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## SUMMARY

In reply to the comments submitted in this proceeding, the Association for Maximum Service Television, Inc. (“MSTV”) and the National Association of Broadcasters (“NAB”), representing the broadcaster community, wish to emphasize the following points:

### **Market-Oriented Allocation and Assignment Mechanisms**

- Commenters broadly concur that no single policy, such as reliance on markets, can offer a public interest maximizing solution for every band and service. Allocation policy must be driven by the public interest, which may vary across bands and services.
- Several other commenters joined NAB and MSTV in rejecting allocation by auction, and in pointing out the shortcomings of other market-oriented policies – such as assigning a dollar value to spectrum – that inevitably undervalue certain public interest benefits.
- The suggestion by the Cellular Telecommunications and Internet Association (“CTIA”) to identify “underutilized” spectrum through an independent review process is unworkable. It is impossible to define “underutilization” across services in consistent public interest terms. Moreover, constant reassessment of settled allocations would deter investment.
- The Society of Broadcast Engineers has correctly pointed out that a market-driven allocation policy raises special challenges for valuable BAS services.
- Several commenters echoed the concerns expressed by MSTV and NAB regarding the technical problems associated with allocations that group together incompatible service characteristics. Lack of control is the fundamental problem in such allocations.
- Broadcasters disagree with commercial wireless and handset industry commenters who oppose flexibility for incumbents in other industries. Comments from various industries reflect the importance of incumbent flexibility to innovation and service evolution.
- The Commission must be wary of shared allocations, which often result in interference and can destroy more value than they create. The filed comments highlight the dangers posed by shared spectrum allocations.

### **Interference Protection**

- The comments confirm that sound spectrum policy depends on the ability of parties to rely on stable, secure, and well-enforced rules designed to eliminate the risk of harmful interference and to protect investment.
- The comments reflect a consensus in favor of MSTV and NAB’s position that there is an urgent need for the Commission to enforce clearly-defined interference rules.

### **Spectrum Efficiency**

- It is overwhelmingly clear from the comments that, at a minimum, efficiency standards must adjust for particular service constraints, as MSTV and NAB suggested in our comments.
- The broadcast industry is setting a new standard for spectral efficiency; contrary to a proposal by CTIA, it requires no Commission-imposed incentives to continue doing so.

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Spectrum Policy Task Force	)	DA 02-1311
Seeks Public Comment on Issues	)	ET Docket No. 02-135
Related to Commission's	)	
Spectrum Policies	)	
	)	

To: The Commission

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

The comments in this proceeding reflect the diversity of public interest concerns touched by spectrum policy, as well as the impossibility of devising a single theory or approach capable of maximizing the public interest across every band and service. Maximizing the public interest in the context of diverse needs, services, and technical constraints is the Commission's statutory duty; this proceeding evaluates policies that the Commission might look to in carrying out that duty. In furtherance of that evaluation, the Association for Maximum Service Television, Inc. ("MSTV") and the National Association of Broadcasters ("NAB") wish to highlight key public interest issues emerging from the comments in this proceeding.

**I. MARKET-ORIENTED ALLOCATION AND ASSIGNMENT POLICIES**

**A. There Is No "One-Size-Fits-All" Solution.**

Numerous commenters across a wide range of industries shared the view taken by MSTV and NAB<sup>1</sup> that no single set of policies provides a public interest maximizing solution for

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<sup>1</sup> See Joint Comments of the Association for Maximum Service Television, Inc. and the National

every band or service. Parties offering thoughtful comments on this point included, among others, the American Petroleum Institute,<sup>2</sup> Boeing,<sup>3</sup> and the Information Technology Industry Council (“ITI”).<sup>4</sup> The few parties that envisioned a single, unvarying policy for all spectrum<sup>5</sup> are disregarding the complex realities of different services, and projecting from their particular circumstances. The comments clearly suggest that the Task Force should begin its evaluation from the premise that spectrum policy must vary according to the particular features of diverse services and bands.

**B. Market Forces Alone Do Not Adequately Reflect The Public Interest In Spectrum Allocation.**

Many commenters agreed that allocation policy must be driven by the public interest, and that economic factors should have no greater presumptive importance in this process

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Association of Broadcasters, ET Docket No. 02-135, at 3.

<sup>2</sup> Comments of the American Petroleum Institute, ET Docket No. 02-135, at 6 (“API Comments”) (“Technological, operational, geographical, and various user-related considerations all affect use of the spectrum; some of these issues will weigh more heavily than others depending on the spectrum band. It is, therefore, unavoidable that spectrum policy must be adapted appropriately to meet different circumstances.”).

<sup>3</sup> Comments of the Boeing Company, ET Docket No. 02-135, at 3, 12 (“[T]he Commission cannot adopt a one-size-fits-all approach to spectrum flexibility and the use of market-oriented allocation policies. The Commission must instead continue to review the unique circumstances, goals and purposes of each radio communications service in order to determine whether additional flexibility and market-oriented structures can be adopted.”).

<sup>4</sup> Comments of The Information Technology Industry Council, ET Docket No. 02-135, at 3 (“ITI Comments”) (“[T]here is no ‘silver bullet’ for spectrum management. There is no single set of rules, or a single approach, that is appropriate for all bands and services. The way spectrum is used, and will continue to be used, is simply too varied for any one management tool to serve the public interest.”).

<sup>5</sup> See, e.g., Ex Parte Comments of AT&T Wireless Services, Inc., ET Docket No. 02-135, at 11 (“AWS Ex Parte Comments”) (opposing adoption of different allocation and assignment policies for different portions of the spectrum); Comments of Winstar Communications LLC, ET Docket No. 02-135, at 5 (same).

than other public interest factors.<sup>6</sup> Broadcasters strongly support this view. Economic considerations are an important factor to consider in assessing the public interest in particular allocations, but they are only one of many factors that the Commission must weigh.

**1. Allocation by auction would be both unlawful and unwise.**

The Task Force should recognize that the Commission lacks the legal authority to engage in allocation by auction.<sup>7</sup> Multiple commenters pointed out that an allocation-by-auction approach would also be inconsistent with the public interest. For example, a prominent wireless service provider noted that allocation by auction “could lead to chaos,”<sup>8</sup> and a prominent satellite service provider urged the Commission to avoid any such approach.<sup>9</sup> As the Telecommunications Industry Association (“TIA”) points out, “[w]hile auctions may be an effective license assignment tool, they are not a substitute for sound spectrum allocation decisions.”<sup>10</sup> MSTV and NAB agree with these views on the dangers inherent in any allocation policy that amounts to allocation by auction.

**2. Many commenters agreed that market mechanisms undervalue important public interest benefits.**

Large numbers of commenters correctly observed that market mechanisms disregard certain important public interest benefits, and therefore cannot take the place of a reasoned assessment of the public interest.

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<sup>6</sup> See, e.g., Boeing Comments at 4-11.

<sup>7</sup> See Joint MSTV and NAB Comments at 3-4.

<sup>8</sup> AWS Ex Parte Comments at 4.

<sup>9</sup> Comments of Hughes Network Systems, Inc., ET Docket No. 02-135, at 13 (“HNS Comments”) (“[A] free-for-all process for allocating spectrum without any long-term planning for different services would likely result in the entire spectrum being used for devices that can be rolled out in the short-term and without the need to develop complex technology.”).

<sup>10</sup> Comments of the Telecommunications Industry Association, ET Docket No. 02-135, at 5.

- Public safety commenters expressed concern that market-oriented policies would undervalue public safety communications.<sup>11</sup>
- Noncommercial broadcasters pointed out that “where there is a market failure for the distribution of certain public goods, or where it is necessary to implement specific congressional policy choices that are not market-driven and may be unrelated to the advancement of competition, government intervention in markets may be necessary.”<sup>12</sup>
- Representatives of the satellite and aircraft industries warned that auctions were likely to distort the public interest by giving an edge to industries with lower upfront costs,<sup>13</sup> and by ignoring important public interest factors.<sup>14</sup>
- Critical infrastructure providers argued that market-based policies would not be appropriate for most private wireless licensees.<sup>15</sup>
- Broadcasters explained that market mechanisms would undervalue the public interest benefits of free, over-the-air broadcasting.<sup>16</sup>

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<sup>11</sup> Comments of APCO, ET Docket No. 02-135, at 3 (arguing that “a public safety entity cannot place a price on the potential life-saving benefits of communicating effectively with police, fire, EMS and other public safety personnel in the field”).

<sup>12</sup> Comments of the Association of Public Television Stations, ET Docket No. 02-135, at 2-3. *See also* Comments of National Public Radio, ET Docket No. 02-135, at 6 (“NPR Comments”).

<sup>13</sup> *See, e.g.*, HNS Comments, ET Docket No. 02-135, at 13 (arguing that “[s]ervices that take more time to develop would be valued less in an auction, due to the need to take into account the present value of a particular spectrum use that may not be feasible for a number of years,” and pointing out that society recognizes “legitimate social benefits that are derived from other uses of the spectrum,” including “a variety of satellite-based services”).

<sup>14</sup> Boeing Comments at 4 (“[A]uctions are incapable of furthering public safety, social welfare, and other public interest goals.”).

<sup>15</sup> API Comments at iii.

In view of these comments, the Task Force should acknowledge the limitations of market mechanisms, and in particular the failure of such mechanisms to account for many vital public interest benefits.

**3. Neither the Task Force nor the Commission can reliably assess the “true value” of spectrum.**

The view that the Commission can “determine the true value of spectrum” and attribute that value to the spectrum like a price tag,<sup>17</sup> is inevitably flawed in either of two ways. Either it assumes that a dollar value can be assigned to every aspect of the public interest through some sort of regulatory divination, which other commenters demonstrate is false,<sup>18</sup> or it makes the equally false assumption that all non-pecuniary elements of the public interest deserve a presumptive value of zero. The Task Force should recognize the short-sightedness of any approach that uses dollars as a proxy for the public interest, or discounts any public interest considerations.

Furthermore, the claim that there can be one uniform way to assess the value of and need for spectrum fails because wide variations in intensity of use and demand are not necessarily reflected in market decisions. Broadcast Auxiliary Service (“BAS”) spectrum, for example, may be lightly used during certain day-parts when news events and the news cycle do not produce great demand for spectrum. However, when demand for BAS spectrum surges – when an important news story breaks or during evening newscasts, for example – the relative importance and intensity of use of BAS spectrum increases greatly. Also, the intensity of broadcast spectrum use is illustrated by the fact that it is providing a free service to millions of

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<sup>16</sup> See Joint MSTV and NAB Comments at 4-5.

<sup>17</sup> See Comments of Ericsson Inc, ET Docket No. 02-135, at 5.

<sup>18</sup> See, e.g., APCO Comments at 3.

consumers 24 hours a day, seven days a week. Intensity is therefore a crucial element in evaluating spectrum's value, but one that would be impossible to quantify reliably and consistently.

**4. The Commission must not offload its allocation responsibility to an outside review panel.**

Broadcasters oppose the suggestion by the Cellular Telecommunications and Internet Association ("CTIA") to identify blocks of "underutilized" commercial spectrum for possible reallocation away from their present users through an ongoing, independent review process, similar to that used for military bases.<sup>19</sup> Barring a technological revolution, there is simply no way to make hard spectrum policy decisions go away. CTIA's proposal would only exacerbate the problem, undermining the public interest in spectrum allocation in several important ways.

First, when comparing different services, it is impossible to define "underutilization." Such a decision necessarily involves public interest judgments regarding the public interest value of a particular service. There is no question that the concept of "underutilization" cannot be defined simply in terms of economic cost-benefit analysis.

Second, CTIA's plan for a continuous review of spectrum usage every three or ten years would undermine investment in communications services by creating significant business uncertainty. Few investors would tolerate the possibility that the spectrum in which a service operated would be constantly examined under threat of reallocation based on an administrative definition of underutilization.

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<sup>19</sup> See Comments of the Cellular Telecommunications and Internet Association, ET Docket No. 02-135, at 5 ("CTIA Comments").

Third, offloading reallocation decisions to an independent panel would amount to an “end-run” on the Commission’s statutory obligation to assess the public interest in every spectrum allocation. Virtually all commercially viable spectrum is presently allocated, so in practice all allocation decisions are reallocation decisions. Thus the panel that CTIA proposes would have first crack at nearly every Commission allocation decision. At best, this could be severely prejudicial. The Commission would feel significant pressure to suspend its own better judgment regarding the public interest and follow the recommendations of supposedly independent expert arbiters. At worst, it could amount to an unlawful abdication of Commission authority, which is vested in the Commission itself and cannot be arbitrarily offloaded to outsiders who lack the Commission’s public accountability.

Fourth, assuming that the panel CTIA refers to must have the statutory public interest standard as its point of reference, just as the Commission does, there is no reason to believe that a panel of academics and other presumed experts could do any better than the Commission at interpreting and applying that standard to determine when commercial spectrum is being underutilized. In the final analysis, there is simply no substitute for the Commission’s own judgment when it comes to the difficult allocation decisions called for in the Communications Act.

**5. Market-oriented policies would undervalue vital Broadcast Auxiliary Service allocations.**

The Society of Broadcast Engineers has correctly pointed out that a market-driven allocation policy raises special challenges for valuable BAS services.<sup>20</sup> MSTV and NAB fully

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<sup>20</sup> Comments of the Society of Broadcast Engineers, ET Docket No. 02-135, at 5 (“SBE Comments”). In spite of extensive user-driven improvements in spectral efficiency, the limited allocations available for BAS have become saturated through a combination of increasing demand and reductions in the BAS allocation at 2 GHz. Coverage of major news and sporting events regularly requires FCC issuance of special temporary authority to use other bands. The

support this view. Broadcast news and sports coverage relies on BAS spectrum for wireless microphones, microwave video relay, wireless RF cameras, and voice and data coordination. We agree that BAS is vitally important, particularly during emergencies, and deserves an allocation sufficient to provide for at least present levels of BAS service.<sup>21</sup> BAS spectrum should not be subject to sharing with incompatible users. In this regard it is worth mentioning that there is still no plan for a BAS/HDTV service.

**6. The Commission has no authority to waive the 85% DTV receiver penetration requirements.**

Two commenters urged that the Commission enforce a firm deadline of December 31, 2006 for incumbent television stations to complete the transition to DTV.<sup>22</sup> Broadcasters look forward to a prompt transition to DTV. However, in light of recent concerns surrounding DTV receivers,<sup>23</sup> the Task Force needs to recognize that the Congress has mandated that the Commission “shall extend” the December 31, 2006 deadline if the statutory 85 percent DTV receiver/converter penetration threshold is not met.<sup>24</sup>

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situation is growing worse, and has reached the point where FCC action is required.

<sup>21</sup> Broadcasters also require additional spectrum dedicated to wireless microphones to accommodate devices that currently operate in UHF channels, but which are being squeezed out of the UHF spectrum as a consequence of the DTV transition. The UHF spectrum has become far more crowded with the addition of DTV service. The loss of channels 60-69, followed by channels 52-59, will further exacerbate the problem.

<sup>22</sup> See Comments of the Office of Chief Technology Officer, Government of the District of Columbia, ET Docket No. 02-135, at 6; Comments of the State of Arizona, ET Docket No. 02-135, at 2.

<sup>23</sup> See *Chairman Michael K. Powell Responds to CE Industry's Failure to Make Real Commitments on DTV Tuners*, Federal Communications Commission News Release (July 12, 2002).

<sup>24</sup> See 47 U.S.C. § 309(j)(14)(B).

**C. Allocations Should Not Group Incompatible Services Together.**

Several commenters echoed the concerns expressed by MSTV and NAB<sup>25</sup> regarding the technical problems associated with allocations that group together incompatible service characteristics.<sup>26</sup> Lack of control is the fundamental problem in such allocations. In the eyes of potential investors, a commercial band open to providers of incompatible services is a train wreck in the making because no single entity controls the destiny of the band. Absent such control, auction participants have no means (short of illegal collusion) to ensure in advance that licensees will offer compatible service models. Knowing the perils of incompatible models, they place little value on the band.<sup>27</sup>

**D. Flexibility Within Properly Defined Allocations Is Sound Policy For All Incumbents.**

Broadcasters disagree with commercial wireless and handset industry commenters who support flexibility for themselves, but oppose it for incumbents in other industries. A number of commercial wireless industry commenters claim that incumbents should not be

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<sup>25</sup> Joint MSTV and NAB Comments at 6-8.

<sup>26</sup> *See, e.g.*, Comments of BellSouth Corporation at 4-5 (noting that bands where many separate entities control transmitters and receivers are not well-suited for flexibility); AWS Ex Parte Comments (noting that a variety of incompatible services in a single band “could delay implementation or severely constrain deployment as interference issues and other issues are worked through,” and describing the failure of the ill-defined WCS allocation). *See also Unlicensed Spectrum Success – Lessons for the Next Chapter in FCC Spectrum Management*, Remarks of FCC Commissioner Kathleen Q. Abernathy at the San Diego Telecom Council (July 18, 2002) (“[G]overnment may itself eschew flexible allocations and service rules in order to prevent harmful interference through some spectrum ‘zoning’ that attempts to group some types of allocations and services together to maximize overall utility.”) [hereinafter Abernathy Unlicensed Spectrum Speech]. *See also* Comments of the Rural Telecommunications Group, ET Docket No. 02-135, at 8 (noting that because there is no clear use for the band in question, overly flexible allocations work against a mass market for equipment and make providing service in rural areas economically unviable).

<sup>27</sup> The “band manager” model provides one relatively new, and potentially promising, approach to resolving this control issue in certain bands. More experience is needed to determine how well this approach works in practice.

granted additional flexibility, and assert that the Commission may take requests for additional flexibility on a retroactive basis as a sign that spectrum should be reallocated.<sup>28</sup> Presumably the commercial wireless industry would not apply the same theory to the analog cellular bands, where commercial wireless service providers themselves seek a retroactive grant of more flexible service rules.<sup>29</sup>

Comments from various industries reflect the across-the-board importance of incumbent flexibility to promoting innovation and service evolution.<sup>30</sup> Arguments against such flexibility boil down to the assertion that the incumbent may not have paid for the right to use its assigned spectrum in additional ways. While this may be a valid concern in some cases, it is neither a universal concern nor a reason stubbornly to deny all incumbents greater flexibility.<sup>31</sup> The key public policy issue should be whether the flexibility amounts to a transformation of the underlying service. In the case of broadcast television, the statutory flexibility provided by relevant provisions of the 1996 Telecommunications Act<sup>32</sup> requires the continued provision of a free, over-the-air channel of service. In other words, the flexibility was not transformative of the underlying broadcast service

In many cases, risks and rewards of potential increased flexibility are “priced in” when licensee entities are purchased on the open market. In other cases, it may be appropriate to

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<sup>28</sup> See, e.g., CTIA Comments at 8; Comments of Cingular Wireless LLC, ET Docket No. 02-135, at 10; AWS Ex Parte Comments at 5.

<sup>29</sup> See, e.g., Cingular Wireless Comments at 34.

<sup>30</sup> See, e.g., ITI Comments at 8; Comments of Mobile Satellite Ventures Subsidiary LLC, ET Docket No. 02-135.

<sup>31</sup> Cf. Abernathy Unlicensed Spectrum Speech, *supra* note 26 (arguing for policymakers to make a “legacy concession” and maximize the public interest going forward, rather than dwelling on whether or not parties had paid for licenses in the past).

<sup>32</sup> 47 U.S.C. § 336.

recover fees from incumbents for subscription-based ancillary or supplementary uses. In any event, issues of remuneration can be resolved based on the circumstances of particular services. Remuneration issues should not stop the Commission from seeking to maximize flexibility for all incumbents within well-defined services. Depriving incumbents in selected services of flexibility would amount to a self-fulfilling prophesy of inefficiency, locking in existing norms at a time when spectrum policy should favor innovation.

## II. INTERFERENCE PROTECTION

Interference from spectrum sharing and from the cumulative addition of new sources threatens the value of the spectrum resource. The comments strongly support the view that, regardless of the approach used by the Commission with respect to allocation and assignment of spectrum, the Commission must effectively protect licensees from interference.<sup>33</sup>

### A. Shared Allocations Can Easily Destroy More Value Than They Create.

The Commission must be wary of shared allocations, which often result in interference and can destroy more value than they create. The filed comments highlight the dangers posed by shared spectrum allocations. Cingular notes that shared spectrum allocation “leads to destructive interference and less effective, and possibly detrimental, use of the spectrum.”<sup>34</sup> Sprint notes that spectrum sharing may inhibit incumbent licensees from taking advantage of more spectrally-efficient technologies because of concerns regarding potential

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<sup>33</sup> See Abernathy Unlicensed Spectrum Speech, *supra* note 26 (noting that in performing the tasks of spectrum allocation, establishing service rules, and assigning spectrum use rights, “the FCC also must exercise its *fundamental responsibility to limit harmful interference to spectrum users.*”) (emphasis added).

<sup>34</sup> Cingular Wireless Comments at 6.

interference.<sup>35</sup> Many other commenters agree with MSTV and NAB that incompatible uses of the same spectrum bands increase the risk of destructive interference.

Spectrum allocations are most valuable from an investment perspective when they are defined “free and clear” of potentially interfering uses. Potential licensees are more likely to invest in and develop spectrum if they know that the parameters of the band itself are structured to protect them from interference and encourage similar services.<sup>36</sup> Spectrum allocation should therefore permit flexibility only within defined services, thus ensuring enough certainty of control to limit interference to licensees and consumers.

Some parties unwisely advocate increased spectrum sharing, including auctioning of “overlay” licenses and reassignment of theoretically unused “white space” spectrum.<sup>37</sup> While it might be possible to create theoretical models limiting the interference that overlay services would inevitably create for primary services, broadcasters know all too well that interference theory and interference in the real world are two different propositions. In practice, overlay techniques very often result in unacceptable interference.<sup>38</sup> This happens because the Commission, even with its increasing emphasis on technical expertise, is not in a position to predict fully the harmful interference effects of new technology until it is actually deployed.<sup>39</sup>

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<sup>35</sup> Comments of Sprint Corporation, ET Docket No. 02-135, at 17-21.

<sup>36</sup> See Abernathy Unlicensed Spectrum Speech, *supra* note 26 (“[T]he Commission remains committed to preventing harmful interference. If the Commission is going to create an environment conducive to investment and deployment, we must recognize that service providers and investors need to understand the rules of the interference road.”).

<sup>37</sup> See Comments of Personal Telecommunications Technologies, Inc., ET Docket No. 02-135, at 1 (“PTTI Comments”).

<sup>38</sup> For example, the interference problems faced by public safety operators in the 800 MHz band – the focus of an ongoing proceeding at the Commission – are due in part to interleaving of channels and overlay authorizations. See *Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, FCC 02-81, ¶ 7-9 (rel. Mar. 15, 2002).

<sup>39</sup> See, e.g., *id.* at ¶ 15 (“[T]he interference [to public safety systems from CMRS transmitters]

Moreover, technology constantly changes, making it virtually impossible to predict *ex ante* the cumulative interference caused by a secondary service on the incumbent spectrum user.

Whatever the marginal benefits of spectrum sharing are, they are typically outweighed by the real-world threat that shared allocations pose to the settled, investment-backed expectations of incumbent spectrum users.<sup>40</sup>

In addition, proposals to require spectrum sharing in broadcast bands to make use of spectrum that is currently “unused” would unfairly force consumers continually to subsidize the establishment of a new service through the cost of the receivers. This is the case because spectrum sharing proposals typically rest on the (often unstated) assumption that manufacturers will make, and consumers will acquire, sophisticated new equipment, including receivers that are better able to discriminate between potentially interfering services. Aside from assuming what commercial decision manufacturers will make, such a policy creates a “rolling legacy” problem, as consumers using incumbent services must continually upgrade equipment to prevent interference from new “overlay” or “shared” services. This assumption about consumers may work in closed commercial wireless systems, where licensees can control handset upgrades, but as MSTV and NAB pointed out in our initial comments, the same is not true of broadcasting and other open systems.<sup>41</sup> Consumers may therefore experience interference from a new service that did not exist at the time they purchased their device. In this respect, spectrum sharing in

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can occur even though all parties involved may be operating in compliance with the Commission’s rules.”). For a detailed discussion of the difficulty of predicting interference in a shared spectrum allocation environment, see Cingular Wireless Comments at 11-14.

<sup>40</sup> Even in the unlikely event that the Commission is able to accurately predict the interference effect of a secondary service in a shared spectrum allocation, the damage will already be done since it is the uncertainty and possibility of interference that deters investment by the incumbent licensee.

<sup>41</sup> Joint MSTV and NAB Comments at 19.

broadcast bands would represent the worst in anti-consumer public policy, essentially taxing consumers to finance market entry for new commercial service providers.

**B. The Commission Has A Responsibility To Assess The Threat Of Interference Posed By New Services.**

The comments confirm that sound spectrum policy depends on the ability of parties to rely on stable and secure rules designed to eliminate the risk of harmful interference and to protect investment. It follows that the Commission must also ensure that once the rules have been established, incumbent licensees actually enjoy protection from interference caused by new services.

In several recent proceedings, the Commission has authorized new services that operate in the same spectrum as incumbent licensees on the basis of technical findings that interference will not result.<sup>42</sup> If the Commission is to continue authorizing new services that share spectrum with incumbent users, it must take concrete enforcement action to ensure that the respective bands' current inhabitants suffer no loss or impairment of service. Commenters sharing this view include, among others, Motorola<sup>43</sup> and the Satellite Broadcasting and Communication Association.<sup>44</sup> Without a clear Commission policy of policing the harmful effect of interference and a means for rapid action in the face of interference complaints,

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<sup>42</sup> See, e.g., *Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems*, 17 FCC Rcd 7435 (2002) (authorizing devices using Ultra-Wideband technology); Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, ET Docket No. 98-206, FCC 02-116 (rel. May 23, 2002) (authorizing Multichannel Video Distribution and Data Service ("MVDDS") in spectrum used by Direct Broadcast Satellite following a petition for rulemaking filed by Northpoint Technology, Ltd.).

<sup>43</sup> Comments of Motorola, Inc., ET Docket No. 02-135, at 18.

<sup>44</sup> Comments of the Satellite Broadcasting and Communications Association, ET Docket No. 02-135, at 4-5.

incumbent spectrum users will face disincentives to invest in improving existing services or establishing new services.

The comments also reflect that the threat of new service interference to incumbent spectrum users arises most acutely in the context of authorizations of unlicensed services and devices that some commenters propose to deploy. Even though an individual unlicensed device may operate at power levels that are low enough to avoid causing interference, the cumulative interference caused by the proliferation of many unlicensed devices may be harmful.<sup>45</sup> Moreover, once such devices are authorized and in the hands of consumers, they cannot realistically be located and made to cease operation. Thus, the Commission must be sure that newly authorized unlicensed services do not cause interference in spectrum bands used by licensed services. The many comments underlining this point<sup>46</sup> provide ample support for broadcasters' proposal that unlicensed devices should operate in their own designated spectrum.<sup>47</sup> The Commission's experience with unlicensed radio stations demonstrates the difficulties it faces in quickly and efficiently addressing interference issues.<sup>48</sup>

**C. The Commission Must Vigorously Enforce Interference Rules Based On Sound Engineering, And Must Not Simply Leave Interference Disputes To The Courts.**

The comments reflect support for MSTV and NAB's position that there is an urgent need for the Commission to enforce clearly-defined interference rules that are based on

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<sup>45</sup> See Cingular Comments at 51 ("Unlicensed spectrum use will inevitably raise the noise floor, particularly when unlicensed use of a given band is widespread.").

<sup>46</sup> See, e.g., BellSouth Comments at 15; Cingular Comments at 51; Comments of QUALCOMM Inc., ET Docket No. 02-135, at 8-9; SBE Comments at 5-6.

<sup>47</sup> Joint MSTV and NAB Comments at 16-17.

<sup>48</sup> See, e.g., *Grid Radio v. FCC*, 278 F.3d 1314 (D.C. Cir. 2002), *petition for cert. filed* May 8, 2002 (No. 01-1622).

sound engineering.<sup>49</sup> The Commission should not merely rely on private parties to settle interference disputes among themselves. Individual parties, especially consumers, often lack the information and resources necessary to police interference problems effectively through a system of private enforcement in the courts. The Commission, with its technical expertise and enforcement power, must vigorously enforce rules designed to prevent interference and should impose fines sufficient to deter violations.<sup>50</sup>

**D. The Commission Should Not Relax Current Interference Rules.**

MSTV and NAB strongly oppose XtremeSpectrum, Inc.'s proposal to relax current interference standards. XtremeSpectrum calls on the Commission to redefine the term harmful interference such that “[o]nly a critical safety-of-life service that operates with near-perfect reliability would qualify for protection against any degradation or interruption.”<sup>51</sup> In lieu of the current definition, XtremeSpectrum urges the Commission to “implement quantitative measures of harmful interference,” based on “the importance of the service and its overall performance.”<sup>52</sup> However, XtremeSpectrum provides no guidance as to how one would define “importance” and “performance” in a consistent and fair manner for every existing service. In

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<sup>49</sup> *See, e.g.*, Boeing Comments at 14; Comments of Comsearch, ET Docket No. 02-135, at 3, 7.

<sup>50</sup> At present, the Commission’s enforcement actions related to interference are insufficient to deter violations. *See* Comments of Douglas A. Galbi, ET Docket No. 02-135, at 20 (citing statistics showing that “[t]he penalties imposed for violations of radio regulations have been remarkably small relative to the value of radio use.”).

<sup>51</sup> Comments of XtremeSpectrum, ET Docket No. 02-135, at 7. XtremeSpectrum essentially seeks to modify current interference regulations to accommodate interference its Ultra-Wideband devices may cause to licensed services. Similarly, National Public Radio seeks a regulatory solution to interference caused by FM band NCE stations to Channel 6 television licensees. *See* NPR Comments at 20-21. MSTV and NAB believe that interference should be eliminated, not accommodated through rule changes.

<sup>52</sup> XtremeSpectrum Comments at 7.

fact, as pointed out by numerous parties in this proceeding, it is extremely difficult, if not impossible, for the Commission to define performance meaningfully across different services.<sup>53</sup>

XtremeSpectrum also claims, using cellular service as an example, that it makes little sense to set interference standards to protect the fringes of services.<sup>54</sup> Imported to the broadcast realm, XtremeSpectrum is urging that consumers near the edge of the contour should be afforded lesser protection than those near the transmitter tower. It appears that XtremeSpectrum prefers sacrificing some existing subscribers/viewer/listeners to make way for new entrants and new services, irrespective of EAS, E911, consumer preferences, and cost to consumers who have purchased receivers. At a time when the Commission and Congress are increasingly concerned with the so-called digital divide between urban and rural users, sacrificing consumers who lie at the geographical edges of license areas is bad policy. Moreover, the policy is contrary to current demographic trends showing that the population is moving increasingly to the outer edges of urban and suburban areas.

### **III. SPECTRAL EFFICIENCY**

#### **A. Any Comparisons Of Spectral Efficiency Across Services Must Not Ignore The Characteristics That Distinguish Those Services.**

Numerous commenters take the view that it is impossible to compare spectral efficiency across services.<sup>55</sup> Whether this is true or not, it is overwhelmingly clear from the

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<sup>53</sup> See *infra* Section III.A.

<sup>54</sup> XtremeSpectrum Comments at 7-8.

<sup>55</sup> See, e.g., Comments of Aeronautical Radio Inc., ET Docket No. 02-135, at 5; Boeing Comments at 6, 9; Comments of the Satellite Industry Association, ET Docket No. 02-135, at 16; Comments of Telesat Canada, ET Docket No. 02-135, at 3.

comments that, at a minimum, efficiency standards must adjust for particular service constraints, as MSTV and NAB suggested in our comments.<sup>56</sup>

**B. Broadcasters Have A Strong Record Of Spectral Efficiency And Do Not Require Any Additional Spectral Efficiency Incentives.**

Broadcasters take exception to the assertion by CTIA that broadcasters “are not constrained by the same competitive pressures and capital expenditures that face the commercial wireless industry” and therefore require additional spectral efficiency incentives imposed by the Commission.<sup>57</sup> The facts show just the opposite. Broadcasters today offer more service with less spectrum than ever before, and do so in a market that presents them with unprecedented competitive pressures from other video content distributors.

In reality the broadcast industry is setting a new standard for spectral efficiency already; it requires no Commission-imposed incentives to continue doing so. As MSTV and NAB pointed out in our comments, television broadcasters are in the process of becoming the first wireless service ever to substantially reduce its spectrum while making the capital expenditures necessary to provide new digital service in addition to existing analog service. Even as the broadcast television industry converts to digital, it is clearing approximately one-quarter of the spectrum assigned to it. Indeed, both the radio and television industries will be offering new digital services within the original spectrum allocation. In efficiency terms, this compares favorably to the commercial wireless industry, which surrendered none of the analog spectrum that it obtained before the introduction of auctions upon introduction of digital service.

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<sup>56</sup> Joint MSTV and NAB Comments at 19-20.

<sup>57</sup> CTIA Comments at 13-14.

#### IV. CONCLUSION

MSTV and NAB encourage the Task Force to incorporate the issues and concerns reflected in these reply comments into its evaluation and recommendations.

Respectfully submitted,

NATIONAL ASSOCIATION  
OF BROADCASTERS

ASSOCIATION FOR MAXIMUM  
SERVICE TELEVISION, INC.

/s/ Jack N. Goodman  
Henry L. Baumann  
Jack N. Goodman  
Ann W. Bobeck  
1771 N Street NW  
Washington, D.C. 20036  
(202) 429-5430 (tel.)  
(202) 775-3526 (fax)

/s/ Stanford K. McCoy  
Jonathan D. Blake  
Stanford K. McCoy  
COVINGTON & BURLING  
1201 Pennsylvania Avenue NW  
Washington, D.C. 20004  
202-662-6000 (tel.)  
202-662-6291 (fax)

*Its Attorneys*

/s/ Lynn Claudy  
Lynn Claudy  
Senior Vice President,  
Science and Technology  
Kelly Williams  
Senior Vice President,  
Director of Engineering  
NATIONAL ASSOCIATION  
OF BROADCASTERS  
1771 N Street NW  
Washington, D.C. 20036  
(202) 429-5346 (tel.)  
(202) 775-4981 (fax)

/s/ David Donovan  
David Donovan  
President  
Victor Tawil  
Senior Vice President  
ASSOCIATION FOR MAXIMUM  
SERVICE TELEVISION, INC.  
1776 Massachusetts Avenue NW  
Washington, D.C. 20036  
202-861-0344 (tel.)  
202-861-0342 (fax)

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