ADVANCING THE DTV TRANSITION: AN EXAMINATION OF THE FCC MEDIA BUREAU PROPOSAL

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ADVANCING THE DTV TRANSITION: AN EXAMINATION OF THE FCC MEDIA BUREAU PROPOSAL

WEDNESDAY, JUNE 2, 2004

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 2123, Rayburn House Office Building, Hon. Fred Upton (chairman) presiding.

Members present: Representatives Upton, Stearns, Gillmor, Deal, Shimkus, Pickering, Buyer, Bass, Walden, Terry, Barton (ex officio), Markey, Wynn, McCarthy, Doyle, Gonzalez, Boucher, Towns, Engel, and Dingell (ex officio).

Also present: Representative Burr.

Staff present: Will Nordwind, majority counsel and policy coordinator; Neil Fried, majority counsel; Jaylyn Jensen, majority professional staff; William Carty, legislative clerk; Howard Waltzman, majority counsel; Andy Black, deputy chief, policy; Bud Albright, staff director; and Gregg Rothschild, minority counsel.

Mr. UPTON. Good morning. Today's hearing is entitled Advancing the DTV Transition: An Examination of the FCC Media Bureau Proposal.

To be sure, we have come a long way since March 15, 2001, the date of the first digital TV hearing that I presided over as Chairman of this subcommittee. At that hearing we were trying to figure out how we could get the DTV transition back on track, but much of what we got was a lot of finger-pointing amongst the various industry stakeholders and frustration with the FCC's lack of leadership. Back then the transition appeared hopelessly caught in the vicious chicken and egg cycle, with no easy answers in sight.

Three years, five subcommittee hearings, and more than a handful of DTV roundtables later, today I am pleased to report that much progress has been made. Whether it be with DTV tuners, plug-and-play agreements, the broadcast flag, commercial and noncommercial broadcast build-out, cable point digital upgrades, more broadcast network digital content, or a continued surge in the sale of digital consumer electronics, all industry stakeholders are to be commended for this progress, and in many cases interindustry cooperation.

Moreover, I believe much of this progress can be attributed to the leadership of Chairman Powell and the FCC's Media Bureau. Generally speaking, whether one agrees with the FCC on any of its decisions or not, no one can fault the FCC for inaction.

To be sure, much work lies ahead, and today we are focusing on one critically important element of a transition, the deadline for the end of the transition. As we all know, the statute provides that broadcasters must return their analog spectrum on December 31, 2006, but extensions shall be granted to broadcasters if 15 percent or more of consumers in its market cannot view digital broadcasts, whether via cable, satellite, digital receivers or analog TVs with converter boxes.

In other words, this is the so called 85 percent penetration test, And depending upon how the 85 percent penetration test is calculated, some industry observers have stated that we won't hit the mark until the year 2020. To me that always has been and continues to be unacceptable.

Today we are examining a proposal by the FCC's Media Bureau which would count consumers toward the 85 percent, even if they were receiving digital broadcasts on their analog TVs from their cable or satellite provider. This proposal brings a lot to the table, and I commend the Media Bureau for it.

As I understand it, under this proposal many markets would reach the 85 percent penetration test near the December 31, 2006, date, and most, if not all, would reach it by 2009. In addition, the Media Bureau proposal contemplates granting multicast carriage rights to broadcasters, and those rights would become effective in 2009.

Moreover, the Media Bureau's proposal does not appear to exacerbate the existing challenge under the statute faced by the up to 15 percent of consumers who may not be able to get a digital signal at the time that broadcasters are required to return their analog spectrum.

In fact, some suggest that the Media Bureau's proposal may help mitigate the impact. Of course, those consumers, particularly those of limited means, remain a concern to this Member, and I commend the Commission for its recent effort to seek comment on options for minimizing the disruption to consumers when that analog spectrum is returned.

So to paraphrase Winston Churchill, today is not the end of this debate, nor is it the beginning of the end, but it is perhaps the end of the beginning in that the Media Bureau proposal is the first real proposal that I have seen which provides some semblance of an orderly transition in a reasonably timely fashion.

Of course, it is just that, a proposal. And today's hearing will help guide our thoughts on its relative merits and perhaps demerits. I look forward to hearing from today's witnesses and engaging in thoughtful conversation.

I yield to the ranking member of the subcommittee Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman, very much. And I would like to commend you for having this very important hearing and all of the key players in this discussion here with us today.

In critical ways this subcommittee was instrumental in beginning the transition to high-definition TV for the country, and cer-

tainly shifting the debate from analog HDTV format to a digital one.

For me the odyssey that began with an analog HDTV broadcast in this very room in 1987—and that was a big, big day in the history of the subcommittee when we had a live Canadian HDTV broadcast come right into this room, and most of the Members were then asking, when can I get one of those TV sets? To me it is a little bit scary if this is the end of the beginning, and the beginning started in 1987, I hope that we are slightly further along than that.

With the computer industry, the telephone industry, the cable industry, the wireless industry all going digital, it was important growth and job creation to move the broadcast industry to digital as well. Because it is a licensed industry, and one which had tens of millions of consumers with analog TV sets, it was clear that we needed a transition. Broadcasters were lent additional spectrum for transitional purposes, and the law requires that when the transition is over, that they give back their analog spectrum.

Because broadcasters were special in that they had a responsibility to use their licenses in the public interest, it furthered the public interest to move them into the digital age so that they could continue their free over-the-air public interest mission in local communities around the country.

At the same time, we were having our flurry of HDTV hearings, Congress was also passing the must carry retransmission consent provisions of the 1992 Cable Act. These provisions also reflected the fact that broadcasters had a special role in our national media mix. And I know from firsthand experience that such broadcasters certainly hold a special place in Boston's media marketplace.

Simply put, the grants of additional spectrum for free, as well as the government's requirement that cable operators carry broadcast signals, and, under must carry, require the carriage to be free of charge represents extraordinary involvement in the marketplace on behalf of broadcasters. We do this because they hold valuable licenses to the public's airwaves and because they are duty-bound to use those licenses in the public interest. Without such public interest obligations, in other words, there would be little justification for must carry rights or free spectrum.

Since 1997, I have asked various broadcast witnesses at a series of hearings about their public interest commitment for the digital era. To their credit, each broadcast witness that I asked agreed that because their service would be enhanced in the digital format, their public interest commitment would similarly rise and be commensurate with the increased power and versatility of the digital medium. Each witness, however, resisted any articulation or quantification of what that digital public interest commitment would be. In addition, we are now 4 years into the FCC's regulatory proceeding on the public interest commitment of digital broadcasters with no end, apparently, in sight.

For those of us in the policymaking realm who are prepared to endorse significant must carry policy options, including so-called multicast must carry, the lack of industry and regulatory progress on establishing public interest commitments is a concern. The FCC Media Bureau proposal doesn't speak to this type of public interest

obligation at all. It does have what seems to be a hail Mary pass proposal to end the DTV transition and get to the end zone sooner.

Getting spectrum back sooner has obvious public interest and economic benefits to offer both consumers and taxpayers alike. Importantly, even freeing up the upper portion of the broadcast spectrum for public safety would be a significant public interest achievement that has also eluded regulators for some years. Integral to the Media Bureau plan, however, is the notion that cable operators would take the digital signals of broadcasters and downconvert that signal to analog. In other words, cable consumers would receive their local digital TV broadcasts in analog format to bring the DTV transition to a more rapid conclusion.

Due to the likelihood of broadcasters multicasting and splitting their signal into several digital feeds, and the lack of any requirement that broadcasters actually broadcast in HDTV, over time we have tended in our policy discussions to drop the letter H. We typically now talk about DTV, not HDTV.

My concern with the Media Bureau proposal is that it seems to portend the dropping of the letter D. That would certainly be an O. Henry ending to the HDTV policy. We started 17 years ago with analog HDTV, moved the Commission to a digital HDTV format. Then Congress allows multicasting, and many broadcasters move to the notion of simply DTV only to have the Media Bureau turn around and bring us back to analog TV over cable systems. I understand that some think the marketplace will resuscitate the D for digital TV over time on cable systems, but I am skeptical that it would work across the Nation.

We must admit that at its core, the DTV transition represents a government-driven policy, not a purely market-driven phenomenon, and it is therefore imperative that government create the conditions and environment for policy successes.

Thank you, Mr. Chairman, very much.

[The prepared statement of Hon. Edward J. Markey follows:]

PREPARED STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Good Morning. I'd like to commend Chairman Upton for calling this hearing today to further explore issues related to the transition to digital television (DTV). In critical ways, this Subcommittee was instrumental in beginning the transition to high definition TV for the country, and certainly in shifting the debate from an *analog* HDTV format to a *digital* one.

For me, the odyssey that began with an analog HDTV broadcast in this very room in 1987 was about the public interest. With the computer industry, the telephone industry, cable industry, wireless industry, all going "digital," it was important for economic growth and job creation to move the broadcast industry to digital too. Because it is a licensed industry and one which had tens of millions of consumers with analog TV sets, it was clear we needed a transition. Broadcasters were lent additional spectrum for transitional purposes and the law requires that when the transition is over they give back their analog spectrum.

Because broadcasters were special in that they had a responsibility to use their licenses in the public interest, it furthered the public interest to move them into the digital age so that they could continue their free over-the-air, public interest mission in local communities around the country. At the same time we were having our flurry of HDTV hearings, Congress was also passing the must-carry/retransmission consent provisions of the 1992 Cable Act. Those provisions also reflected the fact that broadcasters had a special role in our national media mix, and I know from firsthand experience that such broadcasters certainly hold a special place in Boston's media marketplace.

Simply put, the grant of additional spectrum for free as well as the government's requirement that cable operators carry broadcast signals and, under must carry, require that carriage to be free of charge represents extraordinary involvement in the marketplace on behalf of the broadcasters. We do this because they hold valuable licenses to the public's airways and because they are duty-bound to use those licenses in the public interest. Without such public interest obligations, in other words, there would be little justification for must-carry rights or free spectrum.

Since 1997, I have asked various broadcast witnesses at a series of hearings about their public interest commitment for the digital era. To their credit, each broadcast witness that I asked agreed that because their service would be enhanced in the digital format, their public interest commitment would similarly rise and be commensurate with the increased power and versatility of the digital medium. Each witness, however, resisted any articulation or quantification of what that digital public interest commitment would be. In addition, we are now four years into the FCC's regulatory proceeding on the public interest commitment of digital broadcasters with no end apparently in sight. For those of us in the policymaking realm who are prepared to endorse significant must-carry policy options, including so-called multicast must-carry, the lack of industry and regulatory progress on establishing public interest commitments is a concern.

The FCC Media Bureau proposal doesn't speak to this type of public interest obligation at all. It does have what seems to be a "Hail Mary-pass" proposal to end the DTV transition and get to the end zone sooner. Getting spectrum back sooner has obvious public interest and economic benefits to offer both consumers and taxpayers alike. Importantly, even freeing up the upper portion of the broadcast spectrum for public safety would be a significant public interest achievement that has also eluded regulators for some years. Integral to the Media Bureau plan, however, is the notion that cable operators would take the digital signals of broadcasters and "down-convert" that signal to analog. In other words, cable consumers would receive their local digital TV broadcasters in analog format to bring the DTV transition to a more rapid conclusion.

Due to the likelihood of broadcasters multi-casting and splitting their signal into several digital feeds and the lack of any requirement that broadcasters actually broadcast in HDTV, over time we have tended in our policy discussions to drop the letter "H"—we typically talk now about DTV not HDTV. My concern with the Media Bureau proposal is that it seems to portend the dropping of the letter "D". That would certainly be an "O. Henry-like" ending to our HDTV policy: we start 17 years ago with analog HDTV, move the Commission to a digital HDTV format, then Congress allows multicasting and many broadcasters move to the notion of simply DTV, only to have the Media Bureau turn around and bring us back to analog TV over cable systems. I understand that some think the marketplace will resuscitate the "D" for *digital* TV over time on cable systems, but I'm skeptical that it would work across the nation.

We must admit that at its core, the DTV transition represents a government-driven policy, not a purely market-driven phenomenon, and it is therefore imperative that government create the conditions and environment for policy success.

Again, I want to congratulate the Subcommittee Chairman Mr. Upton for calling this hearing and commend as well Ranking Member Mr. Dingell and Chairman Barton for their continued efforts in making our digital television policy work for the country.

Mr. UPTON. Thank you.

Mr. Barton.

Chairman BARTON. Thank you, Mr. Chairman, for holding this hearing on the FCC Media Bureau proposal to expedite the DTV transition.

Expediting the transition is one of the top communications policy objectives of this committee, and I am intrigued so far by what I have heard about the proposal that is before us today. I am eager to learn more, and I want to thank the witnesses for testifying today. We have a good panel.

The proposal is rooted in Section 309 of the Communications Act, which sets December 31, 2006, as the goal for return of the analog spectrum. Section 309 would also allow for extensions, however. For example, a broadcaster may seek an extension if 15 percent or more of the consumers in that specific market cannot view digital

broadcasts, whether via cable, satellite, digital receivers or analog televisions with converter boxes.

Consistent with the statute, the Media Bureau proposal would count consumers toward the 85 percent that can view digital broadcasts, even if they were watching on an analog television set in ordinary definition over their cable or satellite service.

I think that that is appropriate. Section 309 is not about promoting high-definition television directly, but rather about reclaiming the analog spectrum as soon as possible while minimizing the number of consumers who must take additional steps after the transition to continue watching television.

Some criticize the proposal for not promoting high-definition television. That criticism is unjustified, in my opinion. When faced with the end of analog broadcasts, more consumers will purchase high-definition TV sets, and the more high-definition televisions that are in the marketplace, the more broadcasters, cable and satellite, will offer high-definition content.

Also keep in mind that not even the broadcasters argue that this transition is exclusively about high-definition. They continue to argue for multicast must-carry under which consumers would receive multiple standard definition streams, rather than a single high-definition one.

Some would argue that by expediting the transition, the proposal will give consumers less time to replace their analog televisions. But, again, consumers will be more likely to purchase digital television sets when faced with the end of analog broadcasts.

Moreover, the statute has always contemplated ending the transition with as many as 15 percent of households needing to take steps to continue receiving television broadcasts. The Media Bureau proposal will likely impact fewer consumers than that, since by the end of 2006, many more consumers will have digital televisions, cable service, satellite service, or digital-to-analog converter boxes.

I would also note that the broadcasters have been seeking mandatory carriage of both their analog and digital broadcasts simultaneously under the must carry rules. Under their proposal, the transition would come to an end at about the same time as under the Media Bureau proposal in light of the fact that some markets already have almost 85 percent of their customers subscribing to cable or satellite. That is not to say that I support dual carriage or other digital must carry proposals.

The Media Bureau proposal would grant broadcasters multicast must-carry rights. It is well known that I am skeptical of must-carry in the analog world. I am even more skeptical of must-carry in the digital world. Market forces are and will continue to promote high-definition multicast television where and when appropriate.

I look forward to hearing more about these issues. I think this is a very important hearing, and I appreciate the subcommittee chairman holding it.

[The prepared statement of Hon. Joe Barton follows:]

PREPARED STATEMENT OF HON. JOE BARTON, CHAIRMAN, COMMITTEE ON ENERGY AND COMMERCE

Thank you, Mr. Chairman, for holding this hearing on the FCC Media Bureau proposal to expedite the DTV transition. Expediting the transition is one of my top

communications policy objectives, and I am intrigued so far by what I have heard of the proposal. I am eager to learn more, and thank the witnesses for coming to testify.

The proposal is rooted in Section 309 of the Communications Act, which sets December 31, 2006, as the goal for return of the analog spectrum. Section 309 also allows for extensions, however. For example, a broadcaster may seek an extension if 15 percent or more of consumers in its market cannot view digital broadcasts, whether via cable, satellite, digital receivers, or analog televisions with converter boxes. Consistent with the statute, the Media Bureau proposal would count consumers toward the 85-percent that can view digital broadcasts even if they were watching on analog televisions in ordinary definition over their cable or satellite service.

This is appropriate. Section 309 is not about promoting high-definition television directly, but about reclaiming the analog spectrum as soon as possible while minimizing the number of consumers who must take additional steps after the transition to continue watching television.

Some criticize the proposal for not promoting high-definition television. I believe it does. When faced with the end of analog broadcasts, more consumers will purchase high-definition televisions. And the more high-definition televisions in the marketplace, the more broadcasters, cable, and satellite will offer high-definition content.

Also keep in mind that not even the broadcasters argue that this transition is exclusively about high-definition. They continue to argue for multicast must-carriage, under which consumers would receive multiple standard definition streams rather than a single high-definition one.

Some also argue that by expediting the transition the proposal will give consumers less time to replace their analog televisions. But again, consumers will be more likely to purchase digital televisions when faced with the end of analog broadcasts. Moreover, the statute has always contemplated ending the transition with as many as 15 percent of households needing to take steps to continue receiving television broadcasts. The Media Bureau proposal is expected to impact fewer consumers than that, since by the end of 2006 many more consumers will have digital televisions, cable service, satellite service, or digital-to-analog converter boxes.

I also note that the broadcasters have been seeking mandatory carriage of both their analog and digital broadcasts simultaneously under the must-carry rules. Under that proposal, the transition would come to an end at about the same time as under the Media Bureau proposal, in light of the fact that in some markets almost 85 percent of customers already subscribe to cable or satellite.

That is not to say that I support dual carriage or other digital must-carry proposals. The Media Bureau proposal would grant broadcasters multicast must-carry rights. I am skeptical of must-carry in the analog world. I have yet to be convinced why it should be expanded in the digital world. Market forces are and will continue to promote high-definition and multicast television where and when appropriate.

I look forward to hearing more on all these issues during today's testimony. I yield back.

Mr. UPTON. Thank you, Mr. Barton.

Mr. UPTON. Mr. Dingell.

Mr. DINGELL. Mr. Chairman, good morning. I commend you for holding this hearing.

As we all know, our country is in the midst of a very important transition from analog to digital television broadcasting. Along with most of my colleagues, I believe that the transition is progressing much more slowly than we had originally expected or hoped.

I hope that this hearing is the first of several hearings to explore the issues confronting the transition, and I would note that there are some very intractable issues that need to be addressed by hearings here and actions by the FCC.

As a result of the broadcast television migration from analog to the more efficient digital technology, the public will receive numerous benefits, including high-definition television and a greater selection of over-the-air broadcast programming.

Equally important, 108 megahertz of the spectrum will be recovered for use by other services, including public safety and advanced video and data services. In particular, this spectrum will provide a major boost toward the goal of broadband services for all Americans. However, and this point is particularly important, this spectrum will not become available for such new uses until the transition is deemed complete and the broadcasters return their analog broadcast spectrum.

In the Balanced Budget Act of 1997, Congress prescribed that analog broadcast facilities would be turned off on December 31, 2006 or when 85 percent of television households had the capability to receive digital programming. For this reason, one of the critical tasks confronting the FCC is implementing this provision of the 1997 statute.

And let me make it clear what is at stake as we continue to delay reclaiming the analog broadcast spectrum. First, 24 megahertz of this spectrum has been set aside for public safety purposes, and making such spectrum available for such purposes is clearly important to protecting our citizens and permitting public safety entities to perform their mission safely and efficiently.

Second, the remaining spectrum is needed to satisfy the growing demand in the marketplace for wireless products and services. Continuing delay only serves to inhibit the ability of innovative companies to address this marketplace demand and to dampen the ability of such companies to attract capital and create jobs.

The FCC Media Bureau's current plan to implement the statutory transition deadline would result in completing the transition in early 2009, and therefore provide important needed certainty as to the return date of analog broadcast spectrum. It would achieve this goal primarily by counting toward the 85 percent number those homes that subscribe to cable and receive a downconverted digital signal.

Once that transition is complete, each broadcaster could elect whether it wants its local cable system to pass through the station's signal in digital, or to convert that signal to analog. And cable systems would be required to carry both the broadcaster's high-definition signals and multicast signals.

This plan will merit thoughtful consideration by the Commission when it is put before them. The committee and the FCC should pay close attention to many other pressing issues where a lack of resolution continues to slow the transition. For example, the FCC in certain instances has been unable to grant construction permits or in other instances to permit stations to broadcast at maximum power levels because of potential interference with Canadian and Mexican transmitters. This is hurting local broadcasters in almost all of the border States, as I have indicated, including your State and my State of Michigan. And I would like to see the FCC work to resolve such questions in a far more expeditious fashion.

In rural areas local broadcasters rely upon networks of repeaters and translators to cover their vast market areas. The FCC has not yet authorized their upgrade to digital, and this is having a significant hampering effect on the transition, particularly in rural markets.

Finally, the FCC must move forward and create a final DTV table of channel assignments. Such action will require moving stations out of channels 52 to 69 and into the narrower core broadcast band of channels 2 to 51.

I understand that the MSTV plan currently before the FCC has near unanimous industry support, and I urge the FCC strongly to make a decision on this question as soon as possible.

Mr. Chairman, I look forward to working with you and all of the members of this committee as we examine the questions associated with digital transmission, and, if need be, I will be happy to work with you to consider legislation in this area. I thank you, Mr. Chairman, and I yield back the balance of my time.

Mr. UPTON. Thank you.

Mr. Buyer.

Mr. BUYER. I reserve my time.

Mr. UPTON. Mr. Walden.

Mr. WALDEN. I reserve my time for questions, Mr. Chairman.

Mr. TERRY. Same.

Mr. SHIMKUS. I will pass.

Mr. BASS. Pass.

Mr. UPTON. Ms. McCarthy.

Ms. MCCARTHY. I reserve my time.

Mr. UPTON. Mr. Doyle.

Mr. DOYLE. Thank you, Mr. Chairman. We were on a roll there for a second.

Mr. UPTON. We were. Sort of like that toll road in Pennsylvania.

Mr. DOYLE. Sorry to be the skunk at the garden party.

Mr. Chairman, thank you, and I want to thank Mr. Markey also for scheduling this important hearing. And I also want to thank all of our witnesses for agreeing to appear before us to discuss the FCC Media Bureau's proposal to advance transition to digital TV.

Today only between 8 and 9 percent of Americans are capable of viewing digital television signals, and at the current pace of transition, it will take many more years before the 85 percent threshold for reclaiming the analog spectrum is met.

As we all know the spectrum currently being used for the delivery of over-the-air analog television is extremely valuable to the interests of the American people. This spectrum will ultimately have significant public and consumer benefits, and it is imperative that we continuously look for ways to ensure its most immediate availability.

Availability of this spectrum will be of significant benefit to public safety. First responders in large to midsized metropolitan areas need access to more spectrum to ensure the effectiveness of the important work they perform. I am told that reclaiming the analog spectrum will double the amount of public safety spectrum, which is of great importance.

The public will also benefit by the greater availability of cutting-edge wireless services. Consumers in unserved and underserved areas do not have access to the technological advances in wireless communications that larger metropolitan areas have experienced in recent years. Reclaiming the analog spectrum will allow wireless companies to offer mere next-generation wireless services to more

areas of the country, which will allow for greater competition in the wireless industry and increased consumer satisfaction.

And, finally, the reclamation of this spectrum will bring tens of billions of dollars into the U.S. Treasury, which in these times of exceedingly tight budgets would be a very welcome addition to our budget process.

So it is clear to me, and I am sure to everyone in this room, as to why we need to think of creative ways to move this DTV transition along, which is why I am pleased that the Media Bureau has put forth this proposal for consideration.

I want to thank our witnesses for appearing here today. I am very interested to know what impact the witnesses believe the Media Bureau's plan will have not only on the interests they represent, but also what impact it will have on consumers.

I am sure that very few Americans fully understand both the benefits and the drawbacks of the transition to digital television. Consumers will certainly benefit from better picture quality and increased access to information services. But as we consider policies toease the transition to digital TV, we must remember the average consumer who doesn't want to or can't afford to spend considerable sums of money on their television service. We must try to make sure that transition to DTV will not place a significant financial burden on that consumer.

Mr. Chairman, I thank you, and I yield back my time.

Mr. UPTON. Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman.

When we passed the Telecom Act of 1996, we wanted to reduce regulation in order to secure lower prices and higher-quality service for American telecommunications consumers and encourage the rapid development of new technologies. One of the specific goals in the act was to transition from analog to digital television, of course, in a very timely manner.

Today we are examining the FCC's proposal to expedite the digital transition. While progress has been made in broadcast, cable, satellite and consumer electronics, we still lack the certainty of a specific transition date, despite Congress mandating the termination of analog signals by the year 2006.

With the existing statutory conditions, and the ability to file for extensions beyond the analog termination date, we lose a certainty that consumers and industry desire to make the full leap into the digital viewing environment. I think the Media Bureau's objectives outlined in the FCC testimony are exactly the same as Congress' intent in 1996, No. 1; a certain transition to reclaiming valuable spectrum; and, three, minimize disruption to consumers; and, four, maintain consumer access to digital offerings.

I would argue that one of the goals is not to just merely maintain consumer access, but to encourage an explosive growth in digital products and services. These offerings are there, but consumer demand is not where it should be. For instance, consumers continue to purchase thousands of analog television sets, mainly because the threshold of digital offerings does not appear to be sufficient for the average consumer to cross over and spend that extra money.

In fact, less than 10 percent of U.S. households have digital televisions. I noticed in Mr. Sachs testimony, on behalf of the cable in-

dustry, that 30 percent of cable customers subscribe to digital services. But how many of these customers view these services on an analog TV set? I don't think the number is very high.

So I am hopeful that the agreement on plug-and-play, allowing consumers to connect digital cable systems directly to a digital television without a converter box, will provide for continued growth in digital purchases.

And, last, a number of other issues must be addressed as we move forward on digital transition, such as multicasting under must carry obligations, down-converting digital broadcast signals, and addressing the 15 percent of consumers who will likely be left in the dark once analog signals cease.

So, Mr. Chairman, I look forward to hearing from our panelists today. I appreciate you having this hearing.

Mr. UPTON. Mr. Gonzalez.

Mr. GONZALEZ. Waive opening. Thank you.

Mr. UPTON. Mr. Wynn.

Mr. WYNN. I defer, Mr. Chairman.

Mr. UPTON. Well, that concludes our opening statements. Thank you.

[Additional statements submitted for the record follow:]

PREPARED STATEMENT OF HON. BARBARA CUBIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

I look forward to our hearing today on the Digital Television, or DTV, transition. This is an exciting time for the evolution of the television broadcast. Just like the change from black and white to color was a seminal moment in our history, DTV promises to provide an even more stark change with an ultra-high quality and dynamic viewing experience. We are getting closer to a time where all broadcasters will have the capability to transmit their signals in a digital format which will not only improve viewing quality for Americans, but will also free up precious spectrum for important national interests, like first responders and advanced wireless services.

There are still hurdles to be cleared, however, and it will prove to be more difficult than past television evolution, I'm sure. But I am glad we are addressing these matters as a Committee, and hope that we can build momentum to make DTV a ubiquitous service for all Americans.

Beside the assumptions that need to be ironed out regarding the DTV transition, there are also issues that need to be addressed about what that digital experience will look like in the future. Much like new technologies, such as digital video recorders, have changed our viewing habits, interactivity B apart from simply using your remote to change channels B will be commonplace.

It may also be commonplace to have six different camera angles to choose from during a sporting event, or other functionality during the news or another program.

But the future is still unclear and questions still need to be asked. Questions like, how much of the broadcast day will be in High Definition Television (HDTV) or multi-cast digital? How will the consumer know what programming will be available to them? When and where will they find it? And, how will all of this merge with the Internet?

That's why I look forward to hearing from our distinguished panel on these matters Today and want to continue our dialog as we take the next steps in this transition.

I yield back the balance of my time.

PREPARED STATEMENT OF HON. ED TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Let me begin by thanking you Mr. Chairman for holding this hearing. The digital television transition is one of the most important issues in front of this committee and the FCC, and I salute Mr. Ferree for his innovative proposal.

While words like "critical" or "important" are often loosely thrown around to describe issues and hearings, such descriptions are very appropriate for today. In fact, given the enormous value that would be generated through the return of broadcasters' analog spectrum, I do not think the importance can be over-emphasized.

This is not to say that I do not have some reservations about the FCC's Media proposal. However, as we evaluate how different stakeholders are affected by the plan, we must also weigh the public benefits that will accrue by speeding up the return of the spectrum such as innovative wireless consumer services. As a New York member of Congress, the improved communications for public safety and homeland security that would be facilitated by the spectrum is also a tremendous concern.

One glaring omission from the plan is addressing those viewers who rely on a free, over-the-air analog signal to receive television programming. In addition to the entertainment value of television, it also serves to inform citizens of important news and weather alerts.

Any plan that speeds up the transition must make sure that those who rely on this free signal are not left behind. Without any intervention by Congress or the FCC, there are millions of people, presumably low-income homes that cannot afford cable or seniors who do not want additional programming, who could see their TVs go dark on the deadline. I understand that the Chairman is planning to hold a hearing on this specific issue, and I commend him for that action. However, given the importance of this issue, I think it must be raised as we discuss the overall proposal as well.

I look forward to hearing from the witnesses on this issue as well as their overall views on the FCC's proposal. Thank you Mr. Chairman. I yield back the balance of my time.

Mr. UPTON. We are delighted to have the distinguished panel with us this morning. We are joined by Mr. Ken Ferree, the Chief of the Media Bureau from the FCC; Mr. Edward Fritts, President and CEO of the National Association of Broadcasters; Mr. Robert Sachs, President and Chief Executive Officer of the National Cable and Telecom Association; Mr. Richard DalBello, President of the Satellite Broadcasting and Communications Association; Mr. Gary Shapiro, President and CEO of the Consumer Electronics Association; Ms. Gloria Tristani, Managing Director of the Office of Communication from the United Church of Christ; and Mr. Thomas Lenard, Senior Fellow and Vice President for Research for the Progress and Freedom Foundation.

Ladies and gentlemen, welcome. I also very much appreciate your submission of your testimony in advance so we can read it last night. We would like to limit your opening statements to about 5 minutes.

Mr. Ferree, we will start with you. Welcome.

STATEMENTS OF W. KENNETH FERREE, CHIEF, MEDIA BUREAU, FEDERAL COMMUNICATIONS COMMISSION; EDWARD O. FRITTS, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL ASSOCIATION OF BROADCASTERS; ROBERT SACHS, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL CABLE & TELEVISION ASSOCIATION; RICHARD DALBELLO, PRESIDENT, SATELLITE BROADCASTING & COMMUNICATIONS ASSOCIATION; GARY J. SHAPIRO, PRESIDENT AND CHIEF EXECUTIVE OFFICER, CONSUMER ELECTRONICS ASSOCIATION; GLORIA TRISTANI, MANAGING DIRECTOR, OFFICE OF COMMUNICATION, THE UNITED CHURCH OF CHRIST, INC.; AND THOMAS M. LENARD, SENIOR FELLOW AND VICE PRESIDENT FOR RESEARCH, THE PROGRESS & FREEDOM FOUNDATION

Mr. FERREE. Thank you, Mr. Chairman, and good morning, Ranking Member Markey and members of the subcommittee. My name is Ken Ferree, and I am Chief of the Media Bureau at the FCC, and I appreciate the opportunity to testify this morning on the DTV transition.

To date our efforts have been focused on getting the transition off the ground. Those efforts are proving successful. It is no longer a question of whether the transition will occur, but when and how. It is time, therefore, to focus on making the digital switch over as smooth as possible for consumers.

The Bureau has been working on a plan to that end. In developing the plan, the Bureau had the following objectives: First, bring the transition to a timely and predictable conclusion which will benefit consumers and others with a stake in the digital transition.

Second, reclaim valuable spectrum. The spectrum that will be recovered will bring tremendous benefits to the public. Some of it will be given directly to public safety authorities, vastly increasing the amount available to first responders. The remainder will be auctioned for use by the advanced wireless services, which will not only generate substantial auction revenues, but will also provide continuing benefits in terms of the economy and job creation.

Third, minimize disruption to consumers. Whenever the transition ends, consumers should not lose access to their favorite programming. Our goal is to minimize the impact of the transition on consumer viewing patterns and to ensure that converter equipment is available at a reasonable cost for analog over-the-air viewers.

Fourth, maintain consumer access to HDTV. Today consumers have access to a growing level of compelling digital content, particularly high-definition content. That access should be maintained and encouraged.

Fifth, and finally, comply with constitutional and statutory requirements. Some broadcasters suggest, for instance, that cable operators should be required to carry both the analog and the digital signal of every broadcast station. The Commission has tentatively concluded that such mandatory dual carriage would be unconstitutional. Based on the record in this proceeding, I am convinced that that conclusion was correct. Dual carriage imposes a greater burden than necessary to further any discernable government interest.

The Bureau has devised a plan that meets these objectives. The details of the plan are set forth in my written testimony. Generally the plan involves a switch in broadcasters' must carry rights from analog to digital in January 2009. Cable subscribers and satellite subscribers in local-into-local markets will therefore count toward the 85 percent trigger for the end of the transition. Combined with the households that will have digital TV sets, we expect to reach the 85 percent threshold virtually nationwide at that time.

Now, let me briefly explain one of the policy cuts the Bureau made in developing the plan. When broadcasters must carry rights switch to digital, the question becomes, how should they be carried on cable systems? If a cable system is all digital so that all subscribers can watch a digital cable stream, the digital broadcast signal should also be passed through in digital. That is the easy case.

But what if the cable systems in 2009, like cable systems today, have a mix of analog and digital subscribers? The options are either to require the cable system to deliver the signal digitally, which would deprive analog viewers of the programming that they are accustomed to, or require cable operators to down-convert the signals so that all consumers may receive it.

The Bureau chose the latter course. Thus, the vast majority of consumers, including all cable subscribers and most or all satellite subscribers, will experience a seamless transition. They will be able to continue to watch the same programming that they always have.

Now, there are two important points to be made about this requirement. First, broadcasters can, of course, continue to negotiate voluntary carriage of their digital signal. Approximately 400 broadcasters have already done so, and more are gaining digital carriage every day.

Second, this is only a transitional requirement. Once a broadcaster has returned its analog license, it may decide whether it wants its digital signal down-converted or passed through in digital by the cable operators. It is their choice.

Finally, to begin to address legitimate concerns about the effect of the transition on consumers who rely on over-the-air analog television, the Bureau has issued a public notice to help us learn more about these consumers and what can and should be done to make the transition as smooth as possible for them.

Thank you for the opportunity to review our proposal. I look forward to continuing to work with the committee on the DTV transition and to bring it to a successful conclusion.

[The prepared statement of W. Kenneth Ferree follows:]

PREPARED STATEMENT OF W. KENNETH FERREE, CHIEF, MEDIA BUREAU, FEDERAL COMMUNICATIONS COMMISSION

I. INTRODUCTION

Good morning Chairman Upton, Ranking Member Markey, and members of the subcommittee. My name is Ken Ferree and I am Chief of the Media Bureau at the Federal Communications Commission. I appreciate the opportunity to testify today on bringing the digital television ("DTV") transition to a timely and successful conclusion.

It wasn't too long ago that using a phrase like "timely and successful" in connection with the DTV transition would have been considered a non sequitur. No longer. The DTV transition is beginning to gain momentum; we are witnessing one of the most dramatic marketplace shifts in recent memory.

There is plenty of credit to go around. Each of the affected industries—broadcasters, cable and satellite operators, content providers, consumer electronics manufacturers and retailers—deserve some credit for bringing us to this juncture. They are the ones who developed the business plans, put the capital at risk, and are bringing the benefits of digital television to American consumers.

Government deserves some of the credit as well. Over the past few years, both Congress and the FCC, under Chairman Powell's leadership, have created a renewed sense of urgency regarding the DTV transition, doing whatever was needed to get the transition moving. Often informal tools were used, like the industry roundtable discussions convened by this Committee that helped define and focus the issues, or the "Powell Plan" that resulted in voluntary industry commitments to advance the transition. When necessary, more formal regulatory tools were used, such as the DTV tuner mandate, rules for "plug and play" television sets, and the adoption of the "broadcast flag" system to protect digital broadcast content from widespread piracy over the Internet.

It goes without saying that our work is far from done. Indeed, we are in the midst of an incredibly busy period at the FCC on issues relating to digital television, and we hope to act on several major proceedings in the near future, including the procedures for final channel allotments and deadlines for broadcasters to operate at full power.

So why turn our attention to the end of the transition when we still have work in front of us? Because now is the time to start looking ahead and planning if we want the transition to end smoothly for the American public. Up to now, most of our efforts have been focused on getting the transition off the ground. But now that the wheels are finally lifting off the runway and the transition is pointed skyward, we can and should begin turning our attention to our destination, and how we will land this transition as quickly and as safely as possible.

Put differently, it is no longer a question of *whether* the transition will occur, but *when*—and how we can make the final digital switch-over as smooth as possible for consumers.

This emerging reality led the Media Bureau to develop a framework that would provide a soft landing for the DTV transition. The Bureau's framework is outlined below in some detail but, at this point, it is still a Bureau-level work-in-progress. No formal recommendations have been made to the full Commission, although we have discussed the framework with each of the Commissioners' offices, just as we have discussed it with Hill staff, industry, consumer groups, and others.

One of the most important and difficult issues remaining to be solved is how to address those consumers who rely on over-the-air analog television when the transition is complete. Last week, the Media Bureau issued a Public Notice to help us learn more about these consumers and to explore potential options for helping them make the transition with as little disruption as possible.

II. THE MEDIA BUREAU'S OBJECTIVES

In developing our framework for completing the digital television transition, the Media Bureau had the following objectives:

Bring the transition to a timely and predictable conclusion

A timely and predictable end date would benefit all those with a stake in the transition to digital television, including the public, broadcasters, consumer electronics manufacturers and retailers, public safety officials, as well as advanced wireless service providers and their customers.[1] Consumers would have fair warning of when analog broadcast signals will be terminated and can begin preparing themselves. Broadcasters would know precisely how long they will be required to run side-by-side analog and digital facilities and can make budget and maintenance decisions accordingly. Consumer electronics manufacturers and retailers would know when they will no longer need to produce, market, and support analog equipment. Public safety officials and advanced wireless providers waiting for broadcasters to vacate the 700 MHz band would know with certainty when they will be able to begin operations.

[1] By statute, all analog broadcast licenses terminate on December 31, 2006, unless the licensee requests and the Commission grants an extension based upon the criteria in Section 309(j)(14) of the Communications Act. 47 U.S.C. § 309(j)(14)(A) and (B). In the absence of significant changes in circumstances, we do not think it likely that the standard set forth in Section 309(j)(14) will be met by that date and thus expect that the majority of stations will qualify for an extension of the initial deadline.

Reclaim valuable spectrum

The spectrum that will be recovered at the end of the transition will bring tremendous benefits to consumers and the U.S. economy.[2] As an initial matter, 24 MHz of spectrum will be used to address the critical needs of first responders and other public safety needs. The remaining 84 MHz in the 700 MHz band already has been or will be auctioned for use by cutting-edge wireless services. This is "beachfront" spectrum, with propagation characteristics that make it ideal for providing wireless broadband access through foliage and building walls. Not only would the immediate revenues from an auction of this spectrum potentially be enormous (the value substantially increased by a date certain when the spectrum will become available) but, more importantly, the advanced services that will be introduced in this spectrum could provide continuing benefits many times greater in terms of the economy, jobs, and international competitiveness. The opportunity costs of keeping this spectrum "bottled up" by analog broadcasting grows higher and higher with each passing day.

Minimize disruption to consumers

Whenever the transition ends, consumers who rely on over-the-air television and do not yet have a DTV receiver will be faced with a choice: purchase a digital TV set, purchase a digital-to-analog converter, or subscribe to a multichannel video provider such as a cable or satellite operator. Our goal is to minimize the number of consumers forced to make that choice and to ensure that digital-to-analog converter equipment is affordable for the average consumer.

Maintain consumer access to HDTV and other digital services

Today consumers have access to a growing level of compelling digital content—particularly high-definition ("HDTV") content—over the broadcast, cable and satellite television platforms. That access should be maintained and encouraged under any proposal to advance the DTV transition.

Comply with Constitutional and statutory requirements

Whatever solution is decided upon must be sustainable in court. Some broadcasters have suggested, for instance, that cable television operators should be required to carry both the analog and the digital signals of every broadcast station in the market (i.e., "dual carriage") until cable systems have converted to all digital transmission. In 2001, the Commission tentatively concluded that such a requirement would be an unconstitutional abridgement of cable operators' First Amendment rights.[3] Based on the evidence submitted in the must-carry docket, the Bureau is convinced that the Commission's tentative conclusion was correct. In constitutional parlance, a dual carriage requirement clearly imposes a greater burden than necessary to further any discernible government interest at stake. Indeed, I am concerned that the imposition of a dual carriage requirement would, in the inevitable judicial review that would follow, place the whole must-carry regime at risk.

III. THE MEDIA BUREAU'S PROPOSAL

The current Media Bureau proposal has the following essential points:

1. On a fixed date no later than January 1, 2009, broadcasters' must-carry rights on cable and satellite would switch from their analog signals to their digital signals.[4]

2. Cable operators would be required to make the digital must-carry signals available to all subscribers by either: (a) down-converting a single digital broadcast stream from digital to analog at the cable head-end so that all subscribers, including analog-only subscribers, can continue to view the programming; or (b) passing through the digital must-carry signals to subscribers' homes, where the system has converted to "all digital" transmission and all subscribers have the ability to receive and display the digital signals (either on a digital set or down-converted by a set-top box for display on an analog set).

3. Similarly, satellite operators in local-into-local markets would be required either: (a) to carry one standard-definition digital programming stream from each

[2] Channels 52-69 (a total of 108 MHz in the 700 MHz band) will be reclaimed from the broadcasting service for use by public safety (24 MHz) and advanced wireless services (84 MHz). In the core broadcast spectrum (channels 2-51), the channels currently devoted to analog broadcasting would be available for potential auction or use by new entrants or other broadcasters.

[3] *See First Report and Order*, 16 FCC Rcd 2598 (2001), ¶¶ 3, 112.

[4] Every three years, broadcasters elect whether they wish to invoke their statutory must-carry rights or negotiate for retransmission consent. The next election date is October 1, 2005 for carriage beginning January 1, 2006, then October 1, 2008 for carriage beginning January 1, 2009, and so on.

broadcaster in the market (down-converted from HDTV to standard-definition, if necessary); or (b) to pass through the digital broadcast signals to subscribers' homes, where all subscribers have the ability to receive and display the programming.

4. In addition to any digital streams that are down-converted to analog, broadcasters electing must-carry may negotiate for cable pass-through of their HDTV, multicasting, or other high-value digital programming. Broadcasters electing retransmission consent will continue to negotiate for cable carriage of their broadcast signals in digital and/or analog. As of March 2004, cable systems carried 382 local digital broadcast stations—239 of which are owned by commercial entities other than one of the top four broadcast networks—all pursuant to marketplace retransmission consent agreements.[5] Nothing in this proposal would negatively affect the continued availability of this or additional HDTV programming to consumers.

5. The statutory 85 percent threshold[6] for ending the transition could be met nationwide on January 1, 2009:

- All cable households (almost 70% of TV households nationwide) will count towards the 85 percent threshold in each market.
- All satellite households in local-into-local markets that receive the local broadcast package, and all satellite households with HDTV service,[7] will count towards the 85 percent threshold in those markets.
- All households that purchased a new television set covered by the FCC's DTV tuner mandate will count towards the 85 percent threshold.[8] It is possible that the DTV tuner mandate alone could result in the 85 percent threshold being met in some markets by this timeframe. Sole reliance on the tuner mandate, however, would result in a spotty transition with a lack of predictability and advance notice for consumers and the industries involved.
- All households that purchased a new "plug-and-play" DTV set, the first of which will be introduced this year, will count towards the 85 percent threshold.[9]

6. As soon as possible after January 1, 2009, the FCC will make the appropriate findings that the 85 percent threshold is met in the relevant markets and reclaim the analog broadcast spectrum. There may be anomalous markets in which the 85 percent threshold is not met immediately, but it is expected that the proposal effectively will result in a nationwide transition on January 1, 2009.[10]

7. By January 1, 2009, the number of households that potentially could lose television service with the end of analog broadcasting should be well under the statutory maximum of 15 percent in many markets.[11] Indeed, cable penetration alone exceeds 85 percent in several markets.[12] In addition, the FCC's digital tuner and "plug and play" mandates—together with the incentives provided by a hard transition date—will ensure that a substantial number of viewers that rely on over-the-air broadcasting will have purchased digital receivers in the preceding five years.[13]

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[5] The current 382 local digital broadcast stations being carried on cable represents a more than four-fold increase from January 2003, when 92 local digital broadcast stations were carried. In addition to local broadcast HDTV, cable systems also carry national HDTV cable programming services such as Discovery-HD, ESPN-HD, HBO-HD and Showtime-HD.

[6] One of the criteria in Section 309(j)(14)(B) is the 85/15% test. At its most fundamental, this test asks if at least 85% of TV households in the licensee's market can continue to receive television service when the over-the-air analog signals are turned off. If 15% or more of the TV households in the market would lose service, then a licensee's analog license may be extended beyond December 31, 2006. See 47 U.S.C. § 309(j)(14)(B)(iii).

[7] All HDTV set-top boxes deployed by DirecTV and EchoStar contain an over-the-air DTV tuner.

[8] The phase-in schedule of the DTV tuner mandate is as follows: (1) receivers with screens 36 inches and above—50% must include DTV tuners as of July 1, 2004; 100% must include DTV tuners as of July 1, 2005; (2) receivers with screens 25-35 inches—50% must include DTV tuners as of July 1, 2005; 100% must include DTV tuners as of July 1, 2006; (3) receivers with screens 13-24 inches—100% must include DTV tuners as of July 1, 2007; and (4) TV Interface Devices—VCRs and DVD players/recorders, etc. that receive broadcast television signals—100% must include DTV tuners as of July 1, 2007.

[9] "Plug and play" sets enable cable subscribers to receive digital programming without the need for a separate set top box. Pursuant to the FCC rule, all "plug and play" sets must also include a digital over-the-air tuner.

[10] The Bureau has not yet conducted a detailed market-by-market analysis, but will do so as the process continues.

[11] Approximately 15 percent of TV households do not subscribe to a pay television service and rely on over-the-air broadcasting.

[12] E.g., cable penetration is 91% in the Hartford/New Haven Designated Market Area (DMA), 91% in the Honolulu DMA, and 87% in the Palm Springs DMA.

[13] For instance, approximately 24.7 million analog-only sets were sold in 2003. That number could decline dramatically with a 2009 end date for analog broadcasting, even before the DTV tuner mandate becomes fully effective in 2007.

8. The digital tuner and "plug and play" mandates will drive down the cost of digital-to-analog converter equipment for those over-the-air viewers who have not invested in digital equipment by 2009. The Bureau and Commission are prepared to provide assistance to Congress in determining whether and how to assist these viewers in obtaining digital-to-analog converter boxes. Just last week, the Media Bureau issued a Public Notice seeking comment on those consumers that rely on over-the-air broadcast television service and potential options for addressing those over-the-air viewers with analog-only sets when the transition is complete.[14]

9. When a broadcaster turns off its analog signal and is broadcasting only in digital (whether because the 85 percent threshold was met and the analog spectrum was reclaimed, or voluntarily prior to that date), the broadcaster may choose to have its digital signal passed through to subscribers' homes rather than being down-converted to analog at the cable head-end. Such a selection may be made at any time with notice to the cable operator and, in such circumstances, the cable operator would be required to notify subscribers that the digital signals are available if they obtain the necessary equipment from the cable operator or at retail. The cable operator would not be required to provide the equipment for subscribers to view the digital programming.

10. If true digital must-carry meant that broadcasters were entitled to carriage of all free broadcast streams, including free broadcast HDTV and/or "multicast" programming, it would give broadcasters additional incentive to return their analog licenses in a timely manner.[15] From a policy perspective and in the context of this proposal, the Media Bureau would recommend that as part of this Bureau proposal, true digital carriage would mean carriage of all free content bits, including carriage of all multicast programming. This proposal combines moving more quickly and certainly to the end of the transition, which both hastens the broadcasters' spectrum return and provides them opportunities to offer more programming to viewers. Cable operators claim it is a burden to carry multiple broadcast streams, but we believe the net result will be less cable capacity required to be devoted to broadcasters' programming as the transition moves more rapidly to all digital cable systems. The digital carriage obligations for satellite operators will be determined in a proceeding at the FCC examining alleged capacity constraints and potential technological solutions.

IV. BENEFITS OF MEDIA BUREAU PROPOSAL

As a result of the Media Bureau's proposal, the public will reclaim, on January 1, 2009, a significant amount of spectrum throughout the country that will yield great benefits to our citizens, economy and the industries involved in the digital television transition. The public interest benefits include advances in homeland security, broadband deployment, economic growth and job creation and the consumer adoption of digital television. The result of the Media Bureau's construct is that these substantial public interest benefits will be realized at minimal cost to the public and the various industry segments driving the digital transition.

As the government reclaims broadcasters' analog spectrum and reclaims it for other uses on behalf of the public, consumers will reap the rewards in several areas of national importance, including:

- **Homeland Security**—the Media Bureau proposal will vastly increase the amount of spectrum available to public safety officials across the country. This additional spectrum will be especially useful in improving communications systems and the ability to deploy forces for first responders during national and local emergencies. The need for this spectrum is greatest in many of our nation's major metropolitan areas currently suffering from spectrum shortages.
- **Broadband Deployment**—the proposal will free up spectrum that can be used for wireless broadband services. Chairman Powell has identified the deployment of broadband infrastructure as a central communications policy. In addition, there is strong bipartisan support in both the House and the Senate to make broadband deployment a national policy objective. This plan will further those national broadband ambitions.
- **Economic Growth and Job Creation**—as the Media Bureau plan unleashes the development and deployment of broadband and other new and improved wireless services, it, in turn, will help drive economic growth through increased productivity and create jobs throughout the economy, most notably in the small

[14] A copy of the Public Notice is attached.

[15] The issue of "primary video" as one stream only versus "multicasting" is on reconsideration before the FCC in the digital carriage proceeding.

business arena, as businesses are born and grow to provide and take advantage of these new wireless services.

- **Consumer Adoption of Digital Television**—the Media Bureau proposal will help drive the consumer adoption of digital television. Last year, approximately 25 million analog television sets were sold. By adopting a clear date for the end of analog broadcasting, we can help shift the sales from analog to digital sets. Publicity over the next five years in advance of the 2009 date for the DTV switchover will combine with our recent tuner and plug-and-play mandates and increased production of HD programming to quicken the pace of consumer purchases of digital televisions.
- **Industry Benefits**—the certainty of 2009 would provide benefits to those that have a stake in an orderly transition, including broadcasters, public safety authorities, advanced wireless service providers, consumer electronics manufacturers and retailers. Advanced wireless service providers, for instance, could begin to develop business plans, place equipment orders and participate in auctions knowing that the 700 MHz band will become available on a nationwide basis in 2009. Retailers and consumer publications will have a date-certain for describing when analog-only televisions will need additional equipment and when it is time to buy digital equipment. Broadcasters will be ensured continued access to all cable subscribers, unless they voluntarily choose not to be down-converted after the transition is over and not all subscribers have the equipment necessary to view the digital signal. In addition, broadcasters will avoid the costs of running both analog and digital broadcasting, freeing up capital to invest in their digital services and programming.

These substantial public interest benefits will come at little cost to the public and the industries with a stake in the digital television transition. By January 1, 2009, the actual number of consumers dependent solely on analog broadcasting may be far less than the 15 percent statutory maximum. For those remaining analog broadcast viewers, the FCC's digital tuner and "plug and play" mandates will help to drive down the costs of digital-to-analog converters.[16]

Cable and satellite television subscribers would experience a seamless transition under the Bureau's proposal. During the transition, they will continue to have access to at least one programming stream from every must-carry broadcaster. Moreover, the growing levels of HDTV and other value-added digital programming to which these subscribers have access based on voluntary agreements will not be affected.

Finally, no additional capacity burdens will be imposed on cable television systems, either during or after the transition. This is in stark contrast to the questionable constitutionality and inherent legal risk of the "dual carriage" proposal advocated by some.

V. CONCLUSION

After many long years of hard work by all involved, the end of the DTV transition is now in sight. I know some Subcommittee members have expressed specific concerns, particularly regarding those consumers who rely on over-the-air television service. We share those concerns and look forward to working with this Subcommittee to bring the transition to a successful conclusion that will benefit all consumers and the national economy.

Thank you for the opportunity to discuss the Media Bureau's recent work involving the DTV transition. I would be happy to respond to any questions the Subcommittee has concerning the Bureau's framework proposal or any other issues related to the DTV transition.

ATTACHMENT

DA 04-1497
May 27, 2004

MB Docket No. 04-210

MEDIA BUREAU SEEKS COMMENT ON OVER-THE-AIR BROADCAST TELEVISION VIEWERS

Comment Date: July 12, 2004
Reply Comment Date: August 5, 2004

[16] Manufacture of DTV tuners and plug and play sets will create economies of scale for use of the same technology, e.g., chips, to be used for the digital-to-analog converters.

Section 309(j)(14) of the Communications Act sets forth the conditions under which analog television broadcasting will end in the United States. Those conditions could be met as early as December 31, 2006, although the statute provides for extensions of that date if certain marketplace criteria have not been satisfied. As contemplated by Section 309(j)(14), up to 15 percent of television households in a given market could lose television service altogether if they rely exclusively on over-the-air broadcasting and have analog-only sets when the transition ends. In the remaining households, analog sets that are not connected to a pay television service could lose service as well.

In this Public Notice, we seek comment on options for minimizing the disruption to consumers when the switch-over to digital broadcasting occurs. We are primarily concerned with those households that rely exclusively on over-the-air broadcasting for their television service, but we seek comment more broadly on minimizing the impact on all consumers. First, we seek comment on the identity of those consumers that rely on over-the-air television broadcasting and why they do not subscribe to a pay television service. Second, we seek comment on potential options for minimizing the impact on these and other consumers when broadcasters are operating solely in digital.

Given the statutory directives and the nature of the potential solutions, we anticipate that the data submitted will be used primarily to help formulate possible recommendations to Congress. The Commission may, however, take other steps as appropriate.

Over-the-Air Television Viewers

We seek quantitative data on consumers who watch over-the-air broadcast television, including:

(1) The number of households that rely solely on over-the-air broadcasting ("over-the-air households") for their television service;

(2) The number of households that subscribe to a multi-channel video service provider ("MVPD") and have one or more television sets that rely on over-the-air broadcast service;

(3) The number of analog-only television sets in use by the households identified in (1) and (2), above;

(4) The number of digital television receivers in use in the households identified in (1) and (2), above, that are capable of receiving over-the-air digital broadcast television signals;

(5) The demographic characteristics of over-the-air households, including age, race or ethnicity, and education and income levels;

(6) The geographic characteristics of over-the-air households, including urban/rural and regional disparities;

(7) Data on why over-the-air households do not subscribe to an MVPD service, including specific data on: (a) the number of over-the-air households that would like to subscribe but cannot afford it, (b) the number of over-the-air households that could afford to subscribe to an MVPD service but choose not to, and (c) the number of over-the-air households that would like to subscribe and could afford it but their MVPD service of choice is not available in their community (e.g., no cable system or no satellite provider with local-into-local service).

Options for Addressing Analog-Only Television Sets

We also seek comment on options for addressing the potential disruption to consumers with analog-only television sets when the transition is complete. As an initial matter, we seek comment on the extent to which market forces can be expected to deal with this problem—e.g., consumers voluntarily buying digital-to-analog converter boxes before the end of the transition, cable or satellite providers that carry all of the local digital broadcast stations connecting additional sets in subscribers' homes to their networks, and broadcasters, wireless auction winners or others voluntarily subsidizing or deploying converter boxes in order to accelerate the transition. If marketplace forces alone cannot be counted on to address this issue, can and should the affected industries be required to take steps to minimize the potential for consumer disruption?

If government action is warranted, we seek comment on the nature and scope of such involvement. Should the government subsidize consumers' purchase of digital-to-analog converter boxes, or should it procure and distribute the equipment itself? In either event, what minimum technical capabilities should the converter boxes have? What do converter boxes cost today and what are they expected to cost in the future?

If a subsidy is appropriate, we seek comment on the type and amount of subsidy that should be considered. For instance, we seek comment on whether the subsidy

should be in the form of a tax credit, a refundable tax credit, or a voucher. We also seek comment on whether the subsidy should be available for consumers who wish to purchase a digital television set in lieu of a digital-to-analog converter, or for those who wish to purchase a multi-channel video service from providers that carry all the local digital broadcast signals.

We seek comment on the scope of any potential government action. Who would qualify for the government subsidy or other program? If the subsidy or other program is means-tested, what test should be used? We also seek comment on the number of devices that the government should subsidize. For instance, is one digital-to-analog converter box per household sufficient, or should the government subsidize the conversion of additional analog-only sets in consumers' homes? Should the government subsidize conversion equipment for over-the-air households that have at least one digital receiver and one or more analog-only sets? Should the government subsidize conversion equipment for MVPD subscribers who receive all the local digital broadcast signals on the television(s) hooked up to the pay service, but who have one or more analog-only sets not hooked up to the pay service?

Finally, we seek comment on how a government program would be financed and administered. For instance, in bands where we intend to auction new licenses for spectrum freed up by the digital conversion, we seek comment on whether, under Section 309 and our precedent, we could require as a condition of the license that auction winners pay for conversion of analog-only equipment as part of a mandatory band-clearing mechanism. We note that in other auctioned bands, we have required new entrants to bear the costs to retune existing equipment to new bands or replace such equipment. We also seek comment on whether a government subsidy program could be financed directly through auction revenues, spectrum license fees, or other funding mechanisms, although we note that some of these options would require legislation.

Procedural Matters

Comments should be filed on or before July 12, 2004 and reply comments should be filed by August 5, 2004. Comments and reply comments may be filed using the Commission's Electronic Filing System ("ECFS") or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings,* 63 Fed. Reg 24121 (1998). All comments should reference MB Docket No. 04-210.

Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form." Parties who choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission. In addition parties should serve a copy of each filing via e-mail or one paper copy to John Berresford, Suite 3-A662, Media Bureau, FCC, 445 12th St., S.W., Washington, D.C. 20554.

Comments, reply comments, and other submissions will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street, S.W., CY-A257, Washington, D.C. 20554. These documents also will be available electronically from the Commission's Electronic Comment Filing System. Documents are available electronically in ASCII text, Word 97, and Adobe Acrobat. Copies of filings in this proceeding may be obtained from Qualex International, Portals II, 445 12th Street, S.W., Room, CY-B402, Washington, D.C., 20554, telephone (202) 863-2893, facsimile (202) 863-2898, or via e-mail at qualexint@aol.com. To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail

to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0531 (voice), 202-418-7365 (TTY).

For further information contact Rick Chessen, Media Bureau at (202) 418-7200.

By the Chief, Media Bureau

Mr. UPTON. Thank you.

Mr. Fritts.

STATEMENT OF EDWARD O. FRITTS

Mr. FRITTS. Thank you, Mr. Chairman. Thank you for the opportunity to participate in this hearing on expediting the transition to digital television.

The recently announced FCC Media Bureau plan to end analog television broadcasting is against the best interests of the American consumer, and, I would submit, premature. By counting local television signals that cable companies down-convert into an analog format as digital, the plan would turn the congressionally mandated 85 percent number on its head. Millions of Americans would potentially lose their local television service altogether, and millions more would find secondary television sets in their homes would be rendered obsolete. This was never the public policy objective of Congress.

Since Congress began the transition, first by temporarily loaning spectrum for the transition, and second by establishing the 85 percent rule, it has consistently sought to advance three objectives: First, to bring benefits of digital technology to the American television viewer while strengthening our system of free over-the-air television and the unique benefits that system brings to American communities.

Whether it be Amber Alerts, weather warnings, local news and public affairs, or life-line information during crises, local television stations are the only medium that can deliver these services to your constituents, our viewers. It was because of the inherent value of free over-the-air television that Congress established its second goal to minimize consumer disruption throughout the process. Changing out nearly 300 million television sets from analog to digital would never be a simple process, but this committee made it clear that it sought to protect analog viewers.

And the third goal was to free up the current analog television spectrum for other purposes. At the end of this transition, television broadcasters will use one-third less spectrum than is used today. We are the only industry to reduce the amount of spectrum we use while providing the same or additional services.

Broadcasters share the goal of ending this transition by returning the analog spectrum. In fact, we have a strong economic incentive to do so, because we are now operating essentially two separate transmission systems. The FCC has taken three steps that have brought us close to realizing these goals: first, mandating TV sets be equipped with tuners; second, developing consumer-friendly plug-and-play standards; third, adopting broadcast flag technology to address copyright concerns.

Local television stations have spent billions upholding our end of the pact. According to the FCC, there are now 1,411 television stations on the air in digital in 207 markets serving over 99 percent of the U.S. television households.

We believe the FCC can now take one more step to expedite this transition: ensuring the 70 million cable subscribers have access to local digital television signals. Today cable companies, which largely enjoy monopoly status, are denying consumer access to the vast majority of DTV broadcast services. NAB has introduced a plan that allows a broadcaster to choose either must carry for its digital signal or must carry for its analog signal. And this NAB/MSTV plan, we believe, is a proconsumer proposal. It does not mandate dual carriage, nor is it burdensome to cable operators, and the FCC could adopt it today. This is a plan that will expedite the DTV transition rather than delay it, and it calls for immediate action, rather than waiting for 5 years. It is a plan that protects consumers' interests while accelerating the transition.

On the other hand, the proposal recently floated by the Media Bureau would wait 5 years, until 2009, to focus exclusively on retrieving the analog spectrum at the expense of consumers and to the detriment of local television. This plan would count as digital households the cable subscribers that receive a digital signal in a down-converted analog format. Why is that a solution? We have been spending billions of dollars and years, as has been mentioned here earlier, developing digital television.

The Media Bureau plan, with all due respect to my good friend Ken Ferree, who I believe does a terrific job on most items, has it backwards. It takes TV from digital to analog, rather than from analog to digital. Furthermore, it will cause massive disruption with the consumers. In short, the Media Bureau plan turns its back on Congress' aspiration of bringing digital television into Americans' living rooms.

Mr. Chairman, all of us, the Congress, the Commission, local broadcasters and the public, are close to bringing this transition to an end and thus achieving Congress' three goals. So I would urge the committee to reject any proposal that would pull the plug on digital television just as your constituents begin to turn it on. Thank you.

[The prepared statement of Edward O. Fritts follows:]

PREPARED STATEMENT OF EDWARD O. FRITTS, PRESIDENT AND CEO, NATIONAL ASSOCIATION OF BROADCASTERS

Thank you, Mr. Chairman, for the opportunity to appear today on the issue of advancing the digital television transition, and in particular, the Media Bureau's proposal for completing the transition. My name is Eddie Fritts. I am President of the National Association of Broadcasters.

Broadcasters appreciate the efforts of Mr. Ferree and his staff to think creatively about ways to speed the DTV transition. We are also grateful for the Bureau's attempts to revise its thinking to address some of the plan's defects identified by broadcasters and others. For example, we support the Bureau's decision to move the target date for its plan to end the transition back from 2006 to 2009, thereby acknowledging the enormous dislocation and viewer disenfranchisement that the earlier date would have triggered.

Nevertheless, we remain concerned about other elements of the plan, specifically because it mandates the down-conversion of broadcasters' digital signals at a cable or satellite operator's headend. This is a fundamental flaw since the plan not only sanctions cable operators' degradation of broadcasters' digital signals—in violation of the Communications Act—but it would also thwart the many benefits that digital service will deliver to consumers. In addition, the plan would block Congress' overarching goal for the digital transition, which is to assure the universal availability of digital services to the American public. Finally, the Ferree plan, by forcing broadcasters to choose between carriage of their full signals or serving their entire audi-

ence, would leave them second-class citizens in a digital world, instead of taking advantage of digital technology to strengthen free television service.

Our understanding of the Bureau plan is as follows: In the 2009 must-carry-retransmission consent election cycle (October 1, 2008 deadline for carriage beginning January 1, 2009), television stations would have must-carry rights only for their digital signals. For stations electing must-carry, cable operators would be required to make broadcasters' digital signals "available" to subscribers by: (1) down-converting a single digital stream from each broadcaster to analog at the cable operator's headend; or (2) passing through broadcasters' digital signals, where all subscribers have the ability to receive and display digital signals (*e.g.*, through a converter box or a digital plug-and-play set).[1] Broadcasters would be allowed to negotiate for other carriage rights, such as for HDTV programming, as they do today.

Under this scenario, the Media Bureau claims that cable's carriage of a single digital stream, even if down-converted at the cable headend, would satisfy the requirement under Section 309(j)(14)(B)(iii)(I) that an MVPD must carry "at least one DTV program channel of each station in the market that is on-air in DTV." Thus, the approximately 68 percent of television households that receive television service over cable subscribers, and 10 percent who do so via satellite, would count towards the 85 percent statutory threshold for when the transition will end. Combining these households with those who will receive DTV over-the-air would mean that the transition will end soon after the Bureau's proposal became effect. In markets where the penetration threshold is met, analog broadcasting would cease and the government would reclaim the analog spectrum. At that time, *a second election* would occur and broadcasters could choose to have their digital signals, including any multicast channels, passed through to subscribers' homes rather than down-converted at the headend. Cable and satellite systems would have no obligation to ensure that subscribers without DTV receivers could see local broadcast signals.

Let's examine some of the consequences of the Ferree plan. As Congress contemplated in the 1997 Budget Act, when analog broadcasting ends, 15 percent of all TV households—about 16,200,000 homes—will lose all television service until they purchase a DTV converter or a new set. We commend the FCC for its recent request for comments on how to avoid this disruption. Of course, analog sets in homes with DTV receivers will also lose service. But, under the Bureau proposal, a second transition will occur shortly after the FCC deems the 85 percent threshold to be met. At that time, the Bureau says broadcasters will have a second election between cable and satellite carrying their down converted signals or carrying their now-digital signals in digital form. If they choose the latter path—in order to obtain the benefits of digital technology that Congress wanted to achieve—millions of more cable and satellite homes without DTV receivers or converters will lose local broadcast service unless their cable or satellite provider voluntarily provides either a converter or agrees to carry a down-converted signal in addition to the digital signal. These homes will lose access to local news, local political broadcasts, local emergency announcements, publicity for local charities and community groups and all the other services local stations provide. Thus, while the prospect of losing local service for some consumers was always part of Congress' plan to transition to digital, the Ferree plan multiplies the number of consumers who will lose access to local broadcasting. Consumers under this plan will pay a high—and totally unnecessary—price.

I am not here just to criticize. To the contrary, broadcasters applaud the Commission, and especially Chairman Powell, on the great strides it has taken so far towards completing the digital transition. In 2001, the Commission adopted revised build-out rules that have been extremely successful in getting TV stations on air in digital. In 2002, Chairman Powell introduced his plan that recognized the key fact that all parts of the television industry—programmers, stations, multichannel video programming distributors and manufacturers—must play an active role in the transition to digital. The Powell Plan also recognized the importance of the availability to consumers of high definition signals in high definition format. Then, in 2003, the Commission adopted vital rules addressing plug and play and the broadcast flag, as well as rules mandating that all new television sets have a DTV tuner. Each of these steps has helped move the DTV transition towards a rapid conclusion.

Indeed, we are almost there. Broadcasters sincerely believe that with the steps the Commission has taken so far, and a few additional steps designed to address the remaining issues, as discussed below, we will reach the end of the DTV transition in most markets by 2009 without the need to go outside the statutory framework, as would be the case under the Bureau's proposal. Broadcasters and others

[1] Satellite carriers would carry one down-converted stream to subscribers in local-into-local markets.

already have entered into the Commission's record several proposals with the potential to rapidly resolve the few remaining issues and bring a prompt end to the transition within the statutory framework.

Even without the final pieces of the puzzle in place, evidence of the remarkable progress made so far can be found everywhere, due in no small measure to broadcasters' commitment and actions. Our industry has spent enormous sums of money and undertaken extraordinary steps to implement the transition, and I am pleased to report that these efforts are paying off. Broadcasters have built—and are on air with—DTV facilities in 207 markets that include 99.69% of all U.S. TV households.[2] Midway through the transition, almost three-quarters—73.7%—of U.S. television households have access to at least six free, over-the-air digital television signals.[3] Nationwide, at least 1411 television stations in 207 markets are delivering free, over-the-air digital signals today.[4] Currently, more than 70 million households receive six or more DTV signals; 49 million households receive nine or more DTV signals; and a full 30 million households receive 12 or more DTV signals. More and more digital stations are overcoming their unique obstacles and going on air almost daily. The digital transition is working and moving ahead quickly, and any claims to the contrary are simply untrue.

In the top ten markets, covering 30% of U.S. households, all top four network affiliates are on-air with digital signals,[5] and in markets 11-30 (24% of U.S. households), all 79 top four affiliated stations are on-air.[6] Thus, all ABC, CBS, Fox, and NBC affiliates in the top 30 markets, representing 53.5% of all U.S. households, are on air with DTV. Even smaller stations in these markets and in smaller markets are making terrific progress, with at least 1292 out of a total 1524 stations currently on air in digital,7/ and this despite the far fewer resources of these stations. In fact, many firms have been forced to mortgage their stations to afford the equipment needed to implement the transition, and without any immediate prospect of revenues to offset these huge investments.

On the programming side, both networks and local stations are providing an extraordinary amount of high-quality DTV and HDTV programming, as well as a growing number of valuable multicast channels, to entice viewers to join the digital television transition and purchase DTV sets. For example, three networks currently offer virtually all their prime time programming in HDTV, along with high-profile specials and sporting events like the Academy Awards and the Grammy's, the Masters, and playoff games in all the major professional sports leagues.

Local stations are also doing more all the time to supplement the network HDTV and multicast fare, at an enormous cost for full local HD production facilities. Examples of local HDTV programming abound, including WRAL-TV's (Raleigh, NC) daily local newscast, the broadcast of America's Thanksgiving Day Parade by Post-Newsweek's station in Detroit, and KTLA's (Los Angeles, CA) broadcast of the Rose Parade in a commercial-free HD broadcast that was simulcast in Spanish and closed captioned and distributed on many Tribune and other stations, not to mention the large quantity of children's education, foreign language programming and gavel-to-gavel coverage of state legislatures provided by non-commercial DTV television stations nationwide. Indeed, the FCC's recent localism hearing in San Antonio was provided to local viewers in full on a multicast channel of Belo's San Antonio station.

All of these developments demonstrate that broadcasters are more anxious than anyone to get the transition over and done with. Broadcasters have no interest in shouldering the enormous costs of operating dual facilities any longer than absolutely necessary to avoid disruption to consumers. Building a second transmitter, and then maintaining and powering two transmitters for any period of time is extremely expensive, especially since there will be no opportunity to recover much of these costs. Similarly, any need to repair or replace analog equipment now is little more than wasted resources. Indeed, by the time the transition is over, broadcasters will spend between $10 and $16 billion to fully convert to digital, and we simply cannot afford to strand this investment, or accept any further delays in our ability to provide new digital services to recoup at least some of this investment.

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[2] National Association of Broadcasters, *DTV Stations in Operation,* http://www.nab.org/Newsroom/issues/digitaltv/DTVStations.asp (as of May 25, 2004).

[3] *See* Mark R. Fratrik, Ph.D, *Reaching the Audience: An Analysis of Digital Broadcast Power and Coverage* (BIA Financial Network, Oct. 17, 2003) (prepared for the Association for Maximum Service Television, Inc.) ("MSTV Study").

[4] *See* www.fcc.gov/mb/video/dtvstatus.html ("Commission statistics").

[5] This includes 38 with licensed full-power digital facilities and two New York City stations with Special Temporary Authority ("STA") currently covering a significant chunk of their service areas and with plans to expand even more.

[6] This includes 72 with full-power licensed digital facilities and seven with STAs.

[7] *See* Commission statistics.

The purpose of the transition is to convert the American system of broadcasting to digital, ultimately for the benefit of the American consumer, not the broadcaster or the cable operator.[8] Congress sought to achieve three overarching goals in the DTV transition:

(1) Bring the benefits of digital technology with its potential for more programming options and advanced services to *consumers*;
(2) Avoid the loss of free television to large numbers of consumers stranded with analog-only receivers; and
(3) Reclaim channels 52-69 to be reallocated for other purposes.[9]

The Commission's actions under the Powell Plan have put the DTV transition on the right track towards completing the DTV transition. On the other hand, the Media Bureau's plan would knock the transition off course by focusing the Commission's attention solely on the third goal above, while essentially ignoring the first goal, and either punting on the second or perhaps making it harder to achieve.[10] The Commission, however, may not pick and choose among the goals Congress established for the transition; rather, it must treat them all as equally important. The plan's emphasis on reclaiming spectrum as soon as possible is misplaced. For example, Congress's rejection in the Auction Reform Act of band clearing plans that would reduce the level of free television service clearly shows that early return of spectrum at the cost of television service is contrary to Congressional intent.[11]

The Bureau's plan conflicts with both Congressional intent and the Communications Act, and would undermine the economic incentives of consumers, set manufacturers and broadcasters to expedite the transition and achieve the consumer benefits of digital television.

First, the Bureau plan violates Congress' vision for the DTV transition. The crux of the plan is to count cable and satellite homes as "digital" when, in reality, these households would receive only down-converted analog versions of digital signals; that is, the same analog quality they received before. Nevertheless, the Bureau would count all cable and satellite homes in a market toward the 85 percent benchmark for purposes of declaring the digital transition complete. However, in passing Section 309(j)(14), Congress intended that consumers would set the course for ending analog broadcasting, and not just watch from the sidelines while cable drives the pace car. Specifically, Congress recognized "that not all consumers and broadcast stations will convert to the new digital services format at the same time,"[12] and thus acted to ensure that "a significant number of consumers in any given market are not left without broadcast television service" at the end of the transition.[13] The statute is squarely focused on the percentage of consumers who can actually receive and view digital signals in their homes, so that analog broadcasting may not end until it means that substantial numbers of consumers will not lose service. The number of digital signals delivered to cable or satellite operators is irrelevant.[14]

The Ferree plan, by focusing only on the provision of Section 309(j)(14)(b)(iii)(I) that refers to carriage of a digital programming channel, entirely reads out of the statute the next subsection. Section 309(j)(14)(b)(iii)(II), provides that, *in addition to* carriage of a digital programming channel from each local DTV station, analog service should continue until *85 percent of TV homes* in a market have either a DTV receiver or at least one DTV converter. Note that Congress—with laser-beam preci-

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[8] 142 Cong. Rec. H8254-03 (explaining that broadcast licensees will have to make a huge investment in the digital transition "[t]hat is for the benefit of the public, which is going to be watching a new kind of technology coming over their television sets") (Rep. Dingell).

[9] 47 U.S.C. § 309(j)(14)(B).

[10] The Bureau's plan leaves the first two goals to the marketplace to achieve or not, although as noted above, the second election contemplated in the plan could result in millions of additional stranded analog homes. The Bureau apparently believes that full carriage of local broadcast digital signals will occur on cable systems through the operation of marketplace forces. The underlying point of the 1992 Cable Act, however, was that cable systems' carriage decisions were not based on consumer preference but on the opportunity to disadvantage competitors for advertising and ratings. *See* Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, § 2(a)(15).

[11] Auction Reform Act of 2002, Pub. L. No. 107-195, § 6, 116 Stat. 715 (2002).

[12] H.R. Conf. Rep. No. 105-217, at 576 (1997).

[13] H.R. Conf. Rep. No. 105-2015 (1997).

[14] Moreover, it makes no sense to think that Congress intended that the 85 percent threshold could be crossed through a combination of cable and satellite subscribers. If this was the case, then the transition would be over in some markets before it ever started, since MVPD penetration already has reached over 85 percent of the television households in certain areas. Nothing in the legislative history contemplates calculating the benchmark in such a way, and the Congress and the Commission should recognize the Bureau's proposal for what it is; that is, a last-minute, artificial maneuver.

sion—required DTV reception capability at the home, not at a cable or satellite headend. Thus, the Ferree plan simply misreads the FCC's governing statute.

Congress thus intended for consumers to have the choice of viewing local broadcast signals in digital format over new receivers or in analog format with converters attached to their old analog sets. The distinction between conversion at the headend or at a consumer's home is critical. In the latter case, while not being able to view HDTV, consumers could still have access to the full range of other broadcast digital services. Under the Bureau Plan with conversion at the headend, consumers would receive only a version of what they get today, without any of the benefits of digital. However, for consumers to have a meaningful choice about the way they will receive DTV, local broadcasters' digital signals must be delivered all the way to the television sets in consumers' homes, not just to the cable or satellite provider where they will be converted back to analog. Nothing in the statute or its legislative history contemplates counting cable and satellite subscriber without digital receive technology towards the 85 percent benchmark.

Down-conversion of broadcasters' digital signals at the headend also directly violates the Communications Act's bar on material degradation of local broadcast signals.[15] Specifically, pursuant to section 614(b)(4)(A) of the Act, the Commission's rules must make sure that, "to the extent technically feasible, the quality of signal processing and carriage provided by a cable system for the carriage of local commercial television stations will be no less than that provided by the system for carriage of any other type of signal."[16]

The Commission has recognized this mandate, stating in the *DTV Must-Carry First Report and Order* that "the issue of material degradation is about the picture quality the consumer receives and is capable of perceiving . . ."[17] The Commission went on to recognize specifically that, "in the context of mandatory carriage of digital broadcast signals, a cable operator may not provide a digital broadcast signal in a lesser format or lower resolution than that afforded to any digital programmer . . . carried on the cable system, provided, however, *that a broadcast signal delivered in HDTV must be carried in HDTV*."[18]

The Bureau's proposal, however, would reverse that conclusion. Indeed, the Bureau's plan not only permits, but *requires* cable operators to do exactly what the Communications Act prohibits: carry local broadcast signals in a degraded fashion (*i.e.*, down-converted) such that cable and satellite subscribers will receive digitally broadcast signals in a lesser format, while cable digital signals would be distributed as is. Consumers with digital receivers or converters should be able to receive television service through their cable or satellite provider that, at a minimum, is equal in quality to what they can obtain over-the-air. NAB can find no other reasonable way to read Section 614(b)(4)(A).

Third, the Bureau's proposal undercuts the economic incentives of almost all the relevant parties to advance the transition. The fact that cable and satellite households would count as digital households under the plan, even though they will not actually receive digital television service, will reduce consumer demand for new digital television sets. Cable and DBS subscribers who recently purchased digital capable sets certainly will be upset to discover that their investment was for naught, since they still we be unable to view their local stations in digital, or access the additional local public interest programming and services that broadcasters will provide on multicast channels. It follows that word-of-mouth interest in digital programming will slow, as people with digital sets will not receive any programming or services they might praise to their friends or neighbors. Furthermore, people not yet interested in upgrading their television sets will find it more difficult to sample the benefits of digital service.

In turn, the Bureau's proposal would stall the development of new and innovative free broadcast services that optimize consumer benefits, including not only HDTV, but also novel multicast services, many of which will deliver programming on local public affairs, or in Spanish and other languages, local weather and traffic, and other community-oriented fare. The opportunity for these new universal free services was one of the key reasons that Congress authorized the DTV transition, and it is simple economics that the consumer appeal of the HDTV/multicast mix will

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[15] 47 U.S.C. §§ 614(b)(4)(A), 615(g)(2).

[16] DTV Must Carry Notice, 13 FCC Rcd 15122. A similar provision applies to DBS carriage of local broadcast signals. 47 U.S.C. § 338(g).

[17] First Report and Order and Further NPRM, 16 FCC Rcd 2598, 2629 (2001).

[18] *Id.* (emphasis added). Moreover, Section 614(b)(4)(B) specifically requires that the FCC adapt the carriage rules applicable to analog signals to achieve the same goals for advanced television signals. Strengthening cable systems' gatekeeper opportunities, as the Bureau plan does, would be directly opposite to this statutory directive.

help drive the transition. However, the Bureau's plan would undercut broadcasters' incentives to invest in the creation of these new services. Indeed, the Bureau's proposal may better suit a digital-to-analog transition than the analog-to-digital transition envisioned by the Congress and the American public.

Moreover, with respect to broadcasters, the Bureau's must-carry provision offers local television stations an impossible "Hobson's Choice." That is, the plan would give broadcasters the right, after their analog signals are shut down, to choose between down-conversion of their digital signals to analog at the cable headend, or cable's pass-through of broadcasters' digital signals, without any provision requiring cable systems to make them viewable on analog receivers. Thus, a broadcaster could choose down-conversion of its signals at the cable headend, and thereby block the delivery of HDTV or any other digital service to the many consumers who already have invested in digital television sets. Or, a broadcaster could have its digital signals passed-through, and thereby cut off service to the millions of households that still have analog receivers. The Bureau's plan is a no-win proposition for consumers.

Mr. Chairman, the purpose of the transition is to convert the American system of broadcasting to digital, ultimately for the benefit of the American consumer, not for the benefit of the broadcaster or the cable operator. Congress directed the FCC to craft rules to ensure that cable subscribers get access to broadcasters' digital signals, whether HDTV or multicast or a mix.[19] However, the Bureau's proposal would sacrifice that goal to focus exclusively on the goal of reclaiming the spectrum for new purposes. Indeed, the Bureau's idea not only would fail to advance, but also would retard, the primary goal of the transition: to deliver improved digital signals to the public and replace viewer reliance on analog service. Several specific harms to consumers would result:

- *No assured HDTV for cable viewers with digital sets:* Cable homes with digital sets would not be assured of access to HDTV or multicast services because cable operators would down-convert broadcast digital signals at the headend, unless television stations elected to pass-through their digital signals at the cost of disenfranchising MVPD subscribers with analog sets.
- *No assured HDTV for DBS viewers with digital sets:* DBS systems could presumably downconvert broadcasters' HDTV services pursuant to the Bureau's proposal indefinitely into the future, so that even DBS homes with DTV sets would not receive HDTV service.[20]
- *Stalled access to affordable digital sets:* Cable subscribers with analog sets will have reduced incentives to purchase digital sets because they would have no assurance of receiving broadcasters' digital signals after making that investment. As a result, the price for digital sets would remain high, thereby discouraging adoption by American viewers.
- *No television service of any kind for analog over-the-air households, including many rural and poor viewers:* Over-the-air viewers with digital sets would continue to receive service after 2009, but over-the-air viewers with analog sets, unless they purchased set-top boxes, would lose service. Many rural viewers and the poor would be disenfranchised, and broadcasting would lose its proud achievement of providing universal service.[21]

In addition to the consumer harms described above, the Bureau's proposal would also harm the public interest:

- *Harm to the DTV transition:* The incentive for consumers to obtain DTV receivers or converters would decline, delaying or preventing the benefits of digital technology flowing to consumers. The consumer benefits of the Commission's tuner and plug and play decisions would largely be lost since most consumers would receive only analog versions of DTV signals.
- *Harm to manufacturers:* Set manufacturers would suffer because the plan would discourage the demand for digital sets and for new digital features that receiver manufacturers have been mandated to produce in increasing volume.

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[19] 47 U.S.C. § 614(b)(4)(B).

[20] Allowing DBS providers to deliver high definition *distant* signals to subscribers would not be a remedy and indeed would harm *local* digital broadcast service. Like cable operators, DBS providers should be required to provide local digital signals without degradation, as the Act requires. *See* Letter from Marsha J. MacBride and Benjamin F.P. Ivins, National Association of Broadcasters, to Michael K. Powell, Chairman, FCC, in MB Docket No. 03-15 (Mar. 22, 2004).

[21] Although the Bureau appears to recognize the need for Congressional action to take care of consumers who would be stranded by the Bureau Plan, statements by Bureau officials seem to indicate that the Commission could act on its own to adopt the Ferree plan. It is worth noting in this regard that even the cable industry has concluded that a Berlin-like forced transition is not appropriate for the United States. *See* Letter from Michael S. Schooler, NCTA, to Marlene H. Dortch, CS Docket Nos. 98-120, 03-15 (March 29, 2004) & Attachment.

- *Harm to diversity:* Cable programmers would not have the greater access to cable carriage that would result if cable systems were to transmit broadcasters' digital signals from their headends, which would free up 50 percent of the capacity that cable systems currently devote to carriage of broadcast signals.[22] Also, programmers seeking access to consumers over broadcasters' multicast services would be thwarted because there would be no assurance that consumers could receive them.
- *Harm to localism and public service:* By not being able to deliver HDTV and multicast services to cable and DBS subscribers with HDTV sets, broadcasters would be relegated to second-class status. After analog broadcasting ends, many cable households would lose access to local signals and their essential services altogether. Avoiding these results and strengthening the free, over-the-air system were the reasons the Commission and Congress supported the DTV transition in the first place. Broadcasters' efforts to deliver localized multicast services (local news and weather and local sports coverage, for example), as well as multicast services offered by independent programmers, would be aborted.[23]

As noted above, the broadcasting industry sincerely believes that the Commission under the Powell Plan is on the right track towards an end to the transition. The Commission has taken several successful actions to expedite the conclusion, including rules governing cable compatibility, the broadcast flag and tuner requirements, and with a few more steps designed to address the remaining issues, NAB is convinced that the digital transition will reach a natural conclusion in most markets on its own by 2009. It is simply unnecessary to adopt a proposal that violates the Act, Congress' intent, and consumers' interests, in an ill-conceived attempt to accelerate the transition.

First, and most significantly, the Commission must deal with the issue of cable carriage of digital signals. This question continues to stall what has been the Commission's otherwise constructive implementation of Congress' will. NAB and MSTV have already placed in the Commission's record a reasonable, middle ground position that will advance the transition consistent with the Act and not harm consumers.[24] Specifically, MSTV and NAB proposed in November 2003 that a cable system be permitted to "terminate carriage of a station's analog channel if the cable system (a) passes through the station's digital signal to all digital television receivers and (b) down-converts the digital signal for receipt at no extra charge on all analog-only receivers for carriage on the analog basic tier."[25] Such a rule would:

- Ensure that all non-subscription content in digital signals are passed through to subscribers' homes *without material degradation;*
- Allow MVPD households with analog sets to continue to receive local broadcast signals by down-converting *at the home;* and
- Count toward the 85 percent threshold only those households that receive un-degraded digital signals.

Other steps that the Commission must take to bring the transition to an end by 2009 include rapidly resolving long-pending negotiations with Canada to provide interim DTV channels for all U.S. stations. The Commission also should initiate discussions to develop a final DTV channel agreement with Canada and Mexico. Further, the Commission should require stations with analog and DTV assignments in the "core" to make a channel election in 2005. All of these steps are essential to developing a final channel assignment plan, something that must be completed well before the end of the transition so that stations can construct and move to new digital facilities.

Broadcasters already have discussed with Commission staff a repacking plan that represents industry-consensus on how to address the many thorny, technical relevant issues. To date, however, the Commission staff has not been receptive to industry's efforts, although we remain committed to cooperating with the Commission to craft a workable repacking plan that addresses all of the Commission's concerns.

Mr. Chairman, the Commission and the country are on the threshold of achieving the primary goal of the digital transition: the ubiquitous availability of HDTV (and

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[22] This would not be the case where broadcasters chose full digital pass-through.

[23] This harm could be avoided under the revised Bureau plan by broadcasters' choosing digital pass-through, but only at the cost of cable homes with analog sets losing local broadcast service.

[24] This proposal imposes no material burden on cable operators. At its option, a cable system could cease carrying broadcasters' analog signals when it had provided digital set-top boxes to all of its subscribers. Cable operators recently have volunteered to provide new set-top boxes in order to ensure broad-based channel blocking capability by all consumers (in an effort to avoid Congressional decency mandates).

[25] Letter from Edward O. Fritts, NAB, and David L. Donovan, MSTV, to Michael Powell, Chairman, FCC, in CS Docket Nos. 98-120, 00-96, at 2 (Nov. 25, 2003).

multicast services) to all Americans on television receivers that are becoming increasingly affordable and of higher quality. NAB believes that the Commission under the Powell Plan has brought us to the cusp of success, and that the prompt resolution of a few remaining issues will ensure a natural end to the transition before the end of 2009. On the other hand, the "short cuts" offered in the Media Bureau's plan will stall, if not nullify, all of the efforts already made by the Commission, broadcasters, cable operators, manufacturers, and most importantly, the American public. NAB believes that the Commission instead should remain faithful to the path that Congress envisioned and correctly believed would best serve consumer interests.

Mr. UPTON. Thank you.

Mr. Sachs, welcome.

STATEMENT OF ROBERT SACHS

Mr. SACHS. Thank you, Mr. Chairman and members of the subcommittee. Thank you for providing us this opportunity to testify this morning. This subcommittee has played a pivotal role in promoting the transition from analog to digital television. Your leadership has produced increased cooperation among all parties.

For cable's part, I am pleased to report that our industry has made substantial progress in creating and delivering high-definition programming and other digital cable services to consumers. We have also negotiated a landmark agreement with the consumer electronics industry for digital cable-ready products, and cable operators have voluntarily entered into agreements to carry digital TV signals of nearly 400 local broadcast stations.

The technological advances which have transformed our business have resulted from cable companies investing risk capital without any government guarantees or subsidies. With an 8-year capital investment of nearly $85 billion that began with passage of the 1996 Telecommunications Act, the cable industry has built a highly versatile broadband infrastructure.

In addition to offering high-speed Internet and digital phone service, cable systems now provide HDTV, personal video recording, video on demand and other interactive digital services. More than 30 percent of basic cable customers already subscribe to digital cable.

The full scale deployment of HDTV has been the fastest rollout of any cable product. HD is today available from at least one cable system in 99 of the top 100 markets, plus 56 smaller markets. Cable companies across the U.S. are offering digital programming packages that include a mix of broadcast and cable HD content. As of March 31 of this year, cable systems carried 382 broadcast stations offering HDTV, a more than fourfold increase since January 2003. This remarkable growth demonstrates that market forces are working and working well.

According to Keegan Research, a leading industry analyst, 12 million, or about 10 percent, of U.S. TV households will own digital televisions by the end of this year. By the end of 2008, Keegan projects that number will soar to 64 million or 55 percent of television households. Similarly Keegan projects digital cable subscribership will jump from 23 million, or 30 percent of cable households today, to 41 million, or about 60 percent in 2008, the end of 2008.

Even with such impressive growth, by the Media Bureau's proposed DTV transition date, December 31, 2008, tens of millions of

American consumers will still watch television on analog TV sets. And herein lies the real challenge of expediting return of the analog broadcast spectrum.

We commend FCC Media Bureau Chief Ken Ferree and his staff for thinking creatively about ways to complete the transition, while at the same time minimizing disruption to consumers. We think all stakeholders would benefit by having greater certainty as to the transition's end date, be it December 31, 2008, or some other date.

Clearly, the biggest challenge posed by the DTV transition is to ensure uninterrupted television viewing by the approximately 15 percent of TV households that don't subscribe to cable or DBS. Having sufficient numbers of low-cost digital-to-analog broadcast converter devices available in the market is essential to avoiding massive consumer disruption.

Also, it must be recognized that at year end 2008, at the time that the transition would occur under the Bureau's plan, only 40 million or 41 million cable subscribers would be digital cable subscribers. Another 30 million would still have not voluntarily upgraded from analog to digital. For this reason, we think the Bureau plan has it right by recognizing that digital-to-analog conversion of broadcast signals at a cable system's head end may be the best way to ensure uninterrupted viewing of broadcast television by millions of analog-only cable subscribers.

However, we respectfully disagree with the Bureau's suggestion that must carry broadcasters should decide whether a cable operator can convert digital broadcast signals to analog at the cable system head end. Cable operators have a great interest in minimizing disruption to cable customers, so we believe it would be more appropriate to let them determine how to deliver digital must carry broadcast signals to their customers, at least until cable systems are fully digital or 85 percent of a cable systems customers have digital-to-analog equipment. An earlier version of the Bureau's plan recommended just this.

Second, the DTV transition plan should not expand existing must carry broadcast rights. The FCC has already ruled that a cable operator is not required to carry under the Cable Act more than one digital video channel per broadcast station. As we explain in our written testimony, mandated cable carriage of up to six digital video channels per broadcast station would be harmful to cable programmers, operators and consumers, and do nothing to advance the digital TV transition.

In closing, Mr. Chairman, let me reiterate that the Media Bureau should be commended for putting forward ideas for others to scrutinize. These are complex issues that warrant thorough review. We appreciate as well the evolving nature of the Bureau's plan and the Bureau's willingness to consider further changes.

Finally, let me again congratulate this committee for its leadership in exploring ways to expedite the digital television transition. Since the DTV roundtable discussions that committee leaders convened 3 years ago, a great deal of progress has been made, and much of this is due to your constructive efforts. Thank you very much.

[The pepared statement of Robert Sachs follows:]

PREPARED STATEMENT OF ROBERT SACHS, PRESIDENT AND CEO, NATIONAL CABLE AND TELECOMMUNICATIONS ASSOCIATION

Mr. Chairman, and members of the Subcommittee, my name is Robert Sachs and I am President and CEO of the National Cable & Telecommunications Association. NCTA is the principal trade association of the cable television industry in the United States. It represents cable operators serving more than 90% of the nation's approximately 70 million cable television households and more than 200 cable program networks, as well as equipment suppliers and providers of other services to the cable industry. Thank you for providing me with the opportunity to testify this morning.

INTRODUCTION

This Subcommittee has played a pivotal role in promoting the transition from analog to digital television and I commend you for your ongoing commitment to seeing the process through to completion. Your leadership has been important to encouraging increased cooperation and inter-industry negotiations between the cable, consumer electronics, broadcast and content industries. For cable's part, I am pleased to report that our industry has made major progress in delivering HDTV and other digital products to our customers and is continuing its efforts to advance the DTV transition on various fronts.

As I discuss the specifics of our efforts, it's important to point out that the cable industry's leadership in the digital revolution is largely attributable to a regulatory environment which has allowed companies to invest, take risks and compete in the video marketplace. Cable's own transition from analog to digital technology has been spurred by competitive market forces. The technological advances which have transformed our business and benefited consumers have resulted from cable entrepreneurs risking private capital without any government guarantees or subsidies.

Starting with an eight-year capital investment of nearly $85 billion, or nearly $1,200 per customer, that began with the passage of the 1996 Telecommunications Act, the cable industry has built a robust, multi-functional and highly versatile infrastructure. This has not only enhanced our delivery of traditional cable services to tens of millions of basic cable customers, but provided the platform for the cable industry to provide broadband services to 23 million digital cable, 17 million high-speed Internet, and two-and-a-half million digital phone customers. This broadband platform has enabled cable companies to greatly increase the quality and expand the variety of video programming and other services available over their systems. Today cable offers high definition television, personal video recording capability, video-on-demand and other interactive services that were not available in the market at the time of the "96 Act.

Consumers are becoming more and more aware of what digital technology offers and are buying digital products in record numbers. More than 30% of cable customers already subscribe to digital cable services. And as consumer awareness grows, so are consumer expectations about viewing options, convenience and control. The cable industry's incentive to bring the digital transition to full fruition is about serving these growing needs and interests in a highly competitive video marketplace.

When Michael Willner, President and CEO of Insight Communications, testified almost two years ago before this Committee about the nation's transition from analog to digital broadcasting, he reported that cable had fully embraced digital technology in an effort to offer consumers new competitive services and that the industry was committed to help expedite the DTV transition.

Over the past two years, the cable industry's unwavering commitment to the digital transition has been marked by the rapid rollout of high definition services, the development of new and exciting HDTV content, and the completion of a major stage of negotiations with the consumer electronics industry on national standards for digital television products. Competition from an aggressive, well-financed direct broadcast satellite (DBS) industry has played no small part in accelerating cable's digital advances.

CABLE COMPANIES HAVE ROLLED OUT HDTV SERVICES AT A RAPID PACE

The full-scale deployment of HD service has been the fastest rollout of any product launched by the cable industry. Beginning in early 2003, cable companies initiated HDTV service in various markets across the country. At that time, HD content was available over cable systems to approximately 37 million US households. By the end of the first quarter of this year, that figure has more than doubled with 84 million American households able to receive high quality HDTV programming from

their local cable operator. The availability of high definition services to cable subscribers jumped 125 percent from January 2003 through March 2004. HDTV is now available from at least one cable system in 99 of the top 100 markets.

HD over cable is by no means limited to large urban areas. Cable operators in a variety of mid-sized to smaller markets are providing the service to their customers too. An additional 56 markets beyond the top 100 have a package of HDTV channels being offered over cable, bringing the total number of markets where cable systems are offering HDTV to 155 nationwide.

Cable companies are now offering packages that include a full mix of broadcast, basic and premium networks featuring HD content. Here in Washington, for example, Comcast provides 11 channels of HDTV programming, including five broadcast stations. Time Warner Cable has entered into carriage agreements with all of the major commercial broadcast networks for the HD programming carried by the stations they own, and in testimony two weeks ago before this Subcommittee said that by year-end, its systems will offer an average of 15 HD channels each.

Cox Communications recently announced an agreement with the Public Broadcasting Service (PBS) and Association of Public Television Stations (APTS) to carry the digital signals, including high definition programming, of 70 PBS stations on its systems. Public broadcasters have similar company-wide deals with Time Warner Cable and Insight Communications, as well as market-specific carriage agreements with Comcast, Adelphia, Cablevision, Bright House and other cable operators. Overall, cable systems are currently carrying nearly 400 broadcast stations offering HDTV or other compelling digital content—a more than four-fold increase just since January 2003, when 92 local broadcast stations' HD programming was being carried.

This remarkable growth demonstrates that market forces are working, and working well. And it confirms what the cable industry has said since the outset of the DTV transition—that when local broadcasters offer HDTV and other compelling digital content, and make it freely available to cable, cable companies want to carry it, and are doing so. It also reminds us that consumer demand is at the core of the digital transition and that marketplace solutions usually produce better results than government mandates.

CABLE NETWORKS ARE LEADERS IN PROVIDING HDTV CONTENT

In addition to cable systems carrying broadcast HD programming, cable systems are carrying HD programming from cable networks who have catapulted over their broadcast counterparts in creating HD content. Today, 15 different cable networks are producing HD programming in popular genres, such as movies and sports, and a wide array of original and general interest programming. Pay TV pioneers HBO and Showtime were the first to offer HDTV programming, including original movies. Other premium channels, such as Cinemax HDTV, The Movie Channel HD, Starz HD! and INHD have now joined their ranks offering first-run and recent movies and other HD programming, commercial-free 24-hours a day.

Unlike many broadcast stations which just offer HD programming a few hours a day, most cable networks that offer HD do so on a 24-hour or nearly full-time basis. Discovery launched its 24-hour-a-day HD Theater two years ago. It recently announced plans to spend $65 million over the next five years on Atlas HD, a series of 30 two-hour, high definition documentary specials on countries around the world. Bravo HD now offers symphonic concerts, ballet, theater, and opera in high definition. TNT-HD, which launched just last week, will feature original dramatic series, sporting events and other HD programming.

Mark Cuban's HDNet produces and televises sports, news and entertainment programming in high definition 24 hours a day. The network includes NHL games, Major League Soccer games, horse and auto racing, and NCAA football and basketball games.

Regional sports networks, MSG Network, Comcast SportsNet and Fox Sports Net NY, are also major providers of HD programming. And NBA-TV provides exclusive live National Basketball Association games in high definition.

For its outstanding leadership in advancing the digital television transition through innovative HDTV programming, ESPN HD was recently honored by the Consumer Electronics Association. This month the network will debut the ESPN Digital Center, a state-of-the-art facility, that will telecast the network's signature sports news and information program, SportsCenter, and offer over 3000 hours of originally produced high definition studio programming a year.

MARKETPLACE FORCES ARE WORKING

The rapid rollout of HDTV over cable would not have occurred but for compelling HD content and the enhanced viewing and listening experience that HD offers to consumers.

According to Kagan Research LLC ("Kagan"), a leading industry analyst, more than eight million DTV's were purchased by consumers through the end of last year and an additional six million are expected to be purchased in 2004, bringing total U.S. DTV sales to nearly 15 million by the end of this year. (In view of the fact that some of these sales represent multiple purchases by the same TV household, Kagan estimates that approximately 12 million TV households ("TVHH") or 10.7% of total TVHH's will own DTVs by the end of this year.)

Clearly, there is something of a "chicken and egg" phenomenon when it comes to HDTV programming and equipment. But as equipment prices drop, more and more American consumers will be able to avail themselves of the crystal clear pictures and Dolby surround sound that HD uniquely provides. According to Kagan, total numbers of DTV sales and households are likely to reach 35 million (sales) and 27 million (23.9% TV HH) by year end 2006 and 89 million (sales) and 64 million (55.1% TVHH) by year end 2008. So, even though less than 10% of TV households own DTVs today, these growth projections may help to explain why cable operators and programmers have so strongly embraced HDTV.

DBS COMPETITION SPARKED STRONG GROWTH IN CABLE DELIVERY OF HDTV

The growth in cable delivery of HDTV is also stark evidence of the fierce competition between cable and DBS. The battle between these two industries to attract and retain customers is a major driver of HD. As the FCC recognized this year in its 10th Annual Video Competition Report, cable operators face vigorous competition from an ever-stronger DBS industry serving nearly one out of four multi-channel video households. DirecTV and Dish Network are now the second and fourth largest providers of multi-channel video services in the US. In the first quarter of 2004 alone, DBS added 820,000 new customers, bringing its total subscriber base to 22.4 million.

Competition is a very powerful motivator and cable companies are continually seeking new sources of high quality digital content to maintain their competitive edge.

NATIONAL DIGITAL TV TECHNICAL STANDARDS ARE HELPING TO SPEED THE TRANSITION

Along with creating and carrying compelling digital programming, the cable industry has joined with the consumer electronics industry and various standards-setting organizations to establish digital standards. In December 2002, the cable and consumer electronics industries entered into a landmark agreement that set the stage for a national "plug and play" standard between digital television products and digital cable systems. As a result of this agreement, cable customers can buy unidirectional DTVs and other devices that connect to digital cable systems without a set-top box, and enjoy easy access to HDTV and other services offered by cable providers.

The agreement ensures that the next generation of digital television sets will receive one-way cable services without the need for set top converter boxes; enable consumers to receive HDTV signals with full image quality and easily record digital content; allow for an array of new devices easily to be connected to the new HDTV sets; permit access to cable's two-way services through digital connectors on high definition digital sets; and encourage manufacturers to speed the production of new sets and services for delivery to market.

The FCC adopted implementing rules in September 2003. These rules track the voluntary agreements between the cable and consumer electronics industries and impose legal obligations on cable operators to facilitate the commercial availability of "digital cable ready" equipment. The FCC also required that these "cable-ready" DTV sets include over-the-air digital tuners, a requirement the cable industry supported.

The FCC's rules assure consumers that cable operators will provide them with Point of Deployment or POD separate security modules, now called CableCARDs, that will work in their CableCARD-enabled equipment purchased at retail. Motorola and Scientific-Atlanta have shipped CableCARDs to MSOs.

Under the rules, all digital cable systems are required to maintain an adequate supply of CableCARDs and ensure convenient access to these devices for their customers. In addition, all digital cable systems must conform to technical standards governing digital interfaces and the CableCARD copy protection system.

Most large cable systems already comply with these standards and other operators are implementing them at their head-ends and in their networks in the near term.

As cable operators implement the "plug and play" agreement, unidirectional digital cable ready products are well on their way into the market, as evidenced by the presence of products from a number of manufacturers at the January 2004 Consumer Electronics Show in Las Vegas and last month's NCTA Show in New Orleans.

I am also pleased to report that the cable and consumer electronics industry discussions on two-way digital cable ready products are well underway. This process includes many other interested industries and companies. The CE and cable industries—individually and jointly—have reached out to third parties, including representatives of the information technology and content communities, and the broadcast and satellite industries, to get their views on the key components of a two-way digital cable ready framework. NCTA will continue to collaborate with other industries and the FCC to implement the unidirectional "plug and play" agreement and to expeditiously reach agreement on "two-way" digital cable ready products.

Meanwhile, CableLabs, the cable industry's research and development consortium, is continuing to work with manufacturers in testing products that are built to conform to CableLabs' OpenCable specifications as well as the FCC rules for unidirectional "plug and play" digital cable products.

On the consumer side of the equation, cable companies recognize the importance of minimizing the potential for confusion regarding the capabilities of "digital cable ready" devices. To avoid such confusion, the cable industry has partnered with the CE industry to develop logos to make consumers aware of "Digital Cable Ready" and "Interactive Digital Cable Ready" devices.

THE FCC MEDIA BUREAU PROPOSAL TO ACCELERATE THE DTV TRANSITION

As you have heard this morning, the Media Bureau of the FCC has initiated an important discussion about how the government can accelerate return of the spectrum loaned to television broadcasters to transition to digital broadcasting. We commend Bureau Chief Ken Ferree and the Bureau for thinking creatively about how to end the transition in order to reclaim valuable public spectrum for public safety and wireless needs while, at the same time, minimizing disruption to consumers. We think all those affected by the transition are benefited by a Bureau proposal to interpret existing law to provide some certainty as to the transition's end date—either December 31, 2008 or at some later date, depending on the immediacy of the government's needs for reclaiming the analog spectrum. And we think it's vitally important that any policies adopted minimize disruption to consumers.

Given the evolving nature of the Bureau's plan and the fact that we have only just recently seen it described in writing, it is difficult to offer definitive comments about it. However, we are able to offer some preliminary observations.

First, clearly the biggest challenge posed by the DTV transition is to ensure that television viewing enjoyed by some 15 million broadcast-only TV households and tens of millions of cable and satellite households where multiple TV sets may not be hooked up to cable or DBS is not disrupted. At a minimum, marketplace availability of low-cost digital-to-analog converter devices is essential to ensure that massive disruption of consumers who rely solely on broadcast TV does not occur. In this regard, the FCC recently issued an NOI seeking public comment on how this problem can be addressed. We commend the Commission for recognizing the critical importance of having consumer solutions in place well in advance of the date by which broadcasters must return the analog spectrum to the government.

Second, it must be recognized that the broadcasters transition to a digital-only broadcast system under the Bureau's transition plan will occur long before a substantial number of cable customers have migrated from analog to digital viewing. As I mentioned earlier, 23 million or more than 30% of cable customers subscribe to digital cable today. While only a small percentage of these consumers own DTVs, enabling them to receive programs in HDTV or standard definition TV, digital cable set-top-boxes still allow them to enjoy digital cable channels, video-on-demand and other interactive programs in analog on existing TV sets.

By the end of 2008, Kagan Research LLC projects that nearly 41 million cable subscribers will be digital cable subscribers. If these projections are correct, it means that nearly 30 million cable customers will still be analog-only as of December 31, 2008. Kagan also estimates that digital cable homes will contain an average of 1.9 digital set top boxes versus an average of 2.6 TV sets. This means that an additional 30 million TV sets in digital cable households will not be able to receive digital broadcast signals without a digital-to-analog cable converter device. As

shown in the following chart, a total of 106 million analog TV sets (30 million analog cable customers x 2.6 TV sets (78 million TV sets) plus 40 million digital cable customers x .7 TV sets (28 million TV sets) will be in cable households:

Cable operators have a very strong interest in ensuring that these 106 million analog TV sets continue to work in their customers' homes. For this reason, we think the Bureau plan has it right where it recognizes that down-conversion of a digital broadcast signal to analog at the cable system's head-end would be the most cost-efficient way to continue to serve these millions of sets. Unlike over-the-air viewing, for which digital-to-analog converter devices will be the only way that broadcast viewers can continue to watch television on their analog sets, cable operators must have the option of down-conversion for its customers to achieve this same goal.

Where we take issue with the Bureau's plan is its proposal that a must carry broadcaster should be able to determine when and whether a cable operator can down-convert its digital signal to analog at the head-end. We believe it would make more sense and be more appropriate to allow cable operators to decide how best to deliver digital must carry broadcast signals to cable customers until a cable system has totally converted to digital, or at least until 85 percent of its customers have "plug and play" DTV sets or digital-to-analog converter devices. Giving broadcasters control would limit cable operators' ability to serve cable customers in the least disruptive manner or effectively impose a dual must carry regime on cable operators. In an earlier version of its plan, the Bureau proposed that cable carriage of broadcasters' digital signals in digital would be subject to the above conditions. We believe that the Bureau's earlier plan would prove much less disruptive for cable consumers.

Second, the DTV transition plan should not provide must carry broadcasters with expanded must carry rights. The FCC in 2001 already ruled that a cable operator is not required under the Cable Act to carry more than a single digital program stream, plus program-related material. The Commission concluded that "based on the plain words of the [Cable] Act . . . to the extent a television station is broadcasting more than a single video stream at a time, only one of such streof each television station is considered 'primary'" and therefore entitled to mandatory carriage. In the FCC's digital must carry proceeding, CS Docket No. 98-120, NCTA and others have commented extensively on the substantial legal and policy reasons why that is the right decision.

As we have made clear in those filings, imposing multicast carriage requirements would do nothing to advance the digital transition. Most obviously, a multicast must carry rule, were it legal, would, under the Bureau's plan, take effect only after the broadcaster has returned its analog spectrum. By counting a broadcaster's single down-converted signal carried by cable towards the 85 percent test, the Bureau's plan already would achieve the goal of expediting the transition's end. Secondly, there is no reason to believe that standard definition multicast digital signals would cause consumers to purchase HDTV sets. Indeed, multicast rights for must carry stations after the transition adds nothing to the objectives sought by the Bureau's plan. As importantly, government-required cable carriage of multicast digital broadcast signals would be harmful to other programmers, consumers and public policy goals of promoting programming diversity.

Multicast must carry would harm the public interest by greatly expanding the number of channels that the government would compel cable operators to carry from broadcasters that already have a voice on the cable system. Under current technology, six standard definition digital video channels can be compressed within a 19.4 megabits stream. If under the FCC's new media ownership rules a broadcaster were to own two or three TV stations in some markets, the Bureau plan would require cable operators to carry as many as a dozen or 18 digital video channels from a single broadcast source in those markets. How is that possibly fair to other programmers who must compete for carriage on the basis of program quality and consumer demand?

The Bureau plan sweeps aside these clear legal, practical and public policy reasons for maintaining the Commission's existing decision against mandatory multicast carriage. It instead raises the prospect of government-mandated multicast carriage after the transition as an "additional incentive" for broadcasters to "return their analog licenses in a timely manner." But broadcasters should need no added inducement to return this valuable government-owned property, which the government loaned them to transition to digital television by 2006. Moreover, broadcasters should not be rewarded for doing what the law requires them to do at the expense of cable operators, programmers and consumers.

We appreciate the Bureau's continued efforts to seek input as it develops its DTV transition plan. We look forward to working with the Bureau, the Commission and Congress as this plan continues to evolve.

CONCLUSION

Mr. Chairman, in summary, the cable industry has advanced the digital transition by undertaking a massive, multi-year upgrade of its plant and facilities, spurred by intense competition from DBS and fueled by a private capital investment of over $85 billion since 1996. The resulting digital broadband platform has positioned the industry to continue to be a leader in the provision of home entertainment, information, and other services to the American public. The benefits of cable's investment in digital technology and infrastructure improvements is shown in the dramatic growth in cable's delivery of HDTV services to consumers from both broadcast stations and cable networks, the creation of new and exciting HDTV content, and the emphasis on resolving standards issues for new digital television products. It also shows that the marketplace is working well and that consumer demand will further drive the digital transition.

The government's need for the return of the analog spectrum for important public safety and wireless purposes provides further impetus for expediting the digital transition. But as the FCC Media Bureau plan properly recognizes, the transition must be accomplished with a minimum of consumer disruption.

The cable industry stands ready to work with the Subcommittee in its efforts to advance the DTV transition for the benefit of American consumers.

Mr. UPTON. Thank you.

Mr. DalBello.

STATEMENT OF RICHARD DALBELLO

Mr. DALBELLO. Thank you, Mr. Chairman and members of the subcommittee. We appreciate this opportunity to give the satellite industry's perspective on the FCC digital transition plan.

The digital transition has long been a priority for Congress and the FCC. SBCA supports the FCC Media Bureau proposal because we believe it will produce tangible benefits for consumers, drive the adoption rates for new HD devices, encourage the demand for our member services, spur the economy, and free up spectrum that is important for many reasons, including homeland security.

Today over 22 million households in the United States receive multichannel video service via satellite. That is one in every five television households in the country. DBS has offered subscribers 100 percent digital transmission since launch in 1994. DBS also pioneered the carriage of HD television by broadcasting the first HD signals in 1999.

The DBS industry is also supporting the digital transition from the hardware side of the equation. All DBS providers currently offer set-top boxes that decode both satellite and over-the-air HD programming. By providing compelling content on an all-digital platform, DBS providers are giving the American consumer a reason to invest in digital equipment.

In the past 2 years, the FCC has done a commendable job of resolving many of the complex technical and legal issues surrounding the transition to digital; however, there are two issues that I would like to mention this morning. The first issue is a concern over possible digital must carry requirements.

The carriage regime for over-the-air digital television stations both during and after the transition has not yet been finalized by the Commission. Due to the finite amount of spectrum and orbital resources available to satellite operators, special consideration

must be taken when imposing mandatory carriage of local digital signals on the satellite industry.

DBS operators have spent millions of dollars to design, build, launch and operate the satellites that are now in orbit. The bandwidth consumption required by full digital must carry obligations would force DBS companies to dramatically restructure their entire business model, potentially eliminating the local-into-local services currently being offered in 127 markets. This could undermine the congressional and FCC intent to provided local-into-local services to as many consumers as possible as rapidly as possible.

The second issue is the lack of definition of an unserved digital viewer. It is inevitable that certain households for topographical reasons or due to their distance from the broadcaster's tower will not be able to receive an over-the-air digital signal. The current statute only defines an unserved analog household, not the unserved digital household. Before satellite carriers can avail themselves of the compulsory license to retransmit digital signals, Congress, the FCC and the copyright office will have to develop an unserved household definition for digital broadcast signals.

Once there is a reliable predictive model of which consumers will be unserved by over-the-air digital broadcast stations, the DBS industry is uniquely positioned to help ensure that digital television will become available to all Americans. Our proposal is simple: Allow households that cannot receive their local affiliate's digital signals to receive network DTV signals from their satellite TV provider. This can be done by broadening the existing compulsory license to permit DBS providers to offer network digital services in unserved areas.

In conclusion, SBCA and the DBS industry support the FCC's plan to accelerate the transition to digital broadcasting. As we have stated, we believe the plan will result in tangible and important benefits for consumers, taxpayers and the security of our Nation. We understand that the plan could mean that there are people who will no longer be able to receive an over-the-air signal on their analog television. However, as an industry, we have been providing a national digital signal to consumers with analog televisions since our inception. We believe that affordable technologies can be made available to solve the analog-to-digital conversion problem. The DBS industry is willing to work with Congress to aid in any additional solutions to meeting these consumer needs in a manner that is reasonable and cost-effective for both the consumer and the government.

Thank you again for your time again today. I look forward to your questions.

[The prepared statement of Richard DalBello follows:]

PREPARED STATEMENT OF RICHARD DALBELLO, PRESIDENT, SATELLITE BROADCASTING AND COMMUNICATIONS ASSOCIATION

Thank you Mr. Chairman and members of the Subcommittee, my name is Richard DalBello, and I am the president of the Satellite Broadcasting and Communications Association, or SBCA. SBCA is the national trade association that represents the consumer satellite services industry—our members include satellite television, radio and broadband providers, programmers, equipment manufacturers, distributors and retailers. Thank you for taking the time to hear the satellite industry's perspective on the digital transition.

The digital transition has long been a priority for the Congress and the FCC. SBCA supports the FCC Media Bureau proposal as it has been described to SBCA by FCC staff, because we believe the proposal will:

- Accelerate the timeframe in which millions of Americans will receive quality digital and high definition television services
- Rapidly increase the sales of digital and HD televisions
- Spur the production of high-quality digital and HD programming
- Return more than $50 billion to the US treasury as a result of the auction of the analog spectrum
- Free up valuable spectrum for new applications and essential public safety services

DBS AND THE DIGITAL TRANSITION

Today, over 22 million households in the U.S. receive multi-channel video service via satellite—that is one out of every five television households in the country. The growth that DBS has experienced and the resulting benefit to consumers of having a competitive alternative to cable are due in large part to the support the industry has received from Congress—especially in the form of a local-into-local license from the 1999 Satellite Home Viewer Improvement Act—and the FCC.

DBS has offered subscribers a 100% digital transmission since its launch in 1994. For consumers with analog televisions, the digital signal sent from the satellites operated by the DBS providers is, for the most part, transformed back to an analog signal in the subscriber's set-top box, enabling service to these customers.

Without the introduction of DBS as a viable competitor in the multi-channel video market, the word "digital" would not be part of the cable industry on such a widespread scale today. By offering a superior quality product at a competitive price, the DBS industry has not only given consumers a choice, but it has also accelerated the digital transition by introducing digital signals to the U.S. television industry.

DBS also pioneered the carriage of High Definition, or HD, television by broadcasting the first HD signals by a multi-channel video programming distributor in 1999. By providing compelling content on an all-digital platform, DBS providers are giving the American consumer a reason to invest in digital equipment. DBS providers offer movies, sporting events, documentaries, concerts, public affairs programming and original series in HD. Right now, the two largest DBS service providers, DIRECTV and EchoStar, offer eight and nine HD channels respectively, and programmers are continuing to roll out HD programs and channels to meet this growing demand. With regard to network programming, both DIRECTV and EchoStar have negotiated a deal with Viacom to permit the rebroadcast of a distant HDTV feed of CBS into the owned-and-operated markets of Viacom providing a viable alternative to over-the-air reception. In addition, a new DBS operator, Rainbow DBS's VOOM, launched late last year. They offer an exclusive package of 39 High-Definition channels via satellite—including 21 exclusive HD channels and HD channels from many popular national cable networks.

The DBS industry is also addressing the digital transition from the hardware side of the equation. All DBS providers currently offer set top boxes, or the boxes which sit on top of your television set, which decode both satellite and terrestrial (over-the-air) HD programming. Furthermore, DBS providers are the first pay television providers to offer high definition receivers with personal video recording capabilities. By continuing to lead the way in providing HD to homes across America, DBS is not only meeting consumer's wants and needs but also driving money into the economy by giving consumers a reason to upgrade their existing television sets.

ISSUES RAISED BY FCC'S PROPOSAL

In the past two years, the FCC has done a commendable job of resolving many of the complex technical and legal issues surrounding the transition to digital, which at one time seemed an impossible task. I would like to take this opportunity to thank them for their hard work and their efforts to come up with a feasible plan for this transition. However, there are two issues that I'd like to raise for discussion surrounding the overall digital transition: what material must be carried by satellite operators under the must-carry regime, and how to define an un-served digital household for the importation of a distant digital network signal.

DIGITAL MUST-CARRY CONCERNS

The carriage regime for over-the-air digital television stations both during and after the transition has not yet been finalized by the Commission. Due to technical burdens shouldered only by satellite operators because of the finite amount of spec-

trum available, special consideration must be taken when imposing mandatory carriage of local digital signals on satellite operators. DBS operators have spent billions of dollars to design, build, launch and operate satellites that now are now in orbit. The bandwidth consumption required by full digital must-carry obligations (dual carriage, multicast must-carry, full local HD carriage) would force DBS companies to dramatically restructure their entire business model, potentially eliminating the local-into-local services currently being offered in 127 markets. This undermines the Congressional and FCC intent to provide local-into-local service to as many consumers as possible as rapidly as possible.

Dual Carriage of Analog and Digital Signals During the Transition

In 2001, the FCC correctly concluded that "a dual carriage requirement may burden cable operators' First Amendment interests more than is necessary to further the important government interests they would promote." While the FCC Order did not address dual carriage requirements for DBS, technical and statutory reasons exist that make dual carriage even less appropriate for satellite operators. Satellite operators have a fixed amount of allocated spectrum within which to operate. If a dual carriage regime were imposed during the transition that required a satellite operator to carry both a broadcaster's analog and digital signal, DBS operators would be forced to turn off local service in many of its 127 markets where it is currently offered today, and the roll out of new markets would be aborted.

Multicast Must-Carry Should Not be Required

The FCC addressed cable's carriage requirement for a broadcasters' multicast programming stream in 2001, and determined that only one video stream and program-related services can be considered "primary" for carriage under the cable must-carry regime. Program-related services that are entitled to carriage include: closed captioning, V-chip/program ratings, Source ID Codes (used by Nielsen), and channel mapping and tuning protocol.

We believe the FCC made the appropriate determination that multicast programming should not have to be carried by any MVPD. However, multicast must-carry is a bigger strain on DBS than cable, due to the nationwide nature of DBS and the severe spectrum limitations in which we operate. If a broadcaster's multicast content is compelling enough and our subscribers want it, we would carry it on our systems. The selection of HD and multicast programming stations should be driven by consumer choice and market demand rather than a government mandate.

DBS Should be Allowed to "Downres" High-Definition Local Broadcasts

Since High Definition (HD) provides up to six times greater the resolution of standard definition television, HD transmissions require significantly larger amounts of bandwidth than a standard digital definition (SD) signal. On our current satellites, compression methods allow for as many as 12 standard definition broadcast channels per transponder—with HD broadcasts, only 2-3 channels can be carried per transponder. Therefore, a DBS provider broadcasting 1 HD program must eliminate approximately 6 standard definition channels. A requirement that satellite carriers retransmit the full HD signal of every local broadcaster would severely reduce the number of local markets where DBS offers local-into-local.

As long as the local broadcasters are making their digital signal available over-the-air, DBS consumers can receive the local HD transmissions through the digital tuners included in high-definition set-top boxes, therefore avoiding loss of local HD content while at the same time, conserving spectrum. For this reason, we encourage broadcasters to increase the power of their digital broadcast signals. These HD set-top boxes are becoming more widespread, and will continue to do so as the transition to digital television progresses.

UN-SERVED DIGITAL VIEWERS

It is inevitable that certain households, for topographic reasons or due to their distance from a broadcaster's tower, will not be able to receive an over-the-air digital signal. The compulsory license which authorizes satellite carriers to transmit distant network signals to those households who are unable to receive an over the air network signal doesn't distinguish between digital or analog transmissions. Despite the fact that nothing in the compulsory license itself would prevent a DBS provider from retransmitting a broadcaster's digital signal to subscribers, there are both regulatory and practical limitations on the satellite industry's ability to make digital signals available to consumers.

Section 119 of the Copyright Act includes a very important limitation on the transmission of distant network signals. Such signals can only be retransmitted to un-served households. Un-served households are determined according to the Indi-

vidual-Longley Rice (ILLR) model developed by the FCC. The FCC's ILLR is based on each individual broadcast station's analog signal propagation characteristics. In other words, the statute only defines the un-served analog households—not the un-served digital households. While propagation of digital signals may have many of the same characteristics as the analog signals, there will be differences. Indeed, a representative of the NAB told the House Judiciary Committee earlier this year that broadcasters have discovered that the digital contour "has some holes in it." In other words, some people who can receive the broadcaster's analog signal are not able to receive the digital signal. Before satellite carriers can avail themselves of the compulsory license to retransmit digital signals, Congress, the FCC and the Copyright Office will have to develop an un-served household definition for digital broadcast signals.

Once there is a reliable predictive model of which consumers will be un-served by over-the-air digital broadcast stations, the DBS industry is uniquely positioned to make good on Congress' goal that digital television become available to all Americans. Our proposal is simple. Allow households that cannot receive their local affiliates' digital signals to receive network DTV signals from their satellite TV provider. This can be done by broadening the existing compulsory license to permit DBS providers to offer network digital service in un-served areas. The expanded license would limit DBS service to only those households that cannot receive an over-the-air digital network signal. The availability of distant digital signals would have no real impact on the roll out of analog local-into-local service to additional markets by DBS operators.

CONCLUSION

SBCA and the DBS industry support the FCC's plan to accelerate the transition to digital broadcasting. As we have stated, we believe the plan will result in tangible and important benefits for consumers, taxpayers, and the security of our nation. We understand that the plan could mean that there are people who will no longer be able to receive an over-the-air signal on their analog televisions. However, as an industry, we have been providing a national digital signal to consumers with analog televisions since our inception. We believe that affordable technologies can be made available to solve the analog to digital conversion problem. The DBS industry is willing to work with Congress to aid in any additional solutions to meeting these consumers needs in a manner that's reasonable to the consumer, the government and the DBS industry.

Satellite operators were the first to offer digital multi-channel video to consumers, spurring a $75 billion investment by the cable industry to keep up with our digital offerings. We have long believed in digital. However, due to the technical burdens of spectrum constraints and the questionable constitutionality of forced dual, multicast and full local HD carriage, we encourage Congress and the FCC to continue to not impose a carriage regime for digital signals that will slow the rollout of local channels via satellite and thus harm the MVPD competition fostered by over ten years of this Subcommittee's and FCC policy.

Thank you again for your time today, I look forward to answering any questions that you may have.

Mr. UPTON. Thank you.

Mr. Shapiro.

STATEMENT OF GARY J. SHAPIRO

Mr. SHAPIRO. Thank you, Mr. Chairman, members of the subcommittee. I am Gary Shapiro, president of the Consumer Electronics Association. We have 1,500 corporate members, and we producers the Nation's largest annual event, the international CES.

I thank you for inviting us to discuss the steps necessary to finish the transition to digital television. While most were skeptical, we were true believers not only in digital television, but, in its purest form, HDTV, with all of the glory, the full audio and video experience HDTV bestows.

DTV is one of the fastest-selling products in our history. Americans have bought more than 9 million DTV products since the late 1998 introduction. Indeed, HDTV is the primary driver behind this

phenomenal sales figure, as 87 percent of the DTV products sold to date are high-definition.

We now forecast that about 6 million digital TV units will be sold this year, and it keeps going up. Indeed, DTV sales have surpassed those of the VCR, PC, and color TV at similar stages, and we have a chart which demonstrates that on your right side. You can see that DTV is a killer product.

Indeed, we are at the start of the steep hockey stick curve of sales. Under certain assumptions, with cable-ready sets and CableCARDS being one of them, by 2010 we expect Americans will own more than 90 million DTV sets, and over 85 percent of American's homes will contain over-the-air DTV tuners.

Intense competition and low prices are helping drive HDTV sales. Indeed, there are 800 different models from 60 manufacturers of HDTV products, DTV products. And consumers can buy several DTV products under the magic $1,000 mark, and even some below $500.

As a trade association and as an industry, we have focused our efforts wholly to assist the congressional mandate to shift to digital television. We use every medium possible. We have a range of pamphlets, brochures, media resources, everything, computer programs to educate retailers and millions of consumers about the benefits, functions and features of digital television.

As a result HDTV is an unquestioned success. Product sales continue to rise; HDTV content is increasing; satellite broadcast and cable are jumping onto the HDTV bandwagon; and manufacturers are rolling out exciting new HDTV products every week.

With DTV becoming a mass-market product now, we must ensure the rapid recovery of the analog broadcast spectrum, while also ensuring that at the end of the transition, every American has received the benefits of DTV. We endorse the Media Bureau's approach as we understand it, but we offer some slight modifications that we believe will hasten the conclusion of the transition.

First, the plan should include a hard deadline for cable to stop down-converting digital broadcast signals at the head end. This is the only way we can be sure that HDTV signals will someday be delivered to all Americans, including cable subscribers. This is the exact opposite of what you heard Mr. Sachs just said about down downresing potentially forever. HDTV is worth getting and requiring.

Second, cable operators should be required to keep their broadcast signal unencrypted. This will permit consumers with a DTV to receive broadcast signals without a set-top box or extra fees, like they can today with a cable-ready set in the analog world.

Third, cable operators are carrying digital broadcast signals. They should not be allowed to reduce their sound or picture quality. If a broadcaster is making the investment to provide HDTV and Dolby Digital Surround Sound, that is exactly what the cable consumer deserves and expects to see and hear.

Fourth, cable operators must carry all broadcasters' free programming and program-related material. This should include multicast channels as well as V-chip, closed captioning and other information.

Fifth, the FCC should ensure that all broadcasters are on their permanent digital channels and operating their digital stations at full power by 2006. Only one-third of the commercial stations are delivering a full-powered DTV signal today. Millions of Americans will soon be buying these over-the-air DTV tuners. Because of a mandate, broadcasters have an obligation to reach them because they are spending a lot more for that purchase.

Finally, the FCC should ensure a competitive market for cable plug-and-play equipment by requiring cable operators to rely on separable security or CableCARDS in the equipment they lease to consumers.

In addition to these measures recommended in the Media Bureau plan, there are other bold steps that can be taken to speed the transition. For example, we urge, as the SBCA suggested, Congress allow satellite providers to carry distant network signals in an area where local broadcasters are not providing them.

Also, the FCC should reject content industry requests they be allowed to impose selectable output control or downresolution on HDTV owners.

Finally, Congress and the FCC should closely oversee the introduction of digital cable-ready sets. When these sets are introduced in a few months, American consumers will be able to buy a DTV, plug the set into the wall, and with a local operator's CableCARD, view glorious HD programming without a set-top box. We presume the cable industry has ordered a sufficient quantity of the new cards to support the anticipated consumer demand for DCR sets. We also presume that they won't be charging a lot for them, and they will be available at less than the cost of a set-top box.

I was an early adoptee of DTV, and I believe that the American public should join me in thanking this subcommittee for its focus on the DTV transition as a national priority.

In closing, we will continue our broad efforts to educate consumers and retailers about digital television. And I pledge our commitment as an industry and as an association to work with you, the FCC, and others to ensure a speedy and consumer-friendly transition and a prompt return of the analog broadcast spectrum.

[The prepared statement of Gary J. Shapiro follows:]

PREPARED STATEMENT OF GARY J. SHAPIRO, PRESIDENT AND CEO, CONSUMER ELECTRONICS ASSOCIATION

Mr. Chairman and Members of the Subcommittee: Thank you for inviting me to discuss our progress in the transition to digital television (DTV), and the steps that should be taken to conclude the transition in the most beneficial and consumer-friendly manner.

I represent the Consumer Electronics Association (CEA), the principal U.S. trade association of the consumer electronics and information technology industries. Our 1,500 members include virtually every DTV manufacturer, and our products are found in 99 percent of American homes.

Our members invented DTV, and DTV is very much our baby. We marveled at the miracle of birth, cheered when it took its first steps, were thrilled with its rapid growth, and now look on proudly as it matures into a popular, mainstream consumer electronics product. In fact, you could say that our one-time baby has grown up, gotten hold of the car keys and is now heading down the highway.

DTV Sales Continue to Rapidly Increase

Our most recent sales figures show that the first quarter of 2004 brought the greatest volume of DTV sales ever recorded, with 1.39 million monitors and inte-

grated sets sold accounting for $2.1 billion of consumer investment. This is a remarkable 104 percent increase in unit sales from the same time period in 2003.

More than 10 million DTV products have been sold since the first sets hit the market in the fourth quarter of 1998. Americans already have invested an astonishing $20 billion in DTV products, not including additional billions spent on DTV cable set top boxes and satellite receivers. As we predicted years ago, HDTV is the driver behind these phenomenal sales figures, as 87 percent of the products sold to date are HD.

To put this into historical context, DTV sales already have far surpassed those of the VCR, PC, and color TV at a similar point after introduction. Indeed, overall revenues from digital TV now regularly outstrip those from analog TV. Television manufacturing now is a digital industry, and there is no going back.

Consumer enthusiasm for HDTV is so strong that CEA has upwardly revised its digital television sales projections. CEA now forecasts that 5.7 million digital television units will be sold this year, 9.4 million in 2005, 15.6 million in 2006 and 23 million in 2007.

As impressive as those numbers sound, we are only beginning to move up the steep "hockey stick curve" of sales. By 2010 we expect that more than 90 million DTV sets will reside in American homes.

Sales of 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. Weekly advertisements from national and regional retailers and specialty dealers are packed with ads for DTVs of various sizes and capabilities.

When consumers walk into retail stores, they now enjoy an unprecedented variety of DTV products with more than 800 models available from 60-plus manufacturers. 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.

To be sure, the DTV category is so hot that new entrants with no previous history in television are leaping into the DTV marketplace. Companies like Gateway, Hewlett-Packard, Dell and Motorola are now seeking to surf the wave of consumer DTV enthusiasm.

Sales are being driven by plummeting prices—after all, this is the consumer electronics industry. DTV prices have been steadily declining by about 10 percent per year. Today there are a host of DTV options for consumers under the magic $1,000 mark, and even some below $500.

Not only do consumers have more options at lower prices, but also the latest generation DTVs offers an array of compelling, consumer-friendly features.

For example, consumers now can choose from 81 models that include over-the-air ATSC tuners. An avalanche of tuners will enter the market over the next few years as manufacturers respond to the Federal Communications Commission (FCC) DTV tuner mandate beginning next months. We estimate that by 2010, 86 percent of American homes will contain TVs capable with DTV over-the-air tuners.

New Digital Cable Ready Plug-and-Play DTVs Will Help Drive the Transition, So Long as CableCARDS are Readily Available to Consumers

2004 also is the year that a "plug-and-play" transition to cable DTV should become a reality for American consumers. Last fall the FCC formally adopted the Digital Cable Ready DTV agreement for a nationwide plug-and-play digital cable standard. That means that American consumers—70 percent of whom rely on cable for their primary TV reception—will now be able to buy a DTV, and, with a local operator's CableCARD, plug the set into the cable jack in their wall and view glorious high-definition programming without a set-top box.

Several models designed to accept CableCARDS are already on the market, and dozens more will be available in the second half of this year. We anticipate that these new CableCARD-ready sets will be a huge hit in the marketplace. In fact, we project that more than one million digital cable ready sets and other products will be sold over the next six or seven months. And of course, every CableCARD-ready DCR set also will include an over the air digital tuner.

Starting July 1, FCC regulations require local cable operators to provide explicit support for "Plug and Play" DTVs. Since hundreds of thousands of CableCARDS—which contain security and other circuitry for particular local systems—will be necessary before football season begins, we presume the cable industry has ordered a sufficient quantity of the new cards to support the anticipated consumer demand for DCR sets, and will make them available to subscribers in a fast, simple and consumer-friendly manner.

We also presume that—to the extent cable operators are permitted to and elect to charge consumers for the CableCARDS—they will be available at a reasonable price that is significantly less than that charged for a set-top box.

Given the critical importance of plug-and-play to the DTV transition, we call upon cable operators to join the CE industry in aggressively promoting the use of CableCARDs and DCR sets. We urge Congress and the FCC to continue their close oversight of the rollout of digital cable ready products, and the resolution of remaining DTV-cable compatibility issues.

Digital CableCARD-ready sets are not the only attractive new technology that is entering the marketplace. New products such as HDTV digital video recorders are already giving Americans even more incentive to buy digital sets and demand high definition.

The Amount of Compelling HDTV Content is Increasing

Of course, as much as we love our hardware, we recognize that an ample supply of compelling content is critical to DTVs success. It is no coincidence that the upsurge in DTV sales happened at the same time that the amount of content began to rapidly increase.

The recent explosion of HDTV content is the result of a beneficial competitive dynamic among broadcast, cable, and satellite operators. Each realized that consumers want the best, and whoever does not provide it could wind up as the AM radio of video delivery service. One new satellite service, VOOM, is building its entire business plan around HDTV.

CEA is the Leader in DTV Consumer Education

CEA has embarked on an unprecedented promotional effort to ensure that consumers are fully informed about their DTV options. Our industry has every business incentive to educate consumers about the qualities and features of the DTV they want to purchase. That is why we have developed a system of voluntary labels describing DTV product capabilities that is being widely used across the industry.

Most consumers today get their primary information through retailers. It is imperative that retailers are able to provide accurate and easy-to-understand information. CEA has aggressively responded to this challenge.

In the last three months alone, we have visited four of the major consumer electronics buying groups and talked with more than 2,000 dealers to bring them the latest information on the DTV transition. We have generated point-of-sale materials for use in stores; including consumer guides and retailer tip sheets. 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.

We also have launched a new 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 is making every effort to reach out directly to consumers. Millions of readers across the country saw our recent insert in *TV Guide* explaining the DTV basics. We also have showcased HDTV before hundreds of thousands of consumers through exhibits at home design shows and trade exhibitions 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 to consumers.

CEA has single-handedly 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.

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.

In short, for the DTV transition, everything is moving rapidly in the right direction. Product sales continue to rise. HDTV programming continues to increase. Content delivery industries increasingly are 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—particularly HDTV—is a marketplace success.

CEA Endorses the Media Bureau's Approach with Modifications

The question now facing our industry—along with this Subcommittee and the FCC—is how to bring the transition to a successful conclusion in the most beneficial and consumer-friendly manner.

In particular, we believe it imperative to ensure the expeditious and certain return of the analog spectrum. The recovery of the analog spectrum will benefit consumers as it is reallocated for purposes ranging from public safety communications to exciting new services like wireless networking and Internet access.

For that reason, we appreciate the FCC Media Bureau's initiative in its proposed interpretation of the Congressionally-mandated 85 percent take back trigger for reclaiming the analog TV spectrum. Although we project that more than 85 percent of American homes will contain DTV tuners by 2010, we recognize the public benefits of setting a national, fixed date for the end of analog service.

However, the DTV transition is not just about recovering the analog spectrum. From the beginning it has also been about bringing a new and improved TV experience to consumers. A primary reason that broadcasters were allocated 6 MHz of spectrum in the first place was to allow them to provide their viewers with a full HDTV signal.

While the Media Bureau's plan creates a nationwide transition from analog to digital over-air broadcasting on a certain date, it does not create a national digital transition for broadcast signals carried on cable, which is the delivery method for the vast majority of American viewers.

Of course, the FCC recognizes that delivery of a broadcaster's digital signal in down-converted analog form is not digital TV and will not motivate consumers to buy new digital products or enable them to enjoy a new digital experience. The Media Bureau's plan trusts that market forces will motivate cable operators to carry at least the most desirable broadcast signals in digital form in order to please their subscribers.

CEA agrees that current market forces appear to be pushing cable operators to carry growing numbers of broadcast channels digitally, including high definition and to a lesser extent, multicast standard definition broadcasts. However, this voluntary transition is not comprehensive, will not achieve a simultaneous nationwide digital conversion on cable, and will confuse consumers about the timing and availability of digital TV. Moreover, market forces can change rapidly in our industry, and there is no guarantee that cable operators will continue to support digital carriage even to the extent they do today.

CEA therefore endorses the Media Bureau's approach as we currently understand it, but with modifications to ensure that it achieves both of the equally vital goals of recovering broadcast spectrum and completing the digital transition for the benefit of all consumers. Specifically, we recommend the following:

1. Down Conversion Deadline: Cable and DBS operators should be required to transmit all broadcasters' DTV signals digitally (i.e., rather than sending only a version that is down converted at the head-end) by January 2009. This will ensure that consumers with DTV sets will have access to digital signals. By 2009, cable operators will have had ample time to deploy digital-to-analog converters to customers with analog sets. Cable digital-to analog converters should be available in large volumes at low cost by that date. Most major cable systems will be almost completely digital by this time, given that more than 30 percent of cable customers are already subscribed to digital cable. In addition to carrying all DTV broadcast content digitally, cable operators, of course, may also choose to transmit the down converted version of the signal as well.

2. No Cable Encryption: When cable operators carry broadcast signals digitally, the broadcast signals must remain unencrypted. This will ensure that subscribers who have a digital receiver can receive broadcast digital TV without a cable operator-provided set top box or Cable CARD and with no extra fees, as is the case today for analog cable-ready TV.

3. No Material Degradation: The FCC should require that when cable operators are carrying broadcast signals digitally, they cannot reduce the sound or picture quality. All of the broadcast signal's program-related bits should be carried. In other words, if a broadcaster is making the investment to provide HDTV programming and Dolby Digital surround sound, then that is what the cable viewer should see and hear.

4. Carriage of All Free Bits: We endorse the FCC's proposal that, when cable operators are carrying the broadcast signals digitally, they must carry all the free broadcast streams, including multicast channels. It is essential that broadcaster program-related data, such as V-Chip, closed captioning, and program system information protocol (PSIP) information also be passed on to the television. Broadcasters'

pay services need not be carried, consistent with the statutory exemption to must-carry that exempts ancillary or supplementary services.

5. Full Power Broadcasting: To ensure the public continues to have robust access to digital broadcast TV comparable to its access to analog broadcasts, the FCC should require all broadcasters to be on their permanent digital channels and digitally transmit at their full authorized power by January 1, 2006. While many DTV stations claim to be replicating their analog broadcast service area, according to FCC data, only 477 of the 1362 commercial broadcast stations are actually delivering a full power DTV signal. The result is that spectrum continues to be unused and yet, because it is reserved for incumbent broadcasters, others are blocked from providing DTV to unserved consumers. A full-power requirement ensures that all consumers who currently can receive an analog signal over-the-air can obtain a digital tuner and receive a digital signal over-the-air. This is particularly important as DTV manufacturers move ahead with the implementation of the FCC's over-the-air tuner requirement.

6. Ensure that All Parties Rely on the Plug-and-Play Standards: Since most consumers are cable customers, they are motivated to buy DTV products in large part by their ability to receive digital cable programming. For this reason digital cable plug-and-play compatibility is critically important to the digital transition.

Our industry negotiated a set of "one way" digital plug-and-play standards and licensing terms with the cable industry, and the FCC has implemented regulations based on this agreement. Our two industries are now negotiating to add compatibility in cable systems and consumer products for two-way interactive services.

We appreciate the encouragement of this Committee, and of the FCC, in that next important step to expanding digital cable-ready access by consumers. By the way, this step and future enhancements—as cable systems continue to develop their services and their infrastructures and operations—will require completion of the "two-way" CableCARD (now under development through CableLabs). This must be a "multi-stream" CableCARD which will permit multiple cable services to operate simultaneously on a DTV or computer or other cable-ready digital product. This kind of flexibility is part of what the digital revolution is all about; and consumers want and deserve a choice of such fully digital cable-ready products both from their cable operator and from independent retailers and manufacturers.

However, unless the cable operators also rely on the use of CableCARD in all the equipment they acquire and provide or lease to their customers, consumers will never be sure that retail products will work on cable systems as well as the cable operators' equipment. CEA therefore recommends that the FCC maintain, if not move forward, its current requirement that cable operators also rely exclusively on CableCARDs in their new equipment starting July 1, 2006. Indeed, in whatever new equipment they provide to consumers after that date—whether themselves directly or through retail or other channels—cable operators themselves should rely solely on techniques that are made available simultaneously to competitive entrants. The FCC set this requirement in its rules in 1998. Despite having provided cable operators five years to plan and implement, the Commission last year slipped the deadline another eighteen months, to July 1, 2006. There must be no more delay. Common reliance by all parties on common technical requirements is the only way to fulfill Congress' direction to ensure a competitive retail market in cable equipment. It is the only way that consumers will see the benefit of this competition, in the choice, variety, and cost of the equipment they wish to attach to their local cable system.

With these modifications, we believe that the Media Bureau's plan will successfully hasten the return of the analog spectrum and ensure that all Americans receive the full benefits of the transition to digital television.

We must also deal with the fact that, under the Congressional 85 percent test, TV households that rely solely on over-the-air broadcasts will someday have to purchase a new set or a digital-to-analog converter box when the analog spectrum is returned. We applaud the FCC's recent announcement of a study on how best to ensure that consumers who depend on over-the-air broadcasting and cannot convert to digital on their own for financial reasons are not stranded when analog broadcasts are turned off. For example, one option could be a tax credit or subsidy for the purchase of a digital-to-analog converter box.

One way to estimate the worst-case number of viewers who may require assistance is to consider the number of households who receive assistance with telephone service. In May 2002, FCC data showed that approximately 7.7 million households, or 7 percent, received either LifeLine or Linkup assistance. Of course, by 2008-09, the prices of simple digital-to-analog converters will be very affordable for most Americans.

Congress and the FCC Can Take Additional Actions to Spur the DTV Transition

In addition to the actions recommended in the Media Bureau Plan, there are other things that can be done by Congress and the FCC to move the DTV transition forward.

For example, CEA endorses and urges Congress to act on the proposal allowing satellite providers to carry distant network HDTV signals in areas where local broadcasters are not providing them. Congress can do this simply by broadening the SHVIA definition of "unserved household" to include these viewers.

This "digital white area" proposal would provide an incentive for the purchase of DTV sets, and would give broadcasters a strong incentive to get on the air with a full-power HDTV signal. As I noted previously, less than half of the nation's commercial broadcasters are currently providing a digital signal at full power. Viewers should not be deprived of the extraordinary HDTV experience simply because the local broadcaster is not yet offering the service, or offering it only to a reduced service area.

Finally, a successful transition will require Congress and the FCC to safeguard consumers' customary viewing, recording, and time shifting rights in the digital age. CEA recognizes the right of the content industry to protect its intellectual property from commercial piracy, and our industry has developed a number of effective copy protection technologies for this purpose.

At the same time, it will be difficult to convince Americans to invest in DTV if they must forfeit their reasonable viewing and recording rights as the price of moving form the analog to the digital age.

For example, there now are proposals before the FCC that would allow cable operators, at the behest of Hollywood to unilaterally "downres" or remove three quarters of the pixel resolution from HDTV programming. Hollywood also is seeking permission to invoke "selectable output control" to unilaterally turn off outputs into consumers' DTV sets.

Both of these measures are promoted as combating pirates, but primarily punish law-abiding consumers. Needless to say, Americans will not be eager to purchase HDTV if they understand that their viewing privileges can be revoked unilaterally, by a third party, through no fault of the consumer. We call on the FCC to reject these proposals.

While these "white area" and digital rights management issues are not the primary focus of this hearing, they significantly impact the pace at which Americans will invest in DTV, and the speed at which broadcasters will be able to return their spectrum to the government. We welcome the Subcommittee's focus on these issues as its agenda allows.

Conclusion

Speaking personally, I have been fortunate enough to be an early adopter of DTV. For years I have watched eagerly as more compelling content has become available over broadcast, satellite and cable. Now, along with millions of Americans, I enjoy everything from "CSI" to the "Sopranos" to the "NBA Playoffs," all in brilliant high definition.

All of us should be gratified to know that, within a few short years, most American households will be sharing this extraordinary DTV experience.

I believe the American viewing public should join me in thanking this Subcommittee for its longstanding focus on the DTV transition as a national priority. This Subcommittee can be proud that HDTV is well on its way to being a fixture in the American living room.

In closing, CEA will continue our unprecedented efforts to educate consumers and retailers about digital television. I pledge CEA's continuing commitment to working with you, the FCC and other stakeholders to ensure a speedy and consumer friendly transition, and a prompt return of the analog broadcast spectrum.

Mr. UPTON. Thank you.

Ms. Tristani.

STATEMENT OF GLORIA TRISTANI

Ms. TRISTANI. Mr. Chairman and members of the committee, thank you for the opportunity to testify on behalf of the Public Interest, Public Airwaves Coalition and the Children's Media Policy Coalition. I am the managing director of the Office of Communication of the United Church of Christ, Inc. I am also a former FCC

commissioner. Throughout the years, the Office of Communication has advocated for those historically excluded from the media, especially women and people of color. We are a member of the Public Interest, Public Airwaves Coalition, an alliance that is urging the FCC and Congress to take advantage of the transition to digital to reestablish meaningful public interest obligations for America's television broadcasters. I am also testifying on behalf of the Children's Media Policy Coalition which seeks to improve the media environment for our children and is urging the FCC to ensure that broadcasters meet their public interest obligations to children in the digital age. What we would like to highlight today is what is missing from the Ferree plan, and that is any discussion of the public interest. While broadcasters stand ready and eager to reap the benefits of the digital largesse and the FCC appears ready and eager to speed up the digital transition, the public interest has been woefully neglected.

It has been almost 4 years and I know, because I was there, since the FCC initiated proceedings asking how the public interest should be served by digital television, but the FCC has yet to act. Both our coalitions believe it is imperative that the FCC reestablish meaningful public interest obligations now and before it reaches any decision on must carry or on any Ferree-type plan. It makes no sense to talk about the potential consumer benefits of digital television or of achieving a full transition before reestablishing the public interest obligations, whether it is enhanced children's educational programming, serving Americans with disabilities, programming for underserved communities or enhanced opportunities for civic and electoral discourse. The public interest coalition has asked the FCC to adopt a processing guideline for expedited license renewal. The proposal focuses on a core component of the public interest, that broadcasters provide opportunities for citizens to become informed about local civic affairs and elections.

A Lear Center study showed that 56 percent of local newscasts that aired in the weeks leading up to the 2002 elections contained no mention of any campaign. And a 2003 Alliance For Better Campaigns analysis of seven media markets found that in a typical week, just .4 percent of television was devoted to local public affairs. Our proposal seeks to ensure that broadcasters air a minimum of 3 hours per week of local, civic or electoral affairs on the most-watched channel; and in the 6 weeks prior to the election, 2 of the 3 hours per week must be devoted to electoral affairs. The proposal includes language to ensure access for independently produced programming and we also support enhanced disclosure and reporting requirements.

The Children's Coalition has recommended that broadcasters provide educational and informational programming in the digital age, that the FCC prohibit commercial Web sites from being embedded in children's programming and that datacasting technology is used to help parents make informed decisions about the programs their children watch. The current requirement that broadcasters air 3 hours of children's educational programming per week should translate into a digital children's programming requirement of 3 percent of the total number of hours broadcast over digital streams. Datacasting technologies would be used to provide parents

with ratings information throughout the length of a program. We also ask that the FCC mandate an open V-chip system.

We are also concerned about the potential harms from advertisers' use of interactive technology that is targeting children. Many companies are already using a new type of marketing, known as advergaming, which encourages children to play Internet games and permit advertisers to monitor players without their knowledge. The Children's Online Privacy and Protection Act should be incorporated into the digital transition. Congress and the courts have repeatedly recognized that among the media, broadcasting is unique. Broadcasters are the trustees of the publish airwaves and they have a statutory and fiduciary responsibility to serve the public interest. They now stand ready to reap enormous profits from the digital spectrum they have been gifted and this is a critical opportunity to reestablish meaningful public interest obligations and to ensure that the public does not miss out on the unique benefits of the digital age. Thank you, Mr. Chairman.

[the prepared statement of Gloria Tristani follows:]

PREPARED STATEMENT OF GLORIA TRISTANI, MANAGING DIRECTOR, OFFICE OF COMMUNICATION OF THE UNITED CHURCH OF CHRIST, INC.

As Thomas Jefferson put it long ago: "I know of no safe depository of the ultimate power of the society but the people themselves. And if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion."

Good morning. Thank you for the opportunity to testify today on behalf of the Public Airwaves, Public Interest Coalition and the Children's Media Policy Coalition at the Subcommittee's hearing entitled "Advancing the DTV Transition, An Examination of the FCC's Media Bureau Proposal."

I am Gloria Tristani, Managing Director of the Office of Communication of the United Church of Christ. The United Church of Christ is a mainline Protestant denomination of 1.4 million members in more than 6,000 churches, 30 colleges and institutions of higher education, 15 seminaries and more than 340 health and human service centers in every state and in Puerto Rico. I am also a former Federal Communications Commissioner, and served from November 3, 1997 to September 7, 2001.

The Office of Communication (OC, Inc.) advocates for the public interest in media and communications before the courts and the FCC. Throughout the years OC., Inc. has advocated for those historically excluded from the media, especially women and people of color, for equal employment opportunity rules in broadcasting and cable, for minimum hours of children's educational and informational programming and for other public interest obligations.

OC, Inc. is a member of the Public Interest, Public Airwaves Coalition. (List of Public Interest Coalition members attached as Exhibit 1). This Coalition, an alliance of public interest groups, media activists and grassroots organizations, is urging the Federal

Communications Commission (FCC) and the Congress to take advantage of the transition to digital to reestablish meaningful public interest obligations for America's television broadcasters.

I am also testifying on behalf of the Children's Media Policy Coalition and as a Board member of Children Now, itself a member of the Children's Coalition. (List of Children's Coalition members attached as Exhibit 2). The Children's Coalition is dedicated to improve the media environment for children and is currently urging the FCC to ensure that broadcasters meet their public interest obligations to children and their families in the digital age.

THE FERREE PLAN

The Committee has asked for comment on the FCC Media Bureau's proposal to advance the digital transition, commonly referred to as the "Ferree" plan. This plan has been floated around by the FCC, discussed by the press and interested parties, but there is no written or definitive version publicly available. As understood, the purpose of the Ferree plan is to speed up the digital transition and free up the valu-

able analog spectrum held by the broadcasters. It would do so by counting anyone who has a DTV set, as well as those who have digital-to-analog converters and anyone with a cable or satellite set-top that can either "down covert" or pass-through a broadcaster's digital signal, towards the threshold "85% of the population who is capable of receiving a digital signal." It would also push back the conversion date to 2009.

Many in the public interest community and the public safety community welcome any idea that might speed up the return of the valuable analog spectrum. But many are also concerned about the details and trade-offs that may be involved, including potential harm to consumers that still rely exclusively on over-the-air free television for their news, information, and entertainment.

Both coalitions that I represent today, the Public Interest, Public Airwaves Coalition and the Children's Media Policy Coalition have not taken a position as Coalitions on the Ferree plan at this time, although many coalition members may have specific positions. Given the fact that the Ferree plan is still fluid, it is important that this Committee explore the answers to some of the following questions before it passes judgment on the merits of the plan. Does the plan comply with the law as written by Congress? Does the plan, by counting any consumer that receives cable and/or satellite, even though the consumer may down convert to analog, comply with the intent of the statute? Do the benefits of quickly freeing up the analog spectrum to the public safety community and consumers generally outweigh the harms to consumers that may be left in the dark, with outdated equipment and the need to invest in new equipment? If government mandates this sped up transition should government and industry or both, subsidize this new transition plan? And under any plan what provisions will be made for the consumers that rely exclusively on over-the-air free television?

As a former FCC Commissioner that dealt with some of these issues, I know how critical it is to get as much information and discussion as possible before making major policy choices. And too often, the public looses out as evidenced the major consolidation that has occurred in radio and other media.

While we appreciate the efforts by the FCC to propose ideas to advance and to address some of the mechanics of the digital transition we'd like to comment on what has been missing from this picture. And, that is, any discussion of the public interest in the digital age.

THE PUBLIC INTEREST

The public interest is the foundation of broadcasting as we know it and Congress has repeatedly directed the FCC to ensure that the public interest is served. With the Children's Television Act, Congress of 1990 directed the FCC to ensure that children receive specifically-designed educational and informational programming under the current single analog channel. In the Telecommunications Act of 1996, Congress required that the FCC ensure that broadcasters fulfill obligations in the public interest.

In December 1999, the FCC initiated various proceedings dealing with the public interest in the digital age—a Notice of Inquiry on the Public Interest Obligations generally, a Notice of Proposed Rulemaking on the Children's Public Interest Obligations and a Notice of Proposed Rulemaking on Disclosure. Almost four years later, the FCC has yet to act on any of these proceedings and to ensure that the American public—children, families and citizens—will meaningfully benefit from the digital transition. Yet, at the same time, the television industry stands ready and eager to use the government giveaway involving billion of dollars worth of digital broadcasting capacity.

Both the Public Interest and Children's Coalitions believe that it is imperative that the FCC clearly define broadcasters' public interest obligations *now* and *before* the FCC reaches any decision on broadcasters' demands that it compel local cable operators to carry not just one, but all their digital program channels.

While both Coalitions would like to see a successful transition to digital, it is imperative that the FCC first clearly define the broadcaster's public interest obligations so that the public knows what it is getting for its benefits. Both Coalitions have advocated for meaningful public interest obligations and have presented specific proposals and/or recommendations to the FCC on what the public interest should entail in the digital age. The Public Interest Coalition has also presented a specific proposal to improve broadcaster disclosure and reporting. Following is a brief discussion of the Public Interest, Public Airwaves Coalition "processing guideline" proposal; and the Children's Media Policy Coalition's recommendations.

THE PUBLIC INTEREST, PUBLIC AIRWAVES COALITION PROPOSAL

The Congress and the courts have repeatedly recognized that among the media broadcasting is unique. Under the current statutory regime broadcasters are the trustees of the public airwaves, and they have a statutory and fiduciary responsibility to serve the public interest. The Public Interest, Public Airwaves Coalition sees the digital transition—the moment when broadcasters stand poised to reap enormous profits from multicasting—as the critical opportunity to reestablish meaningful public interest obligations. The Coalition recognizes the television industry has changed significantly over the last twenty years. The Coalition also recognizes that the public interest is broad and requires that broadcasters air programming that serves the educational needs of children, Americans with Disabilities (i.e., closed captioning, video description, digital features that would provide for more access), underserved communities, and generally promote local and community programming and a diversity of viewpoints and voices.

The Public Interest Coalition has focused on the core component of the public interest requirement—that broadcasters provide opportunities for citizens to become informed about local civic affairs and elections. Our proposal (attached as Exhibit 3) is in the form of a "processing guideline" to allow for expedited license renewal. The proposal seeks to ensure that broadcasters air a minimum of three (3) hours per week of local civic or electoral affairs programming on the most watched channel they operate, and also contains provisions addressing additional free over-the-air programming streams. The proposal requires that at least 50 percent of the local civil and electoral programming on the most watched channel be aired between 5:00 pm and 11:35 pm. And during the six (6) weeks prior to a general election, at least two hours of the three hour minimum shall be local electoral affairs programming, aired between the hours of 5:00 pm and 11:35 pm.

Broadcasters may counter that they are already providing ample programming covering local civic and electoral affairs. Yet study after study shows that local civic and electoral affairs programming is woefully inadequate. According to a Lear Center study 56% of local newscasts that aired in the six weeks leading up to the 2002 midterm elections contained no mention of any campaign. What little coverage there was mostly focused on strategy and polls. And less than one quarter of all stories examined candidate issue positions. (See Broadcaster Public Interest Obligations: Local, Civic and Independently Produced Programming, Background Material List attached as Exhibit 4).

An October 2003 Alliance for Better Campaign analysis of seven media markets found that, in a typical week, just 0.4 percent of television programming was devoted to local public affairs. This compared with 14.4 percent in paid programming (home shopping or infomercials), 9.9 percent in reality or game shows, and 7.9 percent in sporting events. Also, most of the local public affairs programming aired on weekend mornings, not at times when the greatest number of people are watching television. (See Alliance for Better Campaigns website at www.ourairwaves.org).

The proposal includes language to ensure access for independently produced programming. A licensee that is an affiliate of a national television network (ABC, CBS, NBC, FOX, UPN and WB) must air independently produced programming for at least 25 percent of the primary channel's prime time schedule.

The proposal is crafted to balance the First Amendment rights of broadcasters and the First Amendment rights of the viewers, and allows broadcasters to retain editorial control while ensuring that the public receives a reasonable minimum of local civic and electoral discourse.

Nonetheless, broadcasters may counter that this proposal is unconstitutional and infringes on their First Amendment rights. More than 70 years of legislation, regulation and court rulings argue against this. In the landmark court ruling, *Red Lion v. FCC,* 395 U.S. 367 (1969) (which was favorably cited in *McConnell v. FEC,* No. Slip Op. No. 02-1674 (Dec. 10,2003)), the Supreme Court held than when the government regulates access to the spectrum it must balance the First Amendment rights of broadcasters against the rights of the public, and that when these rights come into conflict, the rights of the public are "paramount."

CHILDREN'S MEDIA POLICY COALITION RECOMMENDATIONS

The Children's Media Coalition, which is comprised of eight (8) children and children related advocacy groups, sees the digital transition as an opportunity to improve the media environment for children and to protect against any potential harm to children from the new and ever expanding digital interactive technologies. The Children's Media Coalition has made specific recommendations to the FCC including the following; 1) that broadcasters be required to provide educational/informational (E/I) programming in the digital age; 2) that it prohibit commercial web sites from

being embedded in children's programming; and 3) that datacasting technology be used to help parents make informed decisions about the programs their children watch, including using datacasting to provide parents with ratings information throughout the length of any given program and to help find educational programming. (See Children Now Spring 2004 Newsletter on Digital Television available at www.childrennow.org).

Despite the amount of time children spend watching television, they still have limited options for educational programming. Numerous research studies show that exposure to educational television has positive effects on the social, intellectual and educational development of young children.

In the current world, broadcasters are required to air three (3) hours of educational/informational (E/I) programming per week between the hours of 7:00 am and 10:00 pm as part of their station licensing renewal guidelines. This amounts to about three (3) percent of their total broadcasting. In the digital world, broadcasters will have the potential to multicast up to six (6) channel streams which should translate into a minimum digital children's hour requirement of three (3) percent of the time broadcast over all a broadcasters channel streams. This proportional rule would offer a minimum guarantee of programming for children, while at the same time giving broadcasters the flexibility to determine how to meet their educational programming obligation.

Already advertisers are trying new ways to reach consumers including using interactive advertising technologies to target children. Young children, however, inherently lack the reasoning ability to understand that advertising may be biased and exaggerated. The vulnerability of children to commercial persuasion, coupled with innovations by advertisers to reach child consumers, raise serious concerns about the marketing methods that may be employed on digital television.

Advertisers are using interactive media, specifically the Internet, to entice child customers. Many companies are using a new type of marketing, known as "advergaming," which encourages children to play Internet games. Advergames are often found on Web sites of popular products or video games. Some advergames permit advertisers to monitor players without their knowledge, providing advertisers information about the length of time child consumers are online and what choices they make while playing.

Advocates are concerned that this new technology will be used to track the viewing habits and interest of viewers without their knowledge or consent. In an interactive television environment, advertisers will be able to target children according to their gender, age, household income and/or race, tracking the history of their individual viewing habits.

The FCC should prohibit commercial web site links from being embedded in children's programming. To further protect children, The Children's Online Privacy and Protection Act should be incorporated into the digital television transition.

One of the potential benefits of the digital television is that it could be used to better inform parents about programs their children watch. The TV ratings system have had limited success in helping parents control their children's viewing habits because often parents do not understand how it works. With datacasting technology, a program's rating could be shown throughout the length of a program.

The FCC should require that datacasting be used to provide parents with ratings and other useful information to help parents guide their children's television viewing. The FCC should also mandate an "open V-chip system, which would allow a broader range of ratings to be supported by digital television sets. An "open" system could help parents proactively find educational programming.

IN CONCLUSION

Before the FCC makes any new decisions on the digital transition, whether it is the adoption of a Ferree type proposal or the carriage rights of digital broadcasters, it must clearly define the public interest obligations of broadcasters in the digital age. The public deserves to know what benefits it will get from the digital largesse that has been gifted to the broadcasters.

That benefit should include reasonable minimums of local civic and electoral discourse as described in the Public Interest Proposal; and for children, commensurate amounts of educational and informational programming, a prohibition of commercial website links embedded in children's programming and incorporation of children's privacy protections, and, the use of datacasting to provide enhanced and better information for parents about programs their children watch.

The public should not miss out on this unique opportunity to benefit from the new digital age.

Mr. UPTON. Thank you.

Mr. Lenard.

STATEMENT OF THOMAS M. LENARD

Mr. LENARD. Thank you, Mr. Chairman and members of the subcommittee. I am vice president for research at the Progress & Freedom Foundation. PFF is a market-oriented think tank that studies the digital revolution and its implications for public policy. I appreciate this opportunity to testify on the DTV transition, which I believe is one of the most important communications policy issues we face today. In my opinion, the transition to DTV has foundered on the shoals of a policy that is at odds with the reality of where the market is going.

Namely, we are embarked on a prescribed course premised on a transition to free over-the-air broadcast DTV when, in fact, only about 10 percent of the viewing population receives its television that way and that percentage is declining over time. As a result, the transition has stalled and something is needed to get it moving again, which is why the new ideas emanating from the FCC are very encouraging. The government, by necessity, has an integral role in the DTV transition because of its role as the manager of the radio spectrum.

Indeed, in my view, the government's primary goal should be to free up the very valuable chunk of spectrum currently allocated to broadcast television because delay in freeing up the spectrum means delay in making new wireless services available to consumers. There are significant benefits in making that happen sooner rather than later. The current deadline for the end of the transition when the broadcasters are supposed to relinquish their analog spectrum, the end of December 2006, is not a meaningful deadline.

Nobody believes it will happen because it is conditional on 85 percent of the households in any market being able to receive digital broadcasts and the way this condition is now interpreted, cable and satellite don't count toward the 85 percent. This, as I indicated, flies in the face of reality because almost 90 percent of households subscribe to an MVPD, 75 percent to cable and almost 22 percent to DBS. As FCC Chairman Powell has noted, "It seems clear to me that at some point on the horizon, all Americans, perhaps in 10 years, will have pay TV." By that time a significant portion of Americans may also be getting their TV over the Internet, a technology that was in its infancy when the DTV transition plans were being developed. As Chairman Powell has also noted, "If 100 percent of Americans don't get free over-the-air TV, what are we protecting?"

Moreover, in the past 10 years, most MVPD has become digital. The cable industry has been investing heavily in its facilities and digital cable service is now available to almost all cable subscribers. The agreement on the new plug-and-play standard between manufacturers of digital television sets and the cable systems will also help to speed this transition along. Direct broadcast satellite which barely existed 10 years ago is all digital. Currently the two major DBS providers, DirecTV and Echostar, both offer HDTV services in packages.

For its part, the FCC staff is proposing a way to move the process forward by establishing a new deadline of January 1, 2009 for

the end of the transition at which time the broadcasters would return their analog spectrum. To make this happen, the FCC has devised a plan that would count cable and satellite subscribers toward the 85 percent threshold and combined with other initiatives this would help assure that the 85 percent threshold is met and thereby free up the 108 megahertz of analog spectrum that the broadcasters have been scheduled to return in 2006. Freeing up the analog spectrum will produce public safety benefits, tens of billions of dollars for the Treasury, and when benefits for consumers are included, probably hundreds of billions in total economic benefits, benefits that will accrue to consumers from all the new wireless services that would be available.

I would commend the FCC staff for trying to tackle this very difficult problem but while a firm 2009 deadline is better than a deadline nobody believes will be met it is still quite a long way off. The dominant priority, as I said, for policymakers in the transition, should be to free up as much of the spectrum allocated to broadcast TV as possible as soon as possible.

Finally, in this Internet age, it is not too early to start thinking about freeing up all of the spectrum allocated to broadcast because it may not be long before virtually all Americans will get their TV from another source. When that day comes, as Chairman Powell has said, "What are we protecting?" thank you.

[The prepared statement of Thomas M. Lenard follows:]

PREPARED STATEMENT OF THOMAS M. LENARD, SENIOR FELLOW AND VICE PRESIDENT FOR RESEARCH, THE PROGRESS & FREEDOM FOUNDATION

Mr. Chairman and members of the Subcommittee, my name is Thomas Lenard and I am senior fellow and vice president for research at The Progress & Freedom Foundation. PFF is a market-oriented think tank that studies the digital revolution and its implications for public policy. I appreciate this opportunity to testify on the DTV transition, which I believe is one of the most important communications policy issues we face today.

INTRODUCTION

DTV offers a number of advantages, including the ability to provide better-quality pictures, a greater array of programming, and new services, such as interactive TV. But the transition has foundered on the shoals of a government policy that is at odds with the reality of where the market is going. Specifically, we are embarked on a government-prescribed course premised on a transition to free over-the-air broadcast DTV when, in fact, only about 10 percent of the viewing population receives its television this way, and that percentage is declining over time.

As a result, the transition has stalled, and something is needed to get it moving again—which is why the new ideas emanating from the FCC are very encouraging. Hopefully, the FCC media staff proposals signal the beginning of a broader discussion that will lead to greater certainty and completion of the transition (however that is defined) in a timely manner. The current policy has large costs because it involves tying up large blocks of spectrum that have valuable alternative uses—especially now, when demand for the airwaves for innovative new wireless communications technologies is exploding.

Even at its simplest, the transition to DTV is a classic "chicken-and-egg" problem characteristic of many network industries. In the early stages of the transition, program producers and broadcasters have a limited incentive to provide digital programming because very few consumers have DTV receivers. Consumers, on the other hand, have little interest in purchasing such receivers because there is limited digital programming available, all of it is available in analog format anyway, and because digital receivers (especially at the beginning) are very expensive. Nevertheless, successful transitions to new superior formats in network industries are frequently made. The transitions from long-playing records to CDs and from VHS tapes to DVDs are two recent examples.

Left to its own devices, the market could be expected to make a successful transition in the case of DTV as well, but probably a transition to digital subscription TV—cable and satellite—rather than over-the-air broadcast TV. However, the federal government is by necessity integrally involved, because of its role as the manager of the radio spectrum, and because each of the program delivery media—broadcast, cable and satellite TV—is affected in significant ways by a range of government policies.

The government's primary goal should be to free up the very valuable chunk of spectrum currently allocated to broadcast television, because, under current law, the normal market mechanisms for that spectrum to find its way to higher-valued uses are not available. Because delay in freeing up the spectrum means delay in making new wireless services available to consumers, there are significant benefits in making this happen sooner rather than later.

THE CURRENT DTV TRANSITION FRAMEWORK

The basic framework for transitioning to DTV was established in the Telecommunications Act of 1996 and the Balanced Budget Act of 1997. The 1996 Telecommunications Act directed the FCC to give each analog television licensee an additional digital channel free of charge to provide over-the-air digital broadcasting. Each broadcast station now is licensed to use 6 MHz of spectrum for analog and an additional 6 MHz for digital broadcasting so that, during the transition, broadcasters can broadcast on both channels simultaneously.

The 1997 Balanced Budget Act (BBA) established December 31, 2006 as the conditional deadline for the end of the transition. After the transition is complete, the broadcasters are supposed to relinquish their analog spectrum, which can then be used by the government for public safety or auctioned to the private sector for other uses. The initial FCC plan (from the early 1990s) was to release 138 MHz (out of 402 MHz dedicated to television broadcasting), with the remainder continuing to be allocated to television after the transition. The FCC subsequently reduced this to 114 MHz, with 24 MHz allocated to public safety uses (in response to a BBA directive), and then further to 108MHz.[1]

The 2006 date for relinquishing the spectrum is subject to three statutory conditions:

1. All of the licensees or affiliates of the four largest networks are broadcasting a DTV signal.
2. Digital-to-analog converter technology is generally available (so that individuals with analog TVs can still use them).
3. 85 percent of households in any market are capable of receiving digital broadcasts. To be counted, a household needs to be able to receive over-the-air digital signals using a digital TV set or a digital-to-analog converter, or subscribe to a multichannel video programming distributor (MVPD, such as cable or satellite) that carries at least one digital programming channel of each broadcaster in the market.

Finally, the FCC has established timetables to speed up the transition: a schedule for stations receiving DTV licenses to build out DTV facilities, with all commercial stations required to broadcast digital signals by May 1, 2002; and a schedule for manufacturers to include over-the-air tuners that receive digital broadcast signals, with all sets over 13 inches required to include the tuners by July 1, 2007.

HOW FAR HAS THE TRANSITION PROGRESSED?

If the goal is to meet the statutory conditions (specified above) for freeing up the spectrum, it is safe to say we are not close. While the first two conditions are not likely to present a problem, there is no market in which the third condition—85 percent of households capable of receiving digital broadcasts—is close to being satisfied. Indeed, the FCC has yet to precisely define what a market is for purposes of meeting this condition.

Whatever the definition, only about 8 to 9 percent of U.S. households have DTVs (mostly monitors) and about 1 percent have the ability to receive digital over-the-air signals.[2] Moreover, in order for cable and satellite to be counted in the 85 percent they must carry at least one digital channel for every broadcaster, which they

[1] See Federal Communications Commission Report and Order In the Matter of Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, released January 18, 2002; and "Completing the Transition to Digital Television," Congressional Budget Office, September 1999.

[2] CRS Report for Congress, Lennard G. Kruger, "Digital Television: An Overview," Updated April 23, 2004.

don't do now, and probably won't in the future, because of capacity constraints and because some of the programming is of limited value to their customers. If MVPD viewers are not counted the third condition, in effect, means that 85 percent of the viewers in any market must be capable of receiving over-the-air digital broadcasts. This, in turn, means that consumers would have to buy potentially expensive over-the-air receivers for the third condition to be satisfied. These receivers would have virtually no utility for cable subscribers and would be useful for satellite subscribers only in selected areas where satellite may not carry the local signals.

With respect to DTV build-out status, 1,642 stations (97 percent) have been granted a DTV construction permit or license.[3] Of these, 642 are authorized to be on the air with licensed facilities, implying that the remaining 1000 have not met the 2002 conversion deadline. Of the 1000, 781 stations are operating with "special or experimental" authority and the remaining 219 are presumably not on the air at all.

The problem is that the federal government's plan to transition to over-the-air DTV flies in the face of reality, because almost 90 percent of households subscribe to a MVPD—75 percent to cable and almost 22 percent to DBS.[4] The remaining 10 percent—households that presumably place a fairly low value on TV viewing—will move more slowly, but many of them eventually will get there. As FCC Chairman Powell has noted, "[I]t seems clear to me that at some point on the horizon, all Americans—perhaps in 10 years—will have pay-TV. As an entity, [over-the-air TV broadcasting] may and probably will be there but as a program supplying interest more than a distribution platform."[5] By that time, a significant portion of Americans may be getting their TV over the Internet, a technology that was in its infancy when the DTV transition plans were being developed. As Powell has also noted, "If 100 percent of Americans don't get free, over-the-air TV, what are we protecting?"[6]

Moreover, in the past 10 years, most MVPD has become digital. The cable industry has been investing heavily in its facilities. Digital cable service is available to 90 percent of subscribers and, as of June 2003, there were more than 20 million subscribers.[7] In addition, over 60 million households are passed by cable systems offering HDTV.[8] Agreement on a new "plug and play" standard between manufacturers of digital television sets and cable systems will help speed the transition to digital cable.[9]

DBS, which barely existed 10 years ago, is all-digital. Currently, the two major DBS providers, DirecTV and EchoStar, both offer HDTV services and packages. EchoStar has recently introduced a new satellite dish with which subscribers can receive up to 50 HD channels.[10]

THE FCC MEDIA STAFF PROPOSAL

If 90 percent of Americans are getting their TV from a subscription service, why do we have a national strategy to transition to over-the-air DTV—especially since that strategy has associated with it very large costs?

The FCC staff is proposing a way to move the process forward. As I understand the proposal, it would establish a new deadline of January 1, 2009 for the end of the transition, at which time broadcasters would return their analog spectrum. To make this happen, the FCC would require that broadcasters, if they want to assert their "must carry" rights, do so with a digital rather than an analog feed. The cable operators would then convert the digital signals to analog for viewers who don't have a digital TV. These subscribers would all count as being able to receive digital broadcasts. Combined with other initiatives, this would help assure that the 85-percent threshold is met and thereby free up the 108 MHz of analog spectrum that the broadcasters have been scheduled to return in 2006.

Other initiatives should include the "digital white area" proposal currently under consideration as part of the reauthorization of the Satellite Home Viewer Improvement Act (SHVIA). This provision would extend the distant signal retransmission provision of SHVIA to include distant digital signals. Measures like this, which in-

[3] See Summary of DTV Applications Filed and DTV Build Out Status, May 26, 2004, http://www.fcc.gov/mb/video/files/dtvsum.html

[4] Federal Communications Commission, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, released January 28, 2004 (FCC 2003 Report).

[5] "FCC's Powell Sees Big Change in Broadcast Environment," *Communications Daily,* October 23, 2001, pp. 1-2.

[6] Ted Hearn, "Could TV Stations Lose Their Spectrum," *MultiChannel News,* June 18, 2001, p. 56.

[7] FCC 2003 Report, p. 32.

[8] FCC 2003 Report, p. 35.

[9] FCC 2003 Report, p. 33.

[10] FCC 2003 Report, p. 54.

crease the demand for subscription TV and for digital TVs, make a lot of sense, especially in the context of the overall DTV transition and the need to free up the broadcast spectrum.[11]

THE VALUE OF THE SPECTRUM

Freeing up the analog spectrum will produce public safety benefits, tens of billions for the Treasury and, when benefits for consumers are included, probably hundreds of billions in total economic benefits—benefits that will accrue to consumers from all the new services that would be available.

We should not, however, limit ourselves to thinking about the 108 MHz of analog spectrum, because we are very close to moving the nation the rest of the way from its current approximately 90-percent subscription viewership to 100-percent, and TV over the Internet may be just over the horizon. All this raises the prospect of being able to reclaim the entire 402 MHz allocated to broadcast TV and auction it off for other, higher-valued uses. The value of this spectrum in terms of innovative new services would be some multiple of the value of the analog spectrum—probably well over a trillion dollars.[12]

CONCLUSION

In conclusion, I would commend the FCC staff for trying to tackle this very difficult problem. But, while a firm 2009 deadline is better than a deadline nobody believes will be met, it is still quite a long way off. The dominant priority for policy makers in the transition to DTV should be to free up as much of the spectrum allocated to broadcast TV as possible as soon as possible.

In this Internet age, it is not too early to start thinking about freeing up all of the spectrum allocated to broadcast, because it may not be long before virtually all Americans will get their TV from another source. When that day comes, as Chairman Powell has said, "what are we protecting?"

Mr. UPTON. Right on the nose. Thank you all. I will start with the questions. Mr. Ferree, in Mr. Fritts' testimony, he said that the NAB further suggests that it, "makes no sense to think that Congress intended that the 85 percent threshold could be crossed through a combination of cable and satellite subscribers and that nothing in the legislative history contemplates calculating the bench mark in such a way and that Congress and the Commission should recognize the bureau's proposal for what it is, a last minute artificial maneuver." How do you respond to that claim?

Mr. FERREE. I have a lot of responses, Mr. Chairman. It is not a last-minute, artificial proposal. It is a timely attempt at interpreting the must carry statute and the digital conversion statute in a way that makes sense and will not leave consumers stranded without their televisions. These are must-carry stations we are talking about. The only way they will be carried on a cable system is if the government mandates that they be carried. These are not retransmission consent stations which are negotiating their carriage. So at some point in time, if we are to ever have their digital signals carried on cable systems, the government is going to have

[11] See discussion in Thomas M. Lenard, "Accelerating the Transition to Digital TV: The Satellite Home Viewer Improvement Act Can Help," The Progress & Freedom Foundation, Progress on Point 11.4 (February 2004).

[12] These numbers are very large, but note that they represent discounted present values, not annual figures. A 2002 paper by Thomas Hazlett estimates that the market value of the 402 MHz of TV band spectrum is between $52 billion and $470 billion and suggests that the annual consumer surplus would be in the same range. See Thomas W. Hazlett, "The U.S. Digital TV Transition: Time to Toss the Negroponte Switch," Manhattan Institute, revised, December 26, 2002. More recently, Hazlett has estimated the social gains from productive use of 100 MHz of TV band spectrum at about $1 trillion and of 400 MHz at about twice that amount. Another estimate, based on recent auctions for 3G spectrum in both the U.S. and Europe, puts the market value of the TV spectrum as high as $367 billion. See Tom Wolzein, "Whose Bandwidth is it Anyway?" Speech, National Association of Broadcasters Futures Summit, Bernstein Research, April 2001, referenced in Michael Calabrese, "Battle Over the Airwaves, Principles for Spectrum Policy Reform," New America Foundation, October 2001, p. 4.

to say, "Cable systems, you must carry these digital signals." At that point you have an option. If you are going to try dual carriage, which again we think is unconstitutional, the cable system would be required to carry both. Putting aside dual carriage then, you have a choice. Either the cable system is going to downconvert that signal so that all consumers continue to see the same programming they have always seen or they carry it in digital, which is fine, but that means that all of those analog subscribers will no longer see the programming.

As a Bureau looking after the public interest, we opted for the former and said these signals should be downconverted, these must carry signals, so that all consumers continue to see them. That then meets the first prong of the statutory 85 percent test which is the carriage by a cable system of all the digital signals.

Mr. UPTON. How do you respond, then, to the degradation of the broadcaster's signal by being converted from digital to analog? I think just about everyone would admit that, in fact, it does degrade the picture.

Mr. FERREE. Yes, that's right.

Mr. UPTON. What is your response to that?

Mr. FERREE. The first part of the response is that this is only a transitional mechanism. It is only during the transition which, in effect, can be for zero time because the broadcasters will know that come January 1, 2009, this switch in the must-carry right is going to happen, so they can turn in their analog license at the same moment and then immediately it becomes their decision to have their signal downgraded or not.

In this sense, we are very pro-choice in the Bureau and it is the broadcaster's choice, nobody else's. Not the cable system's, not CEA's, not the Bureau's. It is their signal. It is their choice. If they want it carried in full digital splendor, it is up to them, but they will recognize at that point that they may lose some of the analog subscribers on the cable system unless of course the cable system voluntarily carries it in analog, too, which they may.

Mr. UPTON. Mr. Fritts? What is your response to that?

Mr. FRITTS. One, I don't think we need to wait till 2009 to start the transition. I think Ranking Member Markey talked about starting in 1987 in this very room. I happened to be here along with others when that occurred. I think we are in a transition. If you look at it this way, the transition began and we are here, and the end of the transition is there. The FCC has proposed rules that take place in 2009, ostensibly at the end of the transition. The question is what happens to consumers between now and then? Our plan where a broadcaster would be allowed to choose either digital carriage or analog carriage on the cable system, not both but one or the other, would, in fact, and indeed, expedite this transition.

Mr. UPTON. Mr. Shapiro, what is your comment?

Mr. SHAPIRO. I think the plan is actually quite creative because actually it gives broadcasters an opportunity to compete with cable and promote over-the-air broadcasting. We have been working for several years to promote the concept of people actually buying antennas and getting the free over-the-air signal. We are a little bit uncomfortable with the fact that you are taking an HDTV signal

and making it analog on cable, but every subscriber will have the opportunity for a couple of bucks to put up an antenna and get a beautiful HDTV signal and broadcasters will promote that naturally in a free market under the plan.

Mr. UPTON. Mr. Sachs?

Mr. SACHS. I think that the picture being painted is somewhat unrealistic. What the bureau plan takes account of is that at the end of 2008, there will be 30 million cable homes that are still analog cable subscribers and even in the homes of digital cable subscribers, there will be additional TV sets, third or fourth sets that may be in a den or a child's room that are analog TV sets. The Kagan Research figures showed that there will be approximately 100 million such analog sets in cable homes as of the end of 2008. That is, with 60 percent digital cable penetration. So what the bureau plan, as we understand it is attempting to do is to assure that those consumers are still going to be able to watch broadcast television on those sets if the cable operator is able to downconvert that signal at the cable system head end.

This does not mean that HD broadcast signals are not going to be carried as well on cable systems. Today market forces are at play here. We are competing vigorously with satellite and approximately 400 digital broadcast stations, most of whom are doing HD, are being carried on cable systems in addition to the broadcaster's analog system pursuant to voluntary agreements.

Mr. UPTON. My time has expired. Mr. Gonzalez is recognized for 5 plus a 3-minute bonus, 8 minutes.

Mr. GONZALEZ. I will try not to take it all. Thank you very much, Mr. Chairman. Not to make it real complicated, of course, I guess the whole game is getting to 85 and deciding that we may just simply enlarge the pool definition and rather than aspire to having the consumer having HD-ready TV, just basically put it on someone else's responsibility, so that if they don't have it they still get the HD signal. I think the most telling testimony today is the reality of the consumer. None of us would be able to go back to our districts if we mandated that the consumer had to have an HDTV set, otherwise they wouldn't receive certain programming or whatever.

It is never going to happen. To even entertain that and—I don't know. We attempted to do it, I guess. I wasn't on this committee, I wasn't even in Congress, but obviously all efforts have fallen short. Manufacturers weren't required obviously in any new set being built to have that capability. I don't know what happened along that line. But the thing is we are facing that—the reality of it today is we are still going to have millions of homes that are not going to be capable of receiving that type of HD signal. I guess what the bureau is proposing makes sense. When it comes to the different stakeholders, I understand that they have business considerations. But can we start off with the basic proposition that even in 2009 or 2010, and I was looking at the numbers, in 2008—I think this was the testimony of Mr. Sachs—that 55 percent of the TVs that are in households would be HD capable, whatever it is. That is still 45 percent. Does anyone have any idea when we finally will reach a point where it will be such an insignificant number of consumers that have the old sets? I just don't see that day coming

anytime soon, so we do have to move forward and being realistic. I will ask Mr. Shapiro.

Mr. SHAPIRO. Congressman Gonzalez, actually we have some marketplace projections based on the sales. Keep in mind that there will be plenty of TV sets out there which are not HDTV, but there is a requirement now legally that every TV set sold with an analog tuner will have a digital tuner. The FCC has required it, it is phased in over time, so a consumer really will not have a choice. Also the cable ready sets will have over-the-air tuners so it will evolve over time. Yes, there may be some concern that some of the sets in the future, the analog sets, will not get an over-the-air signal that is digital, but there will be inexpensive converter boxes, plus those sets will be usable for a variety of functions as they are today, whether it is for video games or playing things with a video camera or so many other things that TVs are used for. TVs are no longer just—in fact, the minority of the use is for over-the-air broadcast signals.

Mr. GONZALEZ. Which goes back to what is going to happen with Internet and everything else, and I guess we will cross that bridge later. But the point being, every Sunday I love looking through the electronic advertisements because we all dream—what we dream about are basically these monitors that we have here. Until they get down to where they are reasonably priced other than at about $100 per inch, some of us will not have them. What they are not telling you, the majority of the televisions that I see in any of these ads really aren't HD. They may say that they are compatible or they are, and that is, on the very high end, and I realize that we have something that is marginalizing over time, depending on the size of the screen and so on, but can you tell me with any real definiteness, when are we going to reach a point when there is only 5 percent or whatever? We are not.

In the meantime, we have to take care of that consumer. I know that the cost that is being incurred by broadcasters and such is enormous, and I don't know if this is really counterproductive to getting to where we want to, but the bottom line is we want to free up the spectrum, we don't want to deprive the consumer of the service in the product and which is the best way to do it.

I understand that in today's testimony, we are probably not touching on some of the economic considerations faced by the different stakeholders. That will await a different discussion and probably a meeting in the office. Again, thank you very much for your testimony. Unless there is anyone that wants to respond to anything that I have said.

Mr. FERREE. Congressman, can I just make one comment about that? I think you hit the nail on the head in the sense that if we wait for 85 percent of consumers to have digital equipment in their homes, we could well be waiting to 2050 or beyond to recover this spectrum, and even then it is likely it is only one TV in the home. The rest of those TVs that may be hooked up to cable or satellite systems may well be the old analog TVs. Again, if we want most people to feel nothing on the transition day, not even to know a transition occurred, the only way to do that is to have downconversion for those TVs.

Mr. GONZALEZ. Yes, Mr. Fritts.

Mr. FRITTS. Mr. Gonzalez, just to follow up on what you said, you hit the nail on the head. This is all about consumers, no question about it, and how do we take care of the consumers? In a way, broadcasters and Members of Congress have the same constituents. Our viewers are your constituents. Our goal is not to disenfranchise any of these viewers and, if so, a very minimal number of them. We are concerned that this plan which goes up until 2009 and makes a flash cut. In fairness, we commend the Media Bureau for thinking creatively and we obviously have some ideas that could enhance that. But I would suggest that this plan is about cable.

In 1992, the Congress looked at this and said we are not going to meet our mandated objectives unless we impose upon the cable industry a thing called must carry. That has worked well. The same arguments that we heard in 1990 and 1991 about not having capacity and about imposition and about first amendment rights were upheld by the Supreme Court, I might add. I am suggesting now that you give the broadcaster, or you encourage the FCC, either way, to give the broadcaster the right to choose either carriage of the digital signal, or of the analog signal on the cable system, not both. If you would do that, then we can expedite this transition, and 2009 in my view will be a victory day as opposed to a day of angst and problems.

Mr. FERREE. Unless NAB has changed their proposal, what they submitted to us was that there would be this either/or election until January 2007 at which point unless the cable systems had converted to all digital, they were demanding dual carriage at that point. Maybe I should let Mr. Sachs comment on this, but I suspect there will be very few, if any, cable systems all digital in January 2007.

Mr. GONZALEZ. Mr. Sachs?

Mr. SACHS. Congressman Gonzalez, what you have heard from my friend, Mr. Fritts, is essentially a recycled version of the broadcast industry's dual must-carry plan. This is something that the FCC tentatively concluded 3 years ago was unconstitutional. Cable operators are carrying in every market the television signal of the local broadcast station either pursuant to must carry or retransmission consent. In a number of markets, cable operators are also carrying the digital version as well as the analog version of the broadcast station because the broadcaster is offering something additional of value to consumers.

In most instances, that is high definition television. That is what is going to cause consumers to go out and purchase an HD-ready TV set, not simply a standard definition digital duplicate of the programming in analog that the cable system is already carrying.

Mr. GONZALEZ. Thank you very much. My time is about up.

Mr. UPTON. Mr. Barton.

Chairman BARTON. Thank you, Mr. Chairman. Mr. Ferree, does the FCC have any estimates of how much the value of the spectrum will be that would be freed up when we get to the digital transition, what the value of that is?

Mr. FERREE. Congressman, I don't know that there is any definitive estimate of that. We certainly don't have an official Commission estimate, but I have heard numbers in the multiple tens of billions of dollars and I have no reason to question those. I would add

that the great benefit may not come just from the auction revenues, but in terms of the ongoing benefits to the economy, of new jobs through the new services provided to consumers that will be developed in that spectrum.

Chairman BARTON. I don't want to hold you to—I am just asking for a ballpark number. Is there anybody on the panel that disputes that ballpark number, tens of billions? That is close enough for this subcommittee hearing. If you gentlemen were up here on the podium given the fact that we have got a commodity here, the public airwaves, that is worth a lot of money, should we try to expedite the transition or should we try to restrain the transition?

Mr. FRITTS. I would move that you expedite the transition.

Mr. FERREE. Here, here. I agree with Mr. Fritts.

Chairman BARTON. I especially appreciate Mr. Fritts saying that because he represents a group that has a valuable commodity right now and not all of his members but some of his members might wish to retain that.

Mr. FRITTS. Mr. Chairman, you know that we have agreed to return one-third of the spectrum and to use new technology to skinny down, if you will, the amount of spectrum that television uses and to return that to the government. I think the question at hand is how do we best get to that point without disenfranchising consumers. That is what we are saying. It is going to take a mix of the cable industry, the broadcast industry, the satellite industry and all of us working together. This committee has brought us together from time to time and has——

Chairman BARTON. Today is one of those times.

Mr. FRITTS. Today is one of those times. Let me say this. Unequivocally broadcasters want to end this transition quickly. We are currently running two transmitter systems, two television stations. We are paying the power companies an enormous amount of money to broadcast two signals when we know that one signal would satisfy the concerns.

Chairman BARTON. We want to help you do that. Let's stipulate that everybody at the table is a white hat person. You are all wearing white hats, you are all good guys and girls. Woman. Lady. Let's get it right. My last question is, given that we are talking about a transition and human nature being what it is, there are going to be some people in this country that never want to pay the money to upgrade to high definition television. I am probably one of those people.

Mr. UPTON. Do you have a TV, Mr. Chairman?

Chairman BARTON. As Mr. Gonzalez said, when the price gets down to where guys like me can actually afford those high definition TV sets or somebody wants to give me one legally as a Christmas present, then we will be okay. Why shouldn't this committee in the next Congress, if not this Congress, just say we are going to uphold the 2006 deadline and set up some sort of a fund to pay for the converter boxes for low-income citizens that can't afford them? Why shouldn't we just do that and just short-circuit this debate about a transition that might drag out to 2009 or some further date? Why don't we just do that? Anybody.

Mr. SHAPIRO. Mr. Chairman, that is an option that has been successfully deployed in Berlin as they were the first city to make a

full transition to digital. On behalf of the consumer electronics industry, I guess that is an option. We are uncomfortable in asking the government to pay for consumers to buy their products.

Chairman BARTON. I know, but that is our job. We can have that debate. We have got a broad, diverse panel here of Members. We have got folks that represent high-income constituencies and low-income constituencies and middle-income constituencies. That will be a real debate. I am not saying that is trivial. If we debate the exact best time and place to do a transition, it is possible we will be having that debate 30 years from now.

On the other hand, the Act says to December 31, 2006, or, if we can find a consensus, we can just say it is going to be December 31, 2006 and then how to help pay for those citizens that can't pay themselves for the converter boxes if they choose not to actually have an HDTV set. My time has expired. I will take this answer.

Mr. FERREE. Just very briefly. Even were you to do that, we would still have this issue of how that signal is carried on the cable system and would the broadcaster have a right to have its digital signal carried digitally which might be an answer. But you have to recognize again that means all of the analog subscribers are not going to see the programming and are probably not going to be too happy at that point.

Mr. FRITTS. You could downconvert at the box as opposed to the head end, however.

Mr. FERREE. If the cable system were all digital.

Chairman BARTON. That is an important debate, but that is a secondary debate to when we do it. The primary is when we do it and how we do it. First you decide when to do it, then you decide how to do it and then we want equity. We want all the players at this table, the satellite people, the cable people, the broadcast people, the equipment people, to be fairly treated. I think this committee has got the ability to do that. I would yield back to the chairman.

Mr. UPTON. Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman. Mr. Ferree, let me ask you, have you done any projections on what it would cost to help consumers get a converter which would enable the analog television to receive a digital signal or even have you thought about it?

Mr. FERREE. Yes, Mr. Congressman, we have thought about it. In fact, we have issued a public notice seeking comment and information about how to make this transition smooth for analog over-the-air viewers including what to do with the kind of converter equipment you are talking about. At this point, I have had informal discussions with some of Mr. Shapiro's constituents and have been told that if they were to mass produce D-to-A converters today, they would be in the ballpark of $100 apiece. By 2009, I have been told that number probably would be half that, maybe in the $50 range. But actually, I probably should let Mr. Shapiro answer that question.

Mr. TOWNS. Mr. Shapiro, if we expedite it in terms of increased the amount, what would it cost?

Mr. SHAPIRO. I think Mr. Ferree's numbers are probably close. We will be responding to that inquiry and gathering actual data

from manufacturers. But there are licensing fees. That is an issue. There is the issue of producing it today is fairly expensive, they are a few hundred dollars apiece, but with manufacturer efficiencies, if you are talking about orders of more than a million or so, the costs come down considerably. But there is still a base cost there. It is the same type of thing with the DTV tuner itself, the over-the-air tuner. It is an expensive proposition today because of patent royalties and because of the cost of manufacturing, it is added to the price at the low end of TV sets. But over time, that price will come down considerably with mass production.

Mr. TOWNS. When you say "considerably," would that be like half?

Mr. SHAPIRO. At some point, half. It is just a question of when.

Mr. TOWNS. Thank you very much.

Mr. Sachs, your testimony highlighted that Time Warner has entered into agreements with the major broadcast networks to carry high definition programming and that regional sports networks like Madison Square Garden Network, also in New York, offer high definition programming. There is nothing in this proposal that would impede these agreements from continuing and furthering the digital transition, is that not correct?

Mr. SACHS. You are absolutely correct. Time Warner is not alone. In the New York market, Cablevision is currently carrying 14 HD channels including the major broadcasters in that market. Comcast here in the DC metro area is carrying 11 HD channels, including five local broadcast stations in HD. These are not mutually exclusive propositions that the bureau has put forward.

Mr. TOWNS. Mr. Chairman, I yield back.

Mr. UPTON. Thank you.

Mr. Buyer.

Mr. BUYER. First of all, I would like to recognize the contributions of Chairman Powell. I think he has done a pretty good job working this issue. I would take special notice of the letter he used to respond to a letter I sent, and also then the public notice that the Bureau had sent on their comment period on over-the-air broadcast television viewers. Mr. Ferree, thanks for your good work. I think this is very timely to help identify who these people are out there. I note that bringing the DTV transition to completion as quickly as possible was and is one of Chairman Powell's strongest priorities.

I recognize he formed the digital television task force shortly after he became chairman. He helped coordinate and prioritize the Commission's efforts related to DTV transition. He has been leaning on industry to come up with some workable solutions in the private sector rather than turning to government. The Commission adopted the digital tuner mandate. They adopted rules to enable the production of the cable plug-and-play digital television sets. They approved the broadcast flag system to protect digital television broadcast content from mass piracy over the Internet. The Commission also enacted a clear set of graduated penalties for broadcast stations that fail to meet the digital buildout deadlines. Please take it back.

I recognize the chairman and his good work and those of you who are working on this. I think there is a real test of our wise toler-

ance. On that, I have some specific questions. We can talk about different alternatives out there, whether the government subsidizes or tax credits or whatever. I just have to come right at you, Mr. Shapiro, and ask you, under the Media Bureau plan, it appears that all analog TVs will virtually go dark in a little over 4 years.

So my question is, when is your industry going to stop making these analog television sets? We don't want you to continue making these television sets if you want government to somehow participate in a subsidized process.

Mr. SHAPIRO. We still make black and white sets because consumers demand them. There are price points for everything. Those sets have value. They have value as security systems. They have value in so many different areas. Our industry responds to marketplace demand. Those TV sets, the analog sets, are available for a very, very low price, and they serve needs of lower income Americans and other Americans as well.

As I said earlier, most TV sets are not used to get an over-the-air signal. Indeed with converter boxes, low-cost converter boxes, it may be a smart economic choice for someone to buy a large analog set and even use a converter box to get a digital signal. I would not suggest making those sets or any other types of product illegal because I think the American consumer is the one that should make that decision. Certainly, though, there is a phenomenal demand for HDTV and digital products. This is a marketplace which is growing extraordinarily rapidly. Americans have decided with their pocketbook that they want these products. They are buying them in record numbers.

It is a phenomenal adoption curve. They have already invested $10 million in these products and they keep investing. It is just going to go up radically. With the FCC various plans, I think that has enhanced it. With the work of Congress, I think it has enhanced it. I think we are on the right track. I think there is very little doom and gloom here. We have a success story on our hands. It is just a question of when and how we declare victory, and we are almost there.

Mr. BUYER. Your comment on doom and gloom, the reason I smiled is the only time I sometimes hear this, I am walking down the mall, I have got your consumers who are my constituents complaining about the televisions they just purchased at a particular—I don't want to start naming names, but they'll say, when I walked into this place, you should have seen what this set looked like and the picture and the quality and they told me all the things it was going to do. When I took it home and plugged it in, they said it was supposed to be cable ready and it was supposed to do all kinds of certain things and my picture is not the same as it was back at X where I bought it. I just want to say that there is an education phaseout there that is very poor. Would you concur?

Mr. SHAPIRO. I agree that consumers and retailers and even the cable industry as do manufacturers have to step up more. That is why we have consumer pamphlets, we have a Web site where a consumer can go and find out the type of correct antenna they could use to get the best signal. We have done retailer training in every major portion of the country with every major retailer, every major buying group. We are doing everything we can to ease the

transition. The fact is it is in our financial interest to do so. We will sell more, and Americans believe they have a constitutional right to return the products if they don't work.

So they will return them if they don't like them. That is a huge cost for the retailer and for the manufacturer. What we are focusing on, I think, as a committee to avoid that problem is this great cable ready deal that we have cut with the cable industry. We are about to produce several hundred thousand, if not millions of cable ready sets. They require the cable industry to provide cable cards at a very reasonable or low cost. We are a little bit concerned because the initial reports we are hearing is they may be discouraging, they are charging the same as a converter box. At least some cables companies have said that. If you want good cable-ready sets, it is a two-way system that requires the cable companies and the manufacturers and also the retailer to explain it well.

Mr. BUYER. I have to get into a hypothetical. Mr. Ferree, how quickly would it be to reclaim the spectrum and end the transition if cable companies carried all the broadcast digital signals tomorrow?

Mr. FERREE. If cable companies carried all of the digital broadcast signals as of December 31, 2006, the first prong of the 85 percent test statute would be met and the transition would end. Broadcasters would not get extensions and they would have to turn in their analog licenses at that point.

Mr. BUYER. How does the Media Bureau plan deal with the 80 or so million sets out there today in June 2004 that rely solely on an over-the-air analog signal?

Mr. FERREE. Those are the true analog over-the-air sets. Many of those are third and fourth sets in homes and those are the ones that we are seeking comment on in our public notice about what to do with those sets. The statute is set up to work such that there will be some sets left over at the end of the transition that tune only to analog signals.

Presumably they are going to have to get D-to-A converters for those. Then we get back to the earlier question about what a D-to-A converter will cost. One of the reasons we initially pushed this plan out to 2009 is because with our mandated tuner requirement that Mr. Shapiro referred to, that is the same technology that goes into the D-to-A converter boxes. We are essentially making them mass produce these things now and the benefits of that mass production will drive the costs of the D-to-A converters down so that by 2009 again, we believe they will be very reasonably priced, probably in the $50 range, maybe less.

Mr. BUYER. Another question. Why not just require cable carriage for a transitional period of both analog and digital signals? Second, is that a proper way to get to 85 percent by dealing with today and not in 2009 the 70 percent of households served by cable?

Mr. FERREE. Firstly, if you did the dual carriage, you would have the same problem. You would trigger the transition essentially so you would still have that 15 percent test and the 80 million sets and all of that and then you would just run into the constitutional question. Based on the record in our proceeding, I am absolutely convinced that that would be struck down and perhaps the entire

must carry regime would be struck down as unconstitutional as a result.

Mr. FRITTS. In fairness, in the 1992 Cable Act, the same things were said. It went to the Supreme Court and it passed clearance at the Supreme Court. I am not so quick to prejudge that. If the goal for this committee and indeed this Congress is to resolve the transition, to return the spectrum, to auction it for the government use, then I would be investigating the ways to end the transition most quickly including, if indeed it needed to be, the must-carry regime.

Mr. SACHS. If I could comment on that, the 1992 Act pertained to the carriage of a single broadcast channel per station, not two versions of it for every station. We agree with the FCC's preliminary conclusions here, that that would be unconstitutional, but there is a larger issue here. The cable industry has just invested $85 billion or about $1,200 per customer, essentially to create 200 megahertz of digital spectrum which is used for high definition television, for high speed Internet, for cable telephony, for video on demand and a host of services. If Congress or the FCC were to mandate a double dose of must-carry, it would be at the expense of new and innovative programming and other services. We have not created unlimited bandwidth and until our systems can reclaim their analog bandwidth, we are going to have to look for the highest and best use of that limited digital capacity.

Mr. FRITTS. If I may follow up, Mr. Chairman, one of the issues, of course, is that the cable industry will benefit from the return of the analog spectrum. It will free up spectrum on the cable systems that Mr. Sachs talked about and consequently there is a benefit, I think, for the government and for the cable industry for broadcasters returning and ending the analog era. I, again, would underscore the idea that broadcasting wants to end this transition as quickly as possible, and I would encourage this committee to explore every possible option toward moving this transition to a conclusion.

Mr. UPTON. Mr. Engel.

Mr. ENGEL. Thank you, Mr. Chairman. I want to first, before I ask a question, say that Chairman Barton had mentioned the possibility of the government just making the purchases and us looking into that. I would really like to second that. I think that is something that we should consider. I am not saying we should do it, but I certainly think that it is something that we really need to look at. I just want to say that. Mr. Fritts, I have some questions about New York's broadcasters. As you know, the Freedom Tower is about to be built. They are breaking ground, I think, on July 4 at the site of the World Trade Center. Do you know how many plan to use the Freedom Tower for the digital transmitters and what would happen in New York in 2009 if the Freedom Tower is not yet built already?

Mr. FRITTS. It is my understanding, Congressman Engel, that virtually all of the New York television sets would like to use the Freedom Tower. I guess if it is not concluded by 2009, that they will need to find alternative sites or will upgrade the sites that they are currently broadcasting from.

Mr. ENGEL. Thank you. In looking at your testimony, you spoke at some length about Mr. Ferree's plan and your trepidation about multiplying the number of consumers who will lose access to local broadcasting. Losing local service has always been a concern of mine. I wonder if you would care to expound on that. I know you said quite a bit in your testimony.

Mr. FRITTS. I think this is all about consumers. This is about disenfranchising consumers. Mr. Sachs' companies are going to continue with the cable systems being strong and healthy. Mr. Shapiro's companies are going to enjoy the largest transference of electronic wealth in modern history. Broadcasters have made the investment. There is no new revenue stream for broadcasters attached to digital. It is quite frankly an opportunity for us to be digital—were we to continue to be analog in a digital world, we would be out of play basically because computers, cable and everyone else is moving in that direction.

Again, I just want to underscore the idea that, one, broadcasters are living up to our responsibility in this area and that we encourage this committee to move forward. If it requires legislation, so be it. If it requires government intervention with the FCC, so be it. It is time to move this forward. In 1992 we heard the same arguments, it was unconstitutional, we don't have space, it is a problem. But you know what, it worked. And this will work also.

Mr. ENGEL. Thank you. Mr. Sachs, would you be opposed to the Federal Government using a portion of the money it realizes from auctioning off spectrum to purchase, especially for low-income and senior citizens, converter boxes to help finish or expedite the transition to digital?

Mr. SACHS. We would not be opposed to that at all. But I should point out that the cable industry has not sought or received any government subsidies as we have undertaken our own digital transition. So I don't want my response to you to be interpreted as cable seeking government subsidies. I think you are talking about the end users and people who meet some sort of needs test. I think that may well be an important component of completing the digital transition.

Mr. ENGEL. Thank you. In your testimony, you mentioned that Michael Wilner, who is the president and CEO of Insight Communications, testified about 2 years ago before our committee about the transition from analog to digital and talked a lot about cable embracing digital technology. You mentioned how the industry is committed to help expedite this transition. I am wondering, you said it in your testimony, if you would care to tell us a little more about what the industry has been doing.

Mr. SACHS. Sure. At that time, the only carriage of high definition, for instance, on cable systems was anecdotal, so we have gone from a handful of markets to more than 150 markets in the country. At that point in time, essentially two cable networks, HBO and Showtime, had a large portion of their schedules in HD. Today, 15 different cable networks are offering high definition programming, most of them full-time or near full-time. So there has been a tremendous amount of progress, not to mention the landmark agreement that our industry reached with the consumer electronics industry for plug-and-play digital TV sets.

Mr. ENGEL. Thank you. Mr. Shapiro, I think you sort of answered this, but I would like to give you a chance to respond about what CEA's position would be if the Federal Government decided to assist low-income and senior citizens who would rely on free over-the-air TV in purchasing converter boxes. I would like to also ask you how much would a converter box cost now and what would be the expected cost in 2009?

Mr. SHAPIRO. The cost now is about $200 to $400 a converter box. It is a range. If there is sufficient demand, it should be able to get under $100. That is millions of units being produced in the next several years. Those are ballpark estimates obviously. As you know, the consumer electronics business is phenomenally competitive, and if there is a way of getting the cost down, it will. Indeed, part of the success story of HDTV is that prices have dropped anywhere between 10 and 25 percent a year for all the products as they have gotten better, which is the history of consumer electronics. In terms of your first question, which was about——

Mr. ENGEL. Whether you would support the government, the Federal Government, if we decided to assist low-income and senior citizens.

Mr. SHAPIRO. That is a tough one for us. The Clinton administration dropped a trial balloon on that several years ago early on when we were talking about the transition and we resisted it. We really are uncomfortable asking the Federal Government to subsidize a product that is purchased by consumers. But on the other hand, we recognize the value of speeding this transition along. I think we have to—we will be responding to the FCC notice on that and we will be looking at what other countries have done. In Berlin, it wasn't as big a deal as everyone thought it would be to take that approach, and I think that is going to be very instructive as we keep studying what others have done.

Mr. ENGEL. Thank you. Thank you, Mr. Chairman.

Mr. UPTON. Thank you. Mr. Bass.

Mr. BASS. Thank you, Mr. Chairman. Mr. Shapiro, $200 to $400 for a converter box. Is that what they cost in Berlin?

Mr. SHAPIRO. The difference between us and Europe is the U.S. took an approach on HDTV, which, I think, is the world's best approach. In Japan, they went to an analog system and they had to change it. In Europe, they haven't gone to HDTV yet. They just have a digital system. If you talk to the people there, they are very envious of the way we are doing it here.

Mr. BASS. These converter boxes are for high definition? How much does a converter box cost for analog to digital?

Mr. SHAPIRO. For analog to digital?

Mr. BASS. I mean digital to analog. Excuse me. The other way around.

Mr. SHAPIRO. I would have to get back to you for the record on what it is.

Mr. BASS. But it is more like 15, 20. I mean, $200 is the cost of a whole television.

Mr. SHAPIRO. The actual, what it takes to capture a digital signal, millions of bits of information per second and convert that to analog is a very expensive process. It is a real miracle what occurs in the TV set. These are no longer dumb monitors. They are actu-

ally computers and it takes a lot to make it work certainly. But there is such competition out there with 80 different manufacturers, I guarantee you they are fighting to get the price down. No one has ever accused us of raising our prices ever in the history of consumer electronics.

Mr. BASS. Returning to Mr. Barton's comments earlier, the bottom line is that if overnight there were digital-to-analog converters on the 80 million analog televisions that will exist, the issue would, for all intents and purposes, be over. The politics would be gone. We would be out of the picture. We have to make the policy decision in that respect. I can't believe that in that kind of an environment, these converters would cost much at all. Does anybody have any comment on Mr. Barton's contention that the underlying issue is getting analog televisions capable of receiving a digital signal? After that, the debate has ended. Is that true?

Mr. FERREE. Congressman Bass, I have two comments. First of all, the prices that Mr. Shapiro are quoting you is in today's environment, which has no real consumer demand for these devices. Nobody is running out to buy D-to-A converters today. If you are talking about 80 million sets and purchases in those multiple millions of ranges, I am sure the price will be considerably lower than that and again we will wait to hear from CEA in our docket on that. The other comment I have is again, we can't confuse the over-the-air transition with the cable transition. Even once you shut off the over-the-air analog signal, there is still this issue of how are you going to take care of the analog cable subscribers. Are you going to allow cable systems to downconvert so those people continue to see the programming, or are you not?

Mr. BASS. Analog cable subscribers. Mr. Sachs, can you comment on that. I don't understand it.

Mr. SACHS. Sure. Our industry serves approximately 70 million cable customers. Of those 70 million, about 30 percent are digital. So in addition to taking——

Mr. BASS. Meaning they have a digital set?

Mr. SACHS. No, meaning that they have a digital converter box. Some small percentage may own a digital television or an HD-ready digital television, but they have a digital converter box which enables them to receive additional channels of programming on the digital tier and still use an analog TV set. Our industry is working with manufacturers to try to drive the price of digital-to-analog equipment below $50. But it is a work in progress, and the price range quoted today is accurate. My understanding in Berlin is that the boxes, the box cost was an average of about 175 euros.

Mr. BASS. Mr. Ferree, I notice that Mr. Shapiro made a series of recommendations to your group. Have you given any thought to Mr. Shapiro's suggestions to your plan?

Mr. FERREE. Yes, Congressman. The only suggestion he had with respect to this particular plan had to do with mandatory digital carriage in 2009. Again, that is a policy decision that has to be made recognizing that if the government says mandatory digital carriage, that will mean millions of people with analog TVs hooked up to their cable system will lose access to their programming. We don't think that is a good outcome from a public policy standpoint. The rest of Mr. Shapiro's suggestions have to do with issues that

are either in other dockets teed up already or that he would like teed up in other dockets.

We will consider them, we are considering them, and I am not going to prejudge how the Commission would act on any of them other than to say it will act reasonably.

Mr. SHAPIRO. Actually there are a couple of suggestions there if you read carefully. One was about not allowing consumers to get less than the full audio and video signal from the broadcaster downrezzing, if you will, by the cable. That is something we are uncomfortable with. It is a concern. If a consumer buys an HDTV set, I think Mr. Fritts referred to this earlier, they expect to get a broadcast signal and it is not really HDTV, they may be pretty disappointed. And if they are told that Congress or the government was the one who required that it be downrezzed, that is something that people would probably complain to their government and to the manufacturer and to the cable company about.

Mr. FERREE. Fair enough. I was only talking about where you suggested changes to our plan. Our plan already includes a full carriage requirement once it is in digital which is the thing Mr. Sachs objects to.

Mr. BASS. I guess I have one last general question. The debate here as has been mentioned 4 or 5 times by panelists is about consumers ultimately. Can we envision the day when consumers would be truly able to select what they want to watch and when? I don't want to get into Mr. Deal's ala carte debate here. But will it be possible to pick stations and only the stations you want whether local or distance, broadcast, cable or whatever?

Mr. SACHS. From a technical standpoint, that will be achievable. There are economic issues which go to how basic advertising-supported networks exist and broadcast stations exist, for that matter. Some companies in our industry today are offering scription video on demand. I was in Philadelphia last week and saw where Comcast has a couple of thousand hours of programming essentially in a library where consumers, to their digital product, can pick and watch any of that programming at whatever time they want and can fast forward or pause, whatever. I think we are moving toward a more personalized television environment. The issues ultimately probably are not technical issues but they are economic issues.

Mr. SHAPIRO. They are also legal issues. There is a great product called the Tivo, which allows you to do that. There was another great product called Replay which was litigated out of existence. There is bipartisan legislation called H.R. 107, which would make it clear that products that allow you to do just what you want like that are legal. It is before your committee and I urge you to support it.

Mr. BASS. Thank you, Mr. Chairman.

Mr. UPTON. Mr. Boucher.

Mr. BOUCHER. Thank you very much, Mr. Chairman. I had also intended to question these witnesses about the Berlin solution. I am pleased that Mr. Barton opened that subject. Let me simply note my very strong interest in finding a way to hold harmless the owners of analog television sets when the digital transition fully occurs, whatever the date chosen for that may wind up being. I think

the Berlin solution offers some real guidance for this committee. I hope that we will look at it carefully.

Let me turn to another area. I think one of the most tangible things that the FCC has done to date in order to stimulate the digital transition has been the embodiment in a regulation or an order of the Commission of the plug-and-play agreement that has been achieved by the external interested parties. The purpose of that agreement and the Commission's order was to make sure that digital television sets are just as portable from cable system to cable system as analog sets are today, so that you can simply plug the coaxial line into the back of the set and plug the cable compatibility card into the front of the set. I guess that is where these slots are going to be located. And then you have a television set that can operate with every cable system in the country without the need to buy a separate set top box as you go from one cable system to the other.

While, I think, that agreement and the embodiment of it in an order may not have achieved a lot of public notice, it was tremendously important in order to set a firm foundation for the digital television transition. But it really only works well if the cable compatibility cards are made available on a proper schedule, if they are made available to the consumer in a convenient way, and if they are made available to the consumer at a minuscule cost that doesn't exceed the transaction cost in actually creating the card and making it available to the consumer.

This subject was opened somewhat in previous questioning and I know that Mr. Sachs wants an opportunity to elaborate on the cable industry's positions with regard to these matters. Let me ask you, Mr. Sachs, some very precise questions. By the end of this year, it is estimated that there will be approximately 1 million plug-and-play capable TV sets in the market. These will have the slots included and they are simply then ready for the cards to be inserted. So the first question is, what assurance can you give us that the cable industry is producing a sufficient number of cards to have them ready for the plug-and-play capable digital TV sets that about 1 million in number will be in the consumer market before the end of this year?

That is question No. 1. Question No. 2. If you want to take notes, that is okay. Question No. 2, how do you intend to make these cards available? I would suggest that the best way to do it is at the retailer, so that when a person goes in to buy a digital TV set as a part of the transaction, the retailer supplies that person with the cable compatibility card for the cable system that particular consumer will be connecting to. I guess another way to do it perhaps as a supplement to making it available at the retailer is to have you send it by mail, maybe not you personally, but your component members could send by mail the cable compatibility card to that cable system's customers.

Question No. 3. At what price? I have heard a rumor. I think Mr. Shapiro alluded to this, that some cable systems might be planning to charge as much as the cost of a cable set top box for this cable compatibility card. And we are looking for your assurance that no cable system in the country will do that, and that the price of the

card be no more than the transaction cost to the cable industry in preparing the card, making it available, et cetera.

So, Mr. Sachs, three questions.

Mr. SACHS. Thank you, Congressman Boucher. I should also recognize that for a very long time, you were and have been a champion of resolving the digital compatibility issues. And were very helpful in bringing the parties together.

Question number 1, on the number of cable cards. My understanding is that we are facing a July 1 FCC deadline, by FCC rule, that cable operators I was—at a cable ops meeting in the last couple of weeks, and cable operators have stocked up on cable cards in anticipation of the fact that consumers are going to be purchasing these units.

These are for the one-way digital cable-ready products. There are ongoing negotiations concerning two-way devices. Now, some of those consumers who purchase the one-way sets may want to avail themselves of two-way interactive cable services, in which case they would still need a convertor box.

Mr. BOUCHER. That is understood. But can you——

Mr. SACHS. That is why each operator is anticipating their own needs, mindful of what manufacturers have told them about what they are planning to produce between now and year end.

And I believe our companies understand the imperative of being able to respond and respond properly to consumer demands and have received delivery of cards and have more on order.

Second, how cards are to be made available. Each company does its own marketing, its own pricing. But, I would assume that these cards will be made available from cable operators, not at retail. The card contains the conditional access mechanism for all of the programming offered over the cable. One of the biggest issues for our industry, and as well as the satellite industry, has been theft of service. So the cable operator needs to know what equipment customers have in their home that enables the customer to receive the cable operator's services.

As to your question about price——

Mr. BOUCHER. Before we get to price, we would like to have—I would like to have your assurance that it is not anticipated that a cable company technician would have to go to the premises of the consumer simply for the purpose of inserting this plug-and-play cable compatibility card. So you would intend to send it by mail?

Mr. SACHS. It costs a cable operator anywhere from 35 to $55 dollar for a truck roll. So I am sure that cable operators will either want to enable customers to stop by the office and pick it up, or to get it to them in some other way.

Mr. BOUCHER. By mail perhaps.

Mr. SACHS. Instead of incurring that expense.

As to the price of cards, since the 1992 Cable Act, most cable equipment, including these cards which didn't exist at the time, but would be used also to receive basic cable services, are subject still to price regulation, which I believe is at cost plus, I think Congress had set 11.25 percent markup.

So I don't know what rumors Mr. Shapiro has heard. Most of these TVs are not even available at retail yet. So I would assign those to the trash pile of rumors.

Mr. BOUCHER. Well, thank you very much. So you would—just to stress the last point—you would give us assurance that the industry will be making the card available at a price to the consumer that does not exceed cost plus some small percentage mark-up?

Mr. SACHS. Whatever the—I am sure cable companies will provide the equipment within the confines of this.

Mr. UPTON. Mr. Walden.

Mr. WALDEN. Thank you very much, Mr. Chairman. Mr. Ferree, one of the issues that I have heard from broadcasters when it comes to getting signals, allowing distant signals into markets where there isn't digital penetration of adequate level, the problem exists in some rural committees that a lot of their audience in a market is actually served by translators. Can you update me on where the FCC is in filling that gap so that translators can actually broadcast digitally, and when will broadcasters be able to take advantage of that?

Mr. FERREE. Sure. Happy to do that, Congressman. We have an ongoing proceeding now on low power TV and translator, the transition for those stations as well. We expect to resolve that this summer, hopefully at the July agenda meeting.

And in terms of the transition time for those stations, it has to be congruent, of course, with whatever we do for the full power stations, whether this plan or something like it is adopted or not. And, at the same time, we are trying to make it as financially unburdensome on the translator and low power TV stations as possible. So we are balancing those concerns. But that item should be resolved this summer.

Mr. WALDEN. But there are markets where this is a problem.

Mr. FERREE. Yes, sir.

Mr. WALDEN. Do you think that the rulemaking that you have entered into, not this one, but the one before us today, sufficiently provides time for that transition, given the fact that a broadcaster couldn't today go file an application for a translator to broadcast digitally, I mean, and still meet the various deadlines that are out there?

Mr. FERREE. If I understand the question, yes, I do. The timeframes we have proposed here we think are very realistic and would result in a nationwide transition and would not lead to any kind of burden or a hardship on the rural or small markets.

Mr. WALDEN. Would those broadcasters be able to use the same frequency they now broadcast in, analog in, or would they have to be assigned a new frequency for their translator, and how will that analog-digital piece work?

Mr. FERREE. Those are issues in the proceeding as well. Whether they can flashcut on their existing station, which some would like to do, or whether they will be assigned a second station to make the transition the way the full power stations have.

For that latter course, we really have to complete the first transition and recover some of those stations from the full power analog broadcasters if we are going to be assigning second stations to the low power ones.

Mr. WALDEN. So if I am a broadcaster in Medford, Oregon, and I rely on translators to serve a wide part of my viewing audience, if you do decide I have to get a second frequency, then what will

the time line be on application processes for those translators? Will they be subject to auction? And how will that be handled, because I know in the radio side, translator window open, translator window closed. It is probably many years before that happens again.

Can you give me some sort of time line there?

Mr. FERREE. I can't give you a very precise time line. We are aware of those concerns. I think, again, we have to balance the hardship versus how to get them to the end of the transition. And, you know, again if we are going to assign second frequency to those channels, we have got to complete the first transition and do the repacking that was referred to earlier.

Mr. WALDEN. Well, then it leads me to this issue then, on the calls by some that say in markets where there isn't adequate penetration you can bring in a distant network signal via another type of carriage, cable or satellite. That doesn't seem really fair, if, on the other hand, you have got the broadcaster who can't fully serve their market digitally because they don't have access to the translators. Am I making my point here?

Mr. FERREE. Yes, you are making your point. Was there a question for me?

Mr. WALDEN. No, I just wanted to make a point, because I think it is a real issue in some markets around the country, where you could get run over by the notion, if you aren't serving an adequate percentage of your audience, then we are going to allow other stations that are digital to come in and provide a distant signal. It just doesn't seem fair. That is all. They are in a bit of a catch-22.

Mr. Fritts, could you talk about what you think the response of consumers is going to be the day they wake up and their analog set no longer works. I have toyed with the idea of maybe the best thing we can do if we are really bold is change the deadline to say, oh, October 10, October 31, of an even numbered year, and then we will measure audience reaction when the analog set no longer works.

I wonder about this issue and where consumers are going to go.

Mr. FRITTS. Well, we share that concern obviously. And we are hopeful that we don't have a time when consumers wake up and they don't have a television set. We are hopeful that this Congress, this committee, will lead the way in setting the parameters or setting forward the structure by which we can seamlessly move through this transition. We have some ideas on that which we have submitted.

But, obviously, you can't take care of the 15 percent until you satisfy the 85 percent. So it seems to me the largest concern of this committee is satisfying the 85 percent. Then, I think, Mr. Shapiro and Mr. Sachs and myself and our respective industries will find a way to resolve that 15 percent.

Mr. WALDEN. Mr. Sachs, let me ask you, just on the cable systems. What percent of your cable systems now have the capability to distribute their programming digitally?

Mr. SACHS. It is probably 85 to 90 percent have upgraded to digital, which means they are probably still using 550 megahertz analog and then another 200 megahertz digital.

Mr. WALDEN. What would the impact be if you were mandated, like broadcasters are, to have all of your programming in digital, if we are going to drive this fully digital?

Mr. SACHS. Well, today it would be a huge consumer impact because you would be imposing on your customers the obligation to have a set top device for multiple TV sets in their homes. So I think we can give you the arithmetic, but I think you are talking $10, $20, $30 billion, that range or degree of magnitude.

Mr. WALDEN. Is that obligation not the same, though, for consumers today who receive their TV over the air, when the analog cutoff occurs?

Mr. SACHS. No, because I think under the bureau plan, they have proposed providing the option of converting the signal at the head end. If we were to——

Mr. WALDEN. I am taking about over the air receivers. We have 15 percent out there that don't get their TV via cable or satellite.

Mr. SACHS. Correct.

Mr. WALDEN. Isn't the obligation that you would have, if you were forced to go all digital and get rid of analog the same placed on the consumers, that consumers have with broadcast when they lose the analog?

Mr. SACHS. Today, broadcast-only customers would have to get converter devices for each analog TV set that they have.

Mr. WALDEN. And in an all-digital cable environment, that would be the same requirement? I would have to get a converter for my analog TV?

Mr. SACHS. Some signals may be converted to analog and other—and if the—if the cost is low enough for digital to set-top equipment, the operator may want to provide that to all of its customers. But, we are not at those price points today.

Mr. WALDEN. I realize my time has expired, Mr. Chairman. Thank you.

Mr. UPTON. Well, I want to thank all of you today. You answered a lot of good questions. We have made a quite a but of progress on this. We appreciate your time and the many hours of our roundtable discussions as well.

I would just note that I talked to former Chairman Billy Tauzin yesterday. He is looking forward to grabbing this issue by the horns when he returns back to Washington perhaps as early as next week. So I look forward to his continued involvement on this issue as well.

I would just note that we are tentatively planning another hearing, particularly as it relates to the Berlin transition probably next month. And we will look forward to some of our input there.

We have votes now, multiple votes. So this hearing is now adjourned. Thank you very much.

[Whereupon, at 12:25 p.m., the subcommittee was adjourned.]

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