the auction, or pay significant sums for the spectrum.

In conclusion, Aloha has been fortunate to purchase a large block of 700 megahertz and be exposed to many opportunities to use 700 megahertz, for wireless broadband, and mobile TV and music services. Aloha is prepared to bid on additional 700 megahertz licenses as soon as they are available. Aloha urges this Senate Commerce Committee to accelerate the DTV transition so that these additional services may be available.

Thank you.

[The prepared statement of Mr. Townsend follows:]

PREPARED STATEMENT OF CHARLES C. TOWNSEND, PRESIDENT, ALOHA PARTNERS, LP

My name is Charlie Townsend, and I am the President and Founder of Aloha Partners. I have been in the telecommunications industry for the past 25 years, and have been President of three cellular companies and one cable TV company. I founded, expanded and eventually sold two of the three cellular companies. About 5 years ago, I concluded that the wireless broadband business had the potential to be as successful as the cellular telephone business is today. However, the key to that success will be the spectrum that is used to deliver the service. I believe that 700 MHz is the optimum spectrum to deliver wireless broadband. As a result, I founded Aloha Partners in 2001, and was the largest buyer of licenses in the original 700 MHz auction.

Aloha's Perspective

Aloha has invested over $100 million in 700 MHz licenses. It is now the largest 700 MHz licensee, holding licenses that cover over 175 million people, roughly 60 percent of the United States population.

Aloha has been actively evaluating potential uses for 700 MHz spectrum for the past 3 years, and is planning on launching several market trials in the next twelve months. Aloha also has been approached by a number of Fortune 500 companies about potential joint ventures and uses of its spectrum.

As a result, Aloha is in a unique position to provide this Committee with information regarding potential uses of 700 MHz spectrum; who is likely to bid for the remaining licenses in the 700 MHz auction; and what the benefits of the DTV Transition are likely to be.

The DTV Transition offers five major benefits for U.S. households:

(1) Better Television Picture Quality
(2) More Broadband Competition
(3) New Wireless Services
(4) Better Emergency Communications
(5) Value to the U.S. Economy

Better Television Picture Quality

Nearly 10 years ago, the Senate passed the original DTV legislation. You envisioned that consumers would receive better picture quality and more channels. That vision is as true today as it was a decade ago. Digital TV will significantly improve television pictures for everyone . . . not just for those who have digital TV sets. Digital TV signals are less affected by interference than analog signals and usually provide clearer pictures than traditional analog reception. Digital signals eliminate the ghosting and snow that many over-the-air households currently experience. Most people have focused on the benefits that people with new digital sets and high definition sets will receive. These newer television sets are primarily in cable and satellite homes. Little attention has been focused on the significant improvement that will be seen on analog sets in over-the-air homes. I would like to focus on the benefits that people with analog over-the-air sets will receive. Last week, I personally visited Motorola's office here in Washington, and was able to see a demonstration of their latest digital set-top box. This allowed me to compare what a DTV signal looks like when you use a converter for your analog over-the-air television. Motorola showed side-by-side comparisons of the current over-the-air analog picture and the new over-the-air digital picture when seen on an analog set. I am glad to report that I did not need an electrical engineering degree to tell the difference. While I am not a technical expert on television picture quality, I would say there was a significant improvement in the digital signal viewed on the analog set, probably a 25–50 percent improvement. Not only was the picture quality more vivid and bright with the digital Over-The-Air picture, but the snow and picture fade that I could see on the analog television set was absent from the digital picture. My conclusion was that if you can give everyone access to those new digital signals, you are going to have a lot of very happy Over-The-Air television viewers out there.

More Broadband Competition

Broadband has the potential to be one of this country's key economic engines for the next 10 years. Unfortunately, the United States is falling behind countries like China, Japan, Korea, and even Iceland, with respect to broadband. This is due in considerable part to two factors: the lack of availability of broadband in rural regions of the U.S., and the lack of broadband competition in urban markets. Last year, the Pew Charitable Trust conducted an extensive study of broadband in rural and urban areas. That study showed that 25 percent of all American homes only have access to one or no broadband providers. The study also showed that nearly one in three rural homes do not have access to any form of broadband. 700 MHz frequencies have the potential to solve both of these problems; because 700 MHz is the most cost-effective frequency available to provide wireless broadband.

Studies have consistently shown that 700 MHz can provide broadband service in rural areas at half to one third the cost of the 1900 MHz personal communications services frequencies used by the cellular carriers (see Attachment). 700 MHz can provide broadband services in rural areas at one fourth to one sixth the cost of the 2400 MHz WiFi and MMDS (now BRS) frequencies used by unlicensed owners and by companies such as Sprint and Nextel. 700 MHz has the advantage of traveling further and being able to penetrate walls, dense foliage, and other obstructions without the deterioration of signal experienced with either 1900 MHz or 2400 MHz wireless transmissions. These features make 700 MHz the ideal frequency for providing wireless broadband in both rural and urban markets. Not only can 700 MHz be used to provide high-speed Internet access, but it can also offer low-cost VoIP service for voice customers. What this means is that rural areas that were previously "unreachable" can now get broadband service on an affordable basis.

The Digital Divide Can Be Closed

America has always been a land of opportunity. However, the advancements in Internet access have not made those opportunities available to everyone. Late last year, the NTIA announced results of an additional study of broadband in rural and urban areas. The NTIA findings were very similar to those in the Pew Internet study. NTIA concluded, however, that differences in broadband penetration are due not to lack of *interest* in broadband, but rather to lack of broadband *availability* in rural areas. Almost one out of four homes in rural areas have no access to broadband service, compared to urban areas where 95 percent of homes can get at least one broadband provider. The NTIA concluded that wireless technologies using frequencies like 700 MHz "are better suited at present than cable or DSL for providing high-speed Internet access in areas whose population density is low." In essence, broadband has created two groups of households: the haves and the have-nots. The 700 MHz spectrum can close that gap.

The Rural Paradox

Some broadcasters have portrayed rural areas as having the most to lose in the DTV transition. Paradoxically, rural areas are likely to lose the least and gain the most from the DTV transition. Compared to urban areas, rural areas will likely face fewer transition issues because cable and satellite service penetration rates already are high, and rising, in rural areas. At the same time, broadband availability is low and unlikely to rise unless 700 MHz spectrum is freed-up for this purpose.

For example, Montana has an estimated 86 percent of its homes covered by satellite and cable. That leaves about 50,000 of the households that are receiving TV Over-The-Air and potentially in need of assistance to complete the transition. On the other hand, more than 175,000 households are estimated to be unable to receive broadband because they live in low-density areas. In other words, the number of households in Montana that are being deprived of broadband is over three times as large as the number of households that may be affected by the DTV transition. Montana is not an isolated case. A number of states represented on this committee face the same situation: Arkansas, Louisiana, Maine, Mississippi, Nebraska, North Dakota, South Carolina, Virginia, and West Virginia. The beauty of the DTV transition is that these states will be the biggest beneficiaries of the transition; because the DTV transition not only will solve their broadband problem, but also will deliver better TV reception to Over-The-Air households in the process.

Aloha Introductory Markets

Aloha plans to conduct several trial markets to demonstrate the 700 MHz benefits for wireless broadband. Later this year, Aloha will launch a trial in Tucson, Arizona, to demonstrate the 700 MHz coverage advantages in both rural and urban areas. In the first half of 2006, Aloha will launch a trial in a top 20 market to demonstrate how public safety groups and commercial broadband can be combined on the same network and integrated together.

New Wireless Services

Based on discussions Aloha has had with a number of Fortune 500 companies, Aloha expects the 700 MHZ auction to be highly competitive. Aloha believes that these companies plan to use 700 MHz for a number of new wireless services. The potential bidders probably will fall into two groups: (1) companies planning to use 700 MHz for WiMax broadband technology and (2) companies planning to use 700 MHz for Mobile TV.

Aloha believes that the companies that may participate in the 700 MHz auction include major cable companies like Comcast, Cox, and Time Warner. These companies recognize that they need a wireless product to bundle with their telephone and video offerings. Major ISPs like AOL, AT&T, and Covad recognize that they can no longer rely on the Bell operating companies to deliver their broadband product and that they will need 700 MHz spectrum to bridge the last mile. Large satellite companies like EchoStar and DIRECTV and wireless operators like T-Mobile, Alltel, and Clearwire also will be interested in using 700 MHz WiMax to compete in both the data and VoIP markets.

Aloha believes that the second group of bidders is interested in offering Mobile TV and Mobile Music. Qualcomm already owns some 700 MHz spectrum and has announced an $800 million commitment to roll out Mobile TV and Music services nationwide. Crown Castle also owns spectrum and plans to roll out Mobile TV and Music services in major markets next year. Major entertainment companies are likely to recognize that mobile TV and music services will be the next major growth opportunity in the media entertainment business. As a result, potential bidders may

include companies like Sony, Disney, and Time Warner that will want to control the technology and method of distribution for this new market.

However, it is important to appreciate that all of these companies recognize that "time-to-market" is critical for their success. At present, it appears that the remaining 60 MHz of 700 MHz spectrum will not be available for another 3 years. Any further delay in getting to market is likely to influence their willingness to participate in the auction or pay significant sums for the spectrum.

Better Emergency Communications

Many people have discussed the value that 700 MHz can bring public safety through voice communications and low-speed data. However, there are also some significant benefits that can come from 700 MHz high-speed Internet access as well. Police can compare on-line finger prints and watch videos real-time to monitor emergency situations. Fire Departments can view schematics of buildings and hazardous material locations while at the scene of a fire. And EMTs can transmit EKGs and send videos of injuries from the location of the emergency.

Value to U.S. Economy Is Significant

Aloha has estimated in previous filings with the House Commerce Committee that the remaining 700 MHz spectrum could generate between $20 to $30 billion for the U.S. Treasury if an auction were held in the near future. Since that filing, a number of noted economists have indicated that the benefits to the U.S. economy should not be viewed solely in terms of one-time auction revenues, but also in terms of broader economic potential. Coleman Bazelon, noted economist and Vice President of the Analysis Group, has estimated that the 700 MHz spectrum could generate up to $475 billion in benefits to the U.S. economy.

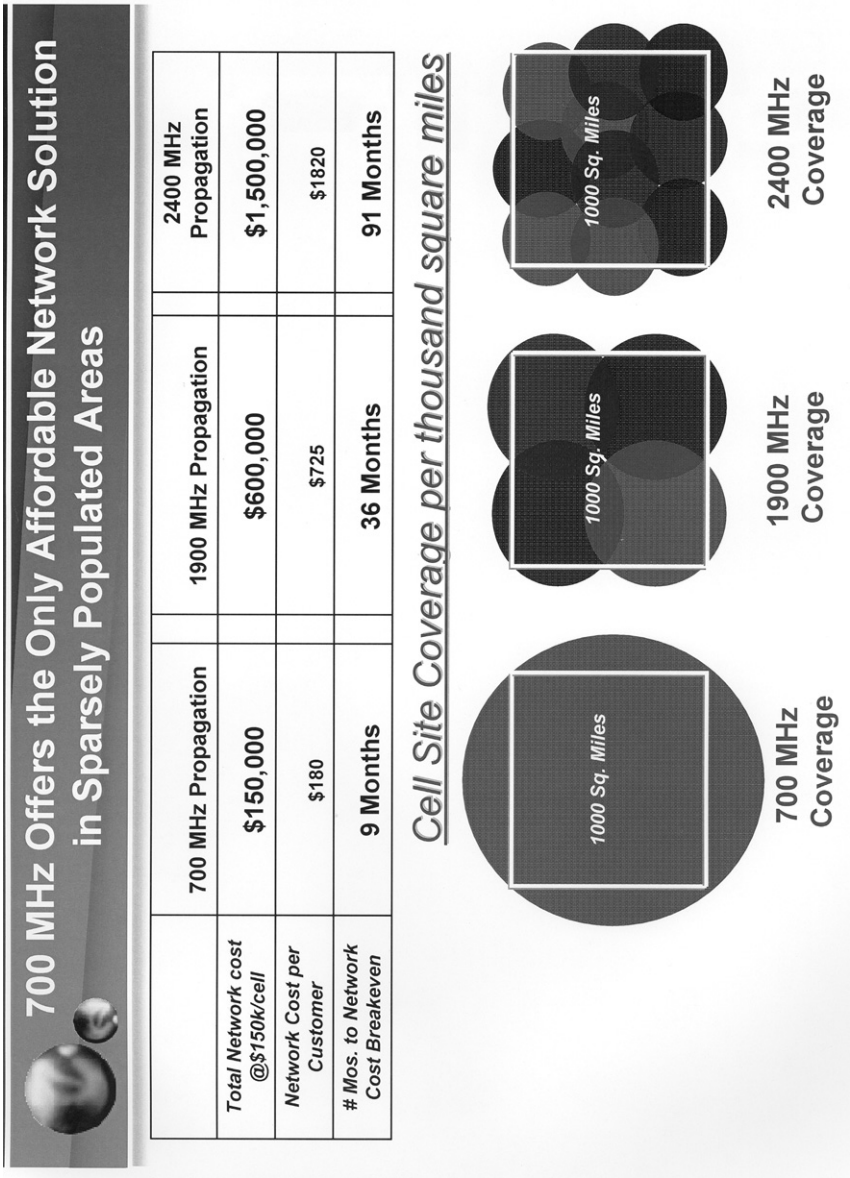
The Sooner the 700 MHz Auction the Better

There has been some discussion that delaying the 700 MHz auction may be beneficial. However, it is unclear to me who will benefit from any further delays. The sooner the spectrum is auctioned:

1. The sooner millions of U.S. television viewers will see significantly improved pictures.
2. The sooner there will be additional broadband competition in urban and rural markets.
3. The sooner new wireless services will be available throughout the country.
4. The sooner emergency communications will be improved.
5. The sooner the U.S. economy will generate up to $475 billion in economic benefits.

Conclusions

Aloha has been fortunate to purchase a large block of 700 MHz, and be exposed to many opportunities to use 700 MHz for Wireless Broadband and Mobile TV and Music services. Aloha is prepared to bid on additional 700 MHz licenses as soon as they are available. The United States economy, TV households, rural communities, and first responders will all be direct beneficiaries of the auction of 700 MHz spectrum. Aloha urges the Senate Commerce Committee to accelerate the DTV transition so that these benefits will be realized sooner rather than later.



	700 MHz Propagation	1900 MHz Propagation	2400 MHz Propagation
Total Network cost @$150k/cell	**$150,000**	**$600,000**	**$1,500,000**
Network Cost per Customer	$180	$725	$1820
# Mos. to Network Cost Breakeven	**9 Months**	**36 Months**	**91 Months**

The CHAIRMAN. Thank you very much.

The next witness is Mr. Gene Kimmelman, Senior Director of Public Policy and Advocacy at the Consumers Union.

STATEMENT OF GENE KIMMELMAN, SENIOR DIRECTOR OF PUBLIC POLICY AND ADVOCACY, CONSUMERS UNION; ON BEHALF OF CONSUMERS UNION AND CONSUMER FEDERATION OF AMERICA

Mr. KIMMELMAN. Thank you, Mr. Chairman, Co-Chairman Inouye, members of the Committee. On behalf of Consumers Union, the print and online publisher of *Consumer Reports,* we appreciate the opportunity to testify today. We totally concur with the notion that it is time for more spectrum to be made available for public safety, and endorse your desires to free up the analog spectrum that broadcasters have been using. But I want to spend a few minutes with you walking through, in practical terms, what it means for consumers.

You heard the back and forth between the cable and broadcast industry earlier today as to how the market could or should work. This is a funny market for consumers. As the Committee well knows, this is one of those markets where more players come in, there's more technology than ever before, and prices keep going up and up, and it doesn't quite seem to work the way competition is supposed to.

So, what happens here with people's TVs? Well, by our surveying we find that there still are at least 15 percent of American consuming households that just rely on over-the-air television. I think most surveys show similar numbers. More than 16 million households get their television service over-the-air. When you cutoff the analog signal, those television sets will not work.

But that's not the whole story. In asking consumers who get cable and satellite whether they also have television sets that are not hooked up to those services, we find that there are as many as 45 million additional sets that consumers say are not used for DVDs, are not used to play games, that are used to receive over-the-air signals, in addition to their cable and satellite hookups. Those analog sets will also go black after this transition. And we find, as you well know, most consumers don't just have one television set; on average, they have at least two.

So, what's the issue for consumers? Well, these are all folks who went out and bought a television, where the retailers told them, manufacturers told them, "It will work. It'll receive over-the-air signals." They have a full expectation that every dollar they spent on those sets would get them over-the-air signals.

If you transition, give back analog spectrum for a very worthy cause, for public safety and for more competition, those people are left in the dark without a converter box, like Mr. Kennedy is showing you. Who pays?

Well, there obviously are concerns here for low-income consumers, people of limited resources. There are concerns in rural areas, where television service may be more important than anywhere else. And we believe those people ought to be held harmless. But think about it for a minute. Why should anyone—anyone, regardless of income—have to pay just to keep their television set working, particularly in an area where we're talking about freeing up spectrum to auction off, as Mr. Townsend indicates, to many highly well-financed commercial entities that want to enter the market, provide new services, and that will be bringing in revenue

for the Federal Treasury? Why not use those proceeds, the first dollars available from those auctions, to ensure that consumers are not worse off as a result of this transition? Let's make sure that people's TV sets keep working. And let's also make sure that what we get out of this truly is a benefit to the public.

Mr. Townsend indicates a wonderful new development, more competition in the broadband area—we welcome that, but we also note that, in the other part of this marketplace, we've had enormous consolidation. SBC buying AT&T, Verizon buying MCI. We see very few options, as Mr. Townsend pointed out, for broadband service, and a great need, particularly for rural and lower-income people. Wireless broadband offers a possibility of prices as much as 50 percent lower than many of the offerings we're seeing in the marketplace today, from cable modem service, from the Bell companies with their DSL services. It's critical that, if you move to free up this spectrum and put it out to auction, that we not allow the largest companies that currently dominate the market to dominate it even further.

And, finally, with all this spectrum available and the important needs of broadband, we urge you to consider really creating an open space, some unlicensed area where new players can come in using new technologies—WiFi mesh networks—to bring us more choices, more competition. The competition you heard about this morning between broadcasters and cable is a funny kind of competition. It's over numbers of channels on the system, it's over ad revenue.

Senator Ensign, you pointed out that consumers ought to be able to pick the winners and losers. I'm totally with you on that. Consumers all want that. The problem is, cable companies decide what channels go on their systems. Consumers don't decide what channels go on. Broadcasters decide what cable channels they're going to bundle with their broadcast channels and pressure cable companies to either take them or leave them. Broadcasters offer a wonderful local service, but do you realize that half of all broadcasters in this country don't even do local news? Do not even produce local news? There are a lot of problems in what cable and broadcast are offering. I leave it to you to pick the winners and losers there. What's important for consumers is to have—to win by having more choices in the marketplace.

So, we urge you, as you go through this transition and bring back spectrum, please hold consumers harmless, and please devise rules so that we end up with more players, more competition, and, hopefully, more broadband available so that consumers get better services at lower prices.

Thank you.

[The prepared statement of Mr. Kimmelman follows:]

PREPARED STATEMENT OF GENE KIMMELMAN, SENIOR DIRECTOR OF PUBLIC POLICY AND ADVOCACY, CONSUMERS UNION; ON BEHALF OF CONSUMERS UNION AND CONSUMER FEDERATION OF AMERICA

Consumers Union[1] and Consumer Federation of America[2] appreciate the opportunity to testify on the transition from analog to digital television. The digital transition, as envisioned by the 1996 Telecommunications Act, has failed, requiring additional Congressional action. That legislation will determine whether the transition to digital television will ultimately benefit American consumers with more programming and telecommunications choices, or whether it will impose billions in direct costs on consumers and exacerbate concentration in telecommunications markets.

To ensure the outcome is the former not the latter, any legislation that this Committee takes up on the digital transition must:

- Ensure that consumers do not bear the direct costs of the transition, which are estimated to be $3.5 billion or more, or suffer from the loss of television signals they rightfully expect to receive;
- Promote market competition, rather than consolidation, through appropriate allocation of the 108 MHz of returned spectrum to new entrants and smaller existing market players, particularly in the area of broadband wireless;
- Promote unlicensed, or open-market, use of spectrum by both commercial and noncommercial entities of a portion of either the reclaimed or digital spectrum to promote competition, foster advanced communications services, and bridge the digital divide by promoting universal, affordable access to broadband Internet; and
- Prevent further concentration of local media markets by addressing ownership restrictions for dominant local broadcast outlets in the post-transition, digital environment.

We look forward to working with members of the Committee to ensure that any legislation on the digital television transition incorporates these core consumer provisions. We elaborate on these critical needs below.

Hold Consumers Harmless

Consumers buy televisions with the reasonable expectation that they will be able to receive free over-the-air television broadcasts over the life of their televisions. And that life can be substantial. Research from *Consumer Reports* shows that televisions are the workhorses of consumer electronics: they last for decades. Even today, as Congress focuses on a hard digital television transition date, millions of consumers are buying new analog sets on the assumption they will work for years to come. A federally mandated transition to digital turns that assumption on its head: for consumers relying on over-the-air broadcasts, their sets will be useless for their primary purpose.

An artificial, government-imposed mandatory transition to broadcasting solely using digital signals will create, at a minimum, a monumental inconvenience for consumers who will be forced to purchase a costly converter box to ensure their televisions will keep working. And if Congress gets this wrong, the transition will not merely inconvenience consumers, which is nuisance enough, it will impose on them direct costs of $3.5 billion or more.

Therefore, any conversion to digital television must ensure that the analog sets now in use will continue to function after the transition without imposing additional costs on consumers.

The number of consumers that could be left in the dark by the digital transition is substantial. New consumer research conducted by Consumers Union and the Con-

[1] Consumers Union is a nonprofit membership organization chartered in 1936, under the laws of the State of New York to provide consumers with information, education and counsel about goods, services, health and personal finances, and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is solely derived from the sale of *Consumer Reports,* its other publications and from noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports* with more than 5 million paid circulation, regularly, carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

[2] The Consumer Federation of America is the Nation's largest consumer advocacy group, composed of over 280 state and local affiliates representing consumer, senior citizen, low-income, labor, farm, public power, and cooperative organizations, with more than 50 million individual members.

sumer Federation of America[3] shows that about four in ten American households, or about 42 million households, continue to rely on about 80 million over-the-air televisions (OTA-only sets) for some or all of their television viewing. Given very low sales of digital-ready televisions in recent years, virtually all of these sets are likely to be capable of receiving only analog signals.

Of the 42 million households with OTA-only sets, about 16 million rely *solely* on about 35 million over-the-air televisions to watch television programming. The remaining 26 million households with OTA-only sets are those that subscribe to cable and satellite services, but also rely on up to an additional 45 million OTA-only sets—those not connected to the subscription service but used for over-the-air broadcast program viewing. These are sets that are used, for example, in the kids' rooms, the kitchen, the home office, and so forth. For cable/satellite households, our estimates explicitly excluded unconnected sets that were NOT used at all for broadcast viewing.

We present these estimates not as exact numbers of households and analog sets directly affected by the transition, but rather as an indicator of what the "real" numbers are likely to be. There has been substantial confusion over the number of over-the-air reliant households to which Congress will need to provide compensation for the costs of converter boxes required to keep their otherwise fully functional TV sets working. At the high-end were estimates by the National Association of Broadcasters and the Government Accountability Office that found 73 million over-the-air sets in use. At the low-end were estimates by the Consumer Electronics Association that found only 33 million such sets. Based on our research, we believe the latter estimate dramatically understates the number of over-the-air reliant sets, and that the NAB/GAO estimates are more likely in-line with reality. Even after adjusting the NAB estimates by different assumptions, such as the number of sets per households, 65 million represents the lower bound estimate of the number of OTA sets in American households.

As Congress considers whether and how much to compensate consumers for the costs imposed on them by the government-mandated transition, CU and CFA believe it should allocate proceeds from the auction of reclaimed spectrum to a compensation program in an amount which reflects the number of OTA-only sets and OTA-only households at the highe- end of estimates provided to date. Relying on lower estimates could lead Congress to understate the number of households affected, the total costs to consumers and the level of the compensation necessary to hold consumers harmless from the Congressionally-mandated transition to digital television.

Based on higher estimates of OTA-only sets and the GAO's estimate of a cost of $50 per converter box, the federally-imposed, mandatory transition to digital TV could impose costs of $3.5 billion or more on consumers just to keep their sets working.

As shocking as these aggregate numbers are, the costs to individual households will likewise by substantial. The digital conversion effectively increases the cost of television sets consumers have already purchased. According to the Consumer Electronics Association, a 25-inch television—the most popular set—sells, on average, for about $200. A $50 converter box effectively increases the cost of that set by 25 percent. The costs of smaller sets selling for $100 would effectively increase by 50 percent. Given that, according to both our estimates and those of the GAO, the average over-the-air household has two televisions, the costs for them are double—effectively a consumer tax of $100 or more just to facilitate a transition that benefits broadcasters, equipment makers, retailers, and other industry players.

While we support proposals that attempt to hold cable and satellite subscribers harmless by providing for down-conversion of digital signals, down-conversion does not address unconnected analog sets in cable and satellite subscriber-households. As noted above, the some 25 million households that fall into this category have reasonable expectations that those sets will continue to work. These households, as well as those that rely solely on over-the-air programming, should be compensated for the costs of the converter boxes required to keep these sets working.

We hope Congress agrees that this is an unacceptable cost for consumers to bear, regardless of their income, just to be able to view over-the-air broadcasts their sets used to receive.

Therefore, we urge Congress to establish and fully fund a program that will compensate *all* households that continue to rely on over-the-air sets for the full costs of digital-to-analog converter boxes required to keep sets functioning. Even using the conservative estimate of spectrum auction revenue of $10 billion that the digital

[3] Attachment A, Estimating Consumer Costs of a federally Mandated Digital TV Transition. June 29, 2005, Consumer Federation of America/Consumers Union.

transition facilitates, the Committee would be able to both meet its budget reconciliation obligations and fully compensate all households with over-the-air reliant sets for the costs of converter boxes.

This principle is not new to Congress. The Commercial Spectrum Enhancement Act (CSEA), enacted in 2003, has been instrumental in encouraging the development of new uses for spectrum. But that law also stipulates that auction proceeds must cover 110 percent of the costs of relocation. For DTV transition legislation, the Committee therefore should adopt a principle similar to that embodied in the CSEA. Consumers have not demanded or driven this transition, which largely benefits others, and they should not be asked to bear its costs. According to the New America Foundation, sales of televisions with digital broadcast tuners represented just 4 percent of all televisions sales in 2004, suggesting consumer demand for digitally broadcast television is quite small. Indeed, the transition largely benefits other parties: the broadcasters who requested the transition in the first place; the electronics manufacturing industry which will sell millions of converter boxes and expensive digital televisions; and the dominant telecommunications providers that seek licenses for the additional spectrum freed by the transition.

The digital transition may, if managed appropriately, provide significant public benefits. But, unquestionably, it will be viewed as an abject failure by consumers if they are forced to bear the costs of acquiring digital-to-analog converter boxes, or face the equally unpalatable alternative of losing access to over-the-air television.

Promote Market Competition With Licensed and Open-Market Spectrum

Congress has the unique and important opportunity during this transition to ensure that reclaimed spectrum will be used to facilitate robust competition in the broadband market—providing new opportunities for smaller companies, new market entrants, and other wireless providers to access valuable spectrum that will allow them to better serve their customers and effectively compete in the marketplace.

Statistics supplied by the Federal Communications Commission and JPMorgan show that the high-speed data marketplace is highly concentrated; in fact, it has become a cozy duopoly. Cable providers and telephone companies have each divided and conquered their markets, and don't compete against each other outside of their territories. As a result of weak competition, broadband penetration in the U.S. is proceeding at a slower rate than many other countries—the U.S. now ranks 16th in the world. Without competitive alternatives, broadband Internet access will remain a service available only to consumers in those markets deemed desirable by dominant providers—and then only at the high prices these monopoly providers demand. Rural and low income communities are left behind. Spectrum policies adopted as part of the digital transition can remedy the problem or exacerbate it.

A quick glance at the remaining alternatives demonstrates that it is up to Congress, through the spectrum policies it designs in any digital transition legislation, to provide new competitive opportunities in broadband:

- *Broadband-Over-Power-Lines (BPL) and community fiber-to-the-home (FTTH):* BPL is an exciting new technology that delivers broadband over a wire already available in nearly every home in the country—electrical wiring. Though its rollout has been limited to date, it offers significant potential for the delivery of affordable, high-speed Internet. Similarly, FTTH uses fiber initially laid by utilities for their own purposes, like meter-reading to deliver broadband services. In some communities, publicly owned utilities are offering high-speed Internet through BPL and FTTH. Unfortunately, despite the enormous potential for these technologies to facilitate universal broadband access, more than a dozen states have erected roadblocks—or even banned—communities and the utilities they own from providing these advanced services. These roadblocks—and Federal preemption efforts like those already introduced in the House of Representatives—could prevent BPL and FTTH from providing ubiquitous access to broadband Internet.
- *Wireless Broadband (WiFi):* WiFi, offered today by many by Wireless Internet Service Providers (WISPs) across many of America's cities and towns, uses a limited band of unlicensed, or open-market spectrum that was originally allocated to it because no one else wanted this "junk band." WiFi is now relied upon by millions for their primary broadband connectivity, and millions more for secondary, mobile connectivity.

  Importantly, the costs of providing wireless broadband appear to be significantly lower than wired solutions, keeping costs to consumers affordable. Today, consumers enjoy wireless broadband services for as little as $15 per month—less than half the cost of most wired broadband services offered by telephone or cable companies. Those dominant providers also typically require consumers

to purchase bundled services—telephone or cable service—in order to receive broadband access, or charge much higher rates for unbundled broadband Internet.

WiFi is already an economic generator for thousands of small and mid-sized businesses that provide "hot spots" in places where people gather like coffeeshops, conference centers and airports. But companies, communities and nonprofits are also using WiFi to connect parks, neighborhoods, and even to entire cities and towns. NYCWireless, a New York nonprofit, provides affordable wireless service to Bryant Park in Midtown Manhattan. Now it's working with churches and community groups to provide service in Harlem neighborhoods and housing developments. Tribal Digital Village is a network of 18 tribal villages east of San Diego. It delivers high-speed Internet service to many community centers in their area, and uses the bandwidth for language preservation programs. It is currently developing a web portal that meets local needs. Tribal youth even train adults how to use the technology, benefiting everyone. The Alaska Marine Highway System, a project of the Department of Transportation uses WiFi to connect its ships to their network when they are at sea.

WiFi offers great promise for providing ubiquitous broadband access across the nation. This is particularly important for rural or underserved urban markets, where existing cable or DSL providers are not offering service. But equally important, wireless providers can offer an affordable competitive alternative to areas that have access only to a single high-priced, monopoly provider.

But the growth potential of this now $10 billion industry is limited because under current licensing schemes, WiFi is limited to the unlicensed 2.4 and 5 GHz bands—spectrum that does not allow signals to pass easily through obstacles, such as trees or walls. These bands are also extremely crowed; WiFi shares this spectrum with hundreds of consumer electronic devices. In order for wireless broadband to become an option for more Americans, providers need access to unlicensed low-frequency spectrum below 1 GHz—less crowded spectrum with propagation characteristics that allow it to travel though buildings, mountains, and other obstacles.

It is imperative that the American public is able to better utilize the two incredibly valuable, publicly owned blocks of spectrum, which today are under the near-exclusive control of the broadcasting industry at no-cost to them: the digital band below 698 MHz which broadcasters will retain; and the 700 MHz band, which will be reclaimed after the transition.

As part of the digital transition, Congress must ensure that both reclaimed and digital spectrum will be used to foster universal access to broadband and foster stronger market competition. We offer the following recommendations:

1. Promote Improved Competition Through Spectrum Auction Policy

If the merger between Sprint and Nextel is approved, just three companies will dominate the wireless industry. The owners of two of those wireless companies—Verizon Wireless and Cingular—are near-monopoly telephone companies that also dominate local and long-distance calling throughout the United States. Other, smaller wireless companies remain minor players that lack the spectrum needed to compete and match services over the long-term.

But if rights to the valuable spectrum that will be freed up by the transition are available only to the dominant wireless carriers as smaller players are priced out of the market, the auctions will only make a badly concentrated market even less competitive—undercutting quality-of-service, reducing choices, and inflating prices. Without the proper safeguards in place, Congress virtually ensures the auctioning of spectrum to dominant providers that already control the bulk of this concentrated market and who will be unlikely to offer more affordable wireless Internet services that compete with their wired offerings.

Newly available spectrum could be used for wireless broadband in rural and urban communities. Even licensed options could be new alternatives to the incumbents for high-speed Internet access. The Congress should ensure that of the estimated 60 MHz to be returned and offered at auction, adequate spectrum is set aside for auction to new market entrants and small existing players. Doing so will put pressure on the largest market players to compete, resulting in lower consumer prices, higher quality, and expanded choices.

2. Promote Universal Access to Broadband by Allocating Spectrum for Unlicensed Use

Congress also has a unique opportunity during the transition to use portions of the returned spectrum to grow unlicensed, or open-market, uses of spectrum. Open-

market spectrum expands the ability of ordinary citizens to use and share the public airwaves. But the potential to further expand the ability of people to use their airwaves is constrained by relegating unlicensed use to higher-frequency "junk bands."

As noted above, the "junk bands" were given this moniker precisely because the signals that can be transmitted at these frequencies are limited—they do not pass easily through walls or trees like TV signals do. And many other devices—like garage door openers, microwaves, and cordless phones—use the same space.

If the principle of sharing the spectrum in a non-interfering manner is extended to portions of lower frequency spectrum below 1 GHz, the potential to deliver wireless broadband and other communications services at lower costs will expand dramatically. Congress can and should expand the space in which the unlicensed or noncommercial use of the airwaves is encouraged and allowed. It can do so in following ways:

- First, it should set aside a portion of the reclaimed spectrum to be dedicated for unlicensed use. A set-aside of 18 to 20 MHz of recovered spectrum on a nationwide basis would open adequate space to promote unlicensed uses.
- Second, it can set aside a small part of the digital spectrum for unlicensed use by allowing non-interfering use of white spaces, or through appropriate assignment of new digital channels. Congress cannot ignore the fact that the digital spectrum is the largest part of the spectrum made available to private entities not subject to auction.[4] With the windfall provided to broadcasters in the 6 MHz they will be allowed to retain, broadcasters will be able to provide six or more digital channels—far more than ever anticipated when Congress enacted the 1996 Telecommunications Act—where they previously offered one.

  Fortunately, the digital spectrum can be allocated in a manner that enables broadcasters to offer a full slate of digital multicasts while leaving enough room for unlicensed wireless Internet services in these low frequency bands;

  These proposals for unlicensed use of the digital bands could be particularly effective in encouraging wireless broadband deployment in rural areas where more white space is available and fewer channels are occupied. Under current rules and proceedings, the Federal Communications Commission has moved only haltingly to expand the non-interfering uses of the spectrum. A clear public policy promoting the non-interfering use of spectrum would speed the process along, and allow unlicensed sharing of spectrum to advance much more rapidly.

The unlicensed use of even a small portion of newly available spectrum would provide untold public benefits. Among many, the most notable is the opportunity to support expansion of community wireless Internet services, offering perhaps the first meaningful opportunity for bridging the digital divide that has confounded policymakers for more than a decade.

Address Media Ownership

At a time when concerns about competition, cost, and diversity of programming have prompted a revisiting of media ownership rules, the DTV transition could worsen the problem in local markets. Congress should not ignore the serious implications digital transmission has on media concentration.

We have significant concerns about the power provided to local news companies that already own and control local newspapers and radio stations being provided with the capacity to offer six or more digital channels where they previously offered one.

Though all local broadcasters will receive the same new digital capacity, they cannot all take equal advantage of it. Only a few stations in any market currently produce or offer local news. Those that do will gain even more market control in a multicast digital environment.

A Consumers Union/Consumer Federation of America study of station ownership between 1975 and 2000, found that the number of television station owners fell from 540 to 360, and the overall number of stations rose. But the number of TV newsrooms declined during this same period. In fact, only half of all broadcast TV stations provide news. Stations with newsrooms, particularly those affiliated with large news conglomerates, will be better able to utilize the additional digital capacity, dominating local news carriage, reducing diversity of news and information, and increasing the volume and impact of a single owner's voice in the news marketplace in their community.

[4] Certain parts of the spectrum have been set aside or assigned for public governmental uses, like defense, safety and education, and not subject to auction. The original cellular licenses were also given to licensees.

To address this problem, Congress should:

- prevent broadcasters from holding two television licenses in a community; and
- prevent television broadcasters from also owning a daily newspaper in the same market.

In 2003, millions of Americans, a bipartisan coalition from the House, a majority of the Senate, and leaders from both parties raised concerns about media conglomerates owning two stations in most markets, or three stations in the largest ones. Unless Congress acts to prevent it, the digital transition has the very real potential to substantially increase the ability of a few broadcast giants to dominate local news markets nationwide.

Serving the Public Interest

In exchange for the privilege of free and exclusive use of the public airwaves, broadcasters must serve the "public interest, convenience and necessity" through the fulfillment of public interest obligations, such as the provision of educational, civic, political, and other programming. Among many shortcomings of these obligations, however, has been the ability of the broadcasters themselves to define what constitutes programming in the public interest. In addition, compliance with overly vague obligations is difficult both to verify and enforce. In short, these obligations have failed to serve the public.

The FCC should hold broadcasters accountable for their public interest obligations, both now and after the DTV transition, preferably through quantifiable and enforceable requirements. These are worthy goals and they should be met. However, given the historical and inevitable shortcomings of these obligations, improvements to the public interest obligation in any digital transition legislation will be insufficient to adequately serve the public interest.

Such provisions are neither an effective nor equivalent substitute for legislative requirements allocating spectrum to promote market competition and unlicensed use for requirements allocating a portion of retained spectrum for independent local news, information, or entertainment programming. Setting aside a portion of the airwaves for unlicensed, open use would expand the ability of people to speak with electronic voices in a manner the promotes free speech rights more dramatically than any single act Congress has taken since exclusive licenses were introduced.

There is little debate that, to date, the imposition of vague obligations on broadcasters has failed the public interest. In order to meet public needs, Congress must address the critical competitive, diversity, and ownership concentration issues we have raised in our testimony through the effective, equitable, and appropriate allocation of one of the most valuable publicly owned resources—radio spectrum. If Congress takes these steps, it will provide far more meaningful public benefits than any improvement to public interest obligations can offer.

Summary

Consumers will not thank Congress for digital television if it also means they have Congress to thank for the cost of inconvenience, of paying for converter boxes out of their own pockets, or the higher prices of new TVs, computers, or equipment to integrate their home entertainment systems. The enormous costs of the digital transition should be paid for by the ample proceeds generated by the auction of reclaimed spectrum, and by the many industry players that will profit from this transition.

Digital television is a positive technology that has the potential to benefit consumers and the public as a whole. But that potential can only be realized through the appropriate spectrum policies adopted as part of the transition that promote competition and innovation in the telecommunications market that will lower prices, improve service, and expand choices for consumers.

We look forward to working with the Committee in stimulating a rapid transition to digital television broadcasting and to craft legislation that will resolve these important issues for both consumers and affected industries.

The CHAIRMAN. The witness who should have spoken before Mr. Kimmelman is Mr. Gary Shapiro, President and CEO of the Consumer Electronics Association. My apology. Could you tell us, before you start, before we turn on the light, what is the Consumer Electronics Association?

STATEMENT OF GARY J. SHAPIRO, PRESIDENT/CEO, CONSUMER ELECTRONICS ASSOCIATION (CEA)

Mr. SHAPIRO. The Consumer Electronics Association is a national trade association of some 2,000 technology companies. Many of your colleagues have seen us best at the International Consumer Electronics Show in Las Vegas, Nevada, the world's largest technology show—in the world's best trade-show location, too, I might add.

[Laughter.]

Mr. SHAPIRO. These are the PC-makers, the digital television, cellular telephone—these are the companies that have driven the economy, driven technology. We also have retailers as members, as well, and these are the companies which are bringing the future.

The CHAIRMAN. Are these manufacturers?

Mr. SHAPIRO. Manufacturers, retailers and integrators, distributors. Mostly manufacturers, overwhelmingly. The large and small mom-and-pop manufacturers all over the country——

The CHAIRMAN. Any TV manufacturers——

Mr. SHAPIRO. Almost every TV-maker. To be a member, you must be a U.S. company with U.S. presence of some type. You might be—a few of them are overseas-headquartered, but they have U.S. facilities. But, overwhelmingly, they are U.S.-owned-and-operated companies.

The CHAIRMAN. But do they manufacture here?

Mr. SHAPIRO. Yes. We have—we employ, in the consumer electronics industry, probably almost two million people indirectly, directly, several hundred thousand.

The CHAIRMAN. Well, thank you.

Mr. SHAPIRO. It's a much larger industry than broadcasting, actually.

The CHAIRMAN. Thank you. Start the clock. Thank you. My apology.

Mr. SHAPIRO. Well, thank you very much, Chairman Stevens. Thank you, Co-Chairman Inouye and members of the Committee.

We support, as a trade association, our 2,000 member companies, a hard deadline to the end of analog broadcasting. That will bring the certainty we will need. It'll be a win-win situation for all stakeholders. It'll allow manufacturers and retailers to label analog products. And, of course, it will foster innovation. And, as we heard, it will strengthen our national security.

Now, thanks to great products, great content, intense competition, and, quite frankly, falling prices, digital television sales are setting records virtually every quarter. If Congress sets a hard deadline, we expect to have sold 97 million digital television tuners by 2009, and we estimate that, by that date, we'll have digital television tuners in 86 percent of American homes.

Of course, the digital television is succeeding, the transition is succeeding, because consumers are learning about digital television. We've run some award-winning promotional efforts. We've done lots of things to inform consumers about this great product. But we support the consensus on a late-2008 hard cut-off date. And with a hard deadline, stations will know what to broadcast, manufacturers and retailers will know what to make and to stock, and consumers will know what to buy. The stakes are very high here.

And, of course, we recognize the concerns that Mr. Kimmelman expressed, about disenfranchising consumers. But, indeed, the data shows that the number of consumers in the category has been somewhat exaggerated.

If there's any doubt about this, consider the total lack of outcry when it was announced that NFL Monday Night Football will not be broadcast free over-the-air; in the future, it will only be cable or satellite. No articles were written. No consumer complaints were received. Indeed, nearly 87 percent of American TV homes now receive their broadcast programming via cable or satellite. Furthermore, only 37.7 million of the 285 million television sets used in the U.S. are used to view over-the-air programming. That's only 11 and a half percent of the TV sets are even using an antenna now to get over-the-air programming. This means that if analog ceased tomorrow, less than 13 percent of the population would not have access to a broadcast signal.

And, in those homes that do have cable or satellite, we've asked them, we've surveyed them. What did we find? Only 14 percent use an antenna on their second, third, or fourth television. And, of course, as we proceed toward the deadline, cable and satellite penetration will go up, and these numbers will diminish, in terms of the impact.

But what about the people that don't subscribe to cable or satellite? Our research shows that this population's decision not to subscribe to cable or satellite is not made, generally, for economic reasons. These are people for whom television is not a high priority. And three-quarters of these analog-only homes are willing to buy a new TV, buy a $50 decoder, or subscribe to cable or satellite. Some consumers will be affected by a hard date, and that's why we understand your interest in creating a program to allow consumers to have access to low-cost digital-to-analog converters.

The simple fact is that, while an analog broadcasting cutoff is important for our Nation, it will only have a small practical impact on the viewing habits of vast majority of Americans. And, for this reason, we commend you for your suggestion that analog broadcasting end by January 1, 2009.

Now, our primary goal, of course, is to make the DTV transition as consumer-friendly as possible, and that's why we support the hard cutoff date. But we are concerned about some proposals to accelerate the digital deadlines in a way that will harm consumers and create significant disruptions at retail. This would be unfortunate. Actually, government set these dates. The manufacturing and retail community relied upon these dates. And now we're being told that perhaps they should be accelerated aggressively for the 13- to 24-inch category, which is the lower-cost televisions. That would have an enormous impact on television reception devices. These are VCRs, DVDs, and digital video recorders. And it would dramatically increase—perhaps even double—the price of most affordable small-screen TV sets, or force manufacturers to now produce those models, rather than be in noncompliance. This would be an impact that consumers would see from this DTV transition. They'll walk in their store, and the lowest-priced TV sets have, all of a sudden, doubled in cost.

We urge the Committee to also address the important issue of signal degradation if the signal comes in through cable. And we ensure that the digital signal be carried under all circumstances. Where cable operators are carrying broadcast signals digitally, they should not be allowed to reduce the quality of the signal, or the sound quality, or eliminate program-related material. If a broadcaster is actually providing a full HDTV signal in Dolby digital surround-sound, then that is what HDTV owners who subscribe to cable should see and hear.

Of course, we look forward to working with you to bring about this glorious DTV transition to a successful and timely conclusion. Meanwhile, we'll continue our unprecedented efforts to educate consumers about digital television. And I, personally, pledge our CEA support and commitment working with you and other stakeholders, to ensure a speedy and consumer-friendly transition and a prompt return of the analog broadcast spectrum.

Thank you.

[The prepared statement of Mr. Shapiro follows:]

PREPARED STATEMENT OF GARY J. SHAPIRO, PRESIDENT/CEO, CONSUMER ELECTRONICS ASSOCIATION (CEA)

Chairman Stevens, Co-Chairman Inouye and members of the Committee:

Thank you for inviting me to discuss our Nation's progress in the transition to digital television (DTV), and the steps that should be taken to conclude the transition in the most beneficial and understandable manner.

I represent the Consumer Electronics Association (CEA), the principal U.S. trade association of the consumer electronics and information technology industries. CEA's 2,000 members include virtually every DTV manufacturer. Our members invented DTV, and we are thrilled by its astounding marketplace success. CEA also represents the cutting-edge information technology companies who will use the recovered analog broadcast spectrum to provide all Americans with innovative new wireless products and services.

CEA strongly supports the enactment of a hard deadline for the end of analog broadcasting. A hard deadline will bring certainty to the DTV transition. It will provide a "win-win" scenario for all stakeholders, while fostering innovation and strengthening homeland security and public safety. We urge you to include a hard analog cutoff date in any DTV legislation this committee considers.

DTV Sales Continue to Rapidly Increase

Our most recent sales figures show that the first 4 months of 2005 brought the greatest volume of DTV sales ever recorded, with 3 million DTV products accounting for $4.7 billion of consumer investment and contribution to the robust U.S. economy. This is a remarkable 45 percent increase in unit sales from the same time period in 2004.

More than 17 million DTV products have been sold since the first HDTV sets hit the market in the fourth quarter of 1998. Americans already have invested an astonishing $25 billion in DTV products. HDTV is the driver behind these phenomenal sales figures, with high-definition displays and receivers representing 85 percent of the DTV products sold to date.

Sales are being driven by the rapid price declines that are typical of our industry. DTV prices are 75 percent lower than they were 5 years ago and are still declining by approximately 15 percent each year. Today there are numerous DTV options under the $700 mark, and even some expected soon for as low as $400. Over the next 2 years, our members plan to introduce $60 digital-to-analog converters that will allow analog TVs to receive digital TV broadcasts.

Meanwhile, DTV products have spread from specialty retailers and major consumer electronics chains into warehouse clubs, mass merchants, and now discount stores like Wal-Mart and Target.

When consumers walk into retail stores, they now enjoy an unprecedented variety of DTV products to meet their needs and budgets. Buyers can choose from a vast array of compelling displays from traditional CRT sets to cutting-edge new technologies like plasma, LCD, DLP, and LCoS.

Most important to the current debate is the fact that consumers now can choose from 200+ "integrated" models that include over-the-air ATSC tuners.

To put this in perspective, digital television has been adopted twice as quickly as color television. While it took color television 10 years to achieve 5 percent penetration from introduction, digital television products are already in 16 million American homes.

Indeed, overall revenues from digital TV now outpace those from analog TV. Television manufacturing is now a digital industry.

As impressive as those numbers sound, we are only beginning to move up the "hockey stick curve" of sales, especially with respect to integrated DTV sets equipped with digital over-the-air (ATSC) tuners. CEA forecasts that 9 million integrated DTVs will be sold this year, 16.7 million in 2006, 27 million in 2007, and 33 million in 2008.

Including set-top boxes, by 2009, we will have sold 97 million DTV tuners, and we estimate that over-the-air tuners will be found in 86 percent of American homes.

At the same time, sales of analog sets are declining precipitously. We project sales to decline 36 percent in 2006, and an additional 53 percent in 2007.

CEA Is the Leader in DTV Consumer Education

The CE industry has every business incentive to educate consumers about the qualities and features of the DTV they want to purchase. That is why CEA runs an extraordinary educational effort to ensure that consumers are fully informed about their DTV options.

Just last month, the National Association of Consumer Agency Administrators (NACAA) presented CEA and the FCC with the prestigious Achievement in Consumer Education Award for our joint efforts in informing consumers about the transition to DTV, and helping consumers make the digital choices that are right for them. We are committed to continuing our educational efforts with the FCC, and invite all interested parties to join in our campaign to inform Americans about the digital transition.

As the primary conduit to consumers, it is critical that retail floor staff is properly equipped to provide accurate and easy-to-understand information.

CEA aggressively responded to this challenge and created a comprehensive DTV retailer-training program called CEKnowHow (it can be viewed online at *www.ceknowhow.com*). This program is available to all retailers over the Internet. It equips them with the most up-to-date online training for sales associates, so that they can effectively respond to consumer inquiries on DTV and HDTV.

CEA also designed, printed, and made available to retailers a "tip sheet" that explains the DTV transition and basic DTV terms and technology. In late 2004, CEA partnered with the FCC and the Consumer Electronics Retailers Coalition (CERC) to distribute more than 750,000 copies of the tip sheet to consumers, retailers, and professional home theater installers.

More recently, the Consumer Electronics Retailers Coalition (CERC) issued its own retail consumer guide, "What you need to know about the '*DTV Transition"—A Dozen Questions & Answers*,' that focuses on the choices that consumers will have when analog broadcasting ends. This is available at *www.ceretailers.org*.

Over the last year, CEA also visited with major consumer electronics buying groups and talked to more than 2,000 dealers to bring them the latest information on the DTV transition. We have collaborated with Comcast on an educational DVD that covers DTV information ranging from basic definitions to the equipment required to receive and view HDTV content via antenna, satellite or cable delivery.

CEA also is making every effort to reach out directly to consumers. Millions of readers across the country saw our inserts in *TV Guide* and *Sports Illustrated* magazines explaining the basics of DTV, how to get a signal, what product choices are available, and so on. We also have showcased HDTV before hundreds of thousands of consumers through exhibits at home design shows, and trade exhibitions, and viewing parties in public venues across the Nation.

CEA exposes millions of consumers to HDTV through our nationally pre-packaged video and news releases, as well as our national CEA media tour. And our quarterly *HDTV Guide* is the single most authoritative list of the DTV products and programming currently available.

Meanwhile, CEA has taken the lead in promoting consumer awareness and use of over-the-air digital television reception. Through our AntennaWeb program, consumers can visit a website (*www.antennaweb.org*), enter their home address, and find the optimal outdoor television antenna for their specific location. This site receives approximately 100,000 hits per month.

We also see it as our obligation to recognize those who are going above and beyond the call of duty in furthering the DTV transition. Every year, our Academy

of DTV Pioneers honors the best of the best in HDTV programming, reporting and retailing. And, as it should be, every year the categories get more crowded and competitive.

This is just a sampling of CEA's strong commitment to educating consumers and retailers about the DTV transition.

In short, for the DTV transition, everything is moving rapidly in the right direction. Product sales continue to rise, as prices decline. The amount and variety of HDTV programming continues to increase. Content delivery industries are increasingly jumping onto the HD bandwagon. Exciting new products are rolling into the marketplace. Consumer and retailer education is advancing. By almost any measure, digital television is a marketplace success.

Now is the appropriate time to take the next step and bring the broadcast digital transition to a successful conclusion, just as envisioned by this Committee when the Congress loaned public spectrum to the broadcasters for the DTV transition a decade ago.

The Time for a Hard Deadline Is Now

The 700 MHz band currently occupied by analog broadcasters is beachfront property on the spectrum landscape. The prompt recovery of this spectrum by Congress will produce immense public interest and economic benefits while fostering innovation and protecting our national security.

First, the analog TV broadcast spectrum is ideal for advanced wireless broadband applications. A hard date will spur innovators to develop a broad range of new wireless technologies and services. These new wireless services will offer unprecedented access to rural and underserved areas, while creating competition that will drive down prices for all wireless consumers.

A hard date also will fundamentally change and accelerate the DTV marketplace. With the certainty of a hard deadline, stations will know what to broadcast, manufacturers will know what to make, retailers will know what to stock, and consumers will know what to buy. With the completion of the digital transition now an imminent reality, all affected industries will shift our consumer education efforts into an even higher gear.

But the rationale for a hard date goes deeper than promoting new technologies and broadband access. As reinforced by recent evacuation of the White House and this Capitol, the gravest threat to our safety is another national calamity like we suffered on September 11, 2001. It is now more apparent than ever the 700 MHz band held by broadcasters is essential to the swift and effective response of Homeland Security, police, firefighters, and other first responders.

That is why the Association of Public Safety Communications Officials has implored you to set an analog broadcasting cutoff date, stating that "the security of our homeland and the lives and property of our citizens as well as our responders are at stake."

The key to unleashing these benefits is for a hard date to be set, and set now.

The Vast Majority of Americans Now Choose Cable or Satellite To Provide Their Television Programming

Americans now have more ways to receive video programming than ever before. The vast majority of Americans receive local and network broadcast signals via cable and satellite (and will soon have these services available via telephone, mobile, and wireless broadband). Meanwhile, the statistics show that a small and declining number of households now rely exclusively on a free over-the-air broadcast signal, and a minimal number of TV sets are actually used to watch broadcast TV.

If there is any doubt about this, consider the total lack of public outcry over the recent announcement that Monday Night Football, a long staple of broadcast TV, will soon be available only to satellite and cable households.

Indeed, our research shows that only 32.7 million (or 11.5 percent) of the 285 million television sets used in the United States are used to view over-the-air television programming.

This phenomenon is driven by the fact that television today is largely a wired (*i.e.,* cable or satellite) service. Of the nearly 110 million American homes with at least one TV, 60 percent receive a cable signal, and 24 percent receive a DBS signal. Our research shows that roughly 2 percent receive both cable and DBS, while another 2 percent of homes use their sets exclusively with VCRs, DVD players, or videogame systems and do not use their sets with over-the-air or subscription services.

In total, approximately 86 percent of American homes get their TV signal from cable or satellite (and thus network and local broadcast feeds). This means that if the analog cutoff occurred today, approximately 12 percent of the population of 110

million TV households would not have access to a broadcast signal through cable or satellite.

And this number is shrinking every year. Cable and satellite penetration continues to grow by about one to 2 percentage points annually. What's more, the market research firm Sanford Bernstein has just concluded that cable and satellite subscribers are growing 3.6 percent annually.

With only 32.7 million sets used to view over-the-air television, it is clear that the vast majority of TVs in the U.S. are not used for this purpose. The number of over-the-air homes will decline even further as more and more Americans pay to subscribe to TV services, including new technologies such as Internet-Protocol TV, and television via telephony, and over powerlines. Additionally, growing broadband penetration will continue to change how Americans receive their programming. In fact, broadcasters are increasingly providing their content through other means including the Internet and mobile phones. Just recently, Verizon announced a deal where it would provide NBC's feed over its fiber network.

With respect to consumers with neither cable nor satellite, our research shows that this population's decision not to subscribe generally is not driven by economic reasons. Indeed, our data shows that 68 percent choose not to subscribe for a reason other than cost—with almost a third reporting that they do not subscribe because they "don't watch that much TV."

Those who do not subscribe to cable or satellite watch on average 30 percent less television per week than cable and satellite subscribers. Nearly six of ten say television simply is not a high priority for them. Fewer than three in ten indicate that insufficient funds play a role in their decisions not to subscribe to cable or satellite television.

I should note that this population of over-the-air households does not eschew technology. Seventy-nine percent of antenna-only households own a home radio; sixty percent own a cell phone and desktop or laptop PC; and forty-eight percent have some type of dial-up or broadband Internet connection.

Some opponents of a hard deadline raise concerns about the unconnected analog TV sets in households that subscribe to satellite or cable TV, and claim that most of these sets are used with antennas for watching over-the-air analog signals. In fact, primary viewing most often occurs on the TV that is connected to pay services. Of the 173.3 million sets in cable homes, only 4.4 million are used to receive over-the-air broadcasts. More often, the unconnected TVs are shunted to a less used room and hooked up with a DVD player, VCR, or video game. Indeed, our research shows these sets are used at least half the time for one of these many alternate uses. In addition, as many cable companies no longer have a monthly charge for additional outlets, this issue has become increasingly irrelevant for cable homes.

In households utilizing an antenna, TVs connected to the antenna are often primarily used for an activity other than watching broadcast television. Of the 25.9 million sets in exclusively over-the-air homes, 3.4 million are used exclusively for watching pre-recorded content, playing video games, and other non-broadcast uses. Further, in these households, the TV connected to an antenna is used approximately 40 percent of the time with DVD players, VCRs, and videogame systems.

Our research indicates that three-quarters of antenna-only households are willing to take some sort of voluntary action to ensure that they continue to receive television programming when analog broadcasts end. Twenty-two percent indicated that they would buy a new TV capable of receiving DTV signals; forty-two percent would buy a $60 set-top converter; 9 percent would start subscribing to cable or satellite; and 22 percent would do nothing since the TV isn't used to watch over-the-air broadcasts.

At the same time, we must acknowledge that some consumers may be adversely impacted by a hard date. That's why we respect and understand the interest of some policymakers in creating a program whereby those viewers would have access to low-cost digital-to-analog converters. In the past, our members have testified that, with economies of scale, converter prices will be in the $60 range by the time of the proposed cut-off date. One extremely serious development that will interfere with this projection would be the imposition of state or national energy usage mandates on converters, which would adversely impact converter price and availability.

By the time of a year-end 2008 cut-off—combining present adoption trends for cable and satellite, and forecasts for uptake of recently announced TV services from telcos like Verizon and SBC, as well as the jump in purchases likely to occur with a hard cutoff date—the number of American homes that would lose their primary video signal will likely would be closer to 6.8 percent.

We are aware that certain other surveys purport to show a much higher level of reliance on over-the-air broadcasting. However, CEA stands firmly by our survey and data results. We are extremely proud of our long-standing dedication to pro-

viding accurate and sound information to policymakers, the technology industry, and the financial community.

Compared to other surveys, our data is extremely comprehensive. To our knowledge, CEA's new research is the only survey that asks about the specific usage of each and every individual set in a household. Unlike other surveys, we also limited our survey to TVs in the household that had been turned on within the prior 3 months, thereby allowing us to have an accurate, real world analysis of TVs that are actually in use.

The accuracy of the various survey methodologies and results are important because they indicate the potential cost of proposed programs to minimize the viewer impact of the analog cutoff. We are glad to provide CEA's complete survey documents and offer to further analyze the data in any way that assists Congress in developing proposals to minimize viewer impact.

The simple fact is that, while an analog broadcasting cut-off is important for our nation, it will have no impact on the viewing habits of the vast majority of Americans. We believe the types of education and public awareness steps that have been discussed with your colleagues can effectively address the needs of those who wish to rely only on broadcast television.

CEA Endorses a Hard Deadline, and Offers Suggestions To Bring About a More Expeditious Transition

In the United States, the transition to digital television has always been envisioned as having two purposes. The first was to bring the wonders of digital TV, and especially high-definition TV to American consumers. The second was to capture the public interest and economic benefits of the return of the analog spectrum.

We are now well on our way toward accomplishing the first objective, and it is appropriate that we turn our attention to the second.

CEA unequivocally endorses the establishment of January 1, 2009, for the recovery of the analog spectrum. The setting of a date certain will benefit consumers as spectrum is reallocated for purposes ranging from public safety communications to exciting new services such as wireless networking and Internet access.

CEA offers a number of suggestions that will help this Committee craft legislation to hasten the digital transition, while ensuring the most expeditious, practical, and consumer friendly result.

Specifically, we recommend the following:

1. Tuner Mandate Acceleration: A current FCC proceeding seeks comment regarding the acceleration from July 1, 2007, to no later than December 31, 2006, of the requirement for manufacturers to include over-the-air tuners in 13 to 24 inch sets and other TV reception devices (such as VCRs, DVDs and DVRs).

In terms of any proposals to accelerate the tuner mandate requirements, we are concerned that any proposed changes in the existing requirements would severely reduce the retail market for these products.

Manufacturers need a minimum of 18 to 24 months to plan, develop, and deploy new equipment. An accelerated tuner mandate could force some manufacturers who determine that meeting the new regulations are not feasible (and fear inability to comply with the FCC's regulations) to move to tunerless sets or to stop manufacturing altogether the small-screen TV models which cannot be fitted with digital tuners—which many manufacturers are reluctant to do, and which would defeat the purpose of the tuner mandate itself.

Even if manufacturers were able to meet a foreshortened production schedule, a date any earlier than March 2007, could result in cost increases that the marketplace cannot sustain. Of course, this assumes that legislation would be enacted in September 2005, to ensure an 18-month manufacturing schedule that would enable manufacturers to meet a March 2007, date. Some of our members believe that accelerating the tuner deadline for 13 to 24 inch sets and other TV reception devices to any earlier than March 2007, would double the development costs for manufacturers, as well as double the price of a typical 13 inch television to consumers. Retailers have pointed out that their customers buy TVs in this product category often out of necessity; many buy a $69 TV on a layaway plan. If the product is rejected by lower income and other consumers because the price exceeds their budget, it will not be carried by retailers and, eventually, not produced by manufacturers. This helps neither broadcasters, consumers, nor the transition, and irrespective of any later subsidy plan, places the burdens of the transition on those who can least afford it.

The FCC and the Congress have consistently recognized the 18-month manufacturing cycle when they have imposed requirements on TV set manufacturers. The V-chip and closed captioning regulations are key examples.

The unfortunate result of an overly-aggressive acceleration of the tuner mandate deadlines would be to decrease the number of DTV tuners in the marketplace, which clearly does not serve the transition.

We recognize there is a growing consensus that some acceleration of the FCC's present July 1, 2007 deadline is desirable. While manufacturers have relied in good faith on the existing July 2007 date, CEA believes that March 2007 is the earliest possible date, consistent with the manufacturing and retail placement cycle, for the integration of digital reception capability into 13″ to 24″ sets and other devices having an analog tuner. Any deadline prior to March 2007 will only result in the absence of smaller TVs and other products from the marketplace as they are pulled from distribution in advance of the deadline.

A March 2007 date allows time for economies of scale to develop. This will lessen the "sticker shock" for consumers, allowing these products a chance to compete against less expensive, tuner-less alternatives. Indeed S. 1268 (the SAVE LIVES Act) sponsored by Senators McCain and Lieberman, proposes a March 1, 2007 date in order to minimize market disruption and consumer harm.

2. Digital Carriage and Non-Degradation: We urge the Committee to address the important issue of signal degradation, and ensure that a digital signal is carried under all circumstances. It is fundamental that when cable operators are carrying broadcast signals digitally, they should not be allowed to reduce the sound or picture quality, or alter or eliminate program related data. American households—most of whom are cable customers—have invested more than $25 billion dollars in high-definition televisions. If a broadcaster is providing HDTV programming and Dolby Digital surround sound, then that is what HDTV owners who subscribe to cable should see and hear.

3. Television Labeling: CEA fully supports educational labels in connection with analog televisions when paired with the certainty of a hard date. However, manufacturers will need 120 to 180 days to include the labels on the product itself to incorporate this extra step into the manufacturing cycle. A period of 90 days would be required if the label is designed as a sticker placed on the outside of the product packaging. Any shorter notice would mean that highly automated production lines would have to be stopped and re-organized at great cost, or else the labels would have to be added manually at similarly great cost. Conversely, with enough advance notice to automate the labeling process, labeling is of course a much less significant cost.

Retailers also have accepted an obligation, once a hard date is set, to display consumer advisory labels in the vicinity of sets with only analog tuners and in their web-based marketing—in each case with some variations according to the store arrangement and means of display. Additionally, they have indicated that they plan to assist their customers with supplemental materials and to propose options to their customers targeted to the customer's specific needs. In order to prevent screen damage upon removal by a consumer or retailer, consideration should be given regarding the necessity of placing the label "on-the-screen" so long as it is attached to the product as shipped.

CEA urges that any label language should be concise—otherwise, consumers may not read or understand it. CEA and the Consumer Electronics Retailers Coalition recommends the following language:

> "This TV has only an 'analog' broadcast tuner so will require a converter box after [date] to receive over-the-air broadcasts with an antenna, because of the transition to digital broadcasting on that date. (It will continue to work as before with cable and satellite TV systems, gaming consoles, VCRs, DVD players, and similar products.)"

We suggest that the FCC be tasked to work with industry and consumers to develop an appropriate label along these lines, as proposed in S. 1268, the SAVE LIVES bill.

4. Channel Allotments: CEA supports a timetable of December 31, 2006, as the final date for the FCC to issue final broadcaster channel allotments, and an additional 7 months to conclude any reconsideration of such allotments. We urge the Committee not to extend the reconsideration period beyond 7 months, as this could cause the final end-date for analog broadcasting to slip to 2010.

5. Broadcaster Disclosures: In light of our own aggressive consumer education efforts, CEA has been disappointed with the paltry level of DTV consumer education offered by the broadcasters to date, especially the almost complete lack of broadcaster-sponsored public service announcements (PSAs). We urge the Committee to address this issue, and we urge that any legislation require increased broadcaster-consumer education activities. Specifically, the Committee should consider starting

the required announcements at least 1 year before analog shut-off, and increasing the number of ads from two per day—at least in months closest to the analog shut-off—and imposing separate educational requirements on networks, as well as local broadcasters. This makes sense because broadcasters are the ones with a vested interest in transitioning the remaining over-the-air viewers to digital. Broadcasting is a powerful and effective communications medium, and it is essential that the broadcasters themselves step up and do their part to educate the Nation about the transition to digital television.

6. Broadcaster Compliance: Ensure that broadcasters comply with Federal Communications Commission maximization/replication requirements. As of today, more than 100 stations have requested a waiver and extension of the FCC's July 1, 2005 requirement for maximization and replication for stations affiliated with a top-four network and located in the top-100 markets. Broadcasters must comply with FCC rules to ensure a successful and rapid transition. Despite the broadcasters' words about the importance of the DTV transition and all they have expended to convert to digital, the real test is what they are doing. They are seeking extensions and waivers today, just as they have been doing for the last 5 years. Only a hard shut-off date enacted into law will make them realize that the DTV conversion is inevitable and for real.

Conclusion

Setting a realistic date certain for the end of analog broadcasting and the recovery of the analog spectrum for new purposes is the right thing to do. It is right for consumers, it is right for innovation, and it is right for America's national security. A hard deadline will help foster the creation of new, high-skill jobs, and it will promote America's technology leadership in an increasingly competitive world.

We commend the Committee for its efforts to bring the broadcast DTV transition to a successful and timely conclusion. In the meantime, we will continue our efforts to educate consumers about digital television. I pledge CEA's continuing commitment to working with this committee and other stakeholders to ensure the most timely and consumer friendly transition, as well as a prompt return of the analog broadcast spectrum.

The CHAIRMAN. Thank you.

And, last witness, Michael Calabrese, the Vice President and Director of Wireless Future Program for the New America Foundation.

Mr. Calabrese?

STATEMENT OF MICHAEL CALABRESE, VICE PRESIDENT/DIRECTOR, WIRELESS FUTURE PROGRAM, NEW AMERICA FOUNDATION

Mr. CALABRESE. Yes, good afternoon. My name is Michael Calabrese. I direct the Wireless Future Program with New America Foundation, which is a nonpartisan policy institute here in Washington. Thank you for inviting my testimony today.

The TV band has become a vast wasteland of underutilized airwaves that are urgently needed for both public safety and for wireless broadband services, which I'll emphasize. On average, a high-powered TV station operates on each of those channels in only 15 of the Nation's 210 local television markets. And in every market, a low and steadily shrinking share of American homes rely on over-the-air reception at all.

Because of the urgent need to reallocate these frequencies, it is critical that Congress not repeat the mistake of the Balanced Budget Act of 1997. The 1997 Budget Act set a deadline for TV band auctions, but not a policy to ensure that the spectrum would be cleared by a date certain. As a result, in 2002, most of those auctions were canceled, or generated very low returns, for one primary reason: wireless firms are not willing to pay market prices for spectrum indefinitely encumbered by politically powerful TV stations.

But a credible hard deadline, one reinforced by a broad consumer compensation program, can spin straw into gold.

Based on recent private-spectrum transactions and public bids, the ten channels that could be licensed are expected to generate between $15 and $30 billion. Because this auction value vastly exceeds the Committee's budget requirements, we recommend that Congress use this opportunity to make three telecom policy investments with long-term benefits for the general public.

The first is a broad-based converter rebate that ensures all households still relying on analog over-the-air are held harmless. By earmarking a relatively small share of the expected auction revenues for a consumer compensation fund, Congress can both protect vulnerable consumers, and ensure that potential wireless bidders' business plans will not be disrupted by a voter backlash.

Providing one $50 converter box or rebate to each of the 16 million households that rely exclusively on over-the-air reception would cost about $800 million. Providing one rebate to each of the 44 million households that report relying at all on over-the-air reception for their local channels would cost about $2.2 billion. So, that's the range.

In either case, the cost represents merely a fraction of the revenue that TV band auctions will raise if, and only if, bidders are confident the deadline for clearing those channels will not again be delayed. Although a means-tested compensation program would be less expensive, we believe it is neither administratively practical nor fair. If the Committee does not choose to means test the consumer rebate, we believe that, on balance, it would be most cost efficient to reimburse qualified retailers.

Qualified retailers could be required to offer converters certified by the FCC to limit the consumer share of the cost to a small copay and to provide the degree of technical support. If possible, any rebate program should also give consumers the choice to use it to offset the cost of a converter box, a new digital TV, or even a satellite dish or cable set-top box, since any of these devices will preserve access to broadcast channels.

The second public investment that should be part of this transition involves promoting the rapid deployment of affordable and mobile broadband services. Because wireless signals at this frequency pass easily through walls and trees, reallocating the 700 megahertz band could jumpstart the deployment of more affordable wireless broadband connections, particularly in rural areas.

The U.S. has fallen from third to 16th in broadband adoption worldwide over the past 5 years, according to the ITU. The lack of affordable highspeed Internet access for millions of homes and small businesses in the U.S. is a threat to American competitiveness. We recommend that Congress address this broadband gap by using the DTV transition to encourage both licensed and unlicensed wireless broadband networks as competitive alternatives to wireline cable, and DSL offerings.

Thousands of mostly rural commercial Internet service providers, or WISPs, and dozens of municipalities, already use the crowded unlicensed band at 2.4 gigahertz to deploy WiFi and other wireless connections to hundreds of thousands of businesses and consumers, at distances of up to 30 miles. The problem is that the unlicensed

WiFi bands are small and shared with over 200 million consumer devices, from microwave ovens to cordless phones.

The DTV transition can promote rapid, affordable broadband in two ways. First, from the ten channels now designated for auction, the FCC should be directed to reallocate at least three, roughly 20 megahertz, for shared unlicensed use. Second, the FCC should be directed to complete its pending rulemaking that would open unassigned TV channels below Channel 52 for unlicensed public access, subject to strict rules to avoid interference.

Finally, the $15 billion to $30 billion market value of the ten channels available for auction makes possible a third investment. Any auction of the people's airwaves should be seen as an opportunity to invest in the digital future of our public media and educational institutions. The proceeds exceeding the CBO score could be earmarked to capitalize a trust fund, to finance ongoing investments in both educational public media and e-learning content and applications. We recommend that the Committee incorporate within this DTV legislation funding for the Digital Opportunity Investment Trust, or DOIT Act that was introduced in May by Senator Burns, Senator Snowe, here on your committee, as well as Senators Dodd and Durbin, which earmark spectrum revenue for these purposes.

Thank you for your time, and I look forward to answering any questions.

[The prepared statement of Mr. Calabrese follows:]

PREPARED STATEMENT OF MICHAEL CALABRESE, VICE PRESIDENT/DIRECTOR, WIRELESS FUTURE PROGRAM, NEW AMERICA FOUNDATION

Thank you, Mr. Chairman, and members of the Committee, for this opportunity to testify today. My name is Michael Calabrese, Vice President of the New America Foundation, a nonpartisan policy institute here in Washington. I direct New America's Wireless Future Program, which is dedicated to promoting more efficient and fair access to the public airwaves.

I will focus largely on the opportunity to use this DTV legislation to advance the national interest in more rapid and affordable deployment of high-speed broadband access, particularly in rural and other underserved areas. Because the market value of the channels designated for auction vastly exceed the Committee's budget requirements, I believe the Committee should use this bill to pursue policies that will be far more beneficial to the Nation than a budget-driven bill that merely maximizes short-term auction revenues.

Several years ago we began urging members of this committee to set a hard deadline for the end of the digital TV transition—and to make that deadline realistic by earmarking a portion of the resulting spectrum revenue to compensate consumers needing to purchase a digital-to-analog converter box. TV channels 52 to 69 have become a vast wasteland of underutilized airwaves that are urgently needed for both public safety and for wireless broadband services. On average, a high-power TV station operates on each of those channels in only 7 percent of the Nation's 210 local television markets; and in every market, a low and steadily shrinking share of American homes rely on over-the-air (OTA) reception at all (see Table 1 below).

Table 1: How U.S. TV Households Receive Television: 1994 vs. 2004*

TV Households in the United States	Dec. 1994 (Millions)	Dec. 1994 (Share of All TV Households)(%)	June 2004 (Millions)	June 2004 (Share of all TV Households)(%)	Change (%)
Over-the-Air Only	31.5	33	16.1	15	−48.9
Total MVPD Subscribers**	63.9	67	92.3	85	44.4
Cable	59.7		66.1		
DBS	0.6		23.2		

Table 1: How U.S. TV Households Receive Television: 1994 vs. 2004*—Continued

TV Households in the United States	Dec. 1994 (Millions)	Dec. 1994 (Share of All TV Households)(%)	June 2004 (Millions)	June 2004 (Share of all TV Households)(%)	Change (%)
Other	3.6		3.0		

*2004 Data: FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Eleventh Annual Report," January 14, 2005. Available at: *http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-13A1.pdf;* 1994 Data: FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Second Annual Report," December 11, 1995. Available at: *http://www.fcc.gov/Bureaus/Cable/Reports/*.

**MVPD = Multichannel Video Programming Distributors are Cable, DBS, and other services.

The Importance of Reallocating Airwaves From Broadcast to Broadband

The DTV transition no longer has anything to do with high-definition TV, or with U.S. competitiveness in TV manufacturing, as Congress was led to believe a decade ago. Today the true threat to American competitiveness is the lack of affordable, high-speed Internet access for millions of homes and small businesses. The U.S. has fallen from 3rd to 16th in broadband adoption worldwide over the past 5 years, according to the International Telecommunications Union (ITU). Last fall, a *Fortune* magazine cover story reported that "nearly everyone in South Korea has Internet access that puts Americans to shame." In South Korean cities, "broadband is as basic a utility as water and electricity . . . ordinary households get faster Internet connections than all but the biggest U.S. businesses." The typical cable and telephone broadband connection here is ten times slower than the 20 megabits-per-second speeds offered in South Korea for the same price or less. This "broadband gap," if it continues, will result in slower rates of U.S. innovation, e-business creation, job growth, and technological competitiveness in an increasingly digital world.

Table 2: International Broadband Adoption: Selected Rankings*

Rank	Country	Broadband subscribers per 100 inhabitants
1	South Korea	24.9
2	Hong Kong	20.9
3	The Netherlands	19.4
4	Denmark	19.3
5	Canada	17.6
16	United States	11.4

*International Telecommunications Union, cited in *National Journal,* available at: *http://www.njtelecomupdate.com/lenya/telco/live/tb-QGBX1114459808856.html*.

The DTV transition provides an opportunity for Congress to open a third and more affordable broadband pipe to homes and small businesses. Industry studies show that because TV band frequencies (700 MHz band) propagate easily through obstacles, such as walls and trees, access to these low frequencies can reduce the deployment costs for wireless networks by a factor of three or more compared to cellular bands above 2 GHz. Congress can choose to rely on the cable and telco wireline duopoly to trench fiber to every home and business—or at least those in locations that will be profitable to connect. Or we can open the broadband pipe the public already owns—the public airwaves—as a common carrier for communities, entrepreneurs and innovation.

Because of the urgent need to reallocate these frequencies, it is critical that that Congress not repeat the mistake of the Balanced Budget Act of 1997. In an effort to score revenue, the 1997 OBRA set a deadline for TV band auctions, but not a policy to ensure that the spectrum would be cleared by a date certain. As a result, in 2002, most of the auctions were canceled or generated very low returns for one primary reason: wireless firms are not willing to pay market prices for spectrum indefinitely encumbered by politically-powerful TV stations. But a credible hard deadline for channel clearance—one reinforced by a broad consumer compensation program—can spin straw into gold. In addition to cellular incumbents, many new wireless service providers are expected to bid on 700 MHz licenses, as they are so well suited for video, mobile, and other consumer broadband applications. Based on recent private-spectrum transactions and public bids—for cellular spectrum with far

less valuable propagation characteristics—the 10 channels that could be licensed are expected to generate between $15 and $30 billion.[1]

The tremendous market value of the 10 channels (60 MHz) available for auction gives Congress the leeway to avoid passing another shortsighted, budget-driven bill. Because auctioning even 40 MHz of TV band spectrum will generate $10 billion or more, we recommend that Congress use this opportunity to make three telecom policy investments with long-term benefits for the general public:

- A broad-based consumer converter box rebate that ensures all households that still rely on analog over-the-air reception are held harmless.
- The reallocation of 20 of the 60 MHz of spectrum available for wireless services to *unlicensed* broadband networks, as well as the opening of unassigned DTV channels in each market for sharing by low-power unlicensed devices.
- The earmarking of TV band auction revenue in excess of the CBO "score" into a trust fund to help finance the digital future of public broadcasting and e-learning technologies.

The "Last Granny Rule": A Small Share of the Auction Revenue Can Compensate Consumers and Ensure No Additional Delay in Reallocating TV Frequencies

Because "free" TV has taken on the nature of an entitlement in American culture, legislation that makes analog TV sets obsolete will be keenly felt, even in middle-class homes, as a type of "taking." This is the unwritten obstacle to ending the DTV transition that we have called the "Last Granny Rule": even if the FCC or Congress sets a hard deadline, it will be subject to delay (or defeat) if a substantial share of voters relying on analog OTA view the government as making their TVs useless without the purchase of a converter box (or new DTV). Manufacturers, including LG/Zenith and Zoran, now estimate that in mass production, a digital-to-analog converter would sell for $50.[2]

Table 3: The Cost of Four Options for a DTV Transition Consumer Subsidy*

Household Eligibility based on reliance on over-the-air (OTA) TV	Number of Households Eligible	Subsidy/ Converter	Assumed Take-up Rate	Total Cost (100% Subsidy)	Cost as percent of Likely Auction Value of Unencumbered Spectrum ($20B)**
Option #1: Only low-income OTA exclusives; Limit one set/household	7.09 m (44 percent of OTA-only households)	$50	7.09 m (100 percent)	$355 million	1.8
Option #2: All exclusive OTA households; Limit one set/ household	16.1 m (15 percent of 108.4 m TV households)	$50	16.1 m (100 percent)	$805 million	4.0
Option #3: All TV households; Limit one set/ household	108.4 m (16.1 m OTA + 92.3 m non-OTA)	$50	43.8 m (100 percent of OTA + 30 percent of non-OTA)***	$2.2 billion	11.0

[1] See the market analysis by the Brattle Group, in the letter from William P. Zarakas and Dorothy Robyn, Principals, Brattle Group, to the Hon. Joseph Barton, May 18, 2005, available at *http://www.brattle.com/__documents/News/News253.pdf.*

[2] Leading manufacturers project a range of $50 (LG/Zenith, Zoran) to $67 (Motorola), assuming industry-wide demand of 10 million units. *See* "Tech Company Touts Solution to Quick DTV Transition," *Communications Daily,* May 2, 2005, and FCC MB Docket No. 04–210, *Media Bureau Staff Report Concerning Over-the-Air Broadcast Viewers.*

Table 3: The Cost of Four Options for a DTV Transition Consumer Subsidy*—Continued

Household Eligibility based on reliance on over-the-air (OTA) TV	Number of Households Eligible	Subsidy/ Converter	Assumed Take-up Rate	Total Cost (100% Subsidy)	Cost as percent of Likely Auction Value of Unencumbered Spectrum ($20B)**
Option #4: (NAB Scenario)**** All OTA sets in all households	108.4 m (16.1 m OTA + 92.3 m non-OTA)	$50	73 m (45 m sets in OTA + 28 m sets in non-OTA hh's)	$3.6 billion	18.0

*The FCC's *Report Concerning Over-the-Air Broadcast Television Viewers* notes that 14.98 percent of U.S. TV households rely exclusively on OTA, citing the 2005 MVPD Report. See: FCC, "Media Bureau Staff Report Concerning Over-the-Air Broadcast Viewers," February 28, 2005, and FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Eleventh Annual Report," January 14, 2005. Available at: *http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-13A1.pdf.*

**Market Value of unencumbered spectrum is at least $20 billion at $1.65 per MHz/pop, based on the FCC's valuation of the Nextel spectrum swap, and recent private cellular license sales, as above.

***NAB/MSTV data indicates 28 million unwired sets are in use in the Nation's 92.3 cable/DSL households. *See* NAB/MSTV, Comments, *In the Matter of Over-the-Air Broadcast Viewers,* August 11, 2004, MB Docket 04–210.

****Option #4 is the solution most called for by the NAB, which assumes that a converter subsidy be made available for every analog TV set in all households that rely on OTA (i.e., all sets not connected to cable, DBS, or another subscriber service.)

By earmarking a relatively small share of the expected auction revenues for a consumer compensation fund, Congress can both protect vulnerable consumers while also ensuring potential wireless bidders that their business plans won't be disrupted by a voter backlash. As the table just above demonstrates, providing one $50 converter box to each of the 16 million households that rely exclusively on OTA reception would cost about $800 million. The cost of one converter box for each of the nearly 44 million households (including 28 million cable and DBS subscribers) that report relying at all on OTA reception is $2.2 billion.[3] In either case, the cost represents merely a fraction of the revenue that TV band auctions will raise *if, and only if,* bidders are confident the deadline for clearing those channels will not again be delayed.

Options for Making Consumer Rebate Generally Available

1. A Consumer Mail-In Rebate

- Advantages: Rebate forms can be used to limit eligibility—or limit the number of subsidies per household—by tracking consumer information.
- Disadvantages: Consumers must pay up-front before getting a refund, which disproportionately impacts low-income and fixed-income households; the paperwork required to process rebate applications would be costly for both consumers and government; it may be impossible to limit the subsidy to low-income households without costly and intrusive cross-checking through IRS.

2. A Qualified Retailer Rebate

- Advantages: Consumers are not required to pay anything up-front; offering the converter "free," or at very low-cost (co-pay), eliminates "red tape" for the customer, reduces administrative costs, and enhances satisfaction with process; participating retailers could be required to offer optional installation and/or technical support services.
- Disadvantages: Retailers cannot limit the eligibility, or number of converter subsidies, by household (individuals acquiring converters from multiple stores); limits could be enforced only by mailing a coupon to each eligible household (e.g., one per household via counties).

[3] NAB/MSTV data indicates 28 million unwired sets are in use in the Nation's 92.3 cable/DSL households. Approximately 30 percent of subscription TV households would thus have any use for a converter subsidy. *See* NAB/MSTV, Comments, *In the Matter of Over-the-Air Broadcast Viewers,* August 11, 2004, MB Docket 04–210.

3. A Refundable Tax Credit (Refund Occurs Whether There Is A Tax Liability Or Not)

- Advantages: Easier to confer a means-tested subsidy; reduces fraud by linking to consumer information; administratively efficient if done during a single tax year.
- Disadvantages: Lower take-up rate possible among low-income households who lack easy access to tax information, or do not file taxes at all; substantial time-delay between purchase and the tax refund; additional tax form complexity.

We believe that a means-tested compensation program is neither administratively practical nor fair. Verifying eligibility requires access to tax return information—which rules out rebating the subsidy directly to retailers. A mail-in application (Option 1 above), premised on the consumer's estimate of family income, would raise concerns about privacy and accuracy. While a refundable tax credit (Option 3 above) could piggy-back the existing individual tax return process by adding a line for a single tax year, consumers would need to pay first, wait months for a refund, and be able to show a proof of purchase if audited. It would also deter low-income earners not required to file.

Because the auction of the *public's* airwaves will generate more than enough revenue to compensate consumers, it seems only fair to offer at least one rebate to each household. Indeed, the government's failure to require warnings on analog TVs purchased during the past five-to-ten years will only heighten the perception among the middle-class that they should be compensated for a policy change that forces them to purchase a converter box or new digital TV. Although the 18-month transition in Berlin, Germany, relied on a means-tested subsidy—the government purchased and distributed DTA converters directly to 6,000 very low-income households—more affluent households also immediately received a far greater number of digital OTA channel selections in return for purchasing a converter or new DTV.

If the Committee does not choose to means-test the consumer rebate, we believe that on balance it will be most cost-efficient to reimburse "qualified" retailers (Option 2 above). These retailers would need to agree to offer converters certified by the FCC, to limit the consumer share of the cost (e.g., a small "co-pay"), and to provide a degree of technical support. If eligibility is limited to one rebate per household, a coupon could be mailed to each household. If possible, any rebate program should give consumers the choice to use it to offset the cost of a converter box, a new digital TV, or even a satellite dish or cable set-top box, since any of these devices will preserve access to broadcast channels and serve the policy purpose of the DTV transition.

The DTV Transition Should Facilitate Both Licensed *and Unlicensed* Wireless Broadband Deployment, Particularly in Rural Areas

New wireless networks are extending more affordable broadband access to new communities in every state, spurring economic development and helping to bridge the digital divide. Clouds of wireless connectivity now cover college campuses and downtown business districts—"hot zones" that expand on the WiFi "hot spots" now offering unwired Internet connections at 18,000 locations nationwide.[4] These zones, in turn, are becoming clouds, extending ubiquitous broadband access to entire towns and counties. Commercial wireless Internet service providers (WISPs) are connecting homes, farms, and small businesses to broadband at distances of up to 30 miles. Municipal networks—in small towns like Chaska, Minnesota, and in rural villages like Coffman Cove, Alaska—are blanketing under-served areas with high-speed Internet access at affordable prices. In other towns—such as Scottsburg, Indiana—public-private broadband networks have saved jobs by keeping businesses from moving out. And in other towns—such as Granbury, Texas, and San Mateo, California—these same networks serve as mobile communications systems for police and other public safety agencies.

What all of these innovative broadband networks have in common is the tiny sliver of *unlicensed* frequencies they use to transmit signals. In fact, far more homes and small businesses now rely on wireless Internet services delivered over unlicensed spectrum, while very few last-mile broadband connections (and zero municipal wireless hot zones) have been deployed on licensed bands. Thousands of mostly rural commercial Internet service providers (WISPs), and dozens of municipalities and nonprofit community networks, already use the crowded 2.4 GHz unlicensed band to deploy wireless connections to hundreds of thousands of businesses and consumers. Unlicensed spectrum has spurred billions of dollars in economic activity,

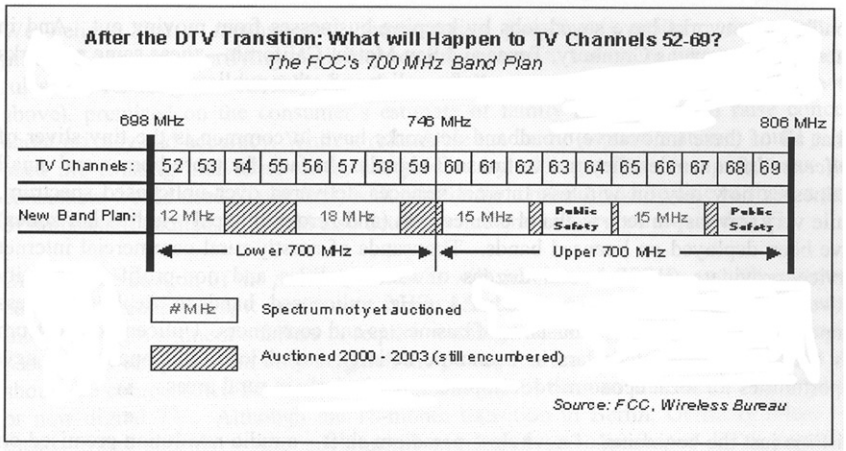
[4] "Warp Speed for Wireless Networks," *Business Week,* June 21, 2005.

saved jobs, and opened up new opportunities for local economic development, particularly in rural areas.

WiFi is just the beginning of a wireless paradigm shift—a radio revolution premised on shared, *unlicensed* access to the airwaves that will determine if the U.S. will be a leader or a laggard in the next generation of Internet technologies. Like licensed cellular providers, who need more and better spectrum to meet the growing demand for wireless data services, an allocation of low-frequency spectrum for shared, unlicensed access will promote the deployment and lower the cost of Internet access provided by entrepreneurial WISPs and community networks. The problem is that the WiFi band (2.4 GHz) is small, uneconomical, and shared with well over 200 million consumer devices, from microwave ovens to cordless phones, and baby monitors. Opening returned (and unassigned) TV band spectrum for WISP and community access on an unlicensed basis will greatly stimulate broadband deployment, rural access, and growth in America's high-tech sector.

We recommend that Congress use the DTV transition to encourage *both* licensed and unlicensed wireless broadband networks as competitive alternatives to wireline cable and DSL offerings. DTV transition legislation can accomplish this in two ways:

First, from the 60 MHz (10 channels) in the 700 MHz band now designated by the FCC for auction and exclusive licensing, the FCC should be directed to reallocate 20 MHz for shared, unlicensed use under Part 15 rules. Even if only 40 MHz is auctioned for exclusive use, this is in addition to the 90 MHz reallocated for auction next year under the Commercial Spectrum Enhancement Act signed into law just last December. In the low-frequency, high-penetration frequencies below 2 GHz (the "beachfront" spectrum), 26 MHz is currently allocated for unlicensed devices versus roughly 290 MHz for licensed cellular services.[5]



Second, the bill should direct the FCC to complete its pending rulemaking (Docket 04–186) that would open unassigned TV channels below Channel 52 for unlicensed public access, subject to rules designed to avoid risk of harmful interference to the dwindling number of over-the-air DTV consumers. Even after the DTV transition, Channels 2 through 51–288 MHz of prime spectrum—remain designated exclusively for TV broadcasting. Yet only about seven TV stations are licensed to operate at full power in each market, on average. Even fewer stations operate in some rural markets. As former FCC Chairman Michael Powell recognized when he initiated the notice of proposed rulemaking last year, the unassigned "white space" can be opened, on a market-by-market basis, for shared, unlicensed use by operators using equipment certified by the FCC to ensure there is no interference with licensed DTV stations on nearby frequencies.

Unfortunately, this rulemaking has drawn intense opposition from the broadcast lobby, which would rather keep open the possibility of owning or using today's wasted guard band spectrum in the future. To ensure that this vast "white space" waste-

[5] In the nearby but less valuable 2–3GHz band, the ratio of licensed cellular to unlicensed spectrum is less than the ratio below 2 GHz, but still more than two to one. The unlicensed WiFi band at 2.4 GHz has 83.5 MHz of spectrum, but the licensed cellular bands, mostly at 2.5 GHz, occupy more than 200 MHz of spectrum.

land is used for affordable broadband and wireless innovation more broadly, we recommend that Congress adopt findings to that effect and direct the FCC to complete the proceeding within 6 months.

Auction Revenue Above the "Score" Should Be Designated To Capitalize a Trust Fund for the Digital Future of Public Broadcasting and E-Learning Technology

While reclaiming spectrum for public safety and advanced wireless services is critical, we urge Congress to take advantage of the resulting auction revenue windfall to ensure that our Nation's public service media can thrive in this digital future. Public broadcasting is uniquely positioned to be a leading part of the solution to many of the fundamental challenges facing our society. It can harness digital technologies to expand public media services in education, homeland security, public health, and civic affairs that would not otherwise be available on commercial channels—and it can create wholly new and dynamic approaches over both added digital channels and over the Internet and other new media platforms. Nowhere is an enhanced role for public service media more vital than for early childhood learning, as well as for learning lifelong. America's classrooms and homes could better boost academic achievement if they had ready access to the high-quality multimedia resources that are needed to engage teachers and students in information age learning.

Over the past 6 months, I have had the honor of directing the Digital Future Initiative, a panel of prominent leaders from both inside and outside of the public broadcasting system, which has been meeting to consider how public broadcasting should reshape its role and exploit emerging digital technologies to meet critical public needs, particularly in education. This Digital Future Initiative, Co-Chaired by Jim Barksdale, the former CEO of Netscape, and Reed Hundt, former Chairman of the Federal Communications Commission, will issue a report by September that will describe why an investment in a modernized and expanded public service media system would be so beneficial for the nation. We hope you will consider this need in thinking about the value of reinvesting spectrum revenue to enhance the Nation's digital future.

Any auction of the people's airwaves should be seen as an opportunity to invest in the digital future of our public media and educational institutions. As noted earlier, because the TV band auctions are likely to yield more revenue than the Congressional Budget Office will officially project, we recommend that the proceeds exceeding the CBO "score" be earmarked to capitalize a trust fund to finance ongoing investments in both educational media and e-learning content and applications. Legislation that does exactly this was introduced by two members of this Committee in May. Senators Snowe and Burns, along with Senators Dodd and Durbin, have introduced a trust fund proposal that would be funded from earmarked spectrum revenue—the Digital Opportunity Investment Trust (DOIT) Act. The DOIT Act calls for the creation of a trust to finance, among other things, the digitization of materials stored in museums and libraries, as well as research and development to improve digital educational content, media, and methods. The DOIT Act includes an annual 21 percent set-aside to public broadcasting entities for digital educational content development.[6] That Act should be incorporated into the DTV transition legislation.

Finally, while broadcasters lobby for multicast must-carry rights, they oppose any expansion of their public interest programming obligations. The U.S. stands apart from the developed world in giving commercial broadcasters free must-carry rights *and* the option to negotiate payments from cable and DBS systems (retransmission consent).[7] Licensees should be required to use DTV's enormously increased capacity to expand the coverage of diverse viewpoints and of local civic affairs and election contests. In exchange for their far more valuable DTV licenses, Congress could require broadcasters to air a minimum of 3 hours per week of local civic or electoral affairs programming.[8] Studies have shown the many ways in which broadcasters fail to deliver meaningful coverage of local civic and electoral affairs:

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[6] *See* the Digital Opportunity Investment Trust Act, introduced in the Senate (as S. 1023) on May 12, 2005, by Senators Dodd (D–CT), Snowe (R–ME), Durbin (D–IL), and Burns (R–MT), and in the House (as H.R. 2512) on May 19, 2005, by Representatives Regula (R–OH), Markey (D–MA), and Gillmor (R–OH).

[7] *See* J.H. Snider, "Should DTV Must-Carry Be Expanded, Sunset, Or Preserved As-Is?" (Washington, D.C.: New America Foundation, May 2005), especially Appendix A: "A Comparison of European Union and U.S. Must-Carry Regulations."

[8] The Public Interest, Public Airwaves Coalition (PIPAC), of which the New America Foundation is a member, has proposed to the FCC a quantifiable and verifiable public interest test.

Continued

- Local public affairs accounts for less than one half of 1 percent of all programming on local television stations, according to a 2003 study.[9]
- Elections below the Presidential level receive meager coverage. During several weeks leading up to the 2002 midterm elections, most newscasts on local TV stations contained virtually no election coverage at all.[10]
- While cutting campaign coverage, broadcasters are airing more—and making more money from—paid political advertising than ever before. In the 2004 elections, candidates, parties, and independent groups spent $1.6 billion on TV ads in the Nation's 100 largest media markets—more than double the $771 million spent in 2000.[11]

We believe that like the current minimum standard for airing children's educational programming, a license renewal processing guideline that called on stations to air a minimum amount of programming related to local civic issues and elections, under their own editorial control, would not present Constitutional problems. Alternatively, commercial broadcasters should pay an annual spectrum user fee to finance a trust fund for the digital future of public broadcasting and educational content more broadly.[12]

Conclusion

Local TV broadcasting, perhaps the most profitable, legal business in America today, has arguably received the largest government subsidies in U.S. history. Yet, there is no end in sight to the digital TV transition. Every year this delay imposes an opportunity cost of tens of billions of dollars on taxpayers and consumers who are deprived of both payment for commercial use of the public airwaves, and the economic value that spectrum-starved wireless broadband services providers could provide more efficiently at low frequencies.

We urge Congress to foreclose any further delay by setting a fixed deadline for the return and clearance of TV Channels 52–69. The best means to this end is a broad-based consumer converter box rebate that ensures all households that still rely on analog over-the-air reception are held harmless. The resulting certainty will ensure the public receives full market value from the auction of a portion of the return channels. However, we also strongly recommend that roughly one-third (20 MHz) of the TV band spectrum reallocated for wireless services be reserved for shared, unlicensed wireless broadband, which is particularly important for extending affordable Internet access to rural and other under-served areas.

Finally, we recommend that auction revenue that exceeds the CBO "score" be designated to capitalize a trust fund to finance the digital future of public broadcasting and for e-learning services, such as in the proposed Digital Opportunity Investment Trust legislation.

Thank you again for this opportunity to testify. I will be most happy to respond to any questions, or to assist staff as the Committee develops its own solution to this important problem.

The CHAIRMAN. Well, thank you very much.

Mr. Kennedy, I think that we've a attrited a little bit, so we have lost part of your audience. But I think we should proceed now, if we may.

Mr. KENNEDY. My pleasure, Senator.

Let me explain what we have here. These look like high-tech TV sets. These are analog television receivers. They are flat-screen re-

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For more information, visit the Campaign Legal Center's PIPA Coalition website at: *http://www.ourairwaves.org/fcc/*.

[9] See "Broadcasters 'Black Out' Public Affairs Programming, New Study Finds," Alliance for Better Campaigns Press Release, October 22, 2003. Available at: *http://www.bettercampaigns.org/press/release.php?ReleaseID=50*.

[10] See "Most Local TV Newscasts Are Ignoring the 2002 Mid-Term Elections," Alliance for Better Campaigns Press Release, October 16, 2002. Available at: *http://www.bettercampaigns.org/press/release.php?ReleaseID=37*.

[11] *See* "Political Ad Spending on Television Sets New Record: $1.6 Billion," Alliance for Better Campaigns Press Release, November 24, 2004. Available at: *http://www.bettercampaigns.org/press/release.php?ReleaseID=65*.

[12] Former FCC General Counsel Henry Geller has proposed monetizing broadcasters' public interest obligations in this manner. *See* Henry Geller and Tim Watts, "The Five Percent Solution: A Spectrum Fee to Replace the 'Public Interest Obligations' of Broadcasters," (Washington, D.C.: New America Foundation, May 2002).

ceivers, which makes them easy to carry over here to show you. But these are equivalent to the television receiver that we all have at home somewhere, often in that upstairs bedroom.

I've got this receiver hooked to that $50 converter box that I talked about. This receiver is not hooked to the converter box. They're receiving an off-the-air analog television signal through that rabbit-ear antenna over there. So, you can see, by that, this is a very similar situation to what we would have at home.

This is Channel 4 here in Washington, D.C. I hope you can see it. It's right off of that antenna, over-the-air analog broadcast. You can see, the picture has what we would call interference, or snow, in it. It's not a very clear picture. It's perhaps a watchable picture, but it's certainly not a very good picture.

Now I'm going to bring up the same channel that's been passed through this converter box. I hope you can all see the difference.

Senator BURNS. Is that the same station?

Mr. KENNEDY. Same station, slightly delayed, because there's a little bit of processing in the converter box. So, you're—now, you wouldn't notice this at home—you wouldn't have the two sets next to each other—but there's a slight delay. You can certainly see the interference here, and the interference is gone there.

Senator BURNS. Now, I have cable on that channel in my house——

Mr. KENNEDY. You have cable.

Senator BURNS.—in Arlington, and I get the same lines off that cable as you're getting right there.

[Laughter.]

Mr. KENNEDY. I think the problem is, Senator——

Senator BURNS. I pay $47 for those lines.

[Laughter.]

Mr. KENNEDY. You must not be using a Motorola set-top box.

[Laughter.]

Mr. KENNEDY. We'll come out and take a look at that.

Senator DEMINT. Is this a digital signal?

Mr. KENNEDY. This is a digital signal, where it says "converted over-the-air." Pardon me, the converter box is taking the digital signal that's being broadcast by Channel 4 today. It is formatting that to display it on an analog television.

Senator DEMINT. Now, on the right, we have a digital signal——

Mr. KENNEDY. On the right, you have an analog signal. That's today's over-the-air television. That's exactly what you have.

Senator DEMINT. So, you have simulcast of analog and digital.

Mr. KENNEDY. Yes. Yes. So, we get a cleaner picture. And then if I can—let me go back here. A number of TV broadcasters are also using their digital signal to multicast, to send more than one signal out to their audience. Here you can see, this is Channel 4, their second channel. So, not only with this converter box do you get a cleaner TV signal, but you get additional channels to watch. And, as I go through these, Channel 7, their main broadcast, Channel 7, their second signal—that's not possible on the analog set.

Senator DEMINT. If it was a digital-only signal, would the TV on the right be blank?

Mr. KENNEDY. Yes, if the analog signal were turned off. In fact, that's why—one thing we're here to talk about today, the 15 per-

cent, roughly, of the homes with sets out there who would not be able to receive a digital signal, absent some sort of a converter like this.

And let me just show you one other thing. Channel 26 is actually broadcasting four multicast channels. So, this is the second Channel 26, second channel. You can see, here is Channel 26 for kids.

Senator DEMINT. Could they do ten channels if they wanted to?

Mr. KENNEDY. I'm not that good of an engineer. I think there are about—four or five is about the limit.

The CHAIRMAN. Is that digital-ready—is it total-digital now? This is——

Mr. KENNEDY. It's total-digital.

The CHAIRMAN.—digital receiver, digital signal.

Mr. KENNEDY. Yes, the digital signal is being broadcast by the television station, and it's being received by this digital receiver, this converter box, and turned into an analog signal.

Senator DEMINT. I think we just saw a digital cliff.

The CHAIRMAN. No, that's the reverse of a cliff, because this has gone up.

Senator DEMINT. But it's going down.

The CHAIRMAN. No, it's—it's a digital signal coming in——

Senator DEMINT. There it went.

The CHAIRMAN.—on analog, and turned into digital.

Mr. KENNEDY. Right. No, I'm sorry, sir. This is a digital signal coming in, being converted to analog so we can see it on an analog television.

The CHAIRMAN. Oh, I—yes, he's right, then. All right. I was wrong.

Mr. KENNEDY. That's it. As I said earlier, we—with a hard date for DTV transition, we'd have that box on the market in January of 2009, for $50.

The CHAIRMAN. Ooh, that's a wake-up call.

Well, we do thank you very much, Mr. Kennedy. That's interesting to see. A colleague of mine, my age, says, at the time when you get a digital signal on a digital-ready set, it's like being in a new generation. It's really a wonderful opportunity.

We are at the point where we'll ask members if they have any questions.

Senator Inouye?

STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

Senator INOUYE. I would like to ask Chief McEwen a question, if I may. If Congress establishes a hard date, how long will it take your organizations to build systems and acquire the equipment necessary to put the 24 megahertz of spectrum into use?

Mr. MCEWEN. Well, that's the heart of the issue for public safety, to be very honest, and I appreciate the question.

Without a date certain, nobody will plan to use the spectrum, because they can't get the funding that will be committed either by local, state, or Federal sources. And, to be very honest with you—I don't want to speak for Mr. Kennedy, but we've been told by the manufacturers that they aren't even going to begin to produce equipment that we could use until there is a date certain, because,

for instance, if you establish a date certain of 2008, and they started to develop equipment today for our use, that could be obsolete in two or 3 years, and they could develop much better equipment, you know, at the time that they know that this is going to be purchased. Nobody is going to purchase equipment until they can use it. So it's kind of a difficult problem for us.

So, the issue here is that if you start—to give you an example to try to answer your question—if you were to start to develop a system, if we had a date certain of today, and we started today, it takes about a year of planning, and licensing, and developing your whole plan. It takes another year of putting out a request for proposal for the equipment that you're going to purchase, and a decision has to be made to purchase equipment. And it takes another year for that equipment to be purchased, or to be built, and to be actually put into service. So, it takes about a minimum of 3 years from the date we start that process. So, if you give us a date certain, we can actually begin to develop that strategy at that point in time when we know there is a date certain.

Does that answer the question?

Senator INOUYE. Yes. In other words, if we delay the hard date too long, we'll be having several disasters before you're finished.

Mr. MCEWEN. I would say that's very likely. I mean, that's a very sad situation that could happen. I mean, no matter what you do today—we've been waiting since 1997, when the Congress told the FCC to give us this spectrum, so there's been a whole series of years we've been waiting. This is an important thing for us, to get that date set.

Senator INOUYE. Well, I'm certain that all of the members of the Committee support your efforts. We'll have to work out some way to accommodate you.

Mr. Kennedy?

Mr. KENNEDY. Senator, thank you. I just wanted to underscore one point. Because the problems that Mr. McEwen talks about are very real problems for the public-safety community and for manufacturers, one of the things that we have done is, we have already implemented some of these frequencies in some of the public-safety systems we sell today. In other words, the frequencies we're talking about here are adjacent to currently licensed and used frequencies. And we've taken the opportunity to load them into some of our walkie-talkies, our police radios. There are about 100,000 out there in service now. They can't be turned on, they can't be used in these frequencies, because of the issues with DTV. But we have tried to get, sort of, a jumpstart on getting the right kind of radios into the public-safety marketplace.

Senator INOUYE. Mr. Kennedy, since you're on there, you said that the converter boxes will be available. When will these boxes be available?

Mr. KENNEDY. I said January of 2009. We need, again, the certainty of a hard date to really commit to the program.

Senator INOUYE. That's providing the hard date is 2006?

Mr. KENNEDY. I'm assuming 2008.

Senator INOUYE. Should consumers have the ability to get subsidized converter boxes?

Mr. KENNEDY. You know, I think that's a question, really, for the Committee. The box is not that complicated to build. It—you know, it's—it could be built by other manufacturers also. It isn't, in a sense, the—from our perspective, the business of selling the box is not really the goal here. Our goal is to try to help free up all of the radio spectrum.

Senator INOUYE. I'd like to follow up on a question that the Chairman asked. Are there any U.S. manufacturers of TV sets?

Mr. SHAPIRO. I assume that's for me. Yes, there are. In fact, there is significant manufacturing which occurs in the United States, of projection and cathode-ray tubes in Pennsylvania and in California, I believe, and in Arkansas, as well. And I can follow up in writing.

There's a lot of talk, though. The broadcasters have said foreign manufacturers—they have certainly done a good job of trying to create that impression.

We have almost two million jobs in the United States connected with the consumer-electronics industry. And, to the extent that manufacturing has shifted abroad, it's shifted from Mexico to China, it hasn't shifted from the U.S. out. And these are, you know, very low-scale factory jobs.

The reality is, there's a tremendous amount that's done in the United States with chip development, with designs, with sophisticated displays of the entire range of the consumer electronics industry. And certainly there's a tremendous amount of manufacturing of TV sets that occurs abroad.

The reality is, the entire industry is one which is multinational and is pulling along a good portion of the U.S. economy, and that goes from TVs and displays to all sorts of devices. The average American family now owns 25 consumer electronics products. These are devices which are making a huge difference in our productivity, in our ability to telework, and everything else.

So, coloring this as an issue of overseas production is very deceptive, because, again, it was from Mexico to China, to a large extent. But manufacturing occurs all over the world, and especially if you look at components and chips, a lot of that occurs in the United States.

Senator INOUYE. My time is up now.

The CHAIRMAN. Thank you very much.

Senator Burns?

STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Senator BURNS. Thank you.

Just for the record, we've got all kinds of spectrum out there. Why, this 700 megahertz, does it become very important? What is it—anybody, anybody answer that. This is a technical question, I know. Why does that work, and not the 600, or the 800, or whatever? Give me an idea.

Mr. MCEWEN. Public safety is in multiple bands. We go into the 30 toP megahertz band, we're in the 150 megahertz band, we're in the 450, we're in 700 to 800. And we've got some new 4.9 gigahertz. So, we're all over the place. And the main reason is that spectrum is—as you know, is a valuable commodity, and there isn't enough

spectrum in any one place to allocate it without displacing other people for public-safety's needs.

The Congress and the FCC, in 1996, made the decision that, because of the way this—this analog conversion to digital was going to take place, that it was an opportunity for public safety to get the additional spectrum that they needed. That's why that particular band. There isn't any spectrum currently available in those other bands that you're suggesting. So, that's why it's important to us.

Senator BURNS. In other words, you chose to displace the broadcast industry——

Mr. MCEWEN. No.

Senator BURNS. What?

Mr. MCEWEN. No, we didn't choose it. The FCC and the Congress knew that this spectrum was going to be available when the conversion from analog—I mean, if you understand, when you go from an analog channel this wide, down to digital channels this wide, that left spectrum. And the decision was made that this was spectrum that would be good for the use of public safety. And it's very good for mobile-type communications.

Senator BURNS. But it does not contain any other quality, other than that, then there's just a big chunk of it.

Mr. MCEWEN. And it's very good for mobile-type use, is the purpose for us. It's very——

Senator BURNS. We've somebody else who wants to talk. Yes? Yes?

Mr. CALABRESE. Senator, the—when you get below—it's very important to get below one gigahertz, for broadband. I mean, I'm sure there are reasons, for public safety, but I'm familiar with wireless broadband. Vulcan Ventures and other firms have done studies that show that the deployment cost for a wireless broadband network drops by a factor of at least three when you compare, for example, deploying broadband in the WiFi band, which is up, say, at 2.4 gigahertz, compared to being below one gigahertz.

So, for—one reason is, then, you can go out and build a rural broadband network at one-third the cost if you get into the TV band. And the other reason we look at the TV band is because, you know, the—even after the DTV transition, broadcasting will have 49 channels, 288 megahertz of that prime spectrum, and yet there's only an average of seven full-power stations operating in each of the Nation's 210 markets. So, even though there might be 20 in New York or Los Angeles, when you're in Alaska or some other states there may only be four, or five, or six, and yet we're wasting all of that prime spectrum that could really lower the cost of rural broadband deployment.

Senator BURNS. Yes?

Mr. TOWNSEND. Senator, is this a trick question?

Senator BURNS. Sort of.

Mr. TOWNSEND. OK, I'll try it.

Senator BURNS. Throw me a tricky answer.

[Laughter.]

Mr. TOWNSEND. We've operated at many different frequencies—at 1900, 800, 700—as you know, I think—that's why I asked you that question—for every 700 megahertz of spectrum that you go up—from 0 to 700, 700 to 1400, 1400 to 2100—the distance that

that signal can travel gets cut in half. So—I mean, just generally; it's not exactly right, but that's generally it—so, a 700 megahertz signal can travel about two and a half times as far as a 1900 PCS signal. That's a big deal. It means that you can cover 1,000 square miles with a single cell site, compared to four cell sites at 1900. So, the cost of deploying a nationwide network, particularly in rural areas, is dramatically cheaper at 700.

The second advantage is that the 700 megahertz signal, kind of, goes straight. So, it goes right through walls, and buildings, and everything else. Whereas, the 1900 signal has that old sine curve you saw in math class. And when it hits a wall, it bounces off. So, the 1900 signals can't get into buildings as well.

Mr. SHAPIRO. And the reason that's important is for public safety. For example, the firemen that were in the World Trade Center on September 11th, they could have gotten the signal with a broadcast signal. With other higher frequencies, it doesn't go through the concrete. The broadcasters had the spectrum about 50 years ago, when science was a lot less sophisticated, and it's huge. This six megahertz is just huge for each broadcaster. And what the transition's actually doing is, they're keeping essentially the same amount of spectrum they had, in terms of their ability to send out a signal, but it's just being used more efficiently, and the holes in the Swiss cheese are being transferred over, back to the public for other purposes.

Senator BURNS. OK. Now, I have a—now, should it be—anybody who wants to answer this—in other words, you're asking Congress to set policy, basically. So, you say it's insignificant that we have only 11 percent of the people out there who depend on over-the-air broadcast, who do that now. And you said it was not necessary, for economic problem—economic reasons. Is that correct, Gary?

Mr. SHAPIRO. Yes.

Senator BURNS. OK. We are going to—we are going to, then, set policy that tells America, from this point on—from 2008, the end of 2008—that all Americans will have to pay for their news, their sports, their entertainment——

Mr. SHAPIRO. No. That's not——

Senator BURNS.—that used to come over——

Mr. SHAPIRO. Senator, with respect, that's not what we're saying. The world has dramatically changed. Americans now have the choice of six or seven different ways of getting information into their home—broadcast, cable, cellular—the broadcast one is free; there are other ones that are relatively free, also. WiFi is almost free now. But the fact is, if only one out of ten Americans are using over-the-air broadcasts to get a signal, those Americans—you're looking at some types of policies which would allow those Americans to have alternatives, either through some types of rebate, or the ability to get a converter. The fact is that one out of four American families buys a new TV set every year anyhow. As we go on five or 10 years from now, that will make a difference. The costs will go down so much, it would be incorporated.

What I'm saying is, look at one future of the TV set which is barely used today, and Congress is going to give three or 4 years' notice to American consumers that that will be turned off. Just the way people buy computers today, they don't expect them to be

working in five or 10 years. This is a feature. The fact is, most TV sets are used for cable, satellite, DVD, games. The over-the-air broadcast component is barely used today. And, yes, it's significant to the people that use it, but if you consider the alternatives which would allow those Americans that want to go out and get that converter box—subsidized, low-cost, rebate, whatever it is—the ability to do that, I predict that that will be a very small number of Americans.

It happened in Berlin. Berlin went over to digital television, and the government was absolutely shocked that, of all the Berlin citizens who were eligible to go get this free thing, only a few thousand out of the tens of thousands who were eligible actually went and got it. They ended up with a lot of converter boxes they couldn't get rid of because the Germans basically wanted—didn't care about over-the-air.

Senator BURNS. Anybody else want to comment on that?

Mr. KIMMELMAN. Senator Burns, if I could just say, quickly, I'm pretty stunned at Mr. Shapiro's cavalier attitude about this. I mean, I'm sure—they sell a lot of electronic equipment. They make money doing it. I understand they want to sell more. But, by our count, there are 80 million sets out there that could go black that people are using today, not for games.

Now, I'm not trying to scare anybody. A $50 converter box would be a wonderful thing to come to the market, and we want public safety to be taken care of, but we need to do this responsibly. These are TV sets that people are actually using, they say they're using. Now, if the consumer electronics industry thinks there are fewer, I urge you to have them indemnify and cover the cost of the $50 box if they're so sure. I don't believe their numbers are right. But, more importantly, these are sets that work today. Why should people have to pay just to keep those sets working? If they're going to—if they want to buy a digital TV, if they want to buy a set-top box, if they want to buy anything, wonderful, we're all for it. But if they just want to keep their television sets working to get over-the-air signals, why should they have to pay?

Senator BURNS. You want to respond to that, Mike?

Mr. KENNEDY. Yes, Senator.

The CHAIRMAN. This will be the last response.

Senator BURNS. OK.

Mr. KENNEDY. OK. Senator, all I wanted to add is that this converter box allows television to continue to work. It's sort of a future-proof on your analog TV set. So, we are not here asking the Congress to turn off television. Absolutely not. We're asking the Congress to make available spectrum for public safety and other, sort of, great growth wireless services in the United States. And we're demonstrating a solution that basically takes care of the individual viewers at—the few remaining viewers that are still looking at over-the-air broadcasts. So——

Senator BURNS. OK.

Thank you.

The CHAIRMAN. Yes, sir.

Senator Ensign?

STATEMENT OF HON. JOHN ENSIGN, U.S. SENATOR FROM NEVADA

Senator ENSIGN. Thank you, Mr. Chairman.

I want to just address a couple of things that—Mr. Kimmelman, you talked about holding harmless the consumer. But, you know, in all of the consumers—the fact is, in this new world with this spectrum freed up, the spectrum is going to get more, not less. There are going to be so many more services. You talk about, you know, the people in Alaska and Montana that, right now, cannot get broadband. OK? And that digital divide is going to get wider without this spectrum being freed up. The consumer is going to get more. Those televisions are not going to go black. Those televisions just need to have converters, and the converters are—the technology is very simple technology. The $50 number—you know, I can't tell you how many different manufactures I've heard from that that $50 number is a very conservative number. It could be even as low as $35–$40. The fact that—how many of our households today have computers? They pay a lot more than $35–$40, and they expect those computers to last three, maybe four—and if—some people will maybe go five or 6 years if they're real antiquated, but, basically, they're thinking about turning those things over that often. A $50, you know, converter box is really not a lot. And, for those—and I believe, you know, we can have some kind of a program—I'm not sure exactly what it will look like now—for those low-income people that want to convert over, or that need a little subsidy, or say they want a subsidy, put it out there. And I think that—I agree, I think the same thing will happen as happened in Germany. I think you put it out there and very few people will take advantage of it. But, for those who need the satisfaction of that, the policymakers need that satisfaction out there, put it out there. I don't have a problem with that. That's a compromise that we can make.

But, you know, for people like us, here at this table, or you, or the people in the audience here, we don't need a subsidy for a little converter box for those televisions that are analog. I have eight TVs in my house, in every little room, and every one of those are analog. OK? Now, I plan on—you know, soon, a couple of the main TVs—you know, going to the consumer electronics show and buying some things. But——

[Laughter.]

Mr. SHAPIRO. We appreciate that.

Senator ENSIGN. But, you know, I mean, I—there's no way I should be getting a subsidy, or people that can afford it. It's not an expense that's of any significance. The benefits, though, are huge.

I want to address the cost aspect—not the cost, but the revenue aspect of the spectrum. Mr. Townsend, you've been quoted before. The CBO, I think—Mr. Chairman, if I'm not incorrect, CBO estimated $10 billion on the auction. Is that about right? And that was interesting—about the date is—during our listening session, as some of the people—you know, the CBO was saying that the sooner you do it, the less money you raise—during the listening session, some of the people made the argument that the later you do it, the less money that is raised because of compression technology. Mr.

Townsend, could you, one, give us—for the hard date that's been talked about today, give us what your estimate is, versus the $10 million the CBO has estimated, but also talk about, whether it's sooner or whether it's later, what you think would happen to the revenue. I mean, I think we should listen to people that have actually been out there bidding on this auction.

Mr. TOWNSEND. Our estimate was $20- to $30 billion sometime in the next 2 years. That was based on comparable transactions. We went and looked at what other people are buying and selling spectrum at 1900, which I don't think is as good as 700. That's what they're paying today. In terms of, is it more valuable——

The CHAIRMAN. What was the date, now?

Mr. TOWNSEND. I didn't give a specific date. It was, kind of—this is what 1900 is selling for right now. I think if the date—this is a tough question, because we would like to buy that right now. And I think the companies we've talked to would like to buy it right now. So, as the time goes on, hopefully they'll be eager to buy it, as well in the future as they are in the past. I don't think pushing it out too far is a good idea.

Senator ENSIGN. So, in other words, you don't think that it'll be more valuable into the future, and there's a chance it could be less valuable.

Mr. TOWNSEND. That's correct.

Senator ENSIGN. OK.

The idea that—I think, that needs to be emphasized today, that all—virtually across the board, from what we've heard from people, is a hard date. I mean, that—I don't know if anybody else is watching this thing, or listening. That's significant news today, that virtually everybody that's testified here believes that the Nation needs to go to a hard date, from first responders, to the manufacturers to the broadcasters, cable. Virtually everybody has agreed that a hard date—it's just some of the issues on how do we get to that hard date, how much of a subsidy, protecting the consumers—what are the other issues involved—the must-carry and all of that, some of the details that we can work out, but the significance, I think, of the hearing, and, I think, why it's so significant that you've held these hearings, Mr. Chairman and Senator Inouye, is that we have now a hard date to go toward, and work out the details in the meantime. So, I think it's very significant, what has happened here today.

Thank you, Mr. Chairman.

Mr. MCEWEN. Senator—could I just make a comment, Mr. Chairman?

The CHAIRMAN. Yes, sir.

Mr. MCEWEN. Your sheriff, Bill Young, in Las Vegas, is in a—as you know, that's a rapidly growing metropolitan area—he is facing this rapidly growing population and has increasing congestion in his radio channels there. His is one of the places that is looking to use 700. It's a good example of what we're faced with around the country. I just wanted to make that point.

The CHAIRMAN. Very good.

Senator Rockefeller? No, wait. Senator DeMint's first.

Senator DeMint? Pardon me.

STATEMENT OF HON. JIM DEMINT,
U.S. SENATOR FROM SOUTH CAROLINA

Senator DEMINT. Thank you, Mr. Chairman.

I've been trying to determine the winners and losers in this transition, and it seems like the complainers are on the consumer side, Mr. Kimmelman, the broadcasters. And, as an old marketing guy, the first thing that comes to my mind as I listen to all of this, the digital transition could put the broadcasters back in business. What I just saw here this morning—and you sitting at home with those rabbit ears, and you're getting three or four lousy signals, like Senator Burns gets from his cable, somehow.

[Laughter.]

Senator DEMINT. But, with the same rabbit ears, the same old analog TV, now, with broadcasters—with the ability to broadcast four or five, and probably a lot more, stations, you could sit at home with 20 or 30 stations on your old analog with your rabbit ears with as good a signal as anyone else could get. And people like me could say, "Why in the world am I going to pay for cable?" Then we'd make the cable people sharpen their pencils in the DIRECTV. This seems like one of the greatest opportunities for consumers that we could possibly have. Instead of me paying $50 a month, I could pay one time for a $50 converter and get free television with 20 or 30 stations. It would put the national broadcasters back in business, instead of spending millions on one channel that they send to their franchisees, the franchisees would become much more valuable. I just can't imagine that the folks who are very much thinking they're on the losing end were the ones who will actually be in the driver's seat with this transition.

So, I appreciate the demonstration today. And if anything's wrong with my logic, Mr. Kimmelman or any of the rest of you, please let me know. But I think what we've heard today, Mr. Chairman, it's time to just do it and set a date certain, and get this thing done. And I think the market will determine the rest.

I yield back.

The CHAIRMAN. Very good. Thank you.

Now Senator Rockefeller?

STATEMENT OF HON. JOHN D. ROCKEFELLER IV,
U.S. SENATOR FROM WEST VIRGINIA

Senator ROCKEFELLER. Thank you, Mr. Chairman.

Mr. Kennedy, Mr. McEwen, I would like to ask you this question together with Mr. Kimmelman. After 9/11, the world changed, and everybody says that happily. And I find a certain kind of awkwardness in our discussion of the date certain by which we have to produce this thing, which will allow first responders, for example, to be able to get what they need in order to haul people out of the tragedies, or a series of tragedies, which is almost certainly coming, and could very well come before the date.

Now, the question—my question is this, and it's not a particularly friendly one, but it bothers me a lot. Another form of national security in this country is our dependence upon foreign oil. Americans are uniquely geared not to be able to address that problem. Toyota Motor Companies, which is the largest corporation in the world, I think, they decided that they were going to address the

problem of energy efficiency in cars. And they've done it through the introduction of hybrid engines, and they're going to go on from there.

Now, there wasn't any law in this country that said that people were going to use hybrid engines, or that by a date certain we had to be using hybrid engines, but they started out cautiously, and they didn't introduce that many of them, and now the demand is so high that it takes a year to get one of these Toyota Prius, which are extraordinary vehicles.

Now, there's no—as far as I know, there's no date. They usually come in through California, which is more receptive to these things. And the rest of us learn.

My question is, Why is it that—a company like Motorola, that the American industry, which has direct response to the people you represent, Mr. McEwen, that they have to be given a date certain in order to do something which they know darn well is in the national interest? And the reason they have to be given a date certain, I think, is because otherwise they say, "Well, we're not sure people would buy our product." Well, if this country is under siege—and I happen to think that it is, and I happen to think that most thinking people think that it is, and that there are going to be a variety of things happening, we're going to really need—we're going to—your folks, Mr. McEwen, are going to need this capacity.

So, philosophically, would you, Mr. Kennedy, address the concept—and you, Mr. Kimmelman, address the concept—of requiring—and I'm all for a date certain, but how do I know that it can't be 2008? How do I know it can't be 2007? I mean, American industry can respond to anything in the world. And do you have to have a careful roadmap laid out for you, exactly how many people would buy it, in what states, and what would be the level of profit, and what would be the level of purchase?

I'm made very uncomfortable by this. We're talking strictly national security here. And I think when national security is talked about, the Congress does all kinds of extraordinary things, and so does private industry. They rise to the occasion. This somehow seems to separate itself because it gets into spectrum, and it has a more, sort of, cerebral context to it; and, therefore, we don't treat it in the same way. But, in my judgment, it gets right at the heart of the matter of protecting the American people.

Mr. KENNEDY. Well, Senator, thank you.

I mentioned earlier that—I mean, we certainly, very much, appreciate the concern over security. We are the largest communications supplier to the first-responder community, I believe. We've taken some risk ourselves. I mentioned earlier that we have already taken our own risk to put some of these frequencies in systems we're selling today. That's an effort to lower the cost for our first-responder customers in the future. We take the risk that we will never be able to activate those frequencies unless we have a hard date, or we clear the band.

In terms of the converter box, we need about 12 or 18 months to gear up production of that box. We would be selling into a diminishing market. You've heard Mr. Shapiro talk today about—every year there are more digital televisions in the market and fewer analog, and every year—there's certainly some question about ex-

actly what the number is, but every year there are fewer people watching over-the-air broadcasts.

So, basically, we are not—when we talk about this converter box, it's not an investment in a future business; it's actually an investment in something that we believe would help make the spectrum available for first responders and for others.

So, it—I guess that I would have to say that we're—I think we're doing what we can and should do here, by being here, by showing you this box.

Senator ROCKEFELLER. Mr. Kimmelman?

Mr. KIMMELMAN. Yes, Senator Rockefeller, I think for national security the American people would pay higher taxes, I think they would support every effort to enhance our public safety. What you are hearing, though, is that the market hasn't developed. Out of more than 20 million sets sold last year, only a few million were digital sets. They're expensive, and not as many people are buying them. People are still buying analog sets, day-in and day-out, today. It's part of the problem.

So, I think an orderly transition may be helpful here, because spectrum is used in different ways. Your cell phone can't work with Senator McCain's provider, probably, and *vice versa.* I mean, we've got—I've got an open market that has allowed for multiple uses and standards, and the question is, How many sets do you want people to have to buy? The benefit here is that no one should have to pay higher taxes, no one should have to pay more, because you are—you heard, 10 billion—you heard, as much as $30 billion could come in from auctioning this off in an orderly way, hopefully to promote more competition and diversity in the marketplace. So, there is a way to do this that enhances public safety, if done appropriately.

Mr. CALABRESE. Senator, if I could make one comment, which is that—I wasn't planning to talk on this, but I do believe it's possible to clear the channels for public safety ahead of the rest. You know, I mentioned earlier that there's only—out of the Nation's 210 local TV markets, there are only 15—on average, 15 high-power TV channels operating on any one of those channels. But on the public-safety channels—63, 64, 68, 69—there are far less than that, between four and ten stations operating on those channels.

And so, the DTV transition does not necessarily need to be simultaneous in every market nationwide. I would think you could have a rolling transition, where you clear those—clear the stations that are operating on those four channels in the markets where they're located. In other words, do the DTV transition in those markets first. It may mean a more expensive converter box, but that may be a price to pay.

Senator ROCKEFELLER. Thank you.

The CHAIRMAN. Thank you very much.

Mr. TOWNSEND. Could I just give you a quick answer, from the commercial side? It's different from what these guys are saying.

That was the question I asked, How come we can't do this faster? And the answer I get from commercial manufacturers of wireless broadband equipment is, you give them a date, they can have this stuff ready in 12 months. When I—if we were to get the broadcasters in here and give them truth serum, I think they would tell

you they could do it in 18 months. So, if you guys set a date, my guess is—and you wanted to crack the whip—you could have this done in 18 months.

The CHAIRMAN. Senator McCain?

STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM ARIZONA

Senator MCCAIN. Thank you, Mr. Chairman.

And, Chief McEwen, earlier today Telemundo said they'd be ready to hand over its broadcast spectrum tomorrow. What's the earliest date public safety would be prepared to use that spectrum?

Mr. MCEWEN. We would begin the planning immediately. If you gave us a date certain of tomorrow, as I already have answered earlier for Senator Inouye, the—it takes us about 3 years. First of all, we need to get the funding. And so, we need that date——

Senator MCCAIN. Let's assume you get the funding and the date. How long does it take you?

Mr. MCEWEN. If I have the funding and date today, it takes about 2 years before you can actually implement, turn on the system—if I had all the planning done and the funding done, and the funding committed. So, it's not a quick thing. It doesn't happen quickly.

Senator MCCAIN. Mr. Kimmelman, you talked about the need for Congress to compensate over-the-air viewers for the need to buy additional equipment—in other words, a set-top box of some kind. Why do you believe the government should compensate the consumers and not broadcasters or other industries? Although I think the broadcasters may have been amply compensated with free spectrum, but——

[Laughter.]

Senator MCCAIN. Go ahead.

Mr. KIMMELMAN. Senator McCain, are you suggesting we should compensate the broadcasters?

[Laughter.]

Mr. KIMMELMAN. Well, I mean, these are dislocation costs. And there is precedent in law, and you have established it before, where there's dislocation as you rearrange uses of spectrum, that you compensate. In this case, it is not the broadcasters who are harmed. They are getting a very valuable asset for much less, and possibly as much as six stations' worth of capacity for every one they had in the past. That's an awfully valuable——

Senator MCCAIN. How much would it cost if we wanted to provide set-top boxes for—first of all, for every household, and then for every television set?

Mr. KIMMELMAN. By our estimates, based on our surveying, you're talking $2–$3.5 billion out of the $10–$30 billion from spectrum auctions, is what it would take to take care of everybody. And let me add that it's not just compensation. Senator Rockefeller raised the issue of public safety. If a cable system goes out once you've gone digital, and you're getting your broadcast signals digitally, and there are still analog sets out there—Senator Vitter raised it before—how do people know about it? How do they find out? It may be valuable to keep one analog set in most households, with one of these set-top boxes, so that you'll be able to find out

about disasters and what steps to take, whether they be from outside forces or natural disasters.

So, there is a security—a national security reason, as well, to think about making sure consumers can have access to communications over-the-air.

Senator MCCAIN. If you noticed—if somebody has told—if you've got an over-the-air television set that's not connected to your cable or satellite in your home, and we're going to give you a set-top box, are you're going to get a run on over-the-air television sets bought?

Mr. KIMMELMAN. I seriously doubt it, Senator McCain. I think that—I mean, people are buying what pleases them. People are buying digital boxes, expensive boxes, if they like them. They're buying very big sets. Some people are buying small ones. And some people will hold them. I recognize that people buy sets all the time. And Senator Ensign raised it. We're for people buying whatever they want. But a lot of people hold their sets and use them for five, ten, 15, even 20 years. And so, even if they're buying new ones, they're keeping the old ones.

Senator MCCAIN. Is part of your argument that we should buy the set-top boxes because it's—there are a lot of low-income households who can't afford to subscribe to cable or satellite? Is that part of your rationale?

Mr. KIMMELMAN. Absolutely, Senator McCain. Of the 16 million who get over-the-air television only, the GAO estimates about—at least 40 percent of them are lower-income. We heard this morning that there is a large percentage of Hispanic households who rely on over-the-air. A lot of people with limited means still rely on over-the-air television.

Senator MCCAIN. Mr. Townsend, in your testimony you discussed Aloha's plan to bring wireless broadband to rural areas, including Arizona. There has been some speculation that Aloha may flip these licenses to wireless carriers once a firm date is set. Is that—can you comment on such speculation?

Mr. TOWNSEND. Well, nobody's called me and made us any offers.

Senator MCCAIN. I asked you if you would contemplate selling. It's very valuable stuff you've got.

Mr. TOWNSEND. I have to speak as the CEO of our company. I think we believe this stuff is about the best spectrum you can have for broadband that's available. We plan on deploying wireless broadband over the next few years. If somebody came and offered us eight gazillion dollars, I'd have to ask our investors what they want to do.

Senator MCCAIN. Mr. Kennedy, what's Motorola doing to ensure that public-safety equipment is interoperable—not only interoperable with other Motorola equipment, but also with competitors' equipment?

Mr. KENNEDY. Well, Senator, we're building equipment to a standard called P–25. That is a federally-recognized standard. It's a publicly available standard. A number of other manufacturers build to that standard, also. So, we do have interoperability out there in the marketplace.

Senator MCCAIN. Mr. Kimmelman, how many times have we had a date certain?

Mr. KIMMELMAN. Quite a few. And one of my greatest fears, Senator McCain, is that even if you move forward, in budget reconciliation, with a date certain, 2 years from now we could be here again with a date certain, and things not having progressed far enough and you wondering whether you need to extend that date. And that would not be good for the American people.

Senator MCCAIN. If history holds true, we'll be here 2 years later.

I thank you, Mr. Chairman. I don't mean to be so cynical in my——

The CHAIRMAN. Well, thank you very much. It's been a very informative hearing, so far.

Mr. Shapiro, I want to get back to this TV-set question. Now, I was told, categorically, there are no television sets manufactured ready for sale in the United States, totally. Now, you say that there's a large percentage. Aren't you telling us that the components—that consumer electronics are added to some of these boxes? Are you really producing, from ground up, more than half of the television sets in this country?

Mr. SHAPIRO. I didn't mean to imply that, Senator. I don't believe we are. As I indicated, the manufacturing has shifted rapidly from Mexico to China. I think the Mexicans are very upset about that. But the fact is that some of the chips in some TV sets are made in the U.S. And I'd be happy to follow specifically, after this hearing, with details.

The CHAIRMAN. It's very important, because I think we're seeing something develop here this afternoon that I didn't anticipate, and I think that Senator DeMint has a point about the set-top boxes. Is anyone manufacturing set-top boxes in this country today?

Mr. SHAPIRO. Well, there are two major producers of set-top boxes: Motorola and Scientific Atlanta, two U.S. companies. And, indeed, Motorola is one of the patent-holders, I believe, of the specific ATSC standard, that it would be part of, not only every set-top box, but everything having to do with HDTV getting that over-the-air signal.

The CHAIRMAN. What's the production on your line, then, Mr. Kennedy?

Mr. KENNEDY. Well, that's right. I don't have that figure available. I would just comment. Manufacturing—unfortunately, there's no easy, simple answer here. As Mr. Shapiro said earlier, it's a complicated answer. I mean, the design and development is often done in the United States.

The CHAIRMAN. You built this box, didn't you?

Mr. KENNEDY. Yes, we did. Yes. Yes.

The CHAIRMAN. What does it cost?

Mr. KENNEDY. We can sell it for $50. It costs something less than that. Again, I don't have that at my fingertips.

The CHAIRMAN. You know, I've got a place up in Alaska. We're there about 12 nights a year. And I'm paying twice the cost of the set-top box now just to keep that thing on when I'm not there. I'd love to have a couple of set-top boxes.

I think Senator DeMint's got a point—we may have missed that point, and it's a very good one—that many people may like to convert back to over-the-air if they had the set-top boxes. I wish you could tell us what the production capability is. Suppose we picked

Mr. McEwen's date, 2 years, and said, you know, it's a firm, absolute date, it's going to take two-thirds to change it, or something like that. Now, are there going to be boxes available?

Mr. KENNEDY. Sure.

The CHAIRMAN. When are they going to be available?

Mr. KENNEDY. Sure. We need 12 to 18 months to gear up a production run sufficient to meet the demand that we see out there now. Now, if some of the Senators are right, and people start to shift back to over-the-air television, that would create more demand for the product. But when we look at the number of sets that are out there right now—the number I have is actually 20 million sets—when we look at those sets, we'd need 12 to 18 months to gear up in time to meet that.

The CHAIRMAN. Well, we're going to give a transcript of this hearing to CBO and ask them to review their past findings, in terms of the amount that's going to come in from spectrum. Mr. Townsend, you may get that call, after all.

But I do think, if you're right, Mr. Townsend, and Senator DeMint has a point, we ought to consider listening to Senator McCain even more and bringing the date closer, rather than taking it out. We're taking it out a little bit, primarily because of revenue. We had to have the revenue. We're mandated to bring in $4.8 billion, in this bill. So, we have to be sure we get at least that much. Now, I think some of you ought to give us some idea about how to help on that.

I do worry a little bit, though, about—again, about the problem of those people who are out there who cannot afford the boxes. And that's added onto that $4.8 billion. It has to be +$4.8 billion in order to—how much those boxes will cost, as I understand it. So, I do believe we have the basis for change in this bill, and——

You had a question that you wanted to ask, Senator Burns, is that right?

Senator BURNS. I just had one question. Can we do the same thing—sorry, I didn't have my thing—dealing with translators?

Mr. KENNEDY. Yes, translators would just be broadcasting an over-the-air analog signal, so I think the same box would work with translators.

Senator BURNS. OK.

The CHAIRMAN. Now, let me go back to one thing that bothered me this morning. And I think he's doing a fine job for his association. Mr. McSlarrow, Kyle, said they preferred to downgrade the signal when it came in so that the people who were using analog sets on their system could get the over-the-air broadcasting on the existing sets. Now, is there anyone manufacturing a box to go the other direction? Is that possible? Could I have an analog set and buy a box that would convert it up to the digital signal?

Mr. SHAPIRO. You really need the digital TV set, to appreciate that. An analog set would only be as good as an analog set can be. And, as was demonstrated, almost anything digital is better, but you always have—a system is only as strong as its weakest component, and today the weakest component would be the analog picture.

The CHAIRMAN. But I can't buy a box to put on my set to pick up—they're going to be broadcasting over-the-air digital, now. I

can't use that to go up, though, to that set. I can only still convert it back to analog for me for my set. Is that right?

Mr. SHAPIRO. Yes. Right.

The CHAIRMAN. It's not technically possible to go the other way?

Mr. KENNEDY. Senator, what this box does is, it takes the over-the-air digital signal and converts it to an analog signal so it can be displayed on a conventional analog television set.

The CHAIRMAN. Right.

Mr. KENNEDY. I'm not aware of how you would go—in a sense, do that in the other direction.

Senator BURNS. You've already got a digital set, so you don't have to convert it the other way, right?

The CHAIRMAN. No, I've got an analog set, but I want the digital signal, and not just——

Senator BURNS. You're going to get it.

The CHAIRMAN. I'm only going to get the converted signal on analog, as I understand it. Correct me if I'm wrong, Mr. Shapiro. Am I wrong?

Mr. SHAPIRO. Part of it, you could think of it—like, you can never get a—if you think back to black-and-white sets, you can never get color on a black-and-white set, because the system doesn't allow it. You had to buy the color TV set to get the color.

The CHAIRMAN. Well, that gets me back to the sets, again. Part of this equation has to be that we stop sets coming in that are going to require people to convert. What is wrong with the suggestion that was made that we require anyone producing a set after, say—what?—November 15th in this country—or selling them—has to have a chip in it that converts it? What's wrong with that?

Mr. SHAPIRO. I think what's wrong with that is, you take a $70 13-inch set, and you would add another $150 or so of cost to it, and consumers would go in and say, "Why—what happened to the price of the TV sets?"

The CHAIRMAN. The chips only—the chips in this thing don't cost that much money.

Mr. SHAPIRO. In three or 4 years, they may not; but today to add that integrated feature to a TV set, it costs a minimum of $100 to $200, if not more. It's a very sophisticated—almost first- or second-generation process now.

The CHAIRMAN. Well, how do we get away from the point that——

Senator BURNS. Stick the box in.

Mr. SHAPIRO. But the box costs that amount of money, and someone has to pay——

The CHAIRMAN. We're going to pass a law that says that this is the absolute drop-dead date. But, meanwhile, the country gets flooded with these things that won't—that are going to require set-top boxes to enjoy the signal.

Mr. SHAPIRO. Yes, but nine out of ten of those are not even being used for analog—for over-the-air signal.

The CHAIRMAN. You said one of our four people buying a new TV set——

Mr. SHAPIRO. One out of four families every year, if not more.

The CHAIRMAN. I've got to tell you, they must be producing kids, then, because they've still got their sets out there, don't they?

Mr. SHAPIRO. Well, my point——

The CHAIRMAN. I mean, these sets are just another added-on set to the analog area, is what I'm telling you; they're not coming in digital.

Mr. SHAPIRO. Well, now we're selling more digital sets than we are analog, and that trend is going to increase. If Congress sets a hard deadline, that'll increase even quicker and more. And once Congress is—once we're able to say, "The law is that these sets will no longer get a signal after 2008," the consumer's going to start thinking about it. Today, forcing consumers to think about it, when they see—you know, they see two sets side by side, one is great, with a big picture, but it's $700 more than the old analog one—but they may want to use that analog one for a DVD, for video games. That's what these sets are really being used for. Broadcasting now is a very minor use of a television set.

The CHAIRMAN. I've told this to my colleagues before, I don't like to confess my stupidity, but I was convinced, a year ago, that the set I bought was digital. It's analog.

Mr. SHAPIRO. Well, I would like to——

[Laughter.]

The CHAIRMAN. Right on the face, it says "digital," but it's not—it's digital-ready, they told me.

Mr. SHAPIRO. Well, once you experience HDTV, I think you'll remember it, because it has such a great big wide picture.

The CHAIRMAN. I understand that, but I don't want that experience for other people, buying a set who think it's digital and it's not.

Senator BURNS. No, but, listen, I'll tell you what, there is a difference, though, Senator, between a digital TV set and a high-definition television set. Remember that.

The CHAIRMAN. What would it take to have people agree they put that on the set? I believe, if we set a date—let's take the original date, 2006, OK? Suppose we said—the place—the country would still be flooded with those sets that won't pick up the signal.

Mr. SHAPIRO. They would be—that would allow manufacturers to put labels saying, "As of 2006, that you will not get a signal on this, and, essentially, you're buying a monitor, you're buying something usable for video games, or for cable, or satellite." That would allow that.

But we are supporting a hard deadline of almost any date, as long as there's a hard deadline. We want to see that. That allows us to tell consumers that Congress has said this will happen.

The CHAIRMAN. Senator Inouye has a question.

Senator INOUYE. I think we can reach certain conclusions. First, every member of the panel and the Committee has used the words "deadline," "hard date," "drop-dead"——

[Laughter.]

Senator INOUYE.—or what have you. Second, I think we can conclude that whatever is involved here is complex and complicated.

And I'm just wondering, do most of the people of the United States realize what's happening in this room? Do they know that we're discussing conversion? Are they prepared for it? If we suddenly thrust upon them a deadline, what's going to happen?

Mr. TOWNSEND. Senator Inouye——

Senator INOUYE. We're a bunch of politicians here.

Mr. TOWNSEND.—you raise an extremely valid point. I don't believe the American people have any idea what is being discussed, and the significance of it, and what it'll mean for them. And so, I believe Mr. Lawson, this morning, indicated that this needs a kind of Y2K preparedness. I wouldn't want to overstate it, but there are a lot of pieces that have to come together for people to be able to feel comfortable with changing how they receive signals on their television set, and knowing how much it's going to cost them.

Senator INOUYE. If what you say is correct, should we involve ourselves in some educational process?

Mr. KIMMELMAN. Absolutely, Senator Inouye. I think if the Committee moves forward with legislation, if you set a date, if you go forward, it's incumbent upon all of us to come together with an informational program. And it's really all the industry. I know it's not their motivation, but, in reality, they'll make a lot of money selling a lot of equipment here, and someone's going to pay for it. Whether it's consumers or someone else, I don't know. And so, it's really incumbent upon all of us to work together to make sure people are well informed, and they know that what they buy will work and how it'll work.

Mr. SHAPIRO. Senator Inouye, we would welcome your involvement. We've spent several years, and several million dollars educating the public about this, and, indeed, nine out of ten American adults are now aware of the terms "DTV" and "HDTV," and over half intend that their next TV-set purchased will be digital television.

But, while we've been out there promoting over-the-air television and broadcasting, and having websites for how to buy an antenna, and doing all these things, the broadcasters have been almost totally silent on this; and, instead, they've focused on regulating cable, and regulating satellite and regulating us. And we've been asking the broadcasters to step up and promote free over-the-air broadcasting, and they have not. And I think this would be an excellent opportunity—I hope, as a part of any legislation, there is a mandate that they do that. If they're going to get this great public spectrum, they should be out there promoting the fact that there's free over-the-air broadcasting, and that there's HDTV, and they have not done that, to this point.

The CHAIRMAN. Mr. McEwen?

Mr. MCEWEN. Yes, I think—you know, I think the time has come. And, you know, I would encourage you to keep on the thinking that you're going down this road, and that is that—you know, what we were trying to say, and we've been saying for years, is that, in 1997, when you mandated that we were going to get this spectrum, if you had made the decision then that in 5 years there wouldn't be any more analog sets built, that would have stopped the problem. We wouldn't be having this problem. And the problem is, today you're re-examining that same issue.

If you don't make that decision sooner or later, it's going to just continue to be a problem. I mean, the education is a very important issue, I agree with that, but you can't start educating until you can tell people what to expect. And they don't know what to expect without you making that date certain.

The CHAIRMAN. I think it should have a double-whammy, and that is, we won't allow a set to be sold after a certain date that's not digital, but we won't provide a set-top box for any TV that's bought after a date closer to us. I just don't think we should do that.

Let me——

Mr. SHAPIRO. Mr. Chairman, the FCC has done that. There are dates that say you cannot sell an analog set, alone. And we are respecting those dates.

The CHAIRMAN. They did that, but I don't think it's very enforceable——

Mr. SHAPIRO. Well, for larger TV sets now—you cannot buy a larger analog set.

The CHAIRMAN. That's a large one.

Mr. SHAPIRO. And it's going down. Next year, it will be almost everything.

The CHAIRMAN. Well, we want to bring it really closer to us.

Let me take a last comment and privilege.

You mentioned the German experience. Just keep in mind that my state alone is bigger than Italy, Germany, France, and Spain. We've got a different country here. You can learn much from what goes on on the continent. I really think we ought to think very seriously about what happens to rural America, in terms of this legislation. And we, all of us, represent portions of rural America. So, I think we will reflect it in the Committee.

Anyone else have any questions?

Yes, Mr. Kennedy?

Mr. KENNEDY. Senator, I just want to add to Senator Inouye's discussion about education. I think that's very important. I think that, to date, the debate has been mischaracterized. It has been mischaracterized largely, I have to say, by the broadcasters as "turning off television." I think what we've tried to show today is that it's not about turning off television; it's about releasing spectrum for commercial and first-responder purposes. TV viewers, over-the-air viewers, with the right converter box, are going to get more choice, they're going to get better pictures. So, I think to underscore the educational need here to, kind of, make sure everybody understands what the real debate is about.

Thank you.

The CHAIRMAN. I hope you will be willing to answer questions of some of the people who have got very technical questions.

Mr. Townsend?

Mr. TOWNSEND. Senator, you know, your point about the rural areas, I think, has been a little misconstrued in some circles. I think the rural areas are going to be the big benefactors here. And the reason is, even though everybody thinks they're the people who receive over-the-air television, that's not true. The rural areas generally have a much lower number of over-the-air television sets than the metropolitan areas do, because of the satellite receivers. For example, in Montana, which I think you would definitely classify as rural, there are—under 10 percent of the over-the-air sets are receiving TV over-the-air.

I think the big benefit's going to be—taking Montana or Alaska, or any of these states, really—is that if you do the DTV transition,

you're going to have very few rural people affected by the over-the-air sets, and tons of them able to get rural broadband. And so, they're going to be—they're not going to have much downside from watching TV, but they're going to have an enormous upside by getting in rural broadband.

The CHAIRMAN. I hope you're right. Those rich ranchers up there in Montana, they can afford it. I'm not sure the reindeer herders can.

[Laughter.]

The CHAIRMAN. Thank you all very much.

[Whereupon, at 4:10 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF JERRY K. ROSE, PRESIDENT,
RELIGIOUS VOICE IN BROADCASTING

Multicast must-carry in digital television (DTV) is the *single most important legislative issue for full-power religious broadcasters* in our country. As the Committee considers introducing a DTV bill this session, we would like to encourage you to include a mandatory multicast must-carry provision to ensure non-major network affiliated, small, independent, religious and minority broadcasters maintain a proportionate voice in the digital television landscape.

In this regard, the following testimony will provide insight on four important issues raised during the multicast must-carry debate; offer detailed information regarding the financial hardships being faced by RVB stations working to comply with the government mandated build-out to DTV; and supply information on the types of programming RVB stations air and produce and their programming plans for multicasting in DTV.

First, although cable operators have invested millions to build their systems out to digital, broadcasters have also invested millions, sometimes up to 75 percent of their operating budget, to meet the minimum DTV requirements mandated by the Federal Government. However, cable operators made their decision based on a business model that will reap significant benefits; while small, independent and religious full-power stations were mandated to make this burdensome investment, even in circumstances where the business model was not a profitable venture for their stations. To add to the dilemma, many religious broadcasters will experience a dilution of their voice when they become one channel out of 800–1000 on a digital cable system instead of one of 100 channels on an analog system. Multicast must-carry offers these broadcasters an opportunity to maintain a proportionate voice in the digital television environment.

Second, broadcasters are not asking cable operators to carry *any additional spectrum, not a single MHz more,* than is currently being carried on their analog systems. Moreover, cable operators can now compress each broadcaster's 6 MHz of spectrum into 3 MHz on their digital cable systems, even with multicast must-carry, thereby reducing by 50 percent their carriage requirements, and are not required to carry broadcast channels beyond one-third of their capacity. In their latest DTV position paper dated May 26, 2005, the Christian Broadcasting Association quoted John Alchin, CFO of Comcast, as stating: *"We can turn 70–80 analog channels into 1000–1600 digital channels with 15–20 compression with virtually no investment"*.[1] Therefore, cable operators will not face debilitating capacity issues if required to carry broadcaster's multicast signals. This is especially significant considering that most cable operators have among the highest profit margins—40 percent and more—of all telecommunications industries in the country.

Third, while RVB takes no position regarding the recent consolidation of multimedia conglomerates, media concentration has contributed to an increase in horizontal and vertical integration. Greater integration exists today than before the 1992 Cable Act, which makes multicast must-carry increasingly important to preserve the government's interest in free over-the-air local broadcast television, information from a multiplicity of sources and fair competition in the television programming market; issues cited by the Supreme Court as justification for must-carry in *Turner Broadcasting System, Inc.* v. *FCC.* We strongly believe there should be a place for broadcasters who are not affiliated with major media conglomerates in the digital television landscape.

This is especially important given that RVB stations provide the type of local and community focused programming that Congress intended to preserve. For example, WLMB–TV 40 in Toledo, Ohio, airs a weekly program entitled, *Find a Local Church.* The program features various places of worship in the local Toledo region

[1] *Cable World,* May 22nd issue (p.32).

so that those who are new to the area can familiarize themselves with the region's local churches. KSCE–TV 38 in El Paso, Texas, offers several hours of Spanish-language programming daily to serve their large Hispanic community with local public interest and education programs. They also have 3 hours of Arabic-language programming available on a weekly basis, including a women's interest program. KTLN–TV 68 in San Francisco, California, focuses on Korean, Chinese, and Spanish-language programming to serve the diverse demographic of that area. KTLN is also part of the Total Living Network in Aurora, Illinois, which produces approximately 700 hours of local programming yearly, including *Newsmakers*, a program covering current events of importance to the local Chicago communities. (More examples of programming aired and produced by RVB stations and their programming plans for multicasting in digital television can be found in the Appendix.)

Cable operators argue that market forces should determine which broadcasters receive cable carriage of their multicast signals. In a perfect world, the most "compelling" programming would receive carriage and a government mandate would be unnecessary. However, recent events indicate that this is not always the case. For example, during the "two-dish" satellite debate in Congress last session, it was revealed that satellite television providers were systematically placing some highly rated stations, including Spanish-language and religious broadcasters, on a second dish which reached a substantially diminished viewing audience. Satellite providers offered no clear or logical explanation for this systematic practice and later moved these stations to the first dish when questioned about this practice by Members of Congress.

Furthermore, operators found that a market-based approach did not work for cable channels under the proposed *a la carte* structure and informed the Hill that many cable programmers would not survive without bundling that assured cable carriage for certain channels. Cable argued that their business plan could not be sustained under an *a la carte* structure that would allow viewers to pick and choose programmers and that the market could not accurately determine what programming was considered compelling by viewers across America. Yet, in the case of multicast must-carry, cable operators are urging Congress to let the market determine which broadcasters should receive carriage of their multicast signals, primarily because they own competing programming. Arguably, religious, small, independent, Spanish-language and non-major networks and broadcasters are at a bigger disadvantage than cable channels in seeking carriage of their multicast signals. Cable's positions on these two issues are inconsistent and would result in the disparate treatment of broadcasters and would be detrimental to small, independent and religious full-power broadcasters.

The original intent of must-carry in the 1992 Cable Act was to ensure that small, independent and non-major media affiliated broadcasters would continue to provide valuable diversity of programming to our nation. As we transition to digital television, multicast must-carry will help small, independent, minority and religious broadcasters maintain their voices and allow them to continue serving niche markets with diverse local and community-focused programming. We would encourage the Committee to consider these issues as the DTV bill develops this session and ask that it include multicast must-carry.

Financial Hardship Information of RVB Stations Working To Comply With the Government Mandated DTV Build-Out

RVB stations are experiencing significant financial hardships as a result of the government mandated DTV build-out. The government mandated DTV build-out disproportionately affects small and independent broadcasters and threatens our viability.

RVB stations did not seek Federal support for digital television, nor did we commit to airing high definition programming in exchange for digital spectrum. Major networks like ABC, NBC, FOX and CBS can more easily finance the transition and leverage their assets to negotiate strong retransmission consent agreements and cable carriage for their secondary networks, making DTV a profitable undertaking for their companies. Small, independent and non-major network affiliated broadcasters lack the power to negotiate for cable distribution of our multiple digital broadcast signals and need multicast must-carry to retain a proportionate voice in digital television. In the absence of multicast must-carry, major networks and vertically integrated cable channels are the beneficiaries of a Federal DTV mandate that places smaller broadcasters at a federally imposed competitive disadvantage. With the foresight that forced conversion would require debilitating financial investments, dilution of our voices and reduced services for our viewers, RVB would have opposed Federal regulations for an unfunded digital television mandate.

Promoting diversity of viewpoints and choices in the television medium is an important government interest. A regulatory environment that gives small and local broadcasters the opportunity to maintain existing local operations, while simultaneously fostering growth and a proportionate voice in digital television, preserves a basic tenant of American communication policy—promoting widespread dissemination of information from a multiplicity of sources. The impeditive costs associated with the digital television transition, for non-major network affiliated broadcasters without the assurance of multicast must-carry, will continue to disproportionately affect our ability to function, considering many of us are only marginally successful under an analog business model.

The challenges of the digital transition have caused some broadcasters to sell their stations, and others will falter because of financial difficulties associated with the uncertainty of digital must-carry requirements. Multicast must-carry is the single most important issue facing RVB stations as we plan for future broadcast operations in digital television.

The following is a partial list of RVB members experiencing financial hardships during the digital transition:

Kevin Bowers	WTLW—Lima, OH
Garth Coonce	Tri-State Christian Television—Marion, IL
Bob D'Andrea	Christian Television Network, FL
Steve Easom	KSBI—Oklahoma City, OK
Blackie Gonzalez	KCHF—Santa Fe, NM
Rusty Yost	WGGN—Sandusky, OH Christian Faith Broadcast, Inc.
Rich Hawkins	WLLA—Kalamazoo, MI Christian Faith Broadcast, Inc.
Dan Huber	WBPH, Allentown, PA
Ken Mikesell	WTGL & WLCB—Orlando, FL (WTGL DTV 53 & WLCB DTV 46)
Charles Reed	KMCT—Monroe, LA
Grace Rendall	KSCE—El Paso, TX (KSCE DTV 39)
Jerry Rose	KTLN—Novato, CA
Richard Schilg	WSFJ—Newark, OH
Jamey Schmitz	WLMB—Toledo, OH
Mike Smith	WLFG—Grundy, VA & WAGV—Harlan, VA
Peter Sumrall	LeSea Broadcasting—Southbend, IN
James Thompson	WGGS—Greenville, SC; WATC-Atlanta, GA

Digital Build-Out Demands Significant Financial Investments With Limited Opportunities for Independent Broadcasters To Mitigate Costs

The Government mandated digital build-out imposes precarious financial burdens on non-major network affiliated broadcasters forced to finance higher electricity bills, maintenance fees, engineering and attorney costs, insurance premiums, phone bills, digital equipment and additional supplies and services necessary to meet DTV operating deadlines. Depending on the market location, RVB broadcasters have currently expended anywhere from $50,000 to $4.5 million to convert their stations, and are expected to spend approximately $156,000 to $5.5 million more.

Independent stations in the same market as network-affiliated broadcasters may outlay similar, but disproportionate, costs during the digital conversion. Expenditures by RVB stations typically cover only the necessities of conversion but constitute a large portion of total operating revenues and a significant drain on resources. Following the digital conversion, independent stations will have spent resources equivalent to major network stations but will continue to be systematically refused MSO carriage of our multiple signals. We will not be able to use advanced digital technology to defray or recoup our investments without must-carry. However, major network affiliated broadcasters are currently striking deals for carriage of all their signals including secondary network channels by using their leverage as large multi-tiered media conglomerates. Many RVB stations will not be able to meet financial obligations resulting from digital television investments without assurance that our multicast signals will be distributed through cable.

Table 1 reflects the to-date expenditures made by some RVB stations in preparation for the digital transition. Also listed are estimated future costs necessary to complete the conversion and operating costs for the year 2003.

Table 1

(All figures are approximate)

Call Sign	Market	To-Date Cost of Build Out	Future Costs for Completion	2003 Operating Expenditures
KTLN	San Francisco-Oakland-San Jose	$1 million	$4 million	$1,802,717
WGGS	Greenville, SC	$400,000	$2 million	$1,317,000
WATC	Atlanta, GA			(WGGS)
WTGL	Orlando, FL	Nearly $3 million	$2.5 million	$1,871,000
WLCB				
KSCE	El Paso, TX	$200,000	$1.6 million	$360,541
WLMB	Toledo, OH	$412,000	$156,000	$1.2 million
WLFG	Grundy, VA	$4.5 million	$350,000	$480,000
WAGV	Harlan, KY			

The figures in Table 1 vary from market-to-market and the extent of actual build-out, but share the important commonality of an undue burden. The best use of the digital spectrum for RVB stations will likely be a combination of high-definition and standard definition programming with multicasting. Each community will have a custom planned digital television model based on its local needs. A mixture of spectrum usage will allow stations to develop new and expanded community service programs, recoup expenses imposed by the government's unfunded digital television mandate, and ensure that local communities continue receiving important, demographically tailored and inspirational programming from a multiplicity of sources.

All RVB member stations have reduced operating costs to fund the digital transition by limiting or eliminating valuable programming. Such decisions are among the most difficult to make. Our stations are struggling with the burden of developing digital programming plans in an uncertain regulatory environment, while simultaneously laboring to finance the costs of digital build-out. Multicast must-carry is the lynchpin to our viability.

Multicast Must-Carry Is Necessary To Create Parity Between Analog and Digital MSO Carriage Requirements

Must-carry legislation was enacted to protect small, independent and non-major network affiliated local broadcast voices that were being denied carriage by cable operators. The Commission's "primary video" ruling adversely affects the balance created in the 1992 Cable Act and unduly burdens smaller broadcasters struggling with the transition.

Recent reports indicate that major broadcast networks have either signed or are negotiating multicast carriage agreements for their digital signals. Major networks have historically used their leverage to negotiate successful retransmission consent agreements and multicast carriage deals are expected. Major network affiliated broadcasters, including their commonly owned secondary networks, have a distinct advantage in developing digital television business and programming plans because they can capitalize on advanced technology with the understanding that cable operators will carry all their new programming streams.

For instance, Viacom, which owns CBS, possesses the leverage to negotiate carriage of its broadcast and cable channels, including MTV, through its commonly owned cable networks that are affiliated with cable distributors. We are not affiliated with profitable and dominant major network broadcasters that can negotiate multicast carriage of secondary networks, like NBC and Telemundo or CBS and UPN; while leveraging their main broadcast channel feed. As independent stations, we would hope that our programming, public services and audience loyalty would prompt cable to carry our multicast signals. However, this has not been the case and in instances where local cable systems have entertained our requests for dialog on digital carriage, we have been informed that their corporate offices, located in distant cities, have policies against carriage of independent station's multicast channels.

Regardless of our extensive record of public service and community support, independent full-power stations will continue to be systematically rebuffed when seeking carriage of multiple signals in the absence of a FCC mandate. However, trends in digital carriage requirements show that multicasting is an important component to the future of digital television. In order to compete in digital television with major networks, their affiliates and other cable programmers, we must be able to maintain parity in the television medium.

Evidence of RVB Stations Experiencing Financial Difficulty Is Pandemic

The following are examples of RVB member experiences with the digital television transition:

Mr. Jamey Schmitz of WLMB–TV 40 in Toledo, Ohio, runs a nonprofit, commercial television station primarily funded by viewer contributions with additional financial support from advertising revenues. To-date, they have incurred DTV costs of $412,000, $12,000 of which was expended on electricity alone. WLMB estimates that $156,000 is necessary to complete the transition. Moreover, if the transition extends beyond the 2006 target date, WLMB will be required to replace a dated analog transmitter at a cost of $500,000—a significant investment for this station.

WLMB has been on the air for 5 years and won the prestigious National Religious Broadcaster's Television Station of the Year award for 2 consecutive years, 2003 and 2004. The station is a valuable part of the Ohio community because of its locally produced shows that reflect the unique characteristics of the market. WLMB and its viewers were disappointed when the station suspended plans to invest in new community-based programming, including popular local high school sports, due to the financial burdens of the digital transition. WLMB is contemplating infomercials as a source of revenue; although Mr. Schmitz and his colleagues would prefer to focus on the public service and community programming that continue to make WLMB a successful, valuable and beloved community broadcast station.

Ms. Grace Rendall of KSCE–TV 38 in El Paso, Texas, estimates that their annual operating expenses for their digital TV station will exceed $500,000 per year. This figure is in addition to their analog expenses and significantly higher than KSCE's 2003 total gross revenues of $360,541. As a non-commercial station dependent on viewer contributions, KSCE has already borrowed $15,000 and anticipates financing an additional $1.6 million to comply with the government-mandated build-out. Ms. Rendall has encountered resistance in securing additional financing because of the perception that declining revenue will be realized from the digital operations of KSCE without cable carriage of their multicast signals.

KSCE has engaged outside help to supplement its small staff and identify outside funding sources, conduct audits for grant proposals and hire personnel to plan and implement the digital conversion. The financial difficulties KSCE is facing have caused an indefinite delay of plans for developing new and expanded free programming. KSCE is a small station suffering from a loss of valuable time, resources and assets which they are investing to meet the FCC's imposed digital deadlines.

Mr. Ken Mikesell's digital stations, WTGL–DTV 53 and WLCB–DTV 46 in Orlando, Florida, will cost an additional $75,000 per year to operate, in addition to annual debt servicing and programming costs associated with the transition. An investment of $5.5 million more is necessary for DTV completion. Borrowing funds for this venture is difficult because lenders express concerns about the negative financial implications of independent broadcasters' ability to service debts without a clear digital multicast must-carry requirement. Mr. Mikesell's financial struggles have forced him to downsize from 25 to 14 employees. He continues to seek funding sources to avoid disenfranchising his remaining employees and the elderly, minority and poor communities of Orlando, that comprise the majority of his viewing audience, and rely on the important local programming his stations provide.

Mr. Bob D'Andrea, Chairman of Christian Television Network (CTN) and owner of Florida stations WCLF–TV 22 in Tampa Bay; WHBR–TV 33 in Pensacola; WRXY–TV 49 in Fort Myers; and WFGC–TV 61 in West Palm Beach, expects his annual operating expenses to increase an additional $166,000 for DTV operations. Mr. D'Andrea has borrowed $5 million of the $7 million currently necessary for the digital build-out of his Florida stations, and estimates financing another $700,000 for completion. The Christian Television Network (CTN) is currently airing both analog and digital signals from their stations and requested FCC authority to cease analog broadcasting operations to reduce costs. The FCC denied their request, forcing CTN to implement across-the-board cutbacks.

Mr. Mike Smith's digital operations for WLFG–TV 68 in Grundy, Virginia and WAGV–TV 44 in Harlan, Kentucky, have increased annual operating expenditures by $150,000. Moreover, maintaining the new digital equipment requires specialized engineering costs of $100,000 during the first year and $120,000 for subsequent years. Insurance for the WLFG and WAGV buildings and their new digital equipment, and higher phone bills associated with the remote control transmitter that operates from the studio, have placed major financial burdens on Mr. Smith's operations. In an attempt to mitigate costs, Mr. Smith began airing infomercials, which he removed after receiving negative feedback from his viewer base. He continues to look for creative cost cutting and financing arrangements to support his broadcast operations, but is experiencing significant difficulties and sees multicasting as the

only way to maintain and increase his viewing audience and sustain a viable business model for his digital stations.

Dr. James Thompson has borrowed $400,000 to build out of his stations WATC–TV 57 Atlanta, GA, and WGGS–TV 16 Greenville, SC, and must acquire an additional $2 million to complete construction. An annual debt service of $75,000 plus a yearly increase of $12,000 in expenses for DTV operations has forced Dr. Thompson to contemplate infomercials to meet rising costs, a measure he hopes to avoid through increased programming revenues from multicasting.

Without a Multicast Must-Carry Requirement, the Financial Burdens Imposed by the DTV Transition Will Perpetuate the Loss of Independent Religious Broadcast Voices and a Diversity of Viewpoints

When the DTV build-out was announced, some family-friendly and spiritual broadcasters sold their stations because the costs of providing DTV services were not feasible without the assurance of cable carriage for digital signals. The mission of religious broadcasters is unique, in that RVB member stations are not driven by profit maximization. Our success is measured by the positive impact we have on our local communities and viewing audience, and we will continually resist compromising programming choices aimed at serving our loyal constituencies.

However, small and independent stations with limited resources will not survive a DTV transition that imposes severe financial burdens without multicast requirements for cable operators. The systematic refusal by cable operators to carry the multicast signals of smaller independent broadcast stations has resulted in systematic refusals by financial institutions to invest in our digital businesses. Our stations simply cannot survive in a digital television world where the Federal Government places us at a non-functional competitive disadvantage. Should multicast must-carry not be enacted in the near term, America will permanently lose valuable independent television voices—and these stations will never be part of the television landscape again.

As the transition to digital television continues to offer viewers new and innovative programming, it is essential that there remain a place for small, independent and non-major network affiliated broadcasters. It should be noted that these stations face tremendous difficulties in seeking to get their multicast signals carried even when they offer compelling local programming and possess a strong and loyal audience.

In fact, research indicates that 81 percent of programmers are affiliated with a major media company.[2] Thus, small, independent and religious broadcasters who are not affiliated with a major media conglomerate lack the leverage to negotiate with cable operators to receive carriage of their multicast signals in digital television. Given the dilution of their voices in digital television, it is certain that some of these stations will either be forced to enter into some type of financial ownership or affiliate agreement with major media conglomerates or go dark.

This would be tragic considering that the original intent of must-carry in the 1992 Cable Act was to ensure that small and independent broadcasters would continue to provide valuable diversity of programming to our nation. As we transition to digital television multicast must-carry will, in many cases, provide the only assurance that small, independent, minority and religious broadcasters can maintain a proportionate voice and continue serving niche markets with diverse local and community-focused programming. We would encourage the Committee to consider these issues as the DTV bill develops this session and ask that it include multicast must-carry.

APPENDIX A

Examples of Current RVB Programming and Projected Multicast Programming

Mike Reed plans on utilizing the benefits of multicasting to further expand the fifty hours of local programming his station, KMCT–TV 39, airs each week in the West Monroe, Louisiana area. KMCT's current programming includes *Fully Alive,* a live, one-hour nightly talk show hosted by Mr. Reed, which brings diverse people from the community together to discuss issues of the day. Guests include Members of Congress, Louisiana Governors and local Mayors who speak on topics such as health, marriage and other local concerns. During the show KMCT has a phone bank available for viewers to call in with questions, concerns or comments. *Lessons from God's Word,* hosted by Pastor Eugene Brown, provides a spiritual outlet for those who cannot leave their homes because of injury or illness. *Let God Be True*

[2] The America Channel, "Market Analysis of Networks in 20+ Million Homes" (May 31, 2005).

is a locally-produced show that airs the preaching of area churches and highlights the teachings of Pastor Larry Burrel, who uses graphs and visual aids to educate viewers. *Sacred Conversations* is a locally-produced show hosted by Mr. Robert Charles Payne, a West Monroe businessman, and previous football coach for West Monroe High School. Mr. Payne invites guests to speak about issues facing the community, including sports, health and disciplines of life.

KMCT's programming schedule is replete with locally-produced shows that provide valuable services to Louisiana communities. KMCT would utilize the benefits of multicasting to lengthen and expand their current programming to include a 24-hour church channel that would cover local services and church sponsored community activities. Additionally, KMCT would like to air a 24-hour children's channel and 24-hour youth channel with programs focused on the specific interests of these age groups. In an effort to promote student sports in the area, KMCT would like to expand local sports coverage by devoting a channel to playback shows of Neville High School and Ouachita High School. Each of these schools currently airs an hour per week of game highlights and interviews with coaches and players. Ouachita High School also interviews students to discuss activities on campus including clubs, organizations and other school sponsored programs. KMCT supports the development of broadcasting and production experience for students at the University of Louisiana at Monroe and Grambling University, which has a predominantly African-American student body, by hiring them to work at the station and cover issues relating to their university, including local sports. The close proximity between KMCT and several high schools and universities will facilitate increased coverage of local sports and student activities through multicasting, and facilitate employment opportunities in broadcasting.

Richard Hawkins is the General Manager of WLLA–TV 64, the only independent station in the Kalamazoo-Grand Rapids-Battle Creek market. WLLA offers a variety of family-friendly programming, boasting the most hours of local programs in the market—17 hours per week. Among the shows WLLA airs is, *Transformed,* a daily show hosted by Pastor Joel A. Brooks, Jr. that focuses on the African-American constituency through programming that promotes racial harmony. Mr. Brooks leads an inter-denominational and multi-racial congregation of 2,000 people. *Getting a Grip* is a unique show, hosted by one of the few female Pastors in Kalamazoo. Mrs. Beth Jones' teachings extend to the community at large and reflect a female perspective on the Christian doctrine. Pastor Duane VanderKlok hosts *Walking by Faith,* a daily teaching and bible study program that breaks from tradition by taking viewers on adventures that relate to bible stories, including hunting expeditions. Pastor Addis Moore hosts *Mt. Zion Baptist Church,* another program that targets the African-American population and focuses on the needs of that community.

In addition to valuable local church programming, WLLA works with the Western Michigan University (WMU) to air local coach's shows, as well as men and women's basketball games. In association with the Michigan High School Athletics Association, WLLA is committed to annually airing the girl's high school volleyball championships from the WMU campus, which provides a unique opportunity for these young girls to gain public exposure. WLLA would use digital technology to multicast a 24-hour channel of other local sports. Other digital program plans include a 24-hour channel of family-friendly and wholesome programming, and a youth channel with music and programs to benefit young people.

Dr. James Thompson has developed a loyal and devoted following in South Carolina, due to his remarkable thirty-year record of broadcast public service to Greenville, and its surrounding areas with his station, WGGS. He has similar stature in Atlanta, Georgia, where he owns a second television station, WATC. Most notably, Dr. Thompson and his wife Joanne host *The Nightline,* a live two-hour weeknight call-in program on WGGS, which gives people from the community an opportunity to discuss a variety of local interests. Discussion topics have included conversations on current weather conditions and crop conditions; oral histories of South Carolina; highlights of area elderly and indigent care services as well as conversations on how issues of national significance affect South Carolinians. The Atlanta station, WATC, devotes the same amount of time and resources to their live, local nightly show. WGGS' daily variety program, *The Peggy Denny Show,* offers cooking and household tips and reviews of local arts and politics. *Nancy's Heartbeat,* hosted by Nancy Corso, Greenville's local chiropractor with a Master's Degree in Trauma, is a weekly show on fitness and the latest news in medicine. *Jewish Jewels* is a show that focuses on the Jewish religion and those who practice the faith in the area.

Since the beginning of the Iraqi War, Dr. Thompson's stations have been airing a daily scroll of the names of the local soldiers who are committed to active duty in Iraq and ask viewers to send prayers and well wishes to the troops. WGGS keeps a phone bank of volunteer "listeners" who comfort lonely or in need viewers in the

area and refers more troubled individuals to local crisis help groups. WATC also is the home to a unique program, *The Gravedigger Show,* hosted by Joe Oreskovich, a former homeless man who was rescued by the local fire department. Joe interviews firemen, policemen, doctors, politicians and others to inspire and provide resources, guidance and hope to those in most need and at-risk, including alcoholics, the unemployed, and the indigent.

Our stations seek the ability to multicast to expand current programs and invest in developing new and original programming. On numerous occasions, North Greenville College has asked us to air student produced shows (a request that is usually unable to be granted because of established programming commitments). With the ability to multicast, we could provide the College its own channel, which would benefit both the students and the community. Moreover, because of its geographical location, WATC would like to air a 24-hour gardening and agricultural channel, in addition to a 24-hour sports channel that will focus on elementary, secondary and college level sports. Finally, we would continue to reach out to the community by providing a vocational and employment channel that would be a resource for job announcements, provide information on various trades and professions and promote employment in the area.

Grace Rendall and KSCE–TV 38 in El Paso, Texas, play a unique role in their diverse community by providing bilingual and local programming to the ethnic and religious groups in the region. KSCE airs daily programming in English and Spanish and provides valuable media resources for El Paso's large Hispanic community, which has limited family-friendly programming choices. Additionally, KSCE airs a variety of programs that cater to the sizable El Paso Jewish community, like the Monday thru Friday showing of the daily news by the Israel Broadcast Authority from Jerusalem and Jewish high holy season shows. KSCE is also the only broadcast station in the area that meets the needs of the estimated 3,000 Arab-speaking population. They broadcast 3 hours a week in Arabic, with teaching, music and a woman's interest roundtable. With the ability to multicast, KSCE is interested in continuing its diversity outreach by dedicating two digital channels to full time Spanish-language formats—one for general purpose and the second for a youth and adult educational needs.

Steve Easom's KSBI is the last locally owned station in the Oklahoma City, Oklahoma market, and it provides more local programming than all full power stations in that DMA combined. With the ability to multicast, KSBI is committed to increasing the youth, elderly and Hispanic focused programming that they currently provide. In addition, they seek to expand their local sports coverage and unique programming. For instance, the Oklahoma City area boasts a strong hunting and fishing community. KSBI produces and airs a program, *On the Water and In the Woods with Cody and Cody,* a hunting and fishing show hosted by two local Oklahoma teens that focuses on hunting safety from the experiences of teenagers. Furthermore, when a local major network affiliated station was not able to air Oklahoma State University and University of Oklahoma coach's football playbacks because of their affiliate obligations, KSBI negotiated for carriage of the programs. As part of the agreement, KSBI stipulated that it would not run overtly sexual ads that may be offensive to a family audience during playback airings. Not only did the University of Oklahoma accept these conditions, but the head athletic director commended Mr. Easom for "raising the bar" in this area.

Belarmino "Blackie" Gonzalez's station, KCHF in Santa Fe, New Mexico, is dedicated to offering the communities of New Mexico positive informational and entertainment choices. KCHF plays an active role in the Santa Fe area through shows like *Issues & Answers,* a weekly program hosted by New Mexico's Press Secretary that invites representatives of state government agencies to discuss valuable state programs that are available to New Mexicans. Additionally, KCHF highlights local charitable causes including efforts to help victims of the Los Almos fires. *Comfort My People* supports Israeli victims of terrorism through the United Jewish Communities' programs. With added ability to multicast, KCHF hopes to take their current youth programming block and develop a channel that expands its reach to young people with shows like *The Real,* which discusses issues affecting teens and provides community outreach and help hotlines for at-risk youth. With multicasting, KCHF would expand their Spanish-language programming by developing a channel specifically focused on family-friendly programs for the Hispanic community in New Mexico.

Jamey Schmitz of WLMB Toledo, Ohio, has committed to using the benefits of multicasting to serve local viewers by providing a worship channel that would feature 24-hours of local area religious-related services. This channel would include expanded versions of WLMB's *Pastor's Point* and *Find a Local Church,* programs that feature up to ninety-eight different local religious venues a year. To date, over thirty

denominations have been represented on these half hour weekly programs. Currently, the station has a backlog of over one hundred community leaders and venues awaiting the opportunity to feature their services. In many cases, these shows are the only television exposure that churches, synagogues and cultural-specific religious organizations including African-American and Hispanic parishioners are afforded. These shows have been extremely successful in helping new Toledo area residents and those new to faith find a place of worship for their families.

WLMB would also reach out to the growing Hispanic community in Ohio, by starting a 24-hour Spanish-language channel that would expand upon of their current weekly half hour Spanish-language program, which is the only foreign language program in the entire market. WLMB regularly receives requests from Hispanic leaders to include updates of local Latino-sponsored events on the show. As this segment of the population continues to grow, the ability to reach these viewers through a channel devoted to their specific needs would utilize free-over-the-air broadcasting in a manner consistent with the objectives enumerated in *Turner* v. *FCC.* Additionally, WLMB would like to start a 24-hour youth channel (a G rated MTV type channel) that would provide local teens the opportunity to become involved in the production, filming and editing of television programs. Toledo teens would have a local outlet to air programming that is timely and relevant to their evolving needs and interests. WLMB envisions expanding their current music video show that features local artist's interviews and family-friendly music videos. Finally, WLMB is pleased that in 2004, it will begin airing the Toledo Mud Hens baseball games. The beloved Mud Hens are the farm team for the Detroit Tigers. With multicast, WLMB would air 24-hour local news and sports channels, as a collaborative effort with organizations like the Mud Hens and area high schools and colleges.

Ken Mikesell's Orlando, Florida station, WTLG, would use its additional channels for Spanish and Asian language content; educational programs including PBS shows not aired in the market; shows serving central Florida's large population of seniors and children; a civic and local government channel to inform the transient population of available public services; and other locally-produced programs. The station would expand upon its regular programs featuring local nutritionists, physicians, counselors and other community leaders who discuss health, psychological and spiritual needs of the community. WTLG produces the Easter Sunrise service at Sea World, in Florida, for uplink to stations across the country, including the Armed Services Network, which it carries to all U.S. military bases. WTLG is extremely active with local social and civic organizations and uses its airwaves to promote interest and support for worthwhile projects. For instance, the station organizes food drives for local ministries; arranged for receipt of over 5,000 turkeys to the Destiny Food Center in Orlando for Thanksgiving 2002; provided "Bags of Joy" to over 2000 families through Harvestime International in Sanford; works with Operation Christmas Child, run by Reverend Billy Graham's son Franklin, to supply toys, toiletries and clothing to the needy; and participates in many other rewarding ventures. As a melting pot for many ethnicities, Orlando is the perfect example of a community in need of additional local programming choices to serve its diverse constituents.

Christian Television Network (CTN), headquartered in Clearwater, Florida, is dedicated to bringing positive Christian programming with family-friendly, wholesome messages to its viewers from all socio-economic backgrounds. Since its inception twenty years ago, CTN, its Tampa Bay station WCLF, and its founder Bob D'Andrea have developed unique local programs including, *Bay Focus,* an original show that features and highlights ministries in central Florida that are involved in charitable activities to feed the homeless, create support centers in inner cities, and provide assistance to the needy. CTN also devotes numerous hours of programming to youth and Latinos with original programs like *La Vida Ahora* (Today's Life), *Vida Dura* (A Hard Life), *Kids Like You,* and *Kids on the Move.* CTN also owns full-power stations including WHBR-Pensacola, WHTN-Nashville, WVLR-Knoxville, WRXY-Ft. Myers, WFGC-Palm Beach, and WGNM-Tampa. With the ability to multicast, CTN will further develop and expand programming that distinguishes CTN from other broadcasters.

While not a 24-hour religious station, KIKU in Honolulu, Hawaii, is unique in that it broadcasts in eight languages every week providing Hawaiian Asian language constituents with the only free-over-the-air broadcast programming in their native languages. Shows like *Korean Christian Broadcasting, Chinese Community Broadcasting in Mandarin* and *Kikaida,* entertain and inform those who have no other sources of broadcast programming in their native languages. KIKU would use multicasting for specialized local Asian language channels. For example, *KIKU's Community Calendar,* a bi-weekly English service, could be translated into different Asian languages. The diverse Hawaiian community depends on KIKU's programming and multicasting would provide a much-needed outlet for these services.

Finally, Total Living Network (TLN) is a Chicago-based organization with a San Francisco affiliate, KTLN. TLN's main objective is to produce and distribute original programming for the TLN schedule and the broader family-friendly broadcast marketplace. The unique programming TLN provides includes *Aspiring Women,* a show designed to address the concerns of modern women of all ages and backgrounds; and *Health Town,* an invigorating, healthy lifestyles show for the entire family. TLN also produces *Solid Rock VDO,* an inspirational and entertaining music video show. *All Around Rockford* is a show that highlights ministries in the community. Mr. Jerry Rose, President of TLN, hosts *Newsmakers* a public affairs program that addresses difficult issues with supplemental media resources including a panel of journalists who discuss current events. *Newsmakers* was nominated for an Emmy for Outstanding Achievement for Information Program-Public Affairs Series. TLN also works with several community-based nonprofits, such as Kids Around the World, Pregnancy Care Center, Noah's Ark Animal Sanctuary, Rockford Rescue Mission and Motherhouse to provide public service announcements and broadcast exposure for their causes. TLN has found that their locally tailored programming brings members of the community together. Specifically, TLN focuses its outreach efforts on issues to help viewers cope with addiction, physical/mental abuse, health, grief, homelessness, gangs, divorce and sexual assault. Multicasting would give TLN the opportunity to expand its services and the positive programming.

PREPARED STATEMENT OF THE CONSUMER ELECTRONICS RETAILERS COALITION (CERC)

Consumer Electronics Retailers have been involved in the transition to digital techniques since 1985, when they helped introduce the digital audio Compact Disc. Two decades later, it is high time to complete this transition. The single most effective thing that the Congress can do is to set a clear, definite, unconditional date for the cessation of analog broadcasts.

CERC members include specialist retailers Best Buy, Circuit City, RadioShack, and Tweeter, general retailers Target and Wal-Mart, and the three major retail associations—the North American Retail Dealers Association, the National Retail Federation, and the Retail Industry Leaders Association.

A Hard Date for Cessation of Analog Television Broadcasts

CERC has long favored a "hard" and unconditional date for moving exclusively to digital terrestrial broadcasts. In light of the complex budgetary and other factors involved, we have not presumed to tell the Congress what that date should be. CERC agrees with the witnesses and Committee members who participated in the July 12 hearings that it should be no later than January 1, 2009.

The key factor. from CERC's perspective, is that the date be *reliable and unconditional,* so that if we tell consumers that analog terrestrial broadcasting via an antenna will not be delivered after that date, it will be a truthful statement. We do not want to be in the position of telling customers to buy or not to buy products based on inaccurate or unverifiable information.

Once the transition date is clearly and reliably set, we and our vendors can start advising consumers that, on a specific future date, they will need to rely on alternatives to receiving analog signals from an antenna.

Public Education

Even *without* approaching the question of whether a consumer will be impacted by the cessation of analog broadcasts, advances in technology keep offering new options and choices to consumers. Most of these have little or nothing to do with whether an over-the-air tuner is included. They are:

- *Transmission and Display formats*—High Definition; Enhanced Definition; Standard Definition—digital (progressive); Standard Definition—interlaced (digital or analog). [1]
- *Program and screen formats*—Widescreen aspect ratio (16x9) or "traditional" aspect ratio (4x3).
- *Signal acquisition*—Antenna; cable; satellite; and now "wireless," and "broadband" variations.
- *Tuning, authorization, and payment*—In the receiver; in a "set-top box" or PVR or other device; or through a "CableCARD"-enabled set that allows purchase of premium channels without a set-top box.

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[1] Transmission may be in one signal format but display in another.

- *Types of displays*—"Traditional" and "slim" cathode ray tube (direct view and rear-projection); LCD panel; plasma panel; LCD rear-projection; DLP rear-projection; LCoS rear-projection; and DLP and other projectors.
- *Types of storage devices*—VCRs; DVRs (removable media); PVRs (non-removable media) and variations (PCs, game players, hand-held devices).
- *Types of interfaces between devices*—composite analog; component analog (SD); component analog (HD): DVI/HDMI; Firewire; USB; wireless variations; and associated forms of copy protection which triggers only for certain programming.

These features and facilities represent essential progress. But the availability of such a wide array of features requires retailers and manufacturers to provide increased customer guidance. Consumer electronics retailers serve our customers best by trying to "qualify" the customer—ascertain his or her needs and wants, home room size and space, viewing and recording practices, potential for a home network, and budget. We then proceed through a series of questions. What is your programming preference? How do want to receive it—off air, cable, "telco," satellite, Internet? Do you want the option of moving programming throughout the house? What devices do you already have? How many of those would you like to keep? How important is sound; do you want all your products linked to a home theater receiver and speakers? Do you know about HDTV? Will you want to record HDTV? The sales associate then identifies the combination of display formats and features, signal acquisition choices, and home network options that give the consumer what he or she needs. Today, unless the consumer has already firmly decided upon a specific purchase—and with the aid of Internet research, many have—retailers can not serve the consumer by offering products on an isolated basis. Retailers must determine how all of the devices will fit together and to do this the retailer has to consider the whole picture.

The CERC Guide to the DTV Transition

CERC members have continually updated their consumer information, in our product displays, advertising, and websites, to explain to consumers the sometimes dizzying array of choices in this transitional environment. We have also worked with the FCC and the Consumer Electronics Association (CEA) to develop, publicize and distribute a "DTV Tip Sheet" with core information about digital television products and services.

In June, CERC released a 3-page consumer guide, *What You Need To Know About The "DTV Transition"—A Dozen Questions & Answers,* to address the more particular issues that arise from the planned end to analog broadcasts.[2] CERC's press release that accompanied the Guide said:

> "[W]e thought we should assemble for consumers what is now known about the prospects for analog TV broadcasts to be shut off. and what this may mean for them. We've tried to put together answers to the most basic questions, but not to mislead consumers by omitting future options or considerations. At the moment there's no way to do this in less than three pages of print. We'd prefer to have a shorter piece with fewer variables, but we don't want to tell customers anything that's inaccurate or incomplete."[3]

CERC also invited anyone who thinks the *Guide* is inaccurate, incomplete, or could be condensed, to propose changes to be incorporated in future releases. The key to cutting down the number of variables, however, lies in definitive action by the Congress on the issues that give rise to the present uncertainties.

Text and Placement of Label for TV Receivers Lacking Digital Tuners

CERC's specific suggestions as to any mandatory point of display labeling requirements—*once a "hard date" has been set*—are as follows:

Text. The label should be as concise as possible, while not misleading the consumer or unnecessarily driving him or her to more expensive products. Based on our experience as retailers, *we are concerned that too long a label will not be read by many consumers.* We want any advisory label to be readily understood when placed on or near a product on a retail shelf. So, if there is to be an advisory label, CERC has proposed one (subsequently endorsed by the CEA) that consumers would be likely to read and understand:

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[2] The *Guide* is available on the front page of the CERC website, *www.ceretailers.org;* it is provided for the record as an Appendix to this submission. CERC indicated in its press release that it has no objection to other entities reproducing or distributing the Guide.

[3] The entire June 29 press release remains available at *www.ceretailers.org*.

Notice: This TV has only an 'analog' broadcast tuner so it will require a converter box after [date] to receive over-the-air broadcasts with an antenna, because of the transition to digital broadcasting on that date. (It should continue to work as before with cable and satellite TV systems, gaming consoles, VCRs, DVD players, and similar products.)

Placement. The label should he packed with or affixed to the television receiver, so a retailer would have the choice of leaving the label on the set for shelf display, or moving it to the vicinity of the set (so as not to cover the screen). It should also be printed on the outside of boxes.

- The labels should be packed with the covered TV receivers, to reduce uncertainty and to avoid mistakes, at retail, about the products to which the labels apply. To avoid screen damage upon removal by a retailer or consumer, the label should not necessarily have to be "on the screen" so long as it is attached to the product as shipped.
- The retailer should be able either to leave the label on the product for shelf display, or move this label to *the vicinity* [4] of the point of product display. If a label is affixed to a screen, it should not necessarily have to remain there, as this could make it difficult for consumers to compare products.
- The label text should also be printed on the outside of the retail boxes for the products to which it applies, because some retailers display TV products *only* in the closed boxes. Requiring that these boxes be opened could lessen a consumer's confidence that he or she is receiving a factory-fresh product.
- We believe that Internet-based sellers (including our own sites) should have equivalent "labeling" obligations at their own "point of display" for the product, or, if there is no "display," at the point of sale.

Subscription Carriage of Local Digital Broadcasts

Much of the discussion of alternatives in the CERC *Guide* arises from uncertainty as to whether, and to what extent, local digital broadcasts will be carried to consumer homes by subscription services such as cable and DBS. CERC has no position on the ultimate outcome of the heated, ongoing debate between the broadcast and cable industries on this score. Some elements pertaining to such carriage, however, seem to be *widely agreed upon in principle*:

- That many consumers—up to half of all cable subscribers—now watch broadcast channels, without aid of either a set-top box *or* an antenna, via the analog carriage of analog broadcast signals over cable to consumers' homes, where these signals are directly tuned by the analog tuners of these consumers' TVs.
- That it is possible to maintain this carriage, even after analog broadcasts cease, via the tuning of the equivalent digital local broadcast at a cable "headend," and the conversion or translation [5] of that broadcast into an analog transmission for carriage to these consumers' homes, exactly as occurs today.
- That it is more efficient, in a community of, *e.g.,* 200,000 such viewers, for this conversion to occur *once,* at the cable headend, rather than *200,000 times*—once in each consumer's home.
- That in order for these "basic cable" consumers to be able to receive such carriage as they do today, without leasing a set-top box, they will need TV receivers *with* analog tuners—a point that is often overlooked in discussions of why there remains a legitimate consumer demand for TV receivers with (only) analog tuners.

CERC believes that the highly nuanced debate about the circumstances and obligations adhering to such carriage produced a somewhat confusing record in the July 12 hearings. It believes that there is actually no serious controversy about the basic points laid out above, and that these points should be clearly understood as a basis for legislative determinations.

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[4] CERC believes that a display requirement of a label "in the vicinity" of the product on the shelf is more realistic than the "adjacent to" language of the House Staff Draft—depending on how "adjacent" is interpreted, this might not be possible without blocking other important information or features of the product or of another product on display.

[5] This has also been discussed as "down-conversion," which CERC believes to be an unnecessarily freighted term. Sustaining a previously received analog broadcast service to a consumer, via conversion from digital, actually is likely to result in an *improvement* in the received signal. A "down-conversion" occurs *only* if the broadcast signal is not *also* passed along as a digital simulcast (as it generally is today) in its original resolution.

Obligations on Other Industries

Broadcasters should be obliged to make consumers aware of their digital channels and of the Transition. CERC. like CEA. has been disappointed with the lack of effort to date on the part of broadcasters to educate the consumer about the DTV Transition, and was pleased to hear, on July 12, a commitment by NAB to do so, as well as NAB's endorsement of a January 1, 2009 "hard date." These steps will be a welcome change from newspaper advertisements apparently aimed at further confusing the public about the transition by saying or implying that viewers would necessarily have to buy a new TV receiver after the transition date. That this is *not* the case was amply demonstrated at the July 12 hearings.

CERC hopes that broadcasters will join in our effort to give consumers a full and candid view of their options, as they appear now, and as they will appear once the Congress has set a real transition date and has determined what the broadcast carriage rules will be. In the meantime, retailers have every incentive to offer consumers their most fully-featured products, rather than the less fully featured products that often have lower profit margins. But retailers also are obliged to serve, first and foremost, the actual needs of the customer, which vary greatly according to circumstance and preference.

The ability of retailers to sell products with integrated broadcast tuners is not helped by the fact that most broadcasters are not airing their digital channels at full power, or conspicuously promoting their digital channels through on air or print advertising. It is in our interest to sell products with DTV tuners, but we need help from the broadcasters in interesting our customers in buying them.

Provisions Re "Tuner Mandate"

Thus far, under the FCC's "Tuner Mandate" regime, our experience has been that a government mandate trying to force *all* shoppers to buy features that many or most do not in fact, need can be *counterproductive* to the success of the Transition.[6] We therefore caution against trying, in this legislation, to use a government mandate rather than the "hard date" itself as the main instrument for influencing supply and demand. In particular, we are concerned about provisions that would run ahead of feasible design, engineering, and production cycles:

- They would likely drive the market toward products with *no off-air tuners at all;*
- They would deny useful products to those consumers *least able* to afford television receivers; and
- They would be inconsistent with, and detract from, the provisions (as discussed above) that recognize cable headend conversion to analog transmission as meeting Transition requirements.

The FCC's Tuner Mandate has proved a fragile instrument for driving the television receiver market toward the inclusion of DTV tuners. Even the requirement that 100 percent of a size category of television receivers must include DTV tuners can have only limited impact on consumer choices, because not all video display products are "television receivers."[7] In an era in which more than 85 percent of households are connected to cable or satellite, the hard fact is that *most* consumer displays for video programming may *not* need to be "television receivers"—that is, the displays meet consumer needs without relying on *any* TV tuner, analog or digital, because they receive their programming from a cable, satellite, or other set-top box over non-broadcast interfaces.

CERC would oppose, in particular, any provision that would move the existing FCC Mandate date for televisions with screen sizes of 13 through 24 inches, and other products containing television tuners (such as VCRs, "PVRs," and DVD recorders), *up* to a date any earlier than March 1, 2007, because it would likely *destroy,*

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[6] We have found the mandate to equip 50 percent of all displays of 36 inches and above with digital tuners to be particularly counterproductive. By rationing the ultimate supply of products *without* such tuners, it has encouraged retailers to secure their supplies by ordering these products up-front, and to await price cuts on the products that contain tuners, because manufacturers will be required to sell these whether or not there is a demand for them. Such demand will be limited because, while many consumers may need or want terrestrial tuners in their displays, most of our customers are cable and satellite subscribers who might not need or want to pay for a broadcast tuner.

[7] A "Television Receiver" is a product having an off-air broadcast tuner and antenna terminals. The Tuner Mandate requires only that products with analog off-air tuners must have digital off-air tuners as well. A consumer display product, such as a PC monitor, may have a variety of interfaces to accept both analog and digital television signals from cable, satellite, or other set-top boxes, yet lack any off-air tuner, so it is not a "Television Receiver."

rather than *enhance,* these product categories. Such a provision would damage *both* the transition *and* the least-affluent portion of the viewing public.

- First, these sets are *very severely* affected by price considerations. A consumer who buys a $69 13-inch color television is generally moved by necessity, more than by a search for the most compelling experience. CERC's general retail members have noted that many of these sets are bought on layaway, by customers who do not have bank accounts. Even semiconductor maker Zoran, which has no retail experience and has made predictions based on assumptions that are at best aggressive and at worst unrealistic, admits that adding a DTV tuner in the timeframe now under discussion *would increase the cost of such a product by "around $80–$100 depending on the brand and model."*[8] Having the price of a $69 color TV go to $169 by July 1, 2006, would *eviscerate the low-end of this product category, punishing the consumers who are least able to afford television receivers.*
- If small TVs become too expensive for their market, the only alternative would be product lines of "receivers" with *no off-air tuners at all.* We have seen this class of "monitor" product emerge already in the large-screen category, even though the DTV tuner is a much smaller component of the cost of a large-screen television. A 22 inch LCD display with no tuner, for example, could be an alternative for a consumer who relies on a cable or satellite set-top box anyway.[9]
- Driving analog tuners out of inexpensive televisions seems especially counterproductive in light of the expectation, discussed above, that cable operators will convert DTV broadcasts to analog broadcast transmissions at their headends, so that consumers with analog tuner TVs will be served. If TV sets do not have analog tuners, there is no point in converting signals to analog at cable headends. "Basic cable" customers who rely on analog tuners to tune these channels will be sorely surprised when their sets have no place to plug in the cable.
- The Congress, concerned as it is about consumers who must bear the costs of the transition, needs to confront the fact that a low-end TV with only an analog tuner may be the only affordable option for some consumers. To drive these sets out of the market prematurely, by advancing Tuner Mandate dates that double the prices of such sets, *is to place the burden of the Transition on those who are least able to afford it.*

CERC has not asked that the existing Tuner Mandate dates for 13 inch receivers be pushed *back.* But we think it would be contrary to the legislation's purposes, and very unfair to low-income consumers, to try to move them *up.* The same is even more true for receivers with screen sizes below 13 inches. CERC and CEA will be presenting evidence to the FCC that, for the smallest categories of TVs, and for VCRs and other small chassis devices that lack TV screens, the design, engineering, and production resources of manufacturers are simply not available to produce such products for sale by a date any earlier than March 1, 2007; and to the extent some might be available, the cost is likely to be prohibitive for the (largely low-income) consumers who define the market for such products.[10]

Consumer Subsidies

CERC has not presumed to tell the Congress whether there should be such a subsidy or who should be eligible to receive it. Nevertheless, we all stand ready and willing to assist with our nationwide distribution abilities. But we *do* have a few concerns over how a subsidy might be applied or administered. Our core concerns are these:

- Congress should not attempt to fix the prices of real-world products based on the funds available for a subsidy. There are too many variables, including large

[8] *See* Zoran May 16, 2005, *ex parte* letter in FCC Docket No. 05–24.

[9] We had hoped that prospective inclusion of the "CableCARD" feature, which can be inexpensively added to products with DTV tuners, would heighten their appeal to consumers, but unfortunately these products are not being promoted by the cable industry, and issues have been raised as to their technical support. Of the approximately one million such TV receivers sold to date, only about 40,000 are being served by CableCARDs.

[10] TV manufacturers have been fully engaged in phasing DTV tuner capacity into their larger products first, in accordance with the existing FCC mandate. Their necessary engineering, design, and production resources are still engaged in this effort and cannot instantly be turned to the separate engineering and production requirements posed by different and smaller chassis products.

differences in the projections of costs 2 years hence, and of the number of households and sets for which there is a demand.[11]

- We believe that any subsidy should flow directly from the government to eligible consumers. Retailers' role in the process should be limited to doing what we do best: providing the best product that fits the consumer's needs and desires. However, as stated above we stand ready and willing to assist in any reasonable subsidy program. There are retailers in every neighborhood in America that could assist in product distribution. But the program must be sufficiently simple, must minimize financial risk to the retailer, and provide reasonable incentive to participate.
- CERC would have specific concerns over a subsidy program that would require retailers to advance the subsidy amount to consumers, and to recover it from the government:

  —Any retailer reimbursement program should be a direct obligation of the U.S. Government for each sale of a specified product. Reimbursement within a standard commercial time-frame should be assured.

  —A number of specific questions with respect to eligibility, reimbursement, and avoiding and accounting for fraud, would need to be addressed.[12]

Several CERC members have been interviewed by, and voiced their views and concerns to, the U.S. Government Accountability Office and the Congressional Budget Office. The members of CERC know that the issue of the subsidy is a difficult one. While we take no position on whether there should or should not be a subsidy, we can provide real-world input as to how programs might operate and assist the Committee in avoiding purported solutions based on unrealistic assumptions.

CERC and its members stand ready to assist the Committee in addressing any or all of the issues discussed in this submission. We appreciate the opportunity to provide this submission, and its Appendix, for the record.

WHAT YOU NEED TO KNOW ABOUT THE "DTV TRANSITION"—A DOZEN QUESTIONS AND ANSWERS

1. What is "DTV?"

DTV stands for "digital television," or, in this case, the broadcasting of digital television by local TV broadcasters. *The signals are sent from local transmitters, over-the-air, to homes, by modern digital techniques rather than the older "analog" methods that are not as efficient.*

2. What is "HDTV?"

HDTV (short for High Definition Television) is the highest quality form of DTV. Not all DTV broadcasts are in HDTV and not all DTV receivers can display HDTV. *Broadcasts in HDTV are available only on DTV broadcast channels—they are not available over analog broadcast channels.* (HDTV is also available from digital cable, satellite, and other services.)

3. What is the "DTV Transition?"

In the next few years, it is likely that over-the-air broadcasting of free TV (from broadcast transmitters to homes) will move exclusively to "digital" channels, and the more familiar "analog" channels will be switched off. Already, almost all broadcasters are using two sets of channels—the newer "digital" channels, and the "ana-

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[11] There are potential regulatory hurdles. as well. For example, California recently established an energy standard of 8 watts in "on" mode, 1 watt in "standby" mode for converter boxes—an unrealistic standard, unlikely to be met by the "converter" displayed during the hearing. If such state provisions are not pre-empted in the subsidy law they could impede acquisition of products or increase costs.

[12] These questions include: How to prevent false claims? Would all retailers, no matter how large or small, be audited regularly by the government? How to apply the program to Internet-based merchants; how to find them to audit the *bona fides* of their claims for reimbursement? CERC members are concerned that the opportunities for abuse presented by such a reimbursement program—as to which internal accounting data would be the only evidence of actual sales—would lead either to loss of credibility for *all* claims, or to government and retail auditing costs that are dramatically out of scale to the amounts being claimed. Would eligibility requirements for retailers be imposed? Would attempts be made to artificially set or define retail prices for particular products? Would adequate provision be made for the expenses imposed on retailers? CERC would oppose both retailer eligibility requirements and attempts to set or pre-define the retail price of products. Retailers should be reimbursed for their transaction and shipping costs, including the direct and indirect costs of audits.

log" channels that have been in use since the 1940s. *It is these "analog" channels, by which you are accustomed to identifying your local broadcasters, that are being replaced by different, digital channels that in most cities are already on the air.*

4. Will there be any charge to receive these digital channels?

No, broadcasts that are now free (or advertiser-supported) to consumers who receive them via antennas are *expected to remain free.* (It is possible that additional "pay" services may be launched in the future, but these are not expected to replace the free services offered today.)

5. Why will over-the-air broadcasting stop on the "analog" channels?

For more than half a century, TV broadcasts have used the technology that was invented in the 1920s and 1930s, and refined (by adding color) in the 1950s. In 1997, when broadcasters became interested in HDTV, and in order to find additional space for emergency communications and advanced services, the Congress decided that it was time for TV broadcasting to move to more modern and efficient "digital" techniques, which support HDTV or, alternatively, allow broadcasters to offer more channels to viewers. *So, Congress instructed the Federal Communications Commission ("FCC") to assign to broadcasters new "DTV" channels and, after a "DTV Transition" period, to have the broadcasters return their old analog channels.*

- Once DTV broadcasts are up and running (as they are now in many communities)—and consumers are able to receive them (which many are, particularly over digital cable and satellite services)—the "analog" channels with which most consumers presently identify local TV stations, are supposed to disappear. Their frequencies will be re-assigned for other uses through an "auction." *Holding an auction for these frequencies will free up space for new "broadband" and other communication services, and will help emergency responders to coordinate their communications.* (Finding new frequencies for emergency communications became a high priority after September 11, 2001.)

6. When will over-the-air broadcasting on the analog channels stop?

Congress's original target date was the end of 2006, but you have not heard much about it because this date was subject to a number of conditions—primarily, the readiness, as judged by the FCC, of most consumers to receive the newer digital broadcasts—and these conditions are unlikely to be met by the end of 2006. However, pressed by the need to "recover" this valuable spectrum for other uses, and with the facilities for digital broadcasting now well established, Congress is considering new legislation that would set a *clear, definite and unconditional date for analog broadcasts to stop—the transition would have to be complete by January 1, 2009.*

7. I now subscribe to cable or satellite. Do I need to be concerned about an end to free, over-the-air analog broadcasts?

You will probably not notice much change for those TVs hooked up to your cable or satellite service, but you might be missing out on some opportunities. Cable operators pick up most local broadcasts at a central location and send them to homes over cable; satellite services increasingly are able to do this as well. *It is likely that they will continue to provide whatever free local broadcast programming they currently provide to you, even after there is this change in broadcasters' means of transmission.* However:

- If you have TVs in your house that are *not hooked up* to your cable or satellite service, and rely on an *antenna* to receive conventional broadcasts, you will need to make alternative arrangements to keep watching these TVs.
- In the future, cable operators might also move to "all digital" means of delivery, which *could mean you would need to lease a "set-top box"* or own a TV with a digital cable tuner (such as one with a "CableCARD" slot) to continue to receive the channels you now view on a conventional TV.
- If a local broadcaster launches several new digital channels, a cable, satellite, or other programming service *operator might not agree, or be required, to carry all of their local digital or HDTV broadcasts.* You might, therefore, need a DTV or HDTV *tuner* and an *antenna* in order to receive those channels.

8. Does my TV have a DTV tuner? What about my VCR, DVD recorder, PVR, DVR, etc.?

The only televisions that have DTV tuners are those that have been sold—since about 1998—as having an "*integrated*" HDTV broadcast tuner (also called an "ATSC Tuner"). Most of these products are also capable of displaying HDTV, so they are sometimes advertised or sold as "*HD Built-in.*" (A set sold as "HD-ready" is capable

of displaying HDTV but does not have a built-in HDTV tuner.) Recently the FCC has started *requiring*—on a phased-in basis—that larger TVs with "analog" tuners also be marketed with built-in or separate DTV tuners, so you should be seeing more and more "integrated" or "built-in" products in stores. (Some of these may be "DTV" or "EDTV" sets that cannot display full HDTV.)

- Separate *HDTV broadcast tuner products* have been available for several years. (You are likely to know if you have one.) Once Congress passes its "transition" legislation, you can expect to see *"DTV Broadcast Converter"* products that, when hooked up to an *antenna,* convert the new digital broadcast signal to an old analog signal that your older TV can tune and display.
- Most VCRs, DVD recorders, personal video recorders (PVRs) and digital video recorders (DVRs) *do not presently have HDTV or DTV broadcast tuners, even though they may record by digital means.* (However, if one of these products has a slot for a "CableCARD," it probably also has an HDTV or DTV broadcast tuner.) *"DVRs"* provided by *cable operators do not* have digital broadcast tuners (cable operators use a different means to transmit digital signals), but some provided by satellite operators do. The considerations for supporting these non-TV products are similar to those for your present TVs.

9. What does the future shutoff of the analog channels mean to me if I am shopping for a new TV?

If you plan to purchase a new TV that will rely on a rooftop or indoor *antenna*, you may want to make sure that it has an *integrated* (built-in) *HDTV or DTV tuner*. In fact, as noted above, FCC rules now require of TV manufacturers that any TV with a screen size of 36 inches or greater that has an analog broadcast tuner *must also have a DTV broadcast tuner* built-in or marketed to retailers with the set. This requirement is being phased-in to *all* sets and other products that have analog TV tuners. ("Monitors," however, such as those used with computers, need not have *any* tuner.) One bonus: Many of these "built-in" sets *also* have slots for *CableCARDS* which, when provided by your cable operator, *allow you to tune premium cable channels (including HDTV channels) without needing a set-top box.* This gives you an additional choice if, in the future, you might plan to subscribe to a cable service.

- If your new set is going to be hooked up to a cable, satellite, or telephone company video programming service instead of to an antenna, you may not need a DTV broadcast tuner. You can expect to receive all of the broadcast channels that you are accustomed to watching *if they are carried by this operator.* However:
  - —If these broadcast channels are not carried, or are not carried in full HDTV resolution, you will need an *antenna to get the remaining local channels,* and your set would need an HDTV or DTV tuner built-in or added on (depending on whether the channels you want include HDTV broadcasts and whether your set can display HDTV). *For local information, see www.antennaweb.org.*
  - —You may in the future need to *lease a set-top-box* from your cable, satellite, or telephone company, particularly if your new set does not accept a *CableCARD.*

10. What does the future shut-off of the analog channels mean to me in watching the TVs now in my home that are *not* connected to a cable or satellite service?

If your TV is not currently hooked-up to an antenna (for example, it is being used to play video games, or to watch DVDs or camcorder movies, etc.), nothing will change, because only *free over-the-air broadcasts* will be affected by this DTV broadcast transition. If your existing TV currently relies on an antenna to receive free broadcast programming (and it does not have an "integrated DTV tuner"), you will have several options:

- You could *subscribe to a cable, satellite, or other program delivery service* that carries the broadcast programming in which you are interested. If you are already a cable, satellite, or other programming service subscriber, you can extend your hook-up to reach this TV. To continue to rely on an *antenna,* you will need an external *"DTV Broadcast Converter" product*.
- If your set is "*HD-ready*" you will want a tuner that can display HDTV broadcasts in full HDTV resolution (rather than "*down-converting*" them to a Lesser format).
- If your set is a "standard" television, you will want to obtain a "*DTV Broadcast Converter*" product that converts a "DTV" or "HDTV" broadcast to a standard

"analog" output that your TV can receive—either as "channel 3 or 4" or one of the other standard inputs that your TV already has. *The Congress is considering whether or not to assist some or all consumers in obtaining these converters, but no decision has yet been made on this issue.* Relatively inexpensive DTV Broadcast Converter products are likely to show up in stores once the legislation has passed, and the "transition date" is known for sure.

11. What else do I need to know about HDTV?

High Definition Television, or "HDTV," is the more general name for showing video in a new and better format—*a wider screen with about 5 times the picture information.* All types of video displays—conventional picture tubes, the various sorts of projection TVs, and the new "flat panels"—can show HDTV if they are designed to handle all of this video information in the new format. *You can expect a product to tune or display HDTV only if it was sold or advertised as such.*

- If your existing set is *not "HD-ready" or "HD built-in"* ("*integrated*") it will not display an HDTV signal in full quality, even if an "HDTV broadcast converter" is attached to it.
- If your existing set is "*HD-ready*" it should display an HDTV quality picture when an HDTV broadcast converter is attached (but will display only a standard quality picture from a "DTV Broadcast Converter" that is not advertised as HDTV).
- For your existing TV that *cannot handle HDTV* a "DTV Broadcast Converter" should *tune* the HDTV broadcast channels, but provide them to your set *in the standard quality format that your set can display*. (Some, but not all, of these might also provide HDTV-quality signals to "HD-ready" sets.)

12. What is "EDTV?"

Enhanced Definition Television, or "EDTV," refers to the capability of displays to show pictures at about the same quality level as DVDs—better than pictures from standard analog broadcasts, but not of the same quality as an HDTV display. For such a set, you might get better performance from a broadcast converter product that has enhanced capabilities as well. For further information on display formats, see the Consumer Electronics Association's HDTV Consumer Guide at *http://farsight.decisionmark.com/docs/cea.pdf.*

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