Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Innovation in the Broadcast Television Bands:	)	ET Docket No. 10-235
Allocations, Channel Sharing and Improvements	)	
to VHF	)	

COMMENTS OF THE NATIONAL ASSOCIATION OF BROADCASTERS AND THE ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.

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EXECUTIVE SUMMARY

In this Notice of Proposed Rulemaking ("NPRM"), the Commission is moving forward for the first time with a rulemaking on broadcast-related proposals, three in particular, that bear on the reallocation for wireless broadband use of spectrum currently used for free, over-the-air television broadcasting. NAB and MSTV commend the Commission for seeking public comment on these proposals. We note, however, that this NPRM addresses only three discrete matters when, in reality, the issues raised are far broader. The three proposals discussed in the NPRM are integrally related to an array of other issues that are not formally within the scope of this NPRM.

NAB and MSTV will continue to play a constructive role in addressing these complex spectrum policy questions. We pledge to work with policymakers to fashion a comprehensive plan for promoting the best possible broadcast and broadband systems for all Americans. We have repeatedly stated that we do not oppose approaches, including incentive auctions, which are truly voluntary and serve the needs of the viewing public. We have argued that the Commission's broader plan of action needs to consider all viewers (not just over-the-air viewers) who benefit from the local journalism and other local services provided by broadcast stations that wish to continue to provide those services. Indeed, more than simply maintaining present services, broadcasters are innovating and providing additional services to the public, for example through mobile digital television ("mobile DTV"), and want to continue to do so in the future.

The aspirations of these broadcasters should not be considered at odds with the goal of expanding access to broadband. Just the opposite: broadcasting is a necessary, efficient, and innovative complement to wireless broadband. Broadcasting's one-to-many distribution

architecture is far more efficient in delivering high-demand video to viewers; two-thirds of predicted new wireless demand is for mobile video services; and rapid improvements in memory technology will enable mobile DTV offerings to be available virtually "on demand" for the public. Over 70 stations have already commenced mobile DTV service. One group of broadcasters (the Mobile Content Venture) has announced plans to provide mobile DTV service to 40% of the U.S. population by the end of this year, and the Mobile500 Alliance, another coalition of broadcasters, likewise is accelerating the roll-out of mobile DTV service nationwide. The Commission's goal should be a robust American communications ecosystem that facilitates growth and innovation in both wireless broadband *and* broadcasting.

A corollary to this fundamental theme is that the Commission should evaluate and resolve holistically the numerous complex and interrelated issues implicated by calls for significant spectrum reallocations, not just the three proposals on which this NPRM invites comment. Section I suggests a roadmap that takes into account the more complex relationships among this broader range of issues. In summary, the Commission should:

- assess the capability of technological breakthroughs to enhance the wireless industry's ability to use its existing spectrum resources more efficiently, and evaluate other ways to alleviate the capacity crunch the wireless industry may be facing;
- complete and seek comment, as urged in pending legislation, on the results and implications of its survey of utilization of spectrum under its jurisdiction and the spectrum surveys undertaken by other government agencies, per the President's memorandum of June 28, 2010;
- assess the trade-offs associated with shifting significant amounts of spectrum dedicated to broadcasting to wireless broadband services, and weigh the potential consumer and competitive harms of reallocating spectrum from the public's free broadcasting services to subscription wireless operations;
- explore other means of expanding broadband access; and
- make public, and solicit and consider comment on, closely related issues before it acts on the three issues targeted for discussion by this NPRM.

In Section II of our comments, NAB and MSTV address the three proposals identified in the NPRM. The Commission's proposal concerning co-primary spectrum allocations in the broadcast band raises a number of questions that illustrate why the Commission should not act on that one issue alone without addressing interrelated issues such as repacking and auctions. With respect to channel-sharing, we agree with the Commission's proposal that any channel-sharing construct must be voluntary. In addition, the private parties that agree to enter into channel-sharing arrangements generally will be the best-positioned and most appropriate parties to sort out the complex issues raised by channel-sharing. Finally, while we commend the Commission for seeking comment on ways to improve reception in the VHF band, the proposals put forth in the NPRM will offer only limited benefits. Although power increases may in some cases yield meaningful improvements in reception for high VHF stations, such increases may also produce interference and are less likely to yield improvements in reception for low VHF stations. To enhance consumer education, we suggest that the Commission explore mandatory labeling of antennas and a standardized measurement procedure and metrics for antenna performance in the different television frequency bands. These measures would help ensure that consumers can obtain effective and appropriate reception capability when purchasing antennas.

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The National Association of Broadcasters ("NAB")[1] and the Association for Maximum Service Television, Inc. ("MSTV")[2] respectfully respond to the Commission's request for comment on the NPRM in this proceeding.[3] In these comments, NAB and MSTV suggest a roadmap to guide the Commission as it moves forward to ensure that the American people have access to an efficient and effective communications system now and in the future (Section I). We also provide specific comment on the three proposals identified in the NPRM: (a) co-primary status for broadcasting and wireless broadband operations in the television band, (b) voluntary channel sharing, and (c) VHF improvements (Section II).

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[1] NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the Courts.

[2] MSTV is a nonprofit trade association of local broadcast television stations committed to achieving and maintaining the highest technical quality for the local broadcast system.

[3] *Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, Notice of Proposed Rulemaking, ET Docket No. 10-235, 25 FCC Rcd 16498 (rel. Nov. 30, 2010) ("NPRM").

I. A ROADMAP FOR AN EFFICIENT AND EFFECTIVE COMMUNICATIONS SYSTEM

A. The Commission Should Take A Holistic Approach.

Now is the time for the Commission to consider how to move toward a forward-looking national communications plan that includes wired and wireless broadband service as well as robust and innovative broadcast services. The NPRM in this proceeding, which addresses three discrete broadcast-related issues, is a limited first step in this process. NAB and MSTV here comment on these three components, but also strenuously urge that the Commission holistically address all relevant and interrelated issues, including those not among the three issues specifically raised in this NPRM.[4]

As described in the NPRM, these are "preliminary steps" to enable the repurposing of spectrum currently used for broadcast television service.[5] It is especially important to give the broadcast-related issues a full and fair hearing, since, as the NPRM also recognizes, "broadcast television provides an important service" and plays a "vital role" in

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[4] The context for the three specific issues singled out in this NPRM is the FCC staff's multi-dimensional National Broadband Plan ("NBP") forwarded to Congress a year ago, on March 16, 2010. As Chairman Genachowski noted when the NBP was presented, the NBP is "a living, breathing strategic blueprint that will be reviewed and revised in light of experience and growing knowledge." *See* Prepared Remarks of Chairman Julius Genachowski, Federal Communications Commission, March 2010 Open Agenda Meeting, "A National Broadband Plan for Our Future," at 4 (March 16, 2010). Thus, while some public commenters seem to suggest that the Commission should uncritically implement the proposals in the NBP, that is not a proper course. It is important to recognize that the NBP was not adopted by the Commission, nor was it subject to notice and comment procedures under the Administrative Procedures Act, 5 U.S.C. § 551 *et seq*. There was considerable pre-NBP comment, but it is significant that there has been no formal comment on the NBP itself and that comments on the broadcast-spectrum specific issues were sought late in the process (in the 26th public notice) and upon only 19 days prior notice.

[5] NPRM at para. 1 ("Through this Notice, we take preliminary steps to enable the repurposing of a portion of the UHF and VHF frequency bands that are currently used by the broadcast television service, which in later actions we expect to make available for flexible use by fixed and mobile wireless communications services, including mobile broadband").

serving the public.[6] Indeed, 99% of the public relies on local television stations (whether received over-the-air or via cable, telephone wires or satellite) for diverse programming services, including local and national news, public affairs, sports, entertainment, foreign language and ethnic-oriented, children's, special events, weather and vital emergency information and alerts.[7] No other information platform can match the reach and reliability of free, over-the-air broadcasting.[8] It has even been observed that "homeland security depends on broadcast" because of its ability to blanket "an unlimited number of users with the same information" simultaneously, without delays or "clogs."[9] And despite the emergence of new media platforms, broadcast television remains the primary source of journalism for the American public.[10]

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[6] *Id.* at para. 13. Previously, NAB and MSTV submitted some 137 pages of comments to address these broadcast-related issues. *See* NAB and MSTV, "Broadcasting and the Broadband Future: A Proposed Framework For Discussion" ("Broadcasting and the Broadband Future"), and NAB and MSTV Comments—NBP Public Notice #26, both GN Docket Nos. 09-47, 09-137, and 09-51 (Dec. 22, 2009).

[7] Broadcast programming continues to attract the most American viewers. "Broadcast dominated the 2009-10 season, taking 98 of the top 100 programs (based on Household Live+SD ratings) as well as taking 302 of the top 312 programs." TVB, "TV Basics" at 11, *available online at*: http://www.tvb.org/media/file/TV_Basics.pdf.

[8] *See* Comments of NAB, Examination of the Future of Media and Information Needs of Communities in a Digital Age, GN Docket No. 10-25, at 2-3, 6 and 14-16 (May 7, 2010) ("Future of Media Comments") (explaining in detail broadcasting's role as the most important source of critical emergency information and local television stations' role as the most relied upon and favorably viewed source of news programming); "Poll Finds Local Television Is Leading Source for Weather Info," Radio & Television Business Report (Jan. 4, 2011) (citing poll from Rasmussen).

[9] Tom Wolzien, "Homeland Security Depends on Broadcast," *TVNewsCheck* (April 4, 2010) (also observing that "broadband circuits – wired or mobile – can clog up and the information-carrying data can't pass" when "many people need something at the same time").

[10] *See* Pew Research Center, Project for Excellence in Journalism, "The State of the News Media 2011, Local TV: Good News after the Fall," available online at http://stateofthemedia.org/2011/local-tv-essay/ (noting that "[l]ocal stations remain Americans' No.1 television news choice. Half of all Americans say they watch regularly and they have more choices than ever of when and where to watch it."). *See also* "Key Findings" from that study, available online at http://stateofthemedia.org/2011/overview-2/key-findings/ (stating that "[t]he (continued…)

NAB and MSTV reiterate our support for the goal of expanding access to broadband, including, to the extent needed, making more spectrum available for mobile wireless broadband. We submit, however, that policies to reach that goal should not move forward on the basis of untested assumptions that give precedence to the wireless industry over the public's broadcast services.[11] It is the public interest that must be served. And, that goal is best met by providing consumers with the best broadcast system possible and the best broadband system possible—not one or the other.

From the outset, broadcasters have emphasized that wireless broadband and broadcasting are complementary, not "either/or," communications systems. This complementary relationship is based on physical fact: the clear superiority for mass-audience video delivery of broadcasting's one-to-many technology over wireless broadband's one-to-one distribution technology. Because two-thirds of the predicted new wireless demand is for distribution of mobile video services,[12] and because broadcast programming represents a large part of the universe of high-demand content, broadcasters are well-positioned to meet the mobile video demand in the most spectrally-efficient manner.

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audience for cable news in the last year declined substantially."). Spectrum is the bedrock of the free, ubiquitous service provided by broadcasters to local communities, which service is not replicated by other media that do not have this over-the-air element.

[11] For example, the Commission should test the assumption that a contiguous, nationwide swath of spectrum must be reallocated, and it should seek comment on the Office of Engineering and Technology's "Spectrum Analysis: Options for Broadcast Spectrum," *OBI Technical Paper No. 3* (June 2010), which upon release was described as offering "provocative ideas that deserve to be fully vetted and considered." Julius Knapp, "Looking Under the Hood: Technical Paper on Options for Broadcast Spectrum," http://blog.broadband.gov/?entryId=497732 (June 14, 2010).

[12] *See* Broadcasting and the Broadband Future at n.85 and Attachment A at 17-18. Cisco recently forecast that "[t]wo-thirds of the world's mobile data traffic will be video by 2015." *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update*, 2010–2015, at 2.

We commend the Commission for launching this proceeding to elicit public comment on the three broadcast-related issues it has identified here. We also appreciate the Commission's recognition of the important benefits that broadcasters provide to the American people and its commitment to promoting a vital, healthy service with a diversity of local voices.[13] To achieve this goal, we respectfully submit that the FCC should not resolve the limited issues within the scope of this NPRM until it has asked for and considered comments on other, integrally-related issues, as well as other potential approaches for addressing wireless broadband needs. The broadcast industry pledges that it will work with the Commission to facilitate a comprehensive and intensive consideration of the full range of relevant issues. To this end, we recommend the specific steps identified below.

B. These Steps Will Assure That The Critical Issues Are Considered And Resolved In A Comprehensive And Integrated Manner.

To ensure a more comprehensive and integrated examination of the issues at stake here, we recommend that the Commission take the following steps:

First, the Commission should, as provided in the Kerry/Snowe bill introduced on March 2, 2011, assess the capability of technological breakthroughs to enhance the efficiency of the wireless industry's use of existing spectrum.[14] The Commission should take into account how new technologies, as highlighted by various commenters in a companion proceeding dealing with Dynamic Spectrum Access (ET Docket No. 10-237), will enable spectrum allocated to the

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[13] NPRM at para. 13.

[14] *See* Reforming Airwaves by Developing Incentives and Opportunistic Sharing Act ("RADIOS Act"), S.455, 112th Cong. (2011). As the Chairman and CEO of Verizon has opined, "If video takes off, could we have a spectrum shortage in five or seven years? Could be, but I think that technology will tend to solve these issues." Council on Foreign Relations, "A Conversation with Ivan Seidenberg" (April 6, 2010), transcript available online at: http://www.cfr.org/technology-and-foreign-policy/conversation-ivan-seidenberg/p21840.

wireless industry to be used more efficiently and to ensure that the wireless industry's non-spectrum based resources are most effectively deployed.

As part of this assessment, the Commission should evaluate more critically the wireless industry's claimed spectrum needs and the necessity of shifting significant amounts of spectrum dedicated to broadcasting to wireless broadband services.[15] The wireless industry may be facing a data capacity crunch in the future and a need for some additional spectrum, but there are many means for improving data capacity. The true scope of the spectrum need can only be assessed with a full understanding of all the ways to solve the problem. The Commission should scrutinize fully the nature of a projected capacity crunch and objectively consider the extent to which network congestion can be addressed by means other than disruptive spectrum reallocations. The alternatives include upgrading network technology; using non-spectrum infrastructure such as fiber-optic cable, wire, and coaxial cable; deploying network management practices; leveraging consumer architecture such as femtocells and wi-fi; and enhancing carrier architecture, such as by investing in picocells and smart antennas, improved backhaul, sectorization, and cell splitting. NAB and MSTV's Broadcasting and the Broadband Future filing of December 22, 2009 discussed several of these promising technological alternatives.[16]

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[15] NAB and MSTV have critiqued the studies cited by the wireless industry. *See, e.g.*, Broadcasting and the Broadband Future at Attachment A, Section III(D). Out of the current 547 MHz of spectrum allocated to wireless, 377 MHz has not been fully deployed. *See* "Mobile Broadband: The Benefits of Additional Spectrum," *OBI Technical Paper No. 6* (Oct. 21, 2010), at 15-16 ("Mobile Broadband Spectrum Forecast"). Further, as the NBP acknowledged, "[s]pectrum forecasts all incorporate a range of assumptions about future network capacity. Demand is difficult to predict due to uncertainties about future devices and user behavior. Supply is also difficult to predict…." NBP at 84.

[16] Broadcasting and the Broadband Future at 37 (pointing out that "[r]esearch shows particular promise in new technologies such as multiple-input multiple-output ('MIMO') wireless systems, femtocells, and user cooperation. According to Cooper's Law, coined by the lead inventor of the (continued…)

As the Commission considers these spectrum and capacity issues, it also should recognize that broadcasting has an important role to play in the country's broadband future. As noted above, broadcast's spectrally-efficient, one-to-many distribution technology can make it a part of the broadband solution by providing an alternate delivery system for popular video content, which is a substantial part of the projected future spectrum needs for wireless broadband.[17] The roll-out of mobile DTV provides an opportunity to mitigate projected capacity demands on wireless broadband systems. And exploiting the memory capacity of mobile devices will enable consumers to enjoy virtual "on demand" mobile video service using mobile DTV technology. The Commission should ask for comment on how to strike the appropriate balance between these complementary technologies.[18]

Second, as various pieces of proposed legislation have urged, the Commission should follow through with a detailed and comprehensive review and selective field survey of

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cell phone, spectrum efficiency doubles every two and a half years; over the last 90 years, spectrum utilization has increased over a trillion times") and Attachment A at Section IV(A).

[17] *See* Tom Wheeler, "Broadband Plan Is Big Opportunity For TV," *TVNewsCheck* (April 8, 2010) ("Broadcasting's one-to-many architecture is simply the most efficient means of delivering the commonly used content that makes up the fat part of the long tail…. [B]roadcasting is also the most efficient means of powering the next generation of wirelessly delivered apps such as newspapers, eBooks and digital signage.... The economics of such new mobile-delivered services requires the efficiency of feed-once, then deliver-to-all, rather than the serial one-at-a-time delivery of the current mobile infrastructure.").

[18] Indeed, it appears that wireless carriers recognize the efficiency of broadcast service in providing mobile video. At a recent event, Tony Melone, the CTO of Verizon Wireless, said: "We're working with all of our infrastructure providers . . . to develop the technology to incorporate a broadcast capability. . . . We think that will be a solution to this problem down the road, that there will be a broadcast element to our 4G network that can then more efficiently deal with the live content." Steven Lawson, IDG News, "Verizon Looks to Video Broadcasting on LTE," *PC World* (Nov. 8, 2010), available online at http://www.pcworld.com/businesscenter/article/210063/verizon_looks_to_video_broadcasting_on_lte.html.

spectrum usage under its jurisdiction.[19] Such a review should include not just an overview of spectrum users but also data and measurement of actual spectrum use. Concurrently, the Commission should receive and assess both the spectrum survey that NTIA is conducting and the spectrum surveys that other government agencies are undertaking pursuant to the President's memorandum of June 28, 2010.[20] The Commission should seek public comment on the results and implications of these surveys, which should enhance the quantity and quality of data upon which policymakers will rely in formulating important public policies.

Third, consistent with its public interest mandate, the Commission must weigh the public policy harms – including diminishing diversity and competition in the video marketplace – of substantially reducing spectrum allocated to broadcast television. These spectrum policies would have the effect of shifting spectrum away from large numbers of diversely-owned broadcasters to a small number of wireless operators. According to BIA/Kelsey, currently there are over 525 different full-power commercial and noncommercial television station owners providing unique services to their communities.[21] Notably, the Mobile Broadband Spectrum Forecast assessed the value of providing additional spectrum for the wireless industry, but it explicitly did *not* assess the economic and societal costs of taking that spectrum away from other

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[19] *See*, *e.g.*, the Kerry/Snowe bill, S.455, *supra* n. 14, and the Barrow bill (Spectrum Inventory and Auction Act of 2011), H.R.911, 112th Cong. (2011). Only 5.18 percent of the spectrum in the 225 MHz to 3.7 GHz range is allocated exclusively for television service.

[20] Memorandum of June 28, 2010, "Unleashing the Wireless Broadband Revolution," 75 FED. REG. 38387 (July 1, 2010).

[21] These hundreds of owners operate 1,781 full-power commercial and noncommercial television broadcast stations nationwide. FCC News Release, "Broadcast Station Totals as of December 31, 2010" (Feb. 11, 2011). Ownership in the broadcast television industry is even more diverse and dispersed when Class A and low power television stations are considered.

uses.[22] There are public interest costs and potential consumer harms to reallocating spectrum away from the nation's free, over-the-air television service to the providers of pay services (including pay mobile video services that would compete with broadcasters' mobile DTV service). The Commission should fully consider these potentially serious harms to diversity and competition in video services, including mobile, and any resultant consumer harms.[23] Indeed, recent reports have shown that consumers are increasingly interested in free television services, as some "cut the cord" with pay television providers and choose to rely on over-the-air digital broadcast television, supplemented with on-line video.[24]

Fourth, the FCC should explore other means of expanding broadband access. For example, according to one recent analysis, a widely shared view among economists is that the Commission should provide for flexible spectrum usage rights and secondary spectrum markets.[25] These approaches and others not only merit consideration, the Commission should host "brainstorming" sessions involving academics, economists, engineers, policymakers,

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[22] *See* Mobile Broadband Spectrum Forecast at n. 9. Note that the Forecast was undertaken and released six months after the NBP itself. In other words, the Forecast was not a premise for the NBP; it was a post-hoc rationalization for the NBP.

[23] As NAB and MSTV have noted, "[t]here is important value in preserving a free TV alternative for all Americans, so that those who cannot afford or choose not to subscribe to pay-TV services are not forced to take them." Broadcasting and the Broadband Future at 6. Certain groups in particular rely heavily on free, over-the-air television services. *See* NAB Future of Media Comments at 6-7 (citing studies showing that low income viewers, the elderly and minority groups rely most heavily on free, over-the-air television broadcasting and showing specifically that local television news is especially important to older Americans, women and African-Americans).

[24] *See, e.g.*, Matt Richtel and Jenna Wortham, "Rabbit Ears Perk Up for Free HDTV," *The New York Times* (Dec. 5, 2010); Rob Pegoraro, "What It's Like to Cut the Cord and Stop Paying for TV," *Washington Post* (Feb. 4, 2011).

[25] Jeffrey A. Eisenach, "Spectrum Reallocation and the National Broadband Plan" (Working Draft October 2010) (prepared for Verizon Communications), at 2-3 and 9-10.

business leaders and others to develop even more approaches. The public deserves to be the beneficiary of such creative thinking.

In fact, Commissioner McDowell has already identified some of the key questions at issue:

> I've been a longtime proponent of encouraging broadcasters to lease some of their spectrum for wireless broadband purposes, and now is the time to dig into this concept seriously. How would this approach work in the context of increasing the availability of wireless broadband? What are the technical issues, as well as the business feasibility issues? Would this approach be a faster means of getting more spectrum for broadband into the marketplace than the channel-sharing concept?[26]

Commissioner Baker also has recommended "a fulsome discussion on additional innovative proposals to address sharing of broadband and broadcast in the TV bands, including the possibility of a broadcast transition from MPEG-2 to MPEG-4, the adoption of a more cellularized broadcast system, or a transition from ATSC to OFDM technologies."[27] While NAB and MSTV may not endorse all these ideas, we agree with Commissioners McDowell and Baker that these important technical and spectrum issues need further study and deserve full discussion and debate before irreparable broadcast spectrum decisions are made. Spectrum reallocation is not a cure-all and may have serious costs. An approach designed to meet broadband needs of the future must consider all available alternatives.

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[26] NPRM, Statement of Commissioner McDowell.

[27] NPRM, Statement of Commissioner Baker (adding, "we also should ask additional questions about the future applicability of public interest obligations on broadcast licensees. If the TV bands are to shift towards a more flexible spectrum model, it is only right to ask whether those use restrictions should also be revisited"). Indeed, the FCC has acknowledged that its regulatory restrictions have "limited [broadcasters'] flexibility to evolve their business model or industry structure over time in response to changing consumer preferences and habits." OBI, Technical Paper No. 3, "Spectrum Analysis: Options for Broadcast Spectrum" (June 2010), at 10.

Fifth, and finally, the FCC should identify and seek comment on all of its interrelated proposals and explore the impact of the plan on the public's access to existing and expanded services provided by broadcasters who do not choose to relinquish spectrum. For example, how are the three issues on which the Commission seeks comment in this NPRM related to potential future notice(s) on issues such as repacking and incentive auction procedures for broadcasters who choose to relinquish their spectrum, share channels, or relocate to the VHF band?[28] As a critical step, the Commission should release its Allotment Optimization Model, which will be used to design a repacking plan, and the results of its spectrum studies using this model. This and other core components of the Commission's spectrum reallocation plans need to be tested in the crucible of public discourse before the Commission moves forward with spectrum reallocation.

C. The Commission Should Recognize And Preserve The Value Of The Public's Television Service And Hold Harmless Broadcasters Who Wish To Remain Engaged In Local Broadcasting.

Until recently, the rhetoric about broadband implementation has focused almost exclusively on the implications for broadcasters who may wish to surrender their spectrum for auction by the FCC to wireless broadband operators. Bills introduced in Congress going back to July 2010 have focused on the need for this process to be voluntary, and not merely superficially so.[29] NAB and MSTV have stated repeatedly that we do not oppose truly voluntary incentive

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[28] *See* William Lake, Chief, Media Bureau, "Incentive Auctions: New Options for Broadcasters" (March 2011) ("Incentive Auctions Presentation") (presentation during which Mr. Lake has acknowledged that the Commission must address and will be seeking public comment on these issues).

[29] *See, e.g.*, the Barrow bill, H.R.911, *supra* n. 19; the Rockefeller bill (the "Public Safety Spectrum and Wireless Innovation Act"), S.28, 112th Cong. (2011); and the Boucher/Stearns bill (the "Voluntary Incentive Auctions Act of 2010"), H.R.5947, 111th Cong. (2010).

auctions. But, a key question remains: what is truly voluntary? For example, is it voluntary if those who do not participate in an auction would face new, higher spectrum fees? Similarly, is it voluntary if non-participating broadcasters would suffer diluted critical interference and coverage area protections? Such a specter could well have the effect of driving broadcasters to surrender spectrum against their will. Congressional proposals consistently have stressed that the process must be *truly* voluntary and must take into account these indirect mechanisms that could coerce broadcasters into surrendering their spectrum.

The value of free over-the-air television broadcasting to consumers, much of which is ignored by conventional economic analysis,[30] is not static. As an initial matter, any valuation of broadcasting must recognize that the public relies on television stations for local journalism and other locally-oriented services to an increasing degree as local newspapers cease operations or cut back on their services in order to survive.[31] Moreover, an assessment of that value must take into account recent, prospective, and longer-term innovations that broadcasters are offering to viewers, including high-definition television, multicast services, and mobile DTV.

By the end of 2010, the total number of digital channels provided by broadcasters (including HD channels, multicast channels, and mobile DTV channels) "jumped to 2,518"—more than double the number of broadcast offerings available before 2008.[32] Broadcasters are

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[30] Broadcasting and the Broadband Future at Section I. In these comments, we explained that the public's television broadcast service produces substantial public goods that benefit all Americans. Among the many, but difficult to quantify, benefits of our country's system of television broadcasting are that it is free, universal, local, innovative, public service-oriented, diverse and supportive of local commerce.

[31] *See* Future of Media Comments at 2-3, 6, and n. 150.

[32] Justin Nielson, "TV Stations Multiplatform Analysis '11 Update: Multicasting Expands Programming Options, Mobile DTV Goes Live," *Broadcast Investor* (SNL Kagan, Jan. 27, 2011).

offering an ever-increasing number of multicast services.[33] And, as noted by the Open Mobile Video Coalition ("OMVC"), over 70 stations have already commenced mobile DTV service.[34] OMVC's recent DC Consumer Showcase showed significant consumer demand for mobile DTV, particularly focusing on the ability to watch local broadcasters' live, local news. Participants cited the ability to receive emergency information and information on other breaking news events.[35] Furthermore, Mobile Content Venture ("MCV") has announced plans to provide mobile DTV to 40% of the population in the U.S. by the end of the year.[36] When the MCV service launches, it will consist of at least two ad-supported, free-to-consumer channels in each DMA, including Fox and NBC programming in each of 20 markets, with additional channels and markets added throughout 2011.[37]

The Commission's deliberations accordingly must focus on potential harms to consumers who wish to view local broadcast services and to the broadcasters who serve those

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[33] "At the end of 2008… roughly one-third were delivering programming on a secondary digital channel. After the digital switchover June 12, 2009, that figure grew to more than 60% of all full-power TV stations broadcasting content on secondary channels or multicasting…. As of the end of 2010, that percentage of commercial multicasting stations has increased to 71%... doubling the channel options for viewers with 1,240 additional digital channels, of which 142 are Spanish-language network affiliates." *Id.*

[34] Comments of OMVC, ET Docket No. 10-235 (March 18, 2011) at 5.

[35] *Id.* at 6. Reports coming out of Japan in the wake of the recent earthquake and tsunami indicate that while voice and data services were unavailable, Japan's mobile DTV service remained in service and a critical source of information. *See* Live Blog: Japan Earthquake, *The Wall Street Journal* (March 11, 2011, 8:06 a.m. posting of Chester Dawson) ("Unable to use cellphones, many used their smartphones to tune into television broadcasts and find out what had happened. 'It's very convenient being able to watch live TV when the phones are down,' said Minori Naito, an employee of Royal Bank of Scotland in Tokyo. 'Otherwise, we'd have no idea what is going on.'").

[36] MCV, "Markets," available online at http://www.themcv.com/markets. "MCV expects the service to be offered in New York, Los Angeles, Chicago, Philadelphia, San Francisco, Dallas, Washington D.C., Atlanta, Houston, Detroit, Tampa, Phoenix, Minneapolis, Orlando, Portland, Cincinnati, Greenville, West Palm Beach, Birmingham, and Knoxville." *Id.*

[37] MCV, "About," available online at http://www.themcv.com/about-mcv.

viewers, both as they have in the past and in the enhanced and innovative ways that they will be able to do in the future. This NPRM makes a partial start at addressing the consequences of spectrum reallocation for broadcasters who want to continue broadcasting. Specifically, it asks about co-primary status between broadcasters that remain in the band and new wireless operators that wish to enter the band; channel sharing; and VHF improvements. But not mentioned in this NPRM, and presumably left to later proceedings, are other integrally related issues, including: whether there is an alternative to involuntary repacking that would not harm the public's remaining broadcast stations and the viewers that rely upon them; what the impact of involuntary repacking would be on service areas and interference protections and on the public's access to broadcast services; the interplay of repacking with an incentive auction; the effect that implementing such proposals might have on media ownership and diversity; and the viability of reallocating substantial amounts of spectrum from the broadcasting bands.[38] Would there be unnecessary disruption for television viewers in rural areas from nationwide channel clearing? Is it possible or desirable to have regional plans? As noted above, putting "best minds" together in a Commission-convened brainstorming session could prove invaluable.

II. SPECIFIC ISSUES RAISED IN THIS NPRM

In this Section, NAB and MSTV comment on the three proposals identified in the NPRM: (a) co-primary status for broadcasting and wireless broadband operations in the

[38] Although the NBP proposed reallocating 120 MHz of television spectrum to wireless use, data provided by the FCC have shown this amount is not achievable through repacking. *See OBI Technical Paper No. 3, supra* n. 11. The technical studies contained in the *OBI Technical Paper No. 3* suggest that repacking could recover only 6 MHz of spectrum and that forced channel sharing would recover only 60 MHz under current treaty obligations with Canada and Mexico. These reallocations also would result in significant population and service area losses. The results also did not account for the impact on Class A television stations and their viewers. *See OBI Technical Paper No. 3* at 17-18 and Exhibits G and H.

television band, (b) voluntary channel sharing, and (c) VHF improvements. As noted below, certain questions that have been posed by the Commission in the NPRM can only be addressed properly in the context of the Commission's broader proposals, which have not yet been released for public comment.

A. Co-Primary Spectrum Allocation Across All The Television Bands By Fixed And Mobile Services Is Problematic.

In paragraphs 16 and 17, the NPRM asks about reallocation and co-primary status for broadcast and wireless services in the UHF and VHF bands (excluding Channel 37). Presumably the Commission would take these steps to make spectrum currently used for broadcast television available for wireless uses as well as for broadcast service to the public.[39] However, it is not clear from the NPRM what specific steps the Commission has in mind or what consequences could flow from them. For example, how could such a reallocation affect the status of broadcasters' future innovations and new uses of their spectrum and what interference rights would broadcasters have vis-à-vis wireless operations?[40] Depending on this information, permitting new co-primary wireless operations in the same bands used for free local television service could result in substantial television service losses to the public due to interference from the new wireless services and the disruption of repacking. This set of knotty practical problems illustrates why the Commission should not act on one piece of the overall picture—reallocation and co-primary status—independent of tackling the interrelated issues of repacking and auctions.

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[39] NPRM at para. 16.

[40] CTIA recently filed a petition requesting restrictions on the use of TV channel 51 illustrating that interference protection is likely to be an issue. The petition seeks a limitation on spectrum currently allocated exclusively to television broadcasting, in order to provide more flexibility for the implementation of future wireless operations in adjacent spectrum. Petition for Rulemaking and Request for Licensing Freezes by CTIA - The Wireless Association and Rural Cellular Association, Docket No. ____ (March 15, 2011).

Indeed, it makes more sense to see what the bands may look like after any repacking and then decide the co-primary issues.

Public statements by Commission officials indicate that the Commission has in mind—after conducting an incentive auction—providing wireless operations on contiguous channels in the upper portion of the UHF band. Accordingly, all television stations would be repacked into the lower range of the current television bands (up to a midpoint in the UHF band).[41] These statements suggest that when this stage is reached, there might be separate (not co-primary) allocations for over-the-air television and wireless services. Presumably, where the line of demarcation between the two separate allocations would be drawn would depend on how much spectrum broadcasters voluntarily surrender for auctioning and the configuration resulting from the repacking process.

This repacking approach also presumes that wireless broadband providers must obtain an exclusive swath of new spectrum (apart from spectrum that would continue to be allocated for broadcasting) that is a single contiguous block across the country. But nothing in the record indicates that the Commission has examined, or that its task force examined, the alternative of providing wireless operators with access to the broadcast spectrum in regional blocks[42] or on an interleaved basis,[43] subject to effective protections against interference from

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[41] Recent presentations indicate that the FCC does not plan to forcibly repack stations now operating in the UHF band into the VHF band. Stations moving from the UHF to the VHF band would do so voluntarily. *See* Incentive Auctions Presentation at slides 6, 9, and 12.

[42] Available spectrum as well as capacity constraints on wireless providers are not uniform nationwide. They are clearly more pronounced in urban areas, especially the Northeast, than in rural areas. This suggests that a single contiguous nationwide block of reallocated spectrum may not be necessary or even more appropriate than a regional reallocation approach.

[43] In other words, wireless operators would use "vacant" channels in Washington and different "vacant" channels in Baltimore.

wireless operations to broadcast services. With dynamic radio technologies continuing to evolve, an interleaved allocation plan can at least be theorized that might meet wireless demands for additional spectrum in the future and avoid the costs, complexities, inefficiencies, delays and service losses to the public that likely would result from the co-primary scenario that the Commission has proposed.[44] While NAB and MSTV do not, at this time, endorse a specific approach, it is clear that no reallocation decisions should be made without careful examination and better definition of what is envisioned under all of these approaches.

B. Voluntary Channel Sharing Issues Are Numerous And Complex And Generally Should Be Sorted Out In Private Negotiations Amongst The Participating Parties.

The Commission also is seeking comment on its proposal to permit "broadcast stations an opportunity to voluntarily elect to share a channel."[45] This too is an example of a proposal that is interrelated with other proposals, most notably the voluntary incentive auctions that the NBP proposed and Commission staff has begun exploring. For example, how will stations that agree to share channels be "paired" with their sharing partners? Will this be done voluntarily by the stations in the sharing arrangement or will the FCC seek to assign partners? Will auction proceeds be shared among stations that are willing to share a channel? Because there are so many unknowns at this stage in the process, it is difficult to comment on channel-sharing as if it were a freestanding proposal that can be considered in isolation. The

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[44] The television "white spaces," 5 GHz spectrum, and 3650-3700 MHz bands are all subject to dynamic spectrum use rules. The Commission also has issued a Notice of Inquiry concerning ways to spur development of dynamic spectrum access techniques and to expand the use of dynamic spectrum access. *Promoting More Efficient Use of Spectrum Through Dynamic Spectrum Use Technologies*, Notice of Inquiry, ET Docket No. 10-237, 25 FCC Rcd 16632 (rel. Nov. 30, 2010). Initial comments in that proceeding appear to confirm the effectiveness and cost efficiencies of these techniques.

[45] NPRM at para. 18.

Commission's proposals with respect to channel-sharing need to be fully and specifically set forth, and an integral part of these proposals pertains to the procedures that the Commission may employ in the event that it obtains incentive auction authority.

As numerous technical experts noted at the Commission-sponsored Broadcast Engineering Forum on June 25, 2010, and as the Commission acknowledged in this NPRM, channel sharing raises numerous complications, such as those concerning coverage disparities, allocation of costs, access to and management of common facilities, and the capacity of each participating station to offer high definition programming, mobile DTV, multicast and other innovative services.[46] These issues are best sorted out in private negotiations among the participating parties, and the Commission should not intrude into the arrangements that stations make to address them. For these and other reasons, such as the complexities surrounding alienability of licenses once stations have entered into a channel-sharing arrangement, we agree with the Commission that any channel sharing construct must be voluntary.[47]

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[46] *Id.* at para. 19. The Commission has not, as a matter of public record, made any proposal for, or sought any comment on, how spectrum freed up by a sharing arrangement would be auctioned and how the broadcasters' share of the auction proceeds would be allocated between them. Consistent with the principle of private-market flexibility (which would promote efficiency, benefit the public and attract more participants to the auctions), stations interested in channel sharing should be permitted and probably encouraged to work out these arrangements beforehand. For example (one of many possible examples), if one station wants to have access to 70% of the shared channel's capacity and wishes to partner with another station that is willing to operate on 30% of the shared channel's capacity, they should be allowed to enter such an arrangement and determine the share of the auction proceeds (not retained by the federal government) that each would receive. The Commission should adopt an appropriate procedure for examining such issues.

[47] *See, e.g., id.* at para. 15 (noting that the proposal "would allow a television service licensee to voluntarily reduce its occupation of spectrum by offering to operate on a shared six megahertz channel"); *id.* at para. 18 (seeking comment on "the development of an appropriate regulatory structure for voluntary television channel sharing").

In addition, NAB and MSTV support the Commission's conclusion that, should stations choose to share a channel, each station would retain its must-carry rights for its primary signal.[48] As a general matter, the Commission should make clear that a station entering into a channel-sharing arrangement would remain a separately licensed entity and retain all rights and protections afforded to any broadcast television licensee, whether it is the sole occupant of a channel or operating on a shared-channel basis.[49] Stations that agree to channel-share should not forfeit any of the rights and protections they historically enjoyed. This is the approach that the Commission properly used in connection with the digital transition, whereby it preserved stations' rights and protections for their new digital operations and promoted stations' ability to continue serving their communities.

C. The Proposed VHF Improvements Offer Only Limited Benefits.

In the NPRM, the Commission recognized the serious challenges facing broadcasters in the VHF spectrum band. The Commission acknowledged that "the propagation characteristics of these channels allow undesired signals and noise to be receivable at relatively farther distances, nearby electrical devices tends to emit noise in this band that can cause interference, and reception of VHF signals requires physically larger antennas that are generally not well suited to the mobile applications expected under flexible use, relative to UHF channels."[50] The Commission recognized that the technical experts who participated in the FCC's Broadcast Engineering Forum on June 25, 2010, concluded that it is not realistic to assume that VHF reception can be improved significantly in all cases, especially in the low VHF

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[48] *Id*. at para. 21 and paras. 30 *et seq*.

[49] *Cf*. 47 C.F.R. § 73.1715, which contemplates that the parties to share-time arrangements will each be separately licensed.

[50] NPRM at para. 42.

band.[51] Nevertheless, the NPRM proposed several mechanisms that the Commission suggests could improve VHF service, such as increasing power for VHF stations in Zone I and requiring all indoor antennas to meet certain performance standards, including for the reception of VHF stations.[52]

We appreciate the effort put into developing these proposals. However, we believe that, while some of the Commission's proposals could improve VHF reception in particular cases, neither individually nor in combination would they solve the basic service inequities of the VHF band relative to the UHF band for both regular digital broadcast services and for new mobile DTV services. Indeed, in some cases, these proposals could cause additional interference to the operations of other television stations and to the service received by the public.

The NPRM proposes to increase the nominal maximum effective radiated power ("ERP") for low VHF stations in Zone I to 40 kW and to 120 kW for high VHF stations in Zone I, stating that increasing ERP will improve signal-to-noise ratios for reception of those stations.[53] Power increases for low VHF stations are unlikely to yield adequate improvements in reception of local television service, because the power increases needed to overcome reception problems often will not be practical to implement or will not be sufficient to resolve coverage anomalies.[54]

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[51] *Id.* at para. 45.

[52] *Id.* at paras. 48 and 54-55.

[53] *Id.* at para. 48. The maximum power limits would be lower for stations with antenna height above average terrain greater than 350 meters. The geographic area included within Zone I is specified in 47 C.F.R. § 73.609 and shown in Figure 1 of § 73.699.

[54] At the public session of the Broadcast Engineering Forum hosted by the FCC on June 25, 2010, engineers and technical experts noted that improving low VHF reception would need a 15 to 20 dB increase in transmission power to reduce the DTV reception issues in that band and that a 20 dB increase in power would be impractical. They concluded that improving high VHF (continued…)

In the case of high VHF stations, power increases may in some cases yield meaningful improvements in reception. In other cases, these power increases will result in substantially increased interference to other stations, and the Commission would need to scrutinize each proposal to ensure that it generates net service gains without undue interference to other stations. Overall, power increases are not a panacea.

These recognized and substantial problems with VHF reception provide another example why a cohesive approach is needed to address all of the broadcaster-related issues associated with the reallocation of broadcast spectrum. Problematic VHF reception, mitigated only in limited fashion by the VHF improvement proposals in the NPRM, raises serious issues with regard to repacking. For this reason, we appreciate assurances made by Chairman Genachowski that no UHF stations will be forced to move to the VHF band during a channel repacking process and that no high VHF stations will be forced to move to the low VHF band.[55] We believe that these assurances should be adopted by the Commission.

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reception would need a 10 dB or more increase in transmission power to reduce the DTV reception issues in that band and a 10 dB power increase would be difficult but technically "doable." However, even this more modest increase may not be practical in many cases due to interference to other stations. Copies of the presentations made by the working groups are available online at http://reboot.fcc.gov/workshops/broadcast-engineering-forum. As an illustration of a case where a power increase could not resolve VHF reception issues, *see Amendment of Section 73.622(I), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Nashville, Tennessee)*, Notice of Proposed Rulemaking, MB Docket No. 11-29, DA 11-335 (Feb. 2011) (proposing channel change for WTVF(TV), Nashville, Tennessee, from channel 5 to 25, in light of a severe service losses in the 15-mile core service area surrounding the station's transmitter site).

[55] *See* "The Clock is Ticking," Chairman Genachowski Remarks on Broadband at the Mobile Future Forum in Washington, D.C. (March 16, 2011). *See also* Remarks by William Lake, Chief, Media Bureau, FCC, to the National Alliance of State Broadcaster Associations (Feb. 28, 2011), at 9 (stating that the FCC has no plan to force broadcasters to move into the VHF band); *id.* at 7 (describing proposal whereby a broadcaster could agree to move to the VHF band from the UHF band on a voluntary basis and contingent on satisfaction of a reserve price); Incentive Auctions Presentation at slides 6, 9, and 12.

In the NPRM, the Commission also stated that it was considering "establishing standards to ensure that indoor antennas are effective for low-VHF channel reception."[56] As an initial matter, a substantial number of markets in the United States are served only by UHF stations. In these all-UHF markets, an all-band antenna requirement would require consumers to absorb the costs of VHF capability when purchasing new antennas, even though they are not served by local VHF stations. Moreover, the noise problem significantly affecting VHF reception cannot be resolved by antenna standards. It would be more effective for the FCC to protect the "gap filling" UHF translators used by some VHF stations to improve reception, especially in urban areas.

NAB and MSTV support an approach that emphasizes consumer education. Specifically, the Commission should explore mandatory labeling of antennas. The label would advise consumers of the bands that the antenna can receive (*e.g.*, UHF, high VHF, low VHF), subject to agreed industry performance criteria, thereby informing consumers of the antenna's suitability for their situations without requiring them to purchase unnecessary reception capability. The Commission also should continue to support resources that help consumers understand relevant factors in antenna selection and installation. Finally, the Commission should require a standardized measurement procedure and metrics for claiming adequate performance in the different TV frequency bands. Antenna manufacturers currently do not observe uniform test procedures and acceptability criteria, and it is currently possible for an antenna manufacturer to

[56] NPRM at para. 54. *See also* VHF Reception Panel presentation, June 25, 2010, FCC Broadcast Engineering Forum, available at http://reboot.fcc.gov/workshops/broadcast-engineering-forum.

state that a given antenna receives, *e.g.*, high VHF signals, when the antenna's high VHF performance actually is inadequate.

III. CONCLUSION

NAB and MSTV pledge to continue working with the Commission to address all issues discussed above. We do not oppose a spectrum approach, including an incentive auction, that is voluntary in all important respects and that promotes viewers' interests and fairly treats broadcasters who wish to continue to provide and enhance the public's broadcast services in the future. This NPRM is a desirable first step. In these comments we suggest additional necessary steps. The public has much at stake in this process. As the Commission has acknowledged, the free, over-the-air broadcast television service provides the American public with a "diversity of local voices and important informational and entertainment benefits."[57] Its opportunity for future growth and innovation also should be preserved.

[57] NPRM at para. 13.

Respectfully submitted,

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