

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Expanding the Economic and Innovation)	Docket No. 12-268
Opportunities of Spectrum Through)	
Incentive Auctions)	

**COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS**

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January 25, 2013

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EXECUTIVE SUMMARY

An incentive auction of broadcast television spectrum is an enormously complicated task involving a host of complex inter-related and moving parts. NAB fully supports the Commission's efforts to craft a successful incentive auction that creates an environment supporting growth and innovation both in mobile broadband and broadcasting, and to conduct the auction as expeditiously as reasonably possible. We will be engaged and will push hard for consensus around smart solutions. To that end, we urge the Commission to eschew calls for artificial timetables for completing the auction that may ultimately undermine its effective execution. To make this first-in-the-world incentive auction a success, it is more important for the Commission to get the auction done *right* than to get it done *right now*.

NAB's initial comments focus on three of the essential components of the incentive auction process: (1) repacking; (2) the post-auction 600 MHz band plan; and (3) the TV Broadcaster Relocation Fund. First, NAB notes that repacking is critical to achieving a positive outcome both for the auction and the future strength and innovative capacity of the broadcast industry. At this stage, however, it is evident that progress on the repacking process is far behind the design of the auction itself. In particular, the Commission needs to focus on (a) conducting and completing international coordination with Canada and Mexico, and (b) creating and publicly vetting its repacking methodology. As a matter of both law and good public policy, this process cannot move forward until these critical elements of repacking are fully addressed and resolved.

The *Notice* properly undertook the task of defining, in real-world terms, the statutory requirement to make "all reasonable efforts" to preserve the same coverage

areas and populations currently served by non-volunteering stations. To reach the correct result, the Commission must remain faithful to Congressional intent to protect the viewers of those broadcasters choosing not to volunteer for the auction. NAB's proposal, set forth in these comments, to define "all reasonable efforts" will protect television viewers as Congress intended, while also providing the Commission flexibility in exceptional circumstances. Specifically, NAB proposes a modified version of the *Notice's* "Option 2," which would permit replacement interference and cap the aggregate amount of new interference for each station remaining post-auction. The *Notice's* other proposals, in contrast, are inconsistent with Congress's intent because it treats viewers as fungible and is likely to remove service from hundreds of thousands of consumers currently with access to stations' signals.

Second, NAB and many in the wireless and technology industries strongly believe that the Commission should adopt its alternative "Channel 51 down" band plan. This band plan is spectrally efficient and would preserve dedicated broadcast and commercial mobile wireless blocks of spectrum that will effectively limit harmful interference.

NAB strongly urges the Commission not to adopt a "split" and "variable" band plan. Such a plan is technically and practically unworkable, and has the potential to undercut many of the expected benefits of the incentive auction. A "split plan" would place high powered broadcast operations in the gap between wireless carriers' uplink and downlink, which would (a) cause serious interference between broadcast and wireless services, to the detriment of consumers; (b) drive up the cost of television receivers; and (c) result in interference between wireless operations. The "variable"

aspect of the lead plan proposed in the *Notice* would result in varied amounts of uplink from market to market and in the use of the same channel for broadcasting in one market but mobile wireless in an adjacent market. This variability would cause severe interference problems for broadcast and especially for wireless services. The only solution to such interference would be to create large wireless exclusion zones, thereby significantly reducing the ability of wireless carriers to make meaningful use of the auctioned spectrum.

Third, NAB offers several proposals to address questions concerning the TV Broadcaster Relocation Fund. Because Congress created the Relocation Fund as a means to make non-volunteering broadcasters whole following the auction and repacking, the Commission should treat the Fund as its budget for repacking. NAB estimates that approximately 400-500 stations can be repacked within the \$1.75 billion budget; this number should serve as an input into the Commission's repacking model. Given statutory requirements, the timing of reimbursement is also critical. Completing the construction of relocated stations, and thus the reimbursement of these stations' costs, within three years of the completion of the forward auction is challenging. NAB therefore urges the Commission not to deem the forward auction complete until, or after, the time at which relocated stations file their construction permit applications and final licenses are issued to auction winners. NAB also supports the appointment of an independent third-party administrator for the Fund.

NAB urges the Commission to take the time and care necessary to develop a successful auction, repacking process, post-auction band plan and sound plan to administer the Relocation Fund. With the necessary time and input from the industries

most affected by the transition and the public at large, the Commission can meet these challenges in a way that ultimately benefits the American public.

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The National Association of Broadcasters (NAB)¹ hereby responds to the above-referenced Notice of Proposed Rulemaking (Notice or NPRM) regarding the Federal Communications Commission’s (FCC or Commission) implementation of the Middle Class Tax Relief and Job Creation Act of 2012 (Spectrum Act or Act). In these comments, NAB will focus on three main areas of the incentive auction process that have substantial consequences for maintaining a strong, healthy and innovative television broadcasting industry: (1) the repacking of potentially hundreds of broadcasters who do not participate in the voluntary auction; (2) the 600 MHz post-auction band plan; and (3) the TV Broadcaster Relocation Fund. The comments below reflect NAB’s commitment to constructively engage with the Commission as well as other industry and public interest stakeholders throughout this process. We offer our

¹ NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and broadcast networks before Congress, the FCC and other federal agencies, and the courts.

distinctive experience and understanding of broadcasting – in particular the relocation of broadcast facilities – and propose solutions to each of the challenges we identify below.

I. Introduction

In passing the Spectrum Act, Congress provided the FCC with an opportunity to test one of the central theories of the National Broadband Plan (Plan). The Plan posited that, with Congress's authorization, the Commission could free up additional nationwide blocks of spectrum for mobile broadband by utilizing a market-like mechanism to incent broadcasters to voluntarily relinquish their spectrum rights. The theory is that, in certain instances, 600 MHz spectrum may be more valuable to commercial mobile wireless carriers than to television broadcasters. Thus, if Congress permitted the Commission to offer those broadcasters a share of the proceeds from an auction of their spectrum, they would have the appropriate financial incentive to relinquish their spectrum licenses. Now that Congress has given the Commission the green light to proceed with its proposed voluntary auction, the FCC must put its theory into practice and will learn whether its notions about spectrum value are accurate.

The task of bringing the incentive auction to life is daunting. The auction will not only be the first of its kind anywhere in the world, but also contains a host of complex moving and interrelated pieces: a reverse auction of broadcast spectrum never before attempted; a complex repacking of what is likely to be hundreds of television stations in a fraction of the time allotted during the digital television (DTV) transition; and a band plan that supports the coexistence of multiple technologies – high-powered and low-powered; private and public; licensed and unlicensed – adjacent to the 700 MHz band, which is still grappling with its own interference issues involving some of those same technologies. It also will likely result in the displacement and elimination of hundreds of

television stations watched by millions of viewers, thus requiring planning, coordination and a commitment to minimize what promises to be a major disruption to American consumers.

Despite the multifarious and unprecedented nature of the auction process, the Commission has set for itself an extremely aggressive timetable for completing the auction.² While NAB agrees that the Commission should strive to conduct the auction as expeditiously as possible, we believe that artificial timetables will likely undermine the effective execution of the auction rather than aid it. The bottom line is that it is more important for the Commission to get the auction done *right* than to get it done *right now*. As the Commission's recent history illustrates – including its treatment of LightSquared's proposed operation in the L-Band³ and the Commission's 2010 attempt to free up WCS spectrum for mobile broadband⁴ – when speed is one of its dominant aims, the odds of a sub-optimal outcome increase. These cases serve as cautionary examples of how rushing to immediately unleash spectrum can actually undercut sound

² The *Notice* discusses holding an auction in 2014 and Chairman Genachowski has noted that in testimony before Congress as well. See *Notice of Proposed Rulemaking* in Docket No. 12-268, FCC 12-118 (rel. October 2, 2012); Testimony of Chairman Julius Genachowski, FCC—Hearing on “Keeping the New Broadband Spectrum Law on Track,” before the House Subcommittee on Communications and Technology Committee on Energy and Commerce (December 12, 2012), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db1212/DOC-317913A1.pdf. Under the Spectrum Act, the Commission has until the end of fiscal year 2022 to complete the auction. Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 3203, 126 Stat. 156, 193 (2012).

³ See *Memorandum Opinion and Order and Declaratory Ruling* in IB Docket No. 08-184, 25 FCC Rcd 3059 (2010).

⁴ See *Report and Order and Second Report and Order* in WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357, 25 FCC Rcd 11710 (2010).

long-term spectrum policy.⁵ Conversely, when the Commission has eschewed calls to impose artificial deadlines, such as it did in response to DISH's request for a waiver to help it provide primarily terrestrial mobile wireless service in the S-Band, the Commission has produced positive results.⁶ NAB urges the Commission to take the time and care necessary to develop a successful auction and repacking process so that the American public can truly benefit from Congress's and the Commission's efforts to create an environment that maximizes innovation and growth both in mobile broadband and broadcasting.

While there are many essential components to the incentive auction process, NAB's initial comments will focus on three primary areas. First, NAB will explain how repacking is critical to achieving a favorable outcome both for the auction itself and the

⁵ After initially approving LightSquared's operation in the L-Band, the Commission has indefinitely suspended LightSquared's ability to launch terrestrial wireless service. See Public Notice, *International Bureau Invites Comment on NTIA Letter Regarding LightSquared Conditional Waiver*, DA 12-214 (rel. February 15, 2012). In May 2010, the FCC released a WCS order that claimed to "make available an additional 25 megahertz of spectrum for mobile broadband service in much of the United States." *Report and Order and Second Report and Order* in WT Docket No. 07-293 at ¶ 1, IB Docket No. 95-91, GEN Docket No. 90-357, 25 FCC Rcd 11710 (2010). The original order, however, did not actually make the changes necessary to offer robust mobile broadband, and the Commission had to make significant adjustments to that order in October 2012 to finally release that spectrum in a meaningful way. *Order on Reconsideration* in WT Docket No. 07-293, 27 FCC Rcd 13651 (2012).

⁶ In March 2012, the Commission denied DISH's request for a fast-track waiver similar to the one granted to LightSquared to provide terrestrial-only service. See *Order*, IB Docket Nos. 11-149, 11-150, DA 12-332, ¶¶ 29, 31, 33-34 (rel. Mar. 2, 2012). Instead, the Commission elected to conduct a broader proceeding to assess all of the potential issues associated with expanded terrestrial service in the S-Band. See *Notice of Proposed Rule Making and Notice of Inquiry* in WT Docket Nos. 12-70 and 04-356 and ET Docket No. 10-142, 27 FCC Rcd 3561 (2012); *Report and Order and Order of Proposed Modification* in WT Docket Nos. 12-70 and 04-356 and ET Docket No. 10-142, 57 CR 265 (2012).

future health, strength and innovative capacity of the broadcast industry. To yield a successful auction, NAB encourages the Commission to heed Congress's directive to coordinate with Canada and Mexico as soon as possible. Apart from the Spectrum Act requiring such coordination *prior* to conducting an auction, a successful nationwide mobile wireless band plan depends upon the Commission reaching an agreement with Canada and Mexico that provides new channels for "repacked" broadcast operations and allows new wireless operations within 150-250 miles of our nation's borders.

For broadcast stations and their millions of viewers, the Commission must remain faithful to the Spectrum Act, in which Congress makes clear that the Commission should not harm, in any way, full power and Class A broadcasters that do not ultimately participate in the auction. The Commission must therefore preserve the same coverage areas and populations currently served by non-volunteer stations. To that end, the Commission should expeditiously release the software programs and actual parameters it intends to use to run various repacking scenarios, so that all interested parties may evaluate, test and suggest changes before it is used to determine the future locations of non-participating broadcast stations. The viability and reliability of this software are paramount, as it will be used to accomplish in a matter of weeks what it took the Commission and outside stakeholders nearly a decade to achieve during the DTV transition.

Second, NAB will address the band plan that will result from the auction and broadcaster repacking. Unfortunately, the *Notice's* lead proposal is fatally flawed and has the potential to undercut many of the benefits for which the auction was authorized. The proposal overlooks or ignores significant engineering problems guaranteed to result

from its implementation. One issue is that “splitting” the band so that a number of broadcasters would have to transmit in the duplex gap would create major interference problems between broadcasters and commercial mobile wireless carriers and result in interference to television viewers and wireless consumers. The *Notice’s* proposal to employ “variable” band plans for uplink – *i.e.*, to vary the amount of uplink (depending upon how much spectrum is recovered) from market to market – is also problematic. This proposal would undoubtedly result in substantial interference between co-channel and multiple adjacent channel⁷ operations in neighboring markets. Moreover, the *Notice* fails to propose *any* interference protection between broadcasters and commercial mobile wireless operators in these circumstances. Even if the proposal included the standard interference protections employed in similar cases, the resulting wide-ranging mobile wireless exclusion zones would significantly reduce the ability of commercial mobile wireless operators to make meaningful use of the spectrum. NAB encourages the FCC instead to adopt its alternate proposal – starting at channel 51 and working its way down – in order to preserve dedicated broadcast and commercial mobile wireless blocks of spectrum that will help limit harmful interference.

Third, NAB will offer a variety of proposals to address the Commission’s questions regarding the TV Broadcaster Relocation Fund (Relocation Fund). Congress created the Relocation Fund as a means to make non-volunteer broadcasters whole following the auction and repacking. The Commission therefore should treat the Relocation Fund as its *budget* for repacking. Accordingly, the Commission should first estimate how many broadcasters it can reasonably repack within its \$1.75 billion

⁷ Multiple-adjacent channel includes first adjacent ($N\pm 1$), second adjacent ($N\pm 2$), etc.

budget. That number – which NAB estimates to be approximately 400 to 500 stations – should then serve as an input into the repacking model. NAB also addresses the myriad issues facing the administration of the Relocation Fund, including an expansion of the timelines for construction and the establishment of an independent fund administrator to ensure a fair and efficient reimbursement process as well as to limit waste, fraud and abuse.

II. The FCC Must Revise Its Key Goals and Principles to Better Reflect Congressional Intent and to Protect American Television Viewers

In its *Notice*, the FCC sought comment on a number of “goals and principles” it proposed establishing for the proceeding.⁸ NAB agrees that it is important to set forth goals and principles to help guide the many policy choices confronting the Commission. NAB offers three key additions and clarifications to the Commission’s proposed list.

First, notably absent from the *Notice* is the critical aim of protecting the many millions of television viewers so that both broadband *and* broadcast consumers can benefit from the auction. It is striking that the *Notice* makes no mention of this goal, given the certain widespread disruption to American television viewers and the FCC’s recent experience with displaced viewers during the DTV transition. The FCC must, in particular, be mindful of the likely impact of this proceeding on traditionally underrepresented communities, and strive at every point to ensure a smooth transition for all television viewers.

Second, the *Notice* appears to distort the statute’s goals with respect to maximizing the amount of spectrum repurposed through the auction. The Commission

⁸ *Notice* at ¶ 10.

states that one of its “central goals [is] to repurpose the maximum amount of UHF band spectrum for flexible licensed and unlicensed use.”⁹ And although Congress authorized the Commission to conduct an auction designed to maximize participation and recover spectrum as a result of voluntary participation, it did not suggest that both the auction *and* the repacking processes should be utilized to shift large amounts of spectrum to wireless carriers at the expense of non-participating broadcasters. Rather, the primary role of repacking is to rationalize the results of the auction by creating nationwide bands of spectrum for commercial mobile wireless service; it was not intended as a second shot at extracting spectrum from broadcasters that choose *not* to participate in the auction. The latter view undermines the entire notion of a *voluntary* process, something that Congress intended and that all stakeholders agree the auction process is supposed to be.

The importance of this distinction cannot be overstated and the implications for the future of broadcasting are monumental. If the Commission is truly committed to maintaining a strong and healthy television broadcasting industry,¹⁰ then it must allow broadcasters to continue to have the room to grow and innovate, using their existing allocations to experiment and develop new platforms, including Mobile TV and ultra-high definition TV (UHDTV). An unnecessary squeezing of the broadcast spectrum also will

⁹ *Id.*

¹⁰ *Notice* at ¶¶ 10, 232, 239. See Testimony of Chairman Julius Genachowski, FCC—Hearing on “Keeping the New Broadband Spectrum Law on Track,” before the House Subcommittee on Communications and Technology Committee on Energy and Commerce (Dec. 12, 2012), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db1212/DOC-317913A1.pdf (advocating for “the continued role of a healthy broadcast industry”).

threaten the continued existence of low power television and translators,¹¹ which play a critical role in the broadcast ecosystem. Both often provide service where there is no other viable outlet, and low power television is often an effective source of diversity in television programming. If the Commission uses its ability to repack for nationwide bands as a pretext for removing the maximum amount of spectrum currently allocated to broadcasting, the ability for new and diverse broadcasters to enter the marketplace will be severely hampered or eliminated altogether.

Third, it is important that the Commission *minimize* the number of stations required to change channels during the repacking process. Doing so would help mitigate consumer disruption, as each station that moves increases the number of television viewers that may be unable to find or receive their favorite broadcast stations. Once again, the FCC's recent experience with the DTV transition should underscore how challenging consumer education can be when it comes to relocating stations. Minimizing repacking would also serve the laudable goal of maximizing the amount of money that can be transferred to the Public Safety Trust Fund from the Relocation Fund.¹²

¹¹ Low power television stations and translators are authorized to use spectrum on a secondary basis and will not be a part of the formal repacking process; they will have to rely on spectrum available after repacking is complete. If full power broadcasters occupy the entire remaining spectrum, low power television stations or translators are unlikely to find a home.

¹² See Spectrum Act § 6403(d)(4) (stating that “[i]f any amounts remain in the TV Broadcaster Relocation Fund after the date that is 3 years after the completion of the forward auction . . . the Secretary of the Treasury shall . . . transfer such amounts to the Public Safety Trust Fund”).

III. The FCC Must Pursue A Simple, Transparent and Comprehensive Repacking Process

The *Notice* explains that the incentive auction of broadcast spectrum contains “three major pieces.”¹³ In addition to the reverse and forward auctions, one of those core pieces is “a reorganization or ‘repacking’ of the broadcast television bands in order to free up a portion of the ultra high frequency (UHF) band for other uses.”¹⁴ Repacking will play a central role because it is the primary method for the Commission to create a post-auction band plan consisting of new nationwide blocks of spectrum dedicated to commercial mobile wireless operations. The reverse auction frees up spectrum; repacking organizes and maximizes its utility to the commercial mobile wireless industry.

The repacking discussion in the *Notice* is by far the least developed of the three major pieces. As discussed in further detail below, the Commission is only in the gestational phases of at least two crucial elements of the repacking process: (1) international coordination with Canada and Mexico; and (2) developing and publicly vetting its repacking methodology. As both a matter of law and practicality, the Commission simply cannot move forward with a report and order in this proceeding until these critical components of repacking are more fully developed, explored and resolved.

The Commission and the broadcasting industry are intimately familiar with the challenge of reshuffling stations within the broadcast band, as the last major reorganization of the band – the DTV transition – was just completed in 2009. In many ways, the DTV transition presented fewer challenges. Probably the closest parallel

¹³ *Notice* at ¶ 5.

¹⁴ *Id.*

between the DTV transition and what the Commission will attempt as part of the repacking phase of the incentive auction was the effort to pack more than 100 stations with out-of-core channel allotments (*i.e.*, above channel 51) into in-core (*i.e.*, below channel 51) post-transition channel allotments. This “repacking” phase of the DTV transition was part of the nearly four-year, three-stage channel election process, and included significant participation by affected broadcasters.¹⁵ In contrast, the Commission is contemplating, as part of the incentive auction, repacking several hundred stations into fewer available allotments in a matter of weeks or months with conceivably little or no broadcaster involvement. So while during the DTV transition the Commission was able to evaluate the consequences of its repacking scheme through a number of rounds of public comment and over the course of a number of years, in the instant proceeding, the statutory confidentiality provision, along with the *Notice’s* compressed timeframe for repacking, make the task exponentially more difficult.

A. The Spectrum Act and Smart Spectrum Policy Dictate that the Commission Coordinate with Canada and Mexico Prior to Conducting the Incentive Auction

The Spectrum Act states that “*subject to international coordination along the border with Mexico and Canada,*” the Commission can “make such reassignments of

¹⁵ See *Memorandum Opinion and Order on Reconsideration of the Seventh Report and Order and Eighth Report and Order*, 23 FCC Rcd 4220 (2008). The channel election process was initiated in 2004 and the final post-DTV Table of Allotments was finalized in 2008. See also *Second Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, Report and Order in MB Docket No. 03-15, 19 FCC Rcd 18279, 18281 (2004). The first part of the process, the initial DTV Table of Allotments where the Commission assigned stations a companion digital channel, took almost six years to complete and was finally released in 1998. See *Sixth Report and Order* in MM Docket No. 87-268, 12 FCC Rcd 14588 (1997), on recon., *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order*, 13 FCC Rcd 7418 (1998).

television channels as the Commission considers appropriate” in order to “mak[e] available spectrum to carry out the forward auction.”¹⁶ The *Notice* acknowledges this coordination requirement.¹⁷

Congress incorporated this coordination condition because, under current law, prior to making any changes to the DTV Table of Allotments that may affect the television or wireless operations in neighboring countries, the U.S. is required to undertake a process of coordination (and approval) with them. Furthermore, to have an auction that generates sufficient proceeds to meet the goals of the Act, the Commission must develop a plan with Canada and Mexico to permit the repacking necessary to yield a commercial mobile wireless band plan that makes use of the valuable spectrum in those key regions. While NAB recognizes that meaningful coordination will likely push the Commission past the *Notice*’s stated 2014 goal, in order to fulfill the Act’s purpose and the Commission’s own express goals, it makes good long-term sense to address the tough issues now, rather than engaging in *ex post, ad hoc* spectrum policy.

Under formal agreements with both Canada and Mexico, any alterations to the U.S. DTV Table of Allotments within approximately 250 miles of the border with Canada and within approximately 170 miles of the border with Mexico require coordination between the FCC and Industry Canada and Secretaria de Comunicaciones y Transportes (SCT), respectively.¹⁸ Thus, any time a station seeks to move to another

¹⁶ Spectrum Act, § 6403(b)(1) (emphasis added).

¹⁷ *Notice* at ¶ 34 (stating “we must coordinate any changes in the authorizations of television stations operating in the border regions with Mexico and Canada”).

¹⁸ See Working Arrangement for Allotment and Assignment of VHF and UHF Television Broadcasting Channels Under The Agreement Between The Government of the United

frequency within those ranges (or make other significant changes affecting cross-border broadcast or wireless operations), prior to officially approving that move the FCC must first notify and engage with its counterpart in the appropriate border nation to address potential concerns about interference to stations or other wireless operations.

Practically speaking, that means that stations in and around cities such as Detroit, Boston, Seattle, Chicago, Los Angeles, San Diego and Phoenix all must coordinate internationally before making any significant changes. There are approximately 795 full power stations that are licensed within the 250-mile Canadian coordination zone alone.¹⁹

International coordination often takes many months, if not longer, to complete. This process is a major hurdle for the auction as proposed, because as currently conceived, the repacking phase of the auction will be fluid and take place in a compressed timeframe. It is therefore concerning that the *Notice* provided no

States of America and the Government of Canada Relating to the TV Broadcasting Service (effective March 1, 1989) at 1, *available at* <http://transition.fcc.gov/ib/sand/agree/files/can-bc/can-tv.pdf>; Memorandum of Understanding between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones y Transportes of the United Mexican States Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for Digital Television Broadcasting Service Along the Common Border (signed July 22, 1998) at 1-2, *available at* <http://transition.fcc.gov/ib/sand/agree/files/mex-bc/mex-dtv2.pdf>.

¹⁹ See Table B, *United States Plan of Allotments and Primary Assignments* in Exchange of Letters from Kevin J. Martin, Chairman of the Federal Communications Commission, dated August 5, 2008 and Helen McDonald, Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, dated December 15, 2008.

information on how the FCC will coordinate with Canada and Mexico as part of the repacking process or gave no indication that any progress had been made.²⁰

Some may suggest that, despite the statutory mandate, coordination is not a priority because it can be a lengthy process and may not bear fruit. However, in implementing the DTV transition's reallocation of channels 52 to 69 of the former television spectrum to wireless services in the U.S., the FCC and State Department negotiated new agreements with both Canada and Mexico well before there were any requirements for broadcasters to transition to new DTV channels and digital operations. These agreements set out the provisions for new DTV stations along the border and were developed taking into account that, in the U.S., spectrum would be transitioned to wireless operation. In the case of the U.S./Canadian agreement, for example, all of the assignments contained in the FCC's DTV Table of Allotments within 250 miles of the border were pre-approved so that formal coordination of a DTV station along the border was not required.²¹ This cooperative approach allowed the Commission and Industry Canada to license DTV stations in the border region consistent with the agreement and

²⁰ The extent to which the Commission addresses the required coordination is a statement that it is the "Commission's intent to work with the U.S. Department of State and telecommunications officials in Mexico and Canada on new bilateral instruments, as appropriate, to provide for flexibility in these frequency bands to our mutual benefit." *Notice* at ¶ 34.

²¹ See APPENDIX 1A, US REGULAR POWER STATIONS AND ALLOTMENTS WITHIN 400 KM OF BORDER, contained in *Letter of Understanding Between the Federal Communications Commission of the United States and Industry Canada Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border*, signed by William E. Kennard, Chairman of the Federal Communications Commission, Washington, DC, on September 12, 2000, and Michael Binder, Assistant Deputy Minister, Spectrum, Information Technologies & Telecommunications, Industry Canada, Ottawa, Canada on September 22, 2000.

provided licensees in that region with assurances necessary to construct and operate those facilities in a timely manner. A similar approach was taken with regard to Mexico.²² It was a fruitful process and could be a model for how the Commission approaches repacking and the assignment of new channels to television stations in the border region.

It behooves the Commission to work with Canada and Mexico and ensure that any repacking plan along the border be pre-coordinated; under no circumstances should any broadcast station be assigned a new DTV channel that requires *subsequent* coordination and approval by Canada or Mexico. For one, the statute simply does not allow it; it requires coordination as a *precondition* to repacking.²³ Moreover, while subsequent coordination may be acceptable to a wireless carrier that has shorter coordination distances and can plan a nationwide or large regional build-out in a manner that delays implementation along the border or takes into account limited operation on these frequencies for a certain period of time,²⁴ such an approach is not

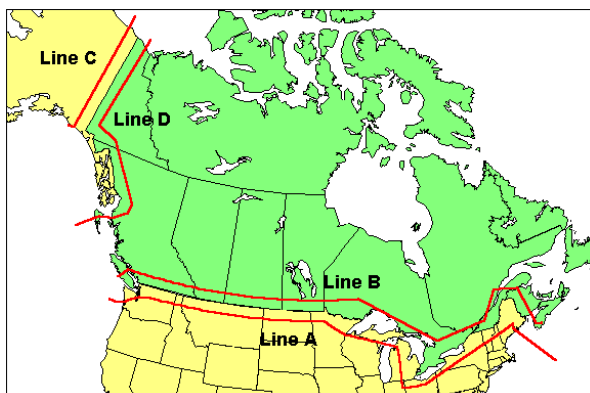
²² See APPENDIX 4, UNITED STATES DIGITAL TELEVISION ALLOTMENTS, contained in *Memorandum of Understanding between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones y Transportes of the United Mexican States Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for Digital Television Broadcasting Service Along the Common Border*, signed by William E. Kennard, Chairman of the Federal Communications Commission, Washington, DC, July 22, 1998 and Jorge Nicolin, Subsecretario De Comunicaciones, Mexico City, July 22, 1998.

²³ As noted above, the Spectrum Act permits repacking only “subject to international coordination.” Spectrum Act § 6403(b)(1).

²⁴ For example, mobile operations in the continental U.S. are generally subject to coordination between Line A and the border between the United States and Canada:

acceptable to a broadcaster currently serving viewers in the border region but who must relocate to a new channel that could be subject to a lengthy and potentially unsuccessful coordination process. Providing broadcasters with new channels that are pre-approved and not subject to later coordination is also critical because many aspects of the incentive auction, such as reimbursement of expenses, are subject to statutory time limits and cannot wait the many years it may take until the Commission and State Department complete new negotiations or assign a different channel if such negotiations fail.

Without new agreements in place, the repacking will be relegated to those TV channels and assignments that have been previously coordinated and are now in use. That is, it would be limited to the substitution of existing and equivalent channel assignments. For example, if station A volunteers to participate in the auction and go off the air (and it is successful), and station B with the same service area in that market must be repacked, the Commission can assign station A's channel to station B provided that both stations have the same technical parameters. No additional approval by Canada or Mexico should be required and at most a simple notification to the other country would have to be made. However, in the more typical case where service area



or technical parameters between stations differ, Station A's auction participation would not provide a new home for Station B. Adopting such an approach would be an inadequate and poor substitute for adopting new coordination agreements with our neighboring countries.

Not only does the Spectrum Act require coordination *before* moving forward with an auction, smart spectrum policy demands it. Failing to coordinate or delaying coordination not only would contravene the Spectrum Act, but also would lessen the likelihood that the Commission could repurpose enough spectrum nationwide to make the incentive auction worthwhile. Such a result would not meet even the most modest Congressional expectations regarding the ultimate financial return to be generated by the auction. The Commission should therefore turn its full attention to coordinating with Canada and Mexico before producing a report and order so it can achieve the goals Congress set forth in the Spectrum Act.

B. The Commission Must First Develop and Solicit Public Input on Its Repacking Model and Software Before Approving a Report and Order

Another major element missing from the *Notice* is any mention of the specific repacking modeling and software the Commission intends on employing to effectuate repacking. This is particularly concerning given that the Commission had spent the better part of two years working on a model – now apparently discarded – that it had used to demonstrate the viability of its incentive auction plan.²⁵ Because the

²⁵ See *Notice* at ¶ 49; see also Letter from Rep. John Dingell to Chairman Julius Genachowski (June 17, 2011), available at <http://dingell.house.gov/sites/dingell.house.gov/files/aom.pdf>; John Eggerton, *FCC Will Not Release AOM Until it Receives Congressional Auction Authority*, Multichannel News (Aug. 22, 2011), <http://www.multichannel.com/content/fcc-will-not-release-aom-until-it->

Commission will rely heavily on software to determine – in a short timeframe – the ultimate destinations for stations, it must discuss in detail and release its model and software well in advance of adopting a report and order. Full disclosure of the software and the parameters used to run the various scenarios takes on added importance in this proceeding, because unlike previous repacking processes, much of what occurs here likely will be behind closed doors.²⁶ Disclosure will allow the repacking experts at NAB as well as all other interested stakeholders to fully test the software to ensure that it works as intended. It is therefore essential that the Commission completes its new model and submits it for public comment and testing far in advance of approving a report and order authorizing the auction.

C. The Spectrum Act’s “All Reasonable Efforts” Standard Requires the Commission to Retain Stations’ Same Coverage and Population and Only in Exceptional Circumstances Reduce Either

The Spectrum Act not only makes clear that participation in the auction is voluntary, but also that those who do not participate should not be harmed in any way. This principle is reflected throughout the statute, but is made especially plain in its required preservation of the post-auction coverage area and population served of each non-volunteer station. Indeed, it would undermine the very concept of *voluntary* if a station’s alternative to participation was an uncertain future involving a forced relocation

[receives-congressional-auction-authority](http://www.tvtechnology.com/feature-box/0124/congressman-asks-fcc-to-explain-its-spectrum-analysis-model/209430); Deborah McAdams, *Congressman Asks FCC to Explain its Spectrum Analysis Model*, TVTechnology (June 20, 2011), <http://www.tvtechnology.com/feature-box/0124/congressman-asks-fcc-to-explain-its-spectrum-analysis-model/209430>.

²⁶ The confidentiality provision in the Spectrum Act, see Spectrum Act § 6403(a)(3), will likely prevent the Commission from being able to provide non-volunteer repacked stations a chance to review their new technical parameters prior to the forward auction.

to another channel that might cause it greater interference (or increased cost, for that matter).

The main repacking section of the Act states:

In making any reassignments or reallocations [through repacking], *the Commission shall make all reasonable efforts to preserve*, as of the date of the enactment of this Act, *the coverage area and population served* of each broadcast television licensee, as determined using the methodology described in OET Bulletin 69 of the Office of Engineering and Technology of the Commission.²⁷

Congress clearly focused directly on the preservation of the coverage area and population served of each remaining full power and Class A television station. Thus, the correct approach to any repacking or reassignment is to provide each broadcaster with the *same coverage* and *same population* that it now serves. Such a course will ensure that viewers will continue to maintain access to the same stations they had prior to the incentive auction and will guarantee that every reasonable effort has been made to make non-volunteers whole from the repacking process.

The statutory language “all reasonable efforts” does recognize, however, that there may be extraordinary circumstances in which the Commission will not be able to preserve the coverage area and population of a particular station.²⁸ This discretion is clearly intended for truly exceptional circumstances and cannot be used to thwart the intent of the statute by materially reducing the population or coverage area of a station that has not participated in the voluntary auction.

²⁷ Spectrum Act § 6403(b)(2) (emphases added).

²⁸ See Spectrum Act § 6403(b)(2).

In performing its duty under the statute, the Commission must – as it recognizes²⁹ – define the outer bounds of “all reasonable efforts.” With this understanding, the *Notice* proposes three options for giving concrete meaning to “all reasonable efforts.” The first option proposes to “preserve service to approximately the same total number of viewers” but not necessarily the same viewers (Option 1).³⁰ The second option would allow any repacked station to receive interference from another station or stations provided any interfering station considered alone would not reduce the number of current viewers by more than 0.5% (Option 2).³¹ The third approach suggests allowing interference at the same levels and between the same stations as currently exists, as well as new interference from stations that previously did not interfere up to 2% from each station (Option 3).³²

As discussed in greater detail below, NAB believes that, under the Act, the proper approach is to provide each broadcaster with the same coverage and same population that it now serves without any reduction in coverage or population. If the Commission has made every reasonable effort to preserve a station’s population, and if a *de minimis* reduction to that population becomes essential to achieving a key Commission goal, NAB recommends the Commission adopt Option 2 as its standard for “all reasonable efforts” *provided that* the Commission preserves 99% of the existing service area and population. Thus, NAB supports adopting Option 2 only if the

²⁹ *Notice* at ¶ 103 (proposing “three alternative approaches to fulfilling the requirement to make all reasonable efforts to preserve population served in the repacking process”).

³⁰ *Notice* at ¶ 105.

³¹ *Notice* at ¶ 106.

³² *Notice* at ¶ 108.

Commission caps the amount of additional interference at 1%. This would permit two or more new station reassignments to cause up to an aggregate of 1% additional interference to the existing station.³³ In addition, the Commission should make every effort to not add any new interference to stations that are currently experiencing 10% or more interference within their service areas.

In the following, we examine each option proposed in the *Notice* and why each, as described, fails to meet the statutory “all reasonable efforts” requirement.

1. The *Notice*'s First Proposed Option Is Inconsistent with the Plain Language and Intent of the Statute and Would Cause Significant Harm to Television Stations and Their Viewers

While maintaining a station's exact coverage area, Option 1 proposes preserving a station's service only to the same *total* number of viewers, and not the same *exact* viewers.³⁴ This “replacement interference”³⁵ approach would substitute a discreet population in a location that currently has access to a given station for “approximately”³⁶ the same number of people in areas not currently served by the station.

The *Notice* attempts to justify such a reading on three grounds. The first two arguments are quite similar. First, the *Notice* contends that “this approach is not likely

³³ One percent additional interference can have significant consequences. For example, for a station serving the New York City area, such as WNBC-TV, one percent additional interference would remove service from more than 200,000 potential viewers. This issue is not limited to the Top 10 or 20 markets, as, for example, WMAR-TV in Baltimore would see service disappear from more than 90,000 current television viewers.

³⁴ See *Notice* at ¶ 103 and Figure 2 (“[T]his first option would not ensure preservation of service to all of the specific viewers that currently can receive a station's signal, but rather would preserve service to approximately the same total number of viewers.”).

³⁵ See *id.*

³⁶ *Notice* at ¶ 105.

to result in significant disruption,” because “[m]ost interference typically occurs near the edge of a station’s coverage area, limiting the potential disruption to existing viewers as a result of the repacking.”³⁷ This assumes that the edges of a station’s coverage area are less densely populated, and thus fewer viewers would be impacted than if the change affected the core coverage area. Second, the *Notice* argues that “[t]here also are inherent limits on changes to a station’s existing viewership as a result of the dual statutory mandate to preserve population served and coverage area: a station that serves the same geographic area is unlikely to serve an entirely different population.”³⁸

A primary shortcoming of these contentions is that the *Notice* provides no data whatsoever to support them. On the issue of how many people are affected at the edges of stations versus their core contours, the *Notice* merely cites to a list of “updated maps” of all FCC-authorized DTV stations.³⁹ It does not analyze how many people would be affected in the average scenario where Option 1 is employed. The Commission is therefore unable to assess whether it is hundreds, thousands or tens of thousands of viewers in a given market. With respect to the second argument, even though a station serving the same coverage area is “unlikely” to serve a completely different population, it could still serve a materially different one, thus affecting hundreds of thousands of viewers. At bottom, these arguments boil down to “we don’t think it will really be all that bad.” That line of reasoning does not pass muster, especially in the face of the plain language of the statute.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *See id.* n.165.

Third, the Commission posits that it “believe[s] that the benefits of [this] option in facilitating an efficient repacking of television stations would significantly outweigh any disruptive effects to specific viewers that might lose service or to station owners.”⁴⁰ This reasoning is circular and thus entirely unpersuasive. This argument does not attempt to address the language or intent of the statute, but rather merely justifies disruption on the basis of it being a better outcome for the auction.

The *Notice* thus does not make a serious attempt to demonstrate why Option 1 is grounded in the language of the statute or comports with Congressional intent. In fact, a plain reading of the statute and a deeper look at its structure make clear that Congress intended that the term “population” mean what it says and not “total population” as Option 1 requires.

The Spectrum Act states: “In making any reassignments or reallocations [in repacking], the Commission shall make all reasonable efforts to preserve . . . the coverage area and population served of each broadcast television licensee”⁴¹ When discussing the term “coverage area,” the *Notice* assumes that Congress meant a specific, defined area.⁴² The *Notice* does not, for example, treat “coverage area” as referring to a total square footage of area that is fungible.

Given its reading of “coverage area” – one with which NAB generally agrees – it is curious that the *Notice* appears to read the term “total” into the statutory language regarding population, thus rendering it “preserve . . . the coverage area and *total*

⁴⁰ *Notice* at ¶ 105.

⁴¹ Spectrum Act § 6403(b)(2).

⁴² See generally *Notice* at ¶¶ 99-102.

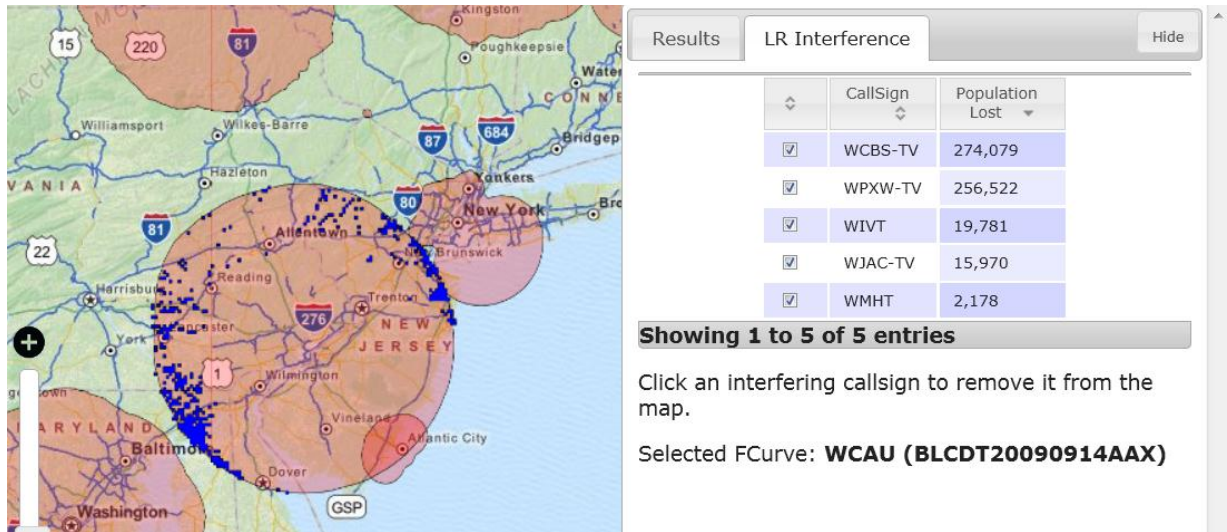
population served.” The *Notice* does not attempt to explain why Congress really meant to say “total” in the second part of the phrase and would treat “population served” differently than “coverage area.” Nothing in the statute permits that reading, and the Commission must treat the parallel terms “coverage area” and “population served” both as referring to specific areas and to viewers who are currently provided service, respectively. Additionally, Congress’ inclusion of the word “served,” coupled with the preceding and modifying clause “as of the date of the enactment of this Act,” strongly suggest that Congress intended to protect viewers who currently receive service from a station. Stated another way, if the Commission were to treat “population” as fungible, it would be contravening the intent of Congress by favoring unserved populations over currently served viewers.

From a practical standpoint, the Commission’s reading of the statute – seeing viewers as fungible – could lead to perverse results. For example, KCNS’s (a MundoFox station that provides Spanish and other foreign language programming) current channel assignment in San Francisco results in 4.8% interference that affects 353,000 potential viewers. Under Option 1, through repacking the Commission could shift that existing 4.8% interference to a different part of KCNS’s existing coverage area and simply remove service from 353,000 viewers who currently receive KCNS’s diverse programming, as long as the Commission provides approximately 353,000 potential new viewers with the opportunity to receive the station. The result is that many thousands of viewers who are currently served by KCNS will simply no longer have the same access to it.

This is a significant trade off, and one that Congress never intended. Congress went out of its way to protect “served” viewers in the statute; thus, the correct reading would reflect Congress’s concern about its constituents who currently rely on their local television stations.

We also note that Option 1 could lead to results that completely undermine the public interest. For example, under Option 1, the Commission could take the interference currently experienced by a Philadelphia-based station from stations operating in both the New York and Baltimore markets, and create equivalent interference closer to the Philadelphia city limits. WCAU, Channel 34 in Philadelphia, PA, provides a good example. The station currently receives 5.4% interference to its service population (*i.e.*, to a total of 568,530 potential viewers) from five different stations.⁴³ The interference received within the WCAU coverage area are highlighted in blue shown in the figure below. The figure also includes a breakdown of interference received from each of the five stations.

⁴³ The interfering stations are: WCBS Ch. 33 New York, NY, WPXW, Ch. 34 Baltimore, MD, WIVT Ch. 34, Binghamton, NY, WJAC, Ch. 34, Johnstown, PA, and WHMT Ch. 34, Schenectady, NY.



Under Option 1, the FCC, through the repacking process, could shift some or all of the interference caused by the Baltimore and New York stations to different areas closer to the Philadelphia city limits such as Norristown or Reading, PA. As a result, Baltimore and New York area residents could now receive WCAU, while many thousands of Philadelphia area residents and viewers would not. Given that broadcasters take seriously their obligations to serve their local communities, this trade-off would be devastating. The Philadelphia residents and viewers would be displaced and the Baltimore and New York residents that would replace them are likely to have little interest in local news and information from Philadelphia. The result is clearly not in keeping with the meaning and spirit of the legislation and would disserve both broadcasters and their viewers.

The Option 1 approach is not only bad for viewers, but would substantially harm broadcasters as well. Treating “population served” as “total population” would impose costs on broadcasters in a number of ways. At the outset, broadcasters would have to spend substantial resources to address the concerns of loyal station viewers who no longer could receive their signals, and who never will again over-the-air. This was a

common problem during the DTV transition.⁴⁴ In addition, stations affected by the Commission's suggested repacking approach would have to invest heavily to garner the percentage of new potential viewers necessary to maintain their market shares. Stations spend many years building brand loyalty, and if a station in a particular market loses regular viewers due to repacking, it will be disadvantaged vis-à-vis its competitors, now finding itself in the position of trying to convince new potential viewers to watch its station over the entrenched competition.

Option 1, moreover, would harm local advertising markets. Stations rely on local advertising revenue to provide valuable and free over-the-air service. If a station such as WCAU suddenly loses access to hundreds of thousands of viewers in the Philadelphia market, even if they gain viewers in adjacent markets, that gain will not help attract local, Philadelphia-based businesses that are seeking to reach Philadelphia residents. So while WCAU would, under Option 1, reach the same total number of viewers, it would absorb a major blow to its ability to sell local advertising.

⁴⁴ See Marguerite Reardon, *The Day After the DTV Transition*, C|NET (June 13, 2009), http://news.cnet.com/8301-1035_3-10264369-94.html; Kim Hart, *2 D.C. Stations Lost to Viewers in Digital TV Transition*, *The Washington Post*, June 17, 2009, <http://www.washingtonpost.com/wp-dyn/content/article/2009/06/16/AR2009061603381.html>; Michael Grotticelli, *With DTV Transition History, FCC Focuses on Reception Problem Areas*, *Broadcast Engineering* (Aug. 3, 2009), <http://broadcastengineering.com/news/dtv-transition-history-fcc-focuses-reception-problem-areas>; Press Release, Comcast, *Comcast Assembles Rapid Response Teams to Help Consumers Get Through the DTV Transition* (June 1, 2009) (*available at* <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=869&SCRedirect=true>); and Scott M. Fulton, III, *Mystery of the Missing DTV Transition Panic*, *BetaNews* (2009), <http://betanews.com/2009/06/15/mystery-of-the-missing-dtv-transition-panic/>.

2. The *Notice's* Options 2 and 3 Stray Beyond “All Reasonable Efforts” and Could Cause Significant Interference to Non-Participating Stations

The *Notice's* second option allows replacement interference only where it existed as of February 22, 2012. So if a certain population did not receive the channel due to interference from station X, the FCC could only replace that exact interference with station Y in a repacking scenario. In addition to replacement interference, Option 2 also permits new channel reassignment interference to cause up to 0.5% interference for *each new channel*. The Commission asserts that this option likely would cause less disruption to viewers than Option 1.⁴⁵ While NAB agrees Option 2 is likely to be less disruptive than Option 1, given that Option 2 permits an unlimited number of new stations to interfere with the affected station, it could cause substantial harm.

Option 3 does not permit replacement interference, but it allows the Commission to repack stations such that they can receive 2% interference from each neighboring station.⁴⁶ Therefore, like Option 2, Option 3 permits an unlimited amount of new interference from repacked stations to one another. The primary distinction is that, rather than sanctioning 0.5% interference per new repacked channel, it permits 2% per channel.

The Option 2 proposal appears to be based on the premise that the current rules allow 0.5% interference to be caused by the introduction of a new television station.⁴⁷

⁴⁵ See *Notice* at ¶ 106. The Commission also notes that this option would be more limiting in terms of freeing up spectrum. See *id.* (noting that Option 2 might “increase the cost of clearing spectrum”).

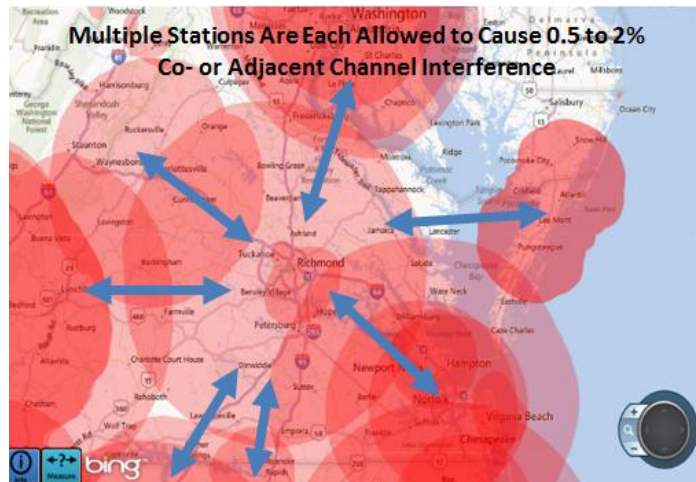
⁴⁶ See *Notice* at ¶ 108.

⁴⁷ See *Notice* at ¶ 103; see also 47 C.F.R. § 73.616(e).

The theory behind the interference introduced from new stations, however, does not support what the *Notice* proposes for Options 2 and 3. In almost every scenario, new station interference will result in a maximum addition of 0.5% interference. This is due in part to the fact that there are few available slots for new channels in congested markets where interference would likely be necessary to accommodate the new station. It is also unlikely for multiple channels to be added simultaneously, as will happen with repacking. Therefore, unlike the new station interference case, stations repacked during the incentive auction process under Options 2 and 3 would likely receive interference from *multiple* stations. In this regard, Option 3 is even more egregious than Option 2 since it proposes to allow up to 2% rather than 0.5% interference from each new reassignment.

Without a limitation on the aggregate amount of additional interference, Options 2 and 3 stations could lead to significant viewer losses. NAB notes that stations are not only potentially interfered with by stations in their own market, but by out-of-market stations as well. For example, as illustrated below, the Richmond television service area can be impacted by stations located in Washington, DC; Norfolk, VA; Newport News, VA; Charlottesville, VA; Roanoke, VA and Raleigh, NC.⁴⁸

⁴⁸ The picture shows coverage areas of TV operations on seven TV channels (Channels 14-18, 20 and 22) and the potential number of interfering stations that could overlap in the Richmond area under a repacking scenario.



In congested markets, stations already are subject to serious interference challenges. For example, a cursory review of a small sample of TV stations in the New York Designated Market Area (DMA) shows that today the average number of interfering stations per station is about 5.6. In fact, one New York station NAB reviewed had 8 interfering stations with 7 stations causing some unique non-overlapping interference. This suggests that during repacking – which will have fewer channels available and thus a greater number of interfering stations – the FCC may be tempted to increase the number of stations that each cause interference up to 0.5% under Option 2 and as much as 2% under Option 3.

Applying Option 2, a station may therefore receive 2% to 3% additional aggregate interference on top of the replacement interference described above. Under Option 3, stations could receive additional new interference from a number of other stations that could result in coverage and population losses of 10% and more. These outcomes would undermine the do-no-harm statutory provisions Congress adopted to protect non-participating broadcasters and their viewers, and thus must be cast aside.

From the foregoing, it should be clear that the Spectrum Act would permit replacement interference insofar as it involved the same coverage area and the same population served. Thus Option 2 is closer to the statutory mandate than Option 1. Option 2 only becomes a viable option under the statute, however, if it is circumscribed by a cap on the additional amount of aggregate interference a station can receive in the exceptional circumstance. That would allow the Commission to achieve its twin objectives of creating an additional nationwide block of spectrum for mobile broadband and insuring that non-participating broadcasters emerge from the repacking process healthy and strong.

D. The Commission Should Extend Protection to Construction Permits and Properly Account for Station Modifications Necessitated by the DTV Transition

The *Notice* also explores repacking issues associated with stations that either obtained construction permits (CP) for a channel change from Very High Frequency (VHF) to Ultra High Frequency (UHF) or made facility modifications to replicate pre-DTV transition service areas.⁴⁹ Two points in particular bear noting.

First, the Commission should not, and indeed cannot, engage in a *de facto* freezing of applications for channel substitutions prior to its actual May 2011 freeze.

The *Notice's* proposal not to extend protection in cases where applications were filed

⁴⁹ In the *Notice*, the Commission appears to support the argument that protecting stations with outstanding CPs to move from VHF to UHF is both consistent with the statute and in the public interest. At ¶ 116, for example, the Commission notes that stations which already have a CP have “completed a rulemaking process and we have modified our DTV Table of Allotments to reflect the channel change.” These applicants have acted in good faith reliance on the Commission’s official actions and therefore must be allowed to complete their moves and be protected in the repacking process. Furthermore, the Act specifically exempts such stations from its prohibition against the Commission reassigning a station from VHF to UHF. Spectrum Act § 6403(g)(1)(B).

before the freeze yet the Commission has failed to act is arbitrary and capricious and an abuse of discretion. These applications fall under the same exception in the Act covering already granted CPs that the Commission has said it will protect.⁵⁰ The only difference is that the Commission unilaterally failed to act on this second, non-protected group of applications. In many cases, applicants have waited more than two years for the Commission to act on what are typically routine applications. The Commission should adhere to the May 2011 date it set, process independently those applications filed prior to that time and protect those applicants whose applications are subsequently granted on the merits.⁵¹

Second, the Commission should respect and protect the various modifications made by VHF stations – with the Commission’s blessing – that aim to improve service in that band.⁵² For the past several years, many stations have worked alongside the Commission to recapture service areas lost in the DTV transition through tools such as power increases and interference agreements.⁵³ Those adjustments have been crucial to the viability of broadcast operations in the VHF band, and the Commission should be

⁵⁰ See *supra* note 49.

⁵¹ It is also improper for the *Notice* to inquire about or question the motives of stations that filed applications to move from VHF to UHF prior to the freeze. Not only is it irrelevant what each of their individual motivations were – they certainly acted lawfully and in accordance with Commission policy – but the Commission is in no position to judge (and certainly has no evidence regarding) the motives behind each determination.

⁵² Indeed, the Commission has a pending rulemaking that addresses how to enhance service in the VHF band. See *Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, Notice of Proposed Rulemaking in ET Docket No. 10-235, 25 FCC Rcd 16498 (2010).

⁵³ See John Eggerton, *FCC Continues Working on DTV-Related Reception Issues*, *Broadcasting & Cable* (Aug. 17, 2009), http://www.broadcastingcable.com/article/327804-FCC_Continues_Working_On_DTV_Related_Reception_Issues.php.

clear that all authorized changes prior to the auction will be protected throughout the repacking process. Likewise, as noted in comments filed by the network affiliate associations, Cox, Disney and others, the Commission licensed a number of digital replacement translators following the DTV transition to restore service to viewers who lost it during that process. There is little question that the Commission authorized these translators as a means to fill in areas within full power stations' service contours, and thus should be protected as an integral part of the full service facilities protected during repacking.

IV. The Commission's Lead Proposal for a 600 MHz Band Plan Has Serious Flaws That Would Result in Widespread Interference and Inefficient Use of Spectrum

The band plan that is created to organize the post-auction 600 MHz is a critical piece of the overall auction and repacking process. It should be designed to maximize the efficient use of spectrum while protecting the services that are designated to coexist in the band. In the unique context of an incentive auction, the Commission should adopt the added goal of reducing transaction costs for existing licensees to the greatest extent possible.

The lead band plan proposal in the *Notice* unfortunately suffers from two fatal flaws. First, the proposal envisions placing broadcast television operations within the duplex gap that separates the uplink and downlink wireless operations in the newly created band. Despite suggesting 6 MHz guard bands to separate these wireless and broadcast operations, the Commission underestimates the significant engineering challenges of having high-powered broadcast operations in the midst of mobile wireless transmissions. Second, the variable band plan proposal would require different services on the same channel in adjacent markets, so as to maximize the amount of spectrum

recovered and avoid pegging the auction to the market that clears the least amount of spectrum. The Commission, however, never proposes any protection for the broadcast and wireless services that would now be newly co-channel operations in adjacent markets. And as we demonstrate below, even if the Commission were to incorporate the traditional protections used in such circumstances, it will nevertheless undermine its aim of increasing the amount of spectrum repurposed, because the band plan will yield large wireless “exclusion zones,” wherein wireless carriers will not be able to operate so as to protect broadcast operations in adjacent markets.

In contrast, a band plan with contiguous nationwide blocks of spectrum does not suffer from these significant and numerous disadvantages. As explained in detail below, a nationwide broadcast/commercial wireless plan is spectrally efficient and far superior in limiting cross- and intra-service interference. Most importantly, such a plan will enable both wireless carriers and broadcasters to offer the best possible service to American consumers.

A. By Splitting the 600 MHz Band, The Lead Proposal Risks Significant Interference Between Television Broadcasts and Mobile Wireless Operations and Would Present New Harms to Television Receivers

The “split” nature of the band plan – *i.e.*, having the uplink and downlink parts of the commercial mobile wireless spectrum separated by some 90 MHz⁵⁴ – presents a number of serious technical difficulties. Those challenges would negatively impact consumers, television broadcasters and wireless carriers. From the television perspective, dividing the UHF spectrum into separate blocks with high-powered broadcast operations interspersed with mobile wireless broadband services would both

⁵⁴ Notice at ¶ 126, Figure 4.

degrade the performance of current DTV receivers and increase the complexity and cost of new ones. A split band plan would also leave television broadcasters subject to interference from wireless handsets, as well as with unresolvable intermodulation interference from wireless base stations. Moreover, the split plan would limit broadcaster innovation, thereby weakening, not strengthening the post-auction broadcast industry. And from the wireless carrier view, the split plan would present related interference issues and introduce unwanted complexity in wireless system and handset design.

Split Band Plan Harms TV Service. Because current DTV receivers are not designed to reject wireless signals from both above and below TV channels and are not designed to reject out-of-band emissions from nearby wireless handsets on those frequencies, channels in the duplex gap may suffer interference unless consumers replace their existing sets with DTV receivers designed to meet the challenges caused by the split band plan. For new DTV receivers, television set designers would now have to include new filters to attenuate wireless signals starting at channel 51 and below, as well as at channel 36 and below. This is made even more difficult since the proposal suggests that the amount of spectrum for wireless uplinks could vary from market to market, requiring that the television receiver include an adjustable bandwidth filter or multiple filters depending on the receiver's location. Both of these would lead to added complexity and would increase the cost of DTV receivers, adding to consumers' cost of replacing their televisions. Moreover, while these new filters may offer some protection from adjacent wireless transmissions, they would not provide protection from

intermodulation interference that falls in the interspersed television band and results in a form of co-channel interference (discussed in further detail below).

Intermodulation interference (IM) is a major concern under the split band plan proposed in the *Notice*. IM occurs when two or more nearby wireless transmitters operating on different frequencies are on the air simultaneously. Signals generated from these transmitters combine, producing interference on frequencies used by digital television. These unwanted signals occur at fixed frequency intervals away from the transmitted signals and are usually called intermodulation products.⁵⁵ By way of example, under a split band plan, 3rd order intermodulation products generated from two wireless base stations transmitting on two non-adjacent 5 MHz blocks, one operating on TV channel 36 and the other operating on TV channel 33, will fall on frequencies used for digital television and cause interference to DTV reception on TV channels 30 and 39 respectively.

The potential for out-of-band emissions interference also increases under the split band approach because wireless devices will operate closer in frequency to TV operations. By their very nature, wireless handsets are likely to be operated anywhere, including locations where television receivers and receiving antennas are located. The close proximity (in frequency and location) of these devices will likely increase the

⁵⁵ Intermodulation products are classified by their order (2nd, 3rd, 4th, 5th, 6th, 7th, etc.). These products are generated by adding or subtracting the fundamental or multiple of the fundamental transmitted frequencies. There are no limits to the number of product orders, but only a few are of general concern. Generally, the higher order odd intermodulation products, such as 3rd or 5th order, have a greater potential of causing interference to adjacent bands. Examples of a 3rd order intermodulation product between two fundamental transmitted signals A and B are: a) multiple of fundamental signal A minus B (2A-B), and b) multiple of fundamental signal B minus A (2B-A).

potential for out-of-band interference from these handsets to TV reception. To minimize this potential for interference, the Commission would either have to impose more stringent roll-off characteristics on wireless handsets, which would increase their cost and complexity, or provide for wider guard bands where different spectrum amounts are used in adjacent areas, making the plan far less spectrally efficient.

Under a variable split band approach – where broadcast and commercial mobile wireless would operate on adjacent and co-channels in adjacent markets – emissions from wireless handset transmissions are also much more likely to cause interference to television reception. To avoid such interference, wireless handsets would need to be precluded from operating within or near the service areas of co-channel and adjacent channel television stations, as is the case today under the Commission’s Part 27 rules.⁵⁶

Split Band Harms Wireless Operations. The split band approach presents IM and other technical problems for wireless operations as well. Just as IM generated from wireless base stations will create interference to television reception, IM products from multiple television stations’ transmissions operating in the split bands will fall in the wireless frequency bands. These intermodulation products will likely cause interference to downlink and uplink reception.

The large frequency duplex gap separation under the split plan also presents considerable challenges for wireless system and equipment design. It will be exceedingly difficult, for example, to develop a handset antenna design that both efficiently receives and transmits, given the fact that the transmit and receive

⁵⁶ See, e.g., 47 C.F.R. § 27.60.

frequencies under the proposed band plan are so distant. Further, due to the wide frequency separation in the proposed band plan, it will be extremely difficult to design efficient Multiple-Input, Multiple-Output (MIMO) systems for more spectrally efficient wireless operation.⁵⁷

Split Band Harms Innovation. Finally, the split band approach, especially with a variable amount of spectrum for different Economic Areas (EAs), imposes significant constraints on broadcasters' ability and flexibility to provide ubiquitous new services and implement new technologies in the future. For example, under a variable uplink allocation, broadcasters located in the band between wireless uplink and downlink will have to protect both types of operations, which may limit the technologies and services that can be offered. In addition, this plan would create a scenario where some broadcasters (*i.e.*, those not operating in the duplex gap and therefore not operating on spectrum between wireless uplinks and downlinks) may be able to implement a new technology that others cannot.

Good spectrum management suggests that the boundaries between different and dissimilar services should be minimized. The *Notice's* split (and variable) band plan fails to do this. A better approach is to have contiguous spectrum for both broadcasting and wireless. A contiguous wireless frequency band starting at channel 51 and below, and a contiguous broadcast band below that wireless band, will provide the most

⁵⁷ Multiple-Input, Multiple-Output (MIMO) is a form of smart antenna technology that uses multiple antennas at both the transmitter and receiver to improve communication performance. MIMO can improve spectral efficiency by spreading the same total transmit power over multiple antennas and improve reliability from antenna diversity.

flexibility for both wireless and broadcast systems to evolve and innovate and provide the most desirous services possible for the public.

B. The Variable Nature of the Lead Proposal Overlooks Enormous Hurdles and Is Unworkable

As noted above, the lead proposal for a 600 MHz band plan incorporates a novel “variable” component. The proposed band plan would “keep the downlink spectrum band consistent nationwide while allowing *variations* in the amount of uplink spectrum available in any geographic area.”⁵⁸ While NAB understands that the variable approach is designed to avoid the challenge of limiting the band plan to the market with the least spectrum cleared, the concept simply is not a viable solution due to the massive interference implications of the variable plan.

The Commission’s concern that spectrum recovery will be constrained by recovery in any single market is misplaced. As shown below, spectrum availability is impacted by the practical interference issues raised by the variable band approach. On the other hand, repacking can be done on a nationwide or large regional basis, mitigating the concern that any single market would dictate overall spectrum availability. The fact is that the variable plan would either result in significant interference to both wireless and television broadcast operations, or else would require large wireless “exclusion zones” where wireless carriers could not operate. Neither of these results comport with the Commission’s goals. Accordingly, the Commission should focus exclusively on creating nationwide bands of spectrum for commercial mobile wireless

⁵⁸ Notice at ¶ 124 (emphasis added).

service, as it advocated to Congress throughout its efforts to obtain passage of the Spectrum Act.

1. Under a Variable Plan, Rules Would Be Needed to Prevent Interference to Broadcasters

The *Notice* proposes to “minimize interference between dissimilar adjacent operations” by creating guard bands where there are no high-powered operations.⁵⁹ Such an approach, however, does not provide protection between services unless there are common nationwide bands. While the guard band approach may be sufficient to address interference between TV and wireless operations in the common nationwide band designated for downlink operations, it does not protect TV viewers from interference from wireless operations in the variable uplink portion of the band.

Under the *Notice*’s approach, geographic markets may have different services – uplink or broadcast television – operating at the same or multiple adjacent frequencies in the band. This could cause co- and multiple adjacent channel interference to TV reception in those adjacent markets. Surprisingly, the FCC never considered this issue. While the Commission did propose to impose Part 27 regulations in section 27.60 that addresses TV/DTV interference protection criteria on wireless operations on channels 51 and above, it did not do the same for channels below.⁶⁰ The current DTV protection criteria require mobile units to be located a minimum of 161 km (100 miles) from a co-channel TV station and must operate at least 8 km (5 miles) outside the contour of an adjacent channel TV station. At a minimum, such protection would be required under the proposed variable uplink band plan.

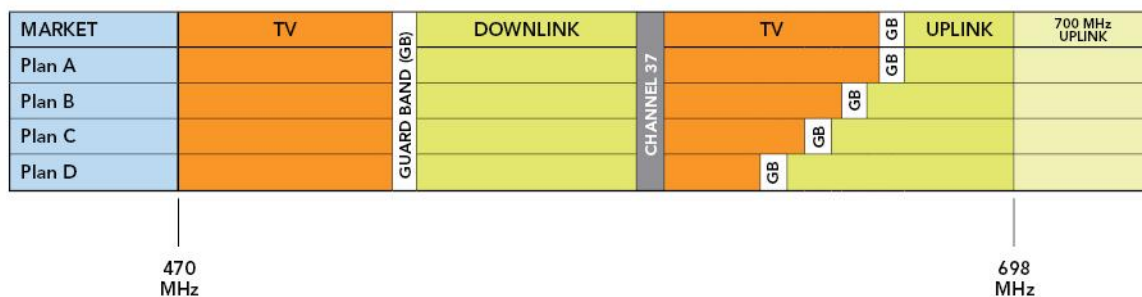
⁵⁹ *Notice* at ¶ 152.

⁶⁰ See 47 C.F.R. § 27.60.

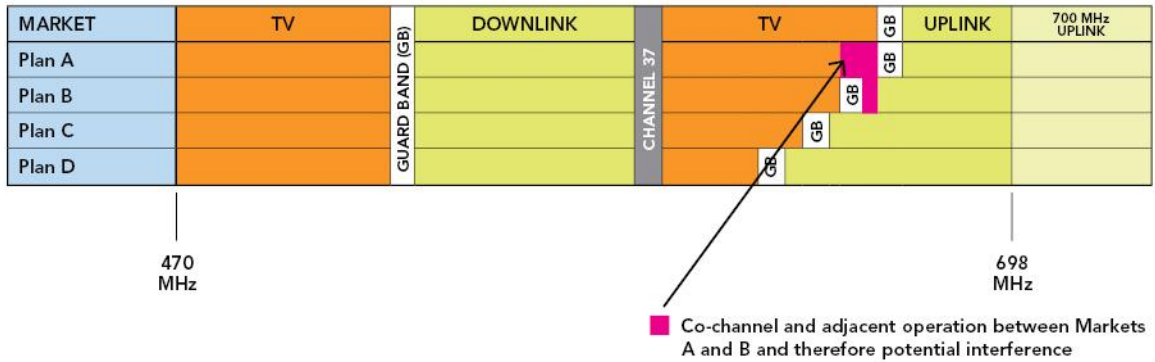
2. A Variable Band Plan Approach Would Also Create Interference to Wireless Operations

The potential for TV signals to interfere with wireless is even more likely and problematic under the variable uplink approach. To receive the relatively weak uplink signals from a low power wireless handset, the wireless operator installs sensitive receivers at each cell site. These receivers are generally located on high sites to provide “coverage” or reception of handset signals over a wide area. In a variable uplink plan, however, these receivers will be operating co-channel and adjacent channel with high power TV transmitters in adjoining geographic areas, and the high power TV signal may mask or prevent reception of the low level signals from wireless handsets.

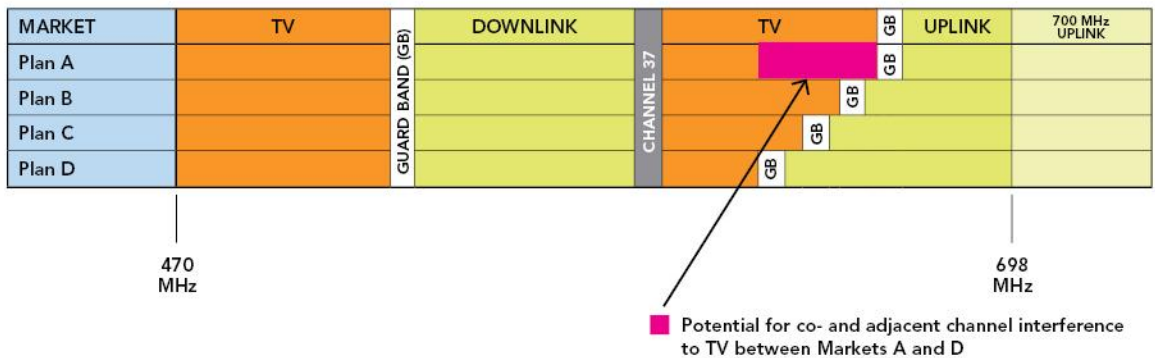
To illustrate the challenge, we lay out the FCC proposal below:



In the case where Market A is adjacent to Market B, some handsets in market B would be operating on the same channels or channels that are adjacent to those that are used for TV in Market A.



Even more spectrum and channels would be involved and the interference problems correspondingly worse if Market A were adjacent to either Market C or D, as shown below.



The only way to avoid interference to and “desensing” of the wireless receiver on the cell tower under such a band plan is to provide sufficient distance between the wireless receive site and the co-channel high power TV transmitter. Because both the TV transmitter and wireless receiver are generally located at high sites, this distance separation requirement must be very large – and could span or encompass multiple EAs. This is especially the case in highly congested markets such as those in the northeastern portion of the U.S. where spectrum congestion may be the greatest.

3. The Variable Band Plan Requires Large Protection Zones and Is Not Spectrally Efficient

Our calculations suggest that separation distances of 225 km (140 miles) to 375 km (233 miles) may be needed to prevent interference to wireless receive sites. The exact value will depend on the actual height and power of the interfering TV transmitter and the actual height of the wireless receive facility.⁶¹ To prevent interference from adjacent channel TV operations, the distance separations would be in the 100 km (60 mile) to 150 km (90 mile) range. Therefore, the ability to effectively use “cleared” uplink spectrum in any particular EA by wireless operators is directly affected by the broadcast use of the spectrum in adjacent and nearby EAs. This means that wireless broadband operations will be precluded from using the “variable” uplink frequencies or, at best, any wireless broadband use will be constrained by complicated coordination and siting requirements to ensure that adequate separation distances are maintained and that interference is not caused or received.⁶²

The *Notice* voices concern that licensing the 600 MHz spectrum on a nationwide, or large regional basis would require the Commission to reclaim an equal amount of spectrum nationwide, or throughout large regions.⁶³ It argues that if only a few

⁶¹ These separation distances were calculated using the FCC R-6602 F(50,10) curve for UHF, assuming a one Megawatt ERP television transmission at 305 meter Height Above Average Terrain (HAAT), and receive wireless base station at 30 feet above ground. Two wireless receiver threshold field strength levels (17 dBμ and 40 dBμ) were used to illustrate the ranges that will likely be required so as not to degrade the reception of a wireless base station receiver.

⁶² The spectrum actually available for wireless use in any EA will be dependent on TV operations in nearby markets. Under the variable split band approach wireless carriers will have to analyze each individual base station site to determine what spectrum can be used and to ensure proper separation distances are maintained.

⁶³ *Notice* at ¶ 146.

broadcasters in a geographic market volunteer, the amount of spectrum available for wireless use would be constrained in the broader area.⁶⁴ It posits that small geographic areas, such as Metropolitan Statistical Areas and Rural Service Areas, could potentially support much greater variation in the amount of reclaimed spectrum from area to area but is concerned that these smaller areas may raise auction design risks or hamper wireless service roll-out.⁶⁵ The Commission justifies its choice of EAs as striking an appropriate balance between geographic granularities and having a manageable number of licenses from an auction standpoint.⁶⁶ Both of these reasons, however, ignore the fundamental laws of physics that determine interference between services.

As discussed and shown above, the amount of spectrum recovered in an EA is impacted by the amount of spectrum recovered in any EAs within the interference distances calculated above. In other words, if different amounts of spectrum are recovered in two adjacent or nearby EAs, there will be interference and only a portion of the recovered spectrum would be useable for wireless broadband. Such a result would be inefficient and, indeed, wasteful. Only if the uplink spectrum reclaimed is the same in the EA and all surrounding EAs within the interference protection distance will the “guard band” approach be sufficient to avoid interference and all of the reclaimed spectrum will be available for uplink operations. The *Notice*’s basic rationale for suggesting that a variable uplink plan would somehow allow the amount of recovered

⁶⁴ *Id.*

⁶⁵ *Notice* at ¶ 148.

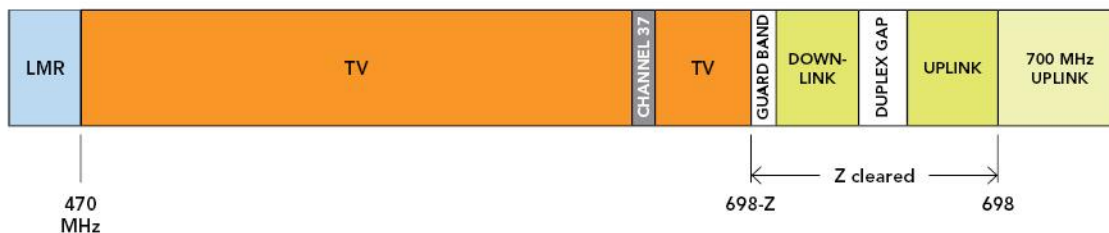
⁶⁶ *Id.*

spectrum to be unconstrained by the amount of spectrum in the “broader area” is therefore flawed and ignores the laws of physics and interference.

C. A Band Plan Featuring Nationwide Blocks of Spectrum Will Best Meet the Goals of the Spectrum Act and Serve the Public Interest

A band plan that provides dedicated, nationwide, contiguous frequency bands for both broadcast and wireless broadband does not suffer from the many significant drawbacks of the lead proposal in the *Notice*. NAB strongly believes that a band plan with nationwide spectrum blocks is the simplest, most flexible and most beneficial approach for broadcasters, wireless providers and, most importantly, American consumers.

Creating a contiguous wireless broadband band plan with common downlink and uplink bands with no interstitial, and potentially interfering, broadcast operations has significant technical and practical advantages over the lead proposal in the *Notice*.



On the technical side, with dedicated broadcast and commercial mobile wireless bands, nearly all of the interference challenges normally present between high power broadcast and commercial mobile wireless operations can be addressed simply by providing an ample guard band to separate the services.⁶⁷ This approach is well understood and

⁶⁷ NAB notes, however, that some additional interference constraints would be required with regard to stations within the border region if a nationwide plan is not adopted or the border region is treated differently.

used in every spectrum band. Unlike the interference issues that arise with a large duplex gap (especially sub-1 GHz), there are no interference adjustments (and thus added consumer costs) necessary for television receivers, and the intermodulation and harmonics challenges noted above are more easily addressable.

By adopting the Commission's alternate "Channel 51 down" plan, the Commission would be implementing a plan that is more spectrally efficient. It will not require the large wireless exclusion zones that the variable plan does. It utilizes only one guard band, to maximize the amount of cleared and auctioned spectrum being put to use. It also allows for a duplex gap of ample size for additional services – potentially wireless microphones or unlicensed devices – so that each megahertz cleared is a valuable one. Furthermore, a nationwide broadcast and broadband plan could be just as, if not more, efficient than a variable uplink plan based on single market auction results.⁶⁸

Dedicating a block to broadcasters and another to commercial mobile wireless services additionally creates needed space for broadcast growth and innovation. Much like the wireless industry, with a dedicated band, broadcasters can continue to develop and deploy new broadcast services, like ultra-high definition television (UHDTV) and Mobile TV. If squeezed by variability or limited by interfering wireless operations on each side, broadcasters will be unable to experiment with new technologies and increase their own footprint in providing essential mobile services. In addition, by syphoning every last megahertz from broadcasting through variability, the Commission

⁶⁸ See *Notice* at ¶ 146.

would be artificially limiting the broadcast industry, and thus eliminating the possibility for new entrants to provide diverse programming that consumers desire.

D. FCC Must Maintain Two Dedicated Channels for Wireless Microphones and Allow Licensed Part 74 Operations to Operate on Any New Unlicensed Spectrum with Protection from White Space Devices

As described in the *Notice*, the Commission's rules provide for licensed operations of low power auxiliary stations (LPAS) on a secondary, non-exclusive basis. These operations include wireless microphones, cueing and control communications and synchronization of TV camera signals that are essential in the production of broadcast programming and electronic news gathering (ENG) activities.⁶⁹ The Commission notes that the repacking of television stations may result in a reduced amount of spectrum being available in the core television band for these essential operations. Inexplicably, the Commission at the same time proposes making the two channels currently designated for LPAS and wireless microphone use available for general unlicensed operation and making the new guard bands available for such use as well.

The two wireless microphone channels were set aside specifically to address the problem of protection of licensed operations used in ENG activities from newly authorized white space devices. In developing rules for white spaces, the Commission

⁶⁹ As an example, the recent Presidential Inauguration involved hundreds wireless microphones, intercom systems and other Part 74 operations used by major broadcast networks, such as ABC, CBS, Fox, NBC, NPR, Telemundo and Univision; local television stations, such as WJLA, WRC, WTTG and WUSA; cable networks, such as C-SPAN and CNN; foreign broadcasters, such as the BBC; parade route announcers; and many others.

put in place processes for the protection of licensed operations including those licensed under Part 74. Licensed wireless microphones and other Part 74 licensed operations can be registered with the white space database administrator and receive protection for scheduled events and operations. For unscheduled activities, such as ENG used with breaking news events, the Commission set aside two reserve channels for such operations on which white space operation was prohibited. The fact that repacking associated with the incentive auction may reduce the amount of spectrum available in the core television band for these essential operations (as well as unlicensed white space operations) does not provide a rationale to alter the need to provide for and protect these essential licensed operations. The basic premise of all Part 15 unlicensed operation is the protection of licensed services. The Commission needs to preserve the two reserve channels or develop some other mechanisms to ensure that licensed wireless microphones and other Part 74 operations are protected and continue to provide “live” coverage of news and weather and other important events.⁷⁰

V. The Commission Should Ensure that the TV Broadcaster Relocation Fund Reimburses Broadcasters for all Reasonable Costs in a Timely, Uniform and Equitable Manner

The *Notice* seeks comment on the Spectrum Act’s requirement that the Commission “reimburse costs reasonably incurred by” certain entities affected by the auction and repacking processes, including broadcast television licensees.⁷¹ As discussed herein, NAB believes that the Commission’s repacking scheme must reflect

⁷⁰ For a more detailed discussion of NAB’s position on wireless microphones, see NAB’s comments in WT Docket No. 08-166 (filed Jan. 25, 2013).

⁷¹ See *Notice* at ¶¶ 334-354.

the amount of money the agency has available to reimburse stations and MVPDs. The \$1.75 billion should cover all reasonable costs. And, while there are some statutory constraints on the relocation fund, the Commission can and should take steps to ensure that broadcasters are fairly reimbursed in a timely manner. We propose such a plan below.

A. The Relocation Fund Should Cover All Reasonable Costs

As we have noted above, Congress clearly intended that broadcasters who choose not to participate in the incentive auction should not be harmed by any mandatory channel changes needed to clear spectrum after the auction. To that end, Congress allotted \$1.75 billion to pay all reasonable costs for necessary moves. NAB estimates that relocation costs will range from \$1 million for a minimal change facility to \$4 million or more for a major change facility in a medium-sized market. We further estimate that 5% or fewer of affected stations are likely to be “minimal change” stations. Thus, the Relocation Fund is likely to provide the Commission with funds to move as many as 400 to 500 stations in the repacking process.

B. Given Statutory Constraints on the Timing of Reimbursement, the Commission Must Define “Completion” of the Forward Auction Carefully

Section 6403(b)(4)(D) of the Spectrum Act requires that the Commission make all reimbursements no later than three years after the completion of the forward auction.⁷² The statute does not, however, specify what constitutes “completion” of the

⁷² NAB disagrees with the *Notice’s* assertion that Section 6403(d)(3)(A) of the Spectrum Act limits the Commission’s ability to disburse reimbursement funds before the completion of the forward auction. See *Notice* at ¶ 335 (citing Spectrum Act § 6403(d)(3)(A), (f)(2)). The cited provision only limits when the Commission may begin

forward auction. To achieve the best result, NAB proposes that the Commission should not deem the forward auction to be complete until final licenses are granted to winning bidders. NAB also proposes that the Commission allow 30 months for the construction deadline for new broadcast facilities. Such a time frame will allow most stations to complete their new facilities within the prescribed period, and it will also allow for at least six months after such completion for stations to submit documentation of actual expenses and obtain reimbursement for relocation costs before the expiration of the three-year statutory reimbursement period.

The 18-month construction time frame proposed in the *Notice* for relocating stations is unrealistically short.⁷³ Depending on when the 18-month period begins, there may only be one summer season for construction, which is infeasible for stations located in northern climates. And based on television stations' experiences in the DTV transition, stations in certain metropolitan areas (such as New York City and Denver) and stations in border areas requiring international coordination could require substantially longer than even three years to construct new facilities.

Recognizing these practical constraints, NAB submits that the forward auction should not be deemed completed until, or after, the time at which stations file their construction permit applications, and final licenses are issued to auction winners. This will afford the longest period of time feasible for broadcast stations to build their new

borrowing money from the Treasury for payment of relocation costs. Were the Commission to require down payments from bidders in the forward auction before its completion (as NAB recommends), funds could be deposited into the Relocation Fund, enabling the Commission to begin making certain relocation cost disbursements, consistent with Section 6403(d)(2), in advance of the completion of the forward auction.

⁷³ See *Notice* at ¶ 322.

facilities and receive reimbursement for their relocation costs. Moreover, because the assignment of final licenses to winning bidders in the forward auction is dependent upon the actual spectrum that is cleared, rebanded and repacked, it is quite reasonable to declare the end of the forward auction at that time. In addition, winning bidders will not know their assigned frequencies (as opposed to the generic licenses they bid upon) until after broadcast stations file their construction permit applications, anyway.

C. The Reimbursement Process Must Be Uniform and Equitable

The *Notice* proposes two options for reimbursement of broadcaster relocation costs. Under the first option, stations could seek an advance payment based upon a predetermined amount to cover relocation expenses. Under the second proposed option, stations could obtain reimbursement of their actual costs after construction of their facilities is completed. Stations electing the second option would submit documentation detailing and justifying their expenditures prior to reimbursement.⁷⁴

Several problems exist with each of the two options. In the case of the advance payment option, some stations are likely to expend more in relocation costs than the amount of the advance payment and, unless the Commission provides for a “true up,” those stations would not be made whole for their relocation expenses. Without a possibility of recovering expenses in excess of the estimated amount, there would be an incentive to over-estimate costs. That could lead to an inequitable and inefficient use of the Relocation Fund.

In the case of the actual cost reimbursement option, some stations may not be in a position to provide documentation of their actual expenditures until more than three

⁷⁴ See *Notice* at ¶ 341.

years after the completion of the forward auction, a dilemma of which the Commission is aware.⁷⁵ Such stations would obtain no reimbursement funds, which is clearly inconsistent with Congress's intent to make broadcasters whole.⁷⁶

To help solve these various problems, and to establish a reimbursement process that is uniform and equitable for all, NAB proposes an alternative approach that is based, in part, on the strengths of the two options set forth in the *Notice*. The process involves two stages, as described below, and is premised on the fact that no broadcaster intending to remain in television broadcasting after the auctions knows in advance to what extent he or she will be affected by the repacking and relocation process. Thus, the proposed process seeks to treat everyone fairly, to disburse funds promptly and consistently with the statutory deadline in the Spectrum Act, and to minimize waste, fraud and abuse.

⁷⁵ See *Notice* at ¶ 339 (“Were we to mandate that stations be reimbursed only after they actually pay their relocation costs, stations that experience construction delays or unexpected, last-minute expenses may not be eligible for reimbursement.”).

⁷⁶ NAB notes that following a plan that poses a serious threat of depletion of the Fund cannot be reconciled with the statutory mandate that the Commission reimburse broadcasters for their repacking expenses. It is a cardinal rule of statutory construction that a statute should not be interpreted in a way that frustrates the legislative purpose. See, e.g., *Morton v. Ruiz*, 415 U.S. 199, 237 (1974) (“In order for an agency interpretation to be granted deference, it must be consistent with the congressional purpose.” (citation omitted)); *Black Citizens for a Fair Media v. FCC*, 719 F.2d 407, 423-24 (D.C. Cir. 1983) (“Implicit in every congressional delegation of power to interpret a statutory term is the limit that the agency interpretation be consistent with the congressional purposes expressed in the statutory scheme containing the term at issue.”); see generally *Environmental Defense Fund, Inc. v. EPA*, 82 F.3d 451, 469 (D.C. Cir. 1996) (where “literal reading of the statute would actually frustrate the congressional intent supporting it,” courts “look to [the agency] for an interpretation of the statute more true to the Congress’s purpose”).

Stage 1. At the time that stations file their construction permit applications (which is assumed to be the same time for all stations nationally), or at a deadline established immediately thereafter, all entities that are eligible for reimbursement and that are seeking reimbursement, including MVPDs, will file a request for an advance payment of their total estimated expenses based on a schedule of values, which is, in turn, based on cost estimates for various categories of reimbursable expenses.⁷⁷ Entities would then receive an advance payment in an amount that would represent a percentage of their estimated expenses. The percentage will be less than 100%. Different entities would receive advance payments of different amounts, depending on the extent of technical modifications involved, but all entities would receive the same percentage based on the schedule of estimated costs established by the Commission.

The Commission would retain the flexibility to establish the percentage based upon the aggregate amount of advance payment requests and the amount of money in the Fund. Regardless of the amount available to be disbursed as advance payments, NAB recommends that the percentage be set no higher than 80%. That percentage should be sufficient to ensure that stations do not face an undue financial burden, but are also likely to expend the full amount of such advance payment so that they would not have to return unused funds.

Stage 2. Thirty months after the completion of the forward auction, at which point initial construction permits should be expiring and most stations should be filing their applications for licenses to cover their new facilities, all entities (including, again,

⁷⁷ It is NAB's understanding that the ABC, CBS, FOX, and NBC Television Affiliates Associations are submitting data that will assist the Commission in establishing such a schedule of values for broadcast station relocation expenses.

MVPDs) would file documentation of their actual reimbursable expenses.⁷⁸ The Commission would then be in a position to determine the amount of “true-up” due to individual stations or MVPDs. Stations that face unexpected construction delays or international coordination issues and are unable to complete construction within 30 months of the completion of the forward auction would still file, at the same time as everyone else, documentation of their actual reimbursable expenses to date, as well as submit additional documentation, such as purchase orders or contracts, indicating expenses that remain to be incurred.

Stations that expend less than their advance payment should be required to promptly return unused monies.

NAB believes that there are many advantages to this proposed two-stage process:

- * All entities that are entitled to reimbursement of eligible expenses participate in both stages at the same time. No entity gets a first-mover advantage.
- * A majority of the Fund monies are likely to be distributed during Stage 1, just at the time that the clock on the three-year statute of limitations on reimbursement begins to tick. These advance payments will ease the burden of capital financing for repacking expenses.
- * All entities must submit documentation of actual expenses, which will reduce opportunities for waste, fraud and abuse.
- * Stage 2 “true-up” submissions occur six months before the expiration of the three-year statute of limitations on reimbursement,

⁷⁸ Alternatively, stations that complete construction early could file documentation at the time they file their applications for a license to cover, but such a filing could not be acted upon until all other stations and entities file their documentation.

giving the Commission, or its designated entity, six months to process those submissions and make “true-up” payments.

D. Eligible Broadcaster Costs Should Be Defined Broadly

Section 6403(b)(4)(A) of the Spectrum Act states “the Commission *shall* reimburse costs reasonably incurred by a broadcast television licensee that was reassigned.” The Spectrum Act imposes only one limitation on reimbursement: the Commission “may not make reimbursements under subparagraph (A) for lost revenues.”⁷⁹ The structure of the Spectrum Act therefore vests discretion in what the Commission may reimburse, so long as the Commission, *at a minimum*, reimburses costs reasonably incurred by full power and Class A stations that are involuntarily reassigned and does *not* reimburse entities for lost revenues.⁸⁰

With input from numerous engineers with experience in the DTV transition, NAB has developed a list of “hard” and “soft” costs that should be eligible for reimbursement from the Relocation Fund presented in Attachment A. This list is not intended to be exhaustive. There may be an expense that is not listed but is a justifiable expense that should be eligible for reimbursement.

Most of the expenses are self-explanatory, but a few warrant additional comment. First, as a result of the DTV transition, many stations had second antenna/transmission systems that they have now licensed as auxiliary facilities. Such

⁷⁹ § 6403(b)(4)(C).

⁸⁰ See, e.g., *FTC v. Tarriff*, 584 F.3d 1088, 1090-91 (D.C. Cir. 2009) (rejecting the arguments “that the word ‘shall’ expresses not only a mandatory direction, but also a limiting principle” and that “the use of ‘shall’ mandating one act implies a corresponding ‘shall not’ forbidding other acts not inconsistent with the mandated performance”).

auxiliary facilities are used during periods of routine maintenance on the principal licensed facilities or in the event of unexpected failure of the principal licensed facilities. These back-up facilities are important to station operations, and if a station is involuntarily required to relocate, then such a station should be entitled to reimbursement for retuning or replacement of its licensed auxiliary facilities.

Second, because of the nature of the Commission's proposed repacking process, as well as the statutory three-year limitation on reimbursement, the time frame for constructing most new facilities is relatively limited – certainly more limited than under normal circumstances or than was the case during the DTV transition. Stations will not have the opportunity to utilize a paired channel during the repacking process but instead will need to utilize temporary facilities. The various expenses associated with such temporary facilities should be fully eligible for reimbursement.

Third, because tower regulations are stricter now than they were previously, the Commission should expect added delay and expense to the extent an existing tower needs to be modified or a new tower needs to be constructed. Those costs, including land acquisition and contractual liability to landlords and/or other site users, should be fully eligible for reimbursement. Because of the manifold complications surrounding zoning issues, the Commission may wish to consider, at the appropriate time, if preemption of local zoning ordinances is necessary.⁸¹

Fourth, many stations rely on over-the-air signals to feed cable headends and satellite local receive facilities for retransmission of the signal by MVPDs (whether

⁸¹ See *Preemption of State and Local Zoning and Land Use Restrictions on the Siting, Placement and Construction of Broadcast Station Transmission Facilities*, Notice of Proposed Rule Making in MM Docket No. 97-182, FCC 97-296 (1997).

pursuant to must carry or retransmission consent). If a station has to go dark for some period during its flash cut, or if it operates with temporary facilities that do not provide a good quality signal to the MVPD receive facility, the station should be entitled to reimbursement for expenses incurred in ensuring signal delivery on a temporary basis. It is also possible that if a station is involuntarily required to relocate, it may not cover precisely the same geographic area with its new facilities as it did with its prior facilities. In some cases, an MVPD receive facility that previously received a good quality signal may no longer be able to do so. In those circumstances, the station's costs for an alternative delivery method should be eligible for reimbursement.

The Commission should also acknowledge that, because of the limited time frame and the Commission's desire to clear the to-be-vacated broadcast spectrum as expeditiously as possible, stations will likely have to pay more for certain equipment and more for expedited professional services than they would pay under more typical circumstances. These additional costs should be considered to be valid reimbursable expenses.

Finally, and importantly, NAB includes on this list costs incurred by full power and Class A stations and radio stations that may not be reassigned, but are directly affected by the repacking process. For example, some television stations share an antenna and/or transmission line. If one of those stations is involuntarily required to change channels, but not the other, the station that is not required to change channels may nevertheless incur expenses as a result of facilities changes necessitated by the required reassignment of its partner. As another example, broadcast stations not required to change channels, including radio stations, may share a tower with television

stations that do change channels. Changes to the facilities of one television station may impact other broadcast stations sharing the tower, particularly because regulations affecting towers are stricter now than they may have been when all the facilities were placed on the tower initially. These examples represent true costs to broadcast stations that would not be incurred but for the repacking process and, accordingly, should be reimbursed to make such broadcasters whole consistent with the intent of the statute.

The *Notice* seeks comment on whether the Commission should adopt a “minimum necessary costs standard,” such as utilized in the 800 MHz rebanding program, so that reimbursement in the repacking process would be limited to only those costs that are “reasonable, prudent and the minimum necessary to provide facilities and services comparable to those presently in use.”⁸² NAB does not believe that a minimum costs standard should be adopted here. Unlike in the 800 MHz rebanding proceeding, the Spectrum Act mandates reimbursement for “costs reasonably incurred.”⁸³ The phrase “costs reasonably incurred” appears in other statutes⁸⁴ but has not been interpreted to imply a minimum costs standard.⁸⁵ Instead, the language has been given

⁸² *Notice* at ¶ 343 (citing, *inter alia*, *Improving Public Safety Communications in the 800 MHz Band*, Memorandum Opinion and Order, 22 FCC Rcd 9818 (2007), ¶ 6).

⁸³ Spectrum Act § 6403(b)(4)(A).

⁸⁴ See, e.g., 5 U.S.C. § 552(a)(4)(E); 18 U.S.C. § 2520(b)(3); 50 U.S.C. § 1810; *cf.* 28 U.S.C. § 1927 (providing for recovery of “excess costs, expenses, and attorneys’ fees reasonably incurred”).

⁸⁵ Instead, courts assessing a request for fees or costs determine “reasonableness” by considering whether the fees or costs sought are fair, defensible, and not excessive, not whether they are limited to the “minimum” the court deems “necessary” after the fact. See, e.g., *New Jersey v. EPA*, 687 F.3d 386 (D.C. Cir. 2012) (evaluating the “reasonableness” of an attorney’s fees request by considering, *inter alia*, whether the hours expended were “excessive,” “patently excessive,” or “extraordinary” and modifying fee petition to reflect number of hours “reasonably expended”).

its ordinary, natural meaning, in keeping with settled principles of statutory construction.⁸⁶ The natural meaning of “costs reasonably incurred” is those costs for which a broadcaster becomes liable that are fair and sensible, not excessive or extreme.⁸⁷ The statutory language neither invites nor allows a “minimum necessity” limitation on reimbursable expenses.

E. The Commission Should Adopt Appropriate Measures to Prevent Waste, Fraud, and Abuse

The *Notice* seeks general comment on how to prevent waste, fraud and abuse of the Relocation Fund.⁸⁸ While NAB does not anticipate that either broadcast station licensees or MVPDs will seek to abuse the reimbursement process, implementing the following three mechanisms should greatly reduce opportunities, and thus incentives,

⁸⁶ See, e.g., *Roberts v. Sea-Land Servs., Inc.*, 132 S. Ct. 1350, 1356 (2012) (noting that courts construing a statute “look first to its language, giving the words used their ordinary meaning” and consulting dictionary definitions to determine “ordinary usage” of statutory term) (internal quotation omitted); *Gross v. FBL Financial Services, Inc.*, 129 S. Ct. 2343, 2350 (2009) (“Statutory construction must begin with the language employed by Congress and the assumption that the ordinary meaning of that language accurately expresses the legislative purpose.” (internal quotation omitted)); *Walters v. Metropolitan Educ. Enters., Inc.*, 519 U.S. 202, 207 (1997) (“In the absence of an indication to the contrary, words in a statute are assumed to bear their ordinary, contemporary, common meaning” (internal quotation omitted)).

⁸⁷ “Reasonable” means “not extreme or excessive,” “moderate, fair.” WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY at 981 (1984); see also BLACK’S LAW DICTIONARY at 1265 (6th ed. 1990) (defining “reasonable” as “[f]air, proper, just, moderate, suitable under the circumstances”; “[f]it and appropriate to the end in view.”). “Incur” means “to become liable or subject to.” WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY at 611; see also BLACK’S LAW DICTIONARY at 768 (defining “incur” to mean “[t]o have liabilities cast upon one by act or operation of law”; “[t]o become liable or subject to”). Cf. *Schindler Elevator Corp. v. United States*, 131 S. Ct. 1885, 1891 (2011) (consulting dictionary definitions to determine “ordinary meaning” of statutory term); *Dart v. United States*, 848 F.2d 217, 228 (D.C. Cir. 1988) (same).

⁸⁸ See *Notice* at ¶¶ 353-54.

for abuse of the process and, accordingly, help ensure a smooth and equitable reimbursement process for all participants.

First, the Commission should appoint a third-party administrator of the Fund. The *Notice* observes that the Commission appointed a third-party auditor to oversee compliance of the Universal Service Fund.⁸⁹ The Commission also allowed for the appointment of a Transition Administrator in the 800 MHz rebanding plan.⁹⁰ Similarly, here, designation of a third-party administrator will not only serve to further the Commission's goals of preventing waste, fraud and abuse, but will also ensure timely compliance with the reimbursement scheme the Commission ultimately adopts, as well as serving as an auditor for various elements in the reimbursement process.

We anticipate that this independent third-party administrator will assist in establishing the amounts of the advance payments discussed above; disburse monies from the Fund; examine reimbursement requests and related documentation; and audit claimed expenses in certain circumstances. The administrator's fees and expenses should be paid, not out of the Fund, but, instead, from the proceeds of the forward auction as part of the administrative costs that the Commission may retain for its salaries and expenses account.⁹¹

Second, all entities seeking reimbursement from the Fund should be required to file documentation, with justification, of their reasonably incurred actual costs, 30

⁸⁹ See *Notice* at ¶ 354.

⁹⁰ See *Improving Public Safety Communications in the 800 MHz Band*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, 19 FCC Rcd 14969 (2004), *Notice* at ¶ 191.

⁹¹ See Spectrum Act § 6403(c)(2)(C); 47 U.S.C. § 309(j)(8)(B).

months after completion of the forward auction. Any entity that cannot document that it spent the entirety of the monies it received as an advance payment should be required to return any unused funds. As noted above, the third-party administrator should inspect all documentation for compliance and determine, on a routine basis, whether any expense that lacks appropriate justification or otherwise appears excessive is, in fact, a reasonably incurred expense under the circumstances.

Third, and finally, the third-party administrator should conduct spot audits of the claimed actual expenses, including the complete supporting documentation and justifications, of randomly selected entities seeking reimbursement. While it will be infeasible for the administrator to audit every filing for actual expenses because of the limited time frame available, it should be able to audit a representative number of filings. Spot audits could even be completed after the three-year statutory limitation on reimbursement ends since the Spectrum Act does not prohibit the return of inappropriately disbursed funds to the Fund more than three years after the completion of the forward auction.

VI. Conclusion

The incentive auction authority that Congress bestowed on the Commission gave the Commission a unique opportunity not only to test its own hypothesis regarding the relative value of spectrum to broadcasters and wireless carriers, but to create and carry out an auction that is the first of its kind in the world. In undertaking this task, the Commission has just one chance to get it right, and several areas require close and careful coordination to ensure success. NAB supports the Commission in its efforts, and through the comments above, seeks to offer its unique expertise and experience to

help the Commission identify solutions to those challenges that may impede a successful auction.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right from the end of the signature.

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January 25, 2013

Appendix A

List of Broadcaster Spectrum Repacking Expenses

Transmission-related expenses

- * New transmitter or retune existing transmitter
- * New auxiliary transmitter or retune existing auxiliary transmitter
(where existing auxiliary facility is licensed)
- * New antenna or modify existing antenna
- * New auxiliary antenna (where existing auxiliary facility is licensed)
- * New mask and other filters
- * New combiner (for stations sharing feed line or antenna)
- * New exciter
- * New transmission line or wave guide
- * Temporary antenna
- * Temporary transmitter
- * Temporary transmission line
- * Temporary electrical power
- * New controllers and other equipment associated with above when
existing equipment is not compatible with new equipment or
when additional equipment is needed during a cutover
process
- * Equipment to change translator input channels
- * Proof of performance testing
- * Removal and disposal of old and/or temporary equipment
- * Installation for all of above, including third party and internal labor
costs (e.g., personnel time spent on modifications and
accounting/cost reconciliation, overtime, etc.)

Tower and other facilities-related expenses

- * New tower or existing tower upgrade or modifications to main
and/or backup towers (including bringing up to current
standards)
- * New building or modifications to existing building to house new
transmitter and other equipment
- * Land (for new tower or new facility)
- * Modification or removal of licensees' own equipment (e.g. radio
transmission equipment, other TV equipment) that may need
to be modified or removed to comply with tower loading
standards
- Contractual liability to current tower landlord if relocation to a new
tower is necessary
- * Contractual liability to other site users when they are directly
impacted (e.g., service interruptions, temporary facilities,
shared antenna, moves to new locations)

- * Difference in tower rent
- * New / modified power plant equipment (including generators) at existing or new site, including extension of electricity to new site
- * New or modified HVAC equipment
- * New or modified STL and ICR to existing / new site
- * Moving costs to haul equipment to new site
- * Removal and disposal of waste
- * Expenses of full power, Class A television stations and radio stations directly resulting from reassignment of a station

Professional, legal, and other fees

- * Engineering fees (for designing new facility; for tower loading evaluation; for site surveys; for building modifications, FCC application preparation (construction permit and license)))
- * Engineering / integration / project management expenses for the project
- * Fees for tower and RF compliance testing
- * Expenses and fees associated with obtaining FAA clearance for a new or modified tower proposal
- * Construction performance bonds*Permitting fees
- * Legal and expert fees (for applications; for zoning, environmental, and historical preservation compliance issues; for real estate (acquisition or leasehold); for tax advice on how new/replacement equipment is taxed)
- * FCC filing fees for construction permits and new licenses (if not waived by FCC)

Ancillary expenses necessitated by repacking process

- * Upcharges, expediting feed, or other increased costs from manufacturers and service providers necessary to meet FCC deadlines
- * Microwave, fiber, or other delivery expenses to ensure delivery to cable headends or satellite local receive facilities that are reached by existing facilities but are not by new facilities or that are necessary on a temporary basis to bridge any gap in full power operations (e.g., extended periods of silence)
- * Replacement of wireless microphones, interruptible foldback (IFB), and headsets that are displaced from now unused TV channels
- * Additional or “bridge” insurance
- * Expenses associated with educating viewers about rescanning
- * Expenses associated with possible medical telemetry interference notifications

- * Tax consequences (e.g., depreciation schedules rendered inaccurate)
- * Grant-related expenses (e.g. storage costs for equipment mandated to be retained for life of grant but rendered unusable by repack, granted funds that must be reimbursed due to repack)