

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of)	
)	
Spectrum Policy Task Force)	DA 02-1311
Seeks Public Comment on)	ET Docket No. 02-135
Task Force Report)	
Released November 15, 2002)	

To: The Commission

COMMENTS OF

**THE NEW AMERICA FOUNDATION,
THE CONSUMER FEDERATION OF AMERICA, CONSUMERS UNION,
THE ASSOCIATION OF INDEPENDENT VIDEO AND FILMMAKERS,
THE NATIONAL ALLIANCE FOR MEDIA ARTS AND CULTURE,
THE BENTON FOUNDATION, THE CENTER FOR DIGITAL DEMOCRACY,
UNITED CHURCH OF CHRIST, OFFICE OF COMMUNICATION, INC.,
PUBLIC KNOWLEDGE AND THE MEDIA ACCESS PROJECT**

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AND THE MEDIA ACCESS PROJECT

The New America Foundation (NAF),¹ Consumer Federation of America (CFA),² Consumers Union (CU),³ the Association of Independent Video and Filmmakers (AIVF),⁴ the National Alliance for Media Arts and Culture (NAMAC),⁵ the Benton

¹ NAF is a nonpartisan, non-profit public policy institute based in Washington, D.C., which, through its Spectrum Policy Program, studies and advocates reforms to improve our nation's management of publicly-owned assets, particularly the electromagnetic spectrum

² CFA is the nation's largest consumer advocacy group, composed of two hundred and eighty state and local affiliates representing consumer, senior, citizen, low-income, labor, farm, public power and cooperative organizations, with more than fifty million individual members.

³ CU, publisher of Consumer Reports, is an independent, nonprofit testing and information organization serving only consumers.

⁴ AIVF is a 25-year-old professional organization serving international film- and videomakers from documentarians and experimental artists to makers of narrative features. AIVF represents a national membership of 5,000, of whom 4,000 are active independent producers. AIVF provides services to the field including: informative seminars and networking events, trade discounts and group insurance plans, advocacy for media arts issues, a public resource library, advice and referral support, and publication of books and directories.

⁵ NAMAC is a nonprofit association composed of diverse member organizations who are dedicated to encouraging film, video, audio and online/multimedia arts, and to promoting the cultural contributions of individual media artists. NAMAC's regional and national members collectively provide a wide range of support services for independent media, including media education, production, exhibition, distribution, collection building, preservation, criticism and advocacy. NAMAC's member organizations include media arts centers, production facilities, university-based programs, museums, film festivals, media distributors, film archives, multimedia developers, community access TV stations and individuals working in the field.

Foundation,⁶ the United Church of Christ, Office of Communication, Inc. (UCC),⁷ the Center for Digital Democracy,⁸ Public Knowledge,⁹ and the Media Access Project (MAP)¹⁰ (collectively, “NAF, *et al.*” or “Commenters”) respectfully file the following supplemental comments in the above captioned proceeding.

INTRODUCTION

First, and most important, *the Report creates a false dichotomy* that both ignores Congressional intent and sacrifices fundamental principles at the core of the nation’s communications policies. It is true that the Commission’s rigid “command and control” allocation system has largely failed (although the popularity of our free over-the-air broadcasting system and the general robustness of our public safety system mitigates even this criticism). As a result, the Commission must broadly rethink its spectrum policy.

Unfortunately, the Task Force Report falls into the trap of seriously considering only the two most opposite and obvious alternatives – the property rights model (based on exclusive access to licensed frequencies) and the commons model (based on open

Combined, the membership of these organizations totals around 400,000 artists and other media professionals.

⁶ Based in Washington DC, the Benton Foundation's mission is to articulate a public interest vision for the digital age and to demonstrate the value of communications for solving social problems (www.benton.org).

⁷ UCC is a non-profit corporation, charged by the Church's Executive Council to conduct a ministry in media advocacy to ensure that historically marginalized communities (women, people of color, low income groups, and linguistic minorities) have access to the public airwaves. The United Church of Christ has 1.4 million members and nearly 6,000 congregations. It has congregations in every state and in Puerto Rico.

⁸ The Center for Digital Democracy is a nonprofit public interest organization committed to preserving the openness and diversity of the Internet in the broadband era, and to realizing the full potential of digital communications through the development and encouragement of noncommercial, public interest content and services.

⁹ Public Knowledge is a public interest advocacy organization dedicated to fortifying and defending a vibrant information commons. This Washington, D.C. based group works with wide spectrum of stakeholders to promote the core conviction that some fundamental democratic principles and cultural values – openness, access, and the capacity to create and compete – must be given new embodiment in the digital age.

¹⁰ MAP is a 30 year-old non-profit, public interest telecommunications law firm which represents civil rights, civil liberties, consumer, religious and other citizens groups before the FCC, other federal agencies

public access to unlicensed frequencies). The Task Force essentially recommends giving incumbent commercial licensees permanent and exclusive property interests in their frequencies (immediately, with no compensation to the public) and also designating additional unlicensed “parks” for shared public access (perhaps, if needed, but primarily on less desirable high frequencies). However sensible a “balance” between private property and public parks may sound in theory, NAF, *et al.* take exception to this dichotomy applied to the airwaves for two fundamental reasons:

First, although NAF, *et al.* strongly support the shift to new licenses with complete service, technical and market “flexibility,” the economic benefits of “flexibility” can be achieved while maintaining the Communications Act’s basic framework of licensing and public trusteeship. In particular, adherence to the current statutory scheme is particularly important with respect to granting licenses only for limited (and relatively short) terms, reserving residual rights to the public and obtaining, as appropriate, a return to the public for the exclusive, commercial use of frequencies. Unless license terms are limited and license rights are conditional, as under current law, policymakers will lose the ability to accommodate greater sharing of frequencies, or otherwise reorganize access to the airwaves, as technology and social needs evolve in the future.

Second, the method of transitioning to more flexible licenses and expanded unlicensed access can be accomplished without conferring a windfall on incumbents that deprives taxpayers of a return on a priceless public asset, and without “selling” spectrum at a one-off auction that imposes massive up-front payments on bidders. Fully flexible

and, hence, more valuable licenses should be assigned *in exchange for* modest payments to the public by all commercial licensees.

By embracing this false dichotomy, the Task Force fails to consider the proposal of NAF, *et al.* to employ a third way, one with two central features that achieve the efficiency of “flexibility” without abandoning other statutory and Constitutional values. First, rather than “selling” spectrum at a one-time auction, or continuing to give it cost-free to some commercial users but not to others, the Commission should “lease” spectrum for a set term of years. As in the DTV ancillary and supplementary fees scheme adopted by Congress,¹¹ the “rent” could be a percentage of the revenue generated through the use of spectrum, or imputed based on a modest percentage of the value evidenced by secondary market transactions for spectrum with similar propagation characteristics. This would avoid the inefficiencies of auctions (where bidders must guess at the future value of spectrum and make massive up front payments) and avoid creating an entrenched incumbent class of spectrum “owners.” All commercial licensees would end up on a level playing field, benefit from a more flexible, certain and valuable licensing arrangement, and in return pay a modest annual lease fee back to the public. Second, leasing frequencies for fixed terms avoids creating property interests in frequencies that would foreclose, in practice, the ability of policymakers to expand the dynamic sharing of frequencies made possible by emerging “smart” radio technologies.

As NAF, *et al.* warned in their initial comments:

[...] these recommendations are presented as a ***unified whole***. Commenters’ support of immediate auctions of more flexible and market-oriented licenses for commercial

¹¹ Congress granted broadcasters the flexibility to use a portion of their 6 MHz DTV channel for ancillary services (that is, for paid services separate from their obligation to broadcast a primary “free” signal), but provided that they must pay a market-based fee the FCC has set at 5 percent of gross revenue.

users of spectrum hinges on the Commission's active involvement in assuring that the other public interest goals of the Communications Act and Constitution are being met, and on absolute opposition to the creation of property rights in spectrum. *Before* the Commission can redefine licenses to increase flexibility, or rush to auction more spectrum, it must establish limited and relatively short initial license terms with clear reversion of rights and no grant of indefinite property interests.

The Task Force appears to propose precisely the opposite. It would rush to benefit the private licensees with windfalls and vested interests, then sort out what good can be done for the public down the road. This simply will not do. The Commission must ensure that its new spectrum policy does not become an invitation for private interests to feast at the public trough and leave unlicensed uses and other public users the spectrum leftovers.

In this regard, the Commission's current NOI on the compatibility of spread spectrum unlicensed uses in the broadcast spectrum makes a good beginning. This NOI has the potential to open more space to unlicensed uses without 'proptertizing' the spectrum first or disrupting existing uses. It focuses on expanding the useful spectrum and concurrent benefits to the American people, such as potential delivery of new broadband services.

Finally, the Commission should reject pleas for special consideration by incumbents predicated on a false notion of "stability." NAF, *et al.* agree that parties (licensed and unlicensed) can best exploit the full potential of wireless if they have certainty that the regulations will not change unpredictably and if the expectations of all parties are clearly explained.

But many incumbents equate “stability” with stasis. The Commission should give little deference to the complaints of those who demand that the Commission protect their existing business model as some sort of vested right based on prices paid at auction or investment in infrastructure. As the Commission well knows from the difficulty introducing competition in telephony and cable, the current incumbents would enjoy years of dominance based on the value of their installed networks even if the Commission eliminated licensing tomorrow.

But even if this were not the case, the Communications Act makes clear that such considerations must yield to the greater public good. Section 304 makes clear that a licensee waives any claim arising from prior use. To hold back development of the spectrum so that incumbents may ‘recoup their investment’ would run contrary to the letter and spirit of the Communications Act.

SUMMARY

These comments are intended to highlight the recommendations NAF, *et al.*, consider to be among the most laudable – or among the most lamentable. In general, Commenters embrace the “major findings” and “common elements of spectrum policy” set forth in the Report (pp. 3-4). In particular, the Report’s enthusiasm for expanding the “commons” model by designating additional bands for unlicensed spectrum use on a shared basis represents a major recognition that emerging wireless technologies will change the way Americans access and use the airwaves. Yet, at the same time, NAF, *et al.* observe that the Report implicitly endorses methods of making the transition from legacy command-and-control licensing to more flexible, market-oriented models that would in practice both abandon a number of the traditional policy goals enumerated by

Congress in the Communications Act and serve to undermine other important policy goals endorsed by the Task Force itself. Even putting aside the thorny question of whether most incumbent licensees should continue to receive exclusive use of frequencies at no cost, an additional grant of new, more flexible and marketable license rights must, in the view of NAF, *et al.*, continue to be for short and limited license periods and reserve any residual “ownership” rights for the public, as under current law.

Separating Ends from Means

NAF, *et al.*, generally agree with the Task Force’s “Major Findings and Recommendations” (p. 3) and consider them to be important building blocks for comprehensive spectrum management reform. These findings suggest a significant advance in the Commission’s understanding of the changing technological context in which it will approach future rulemakings concerning spectrum policy reform:

- “In many bands, spectrum access is a more significant problem than physical scarcity of spectrum, in large part due to legacy command-and-control regulation . . .”.
- Advances in technology create the potential for systems to use spectrum more intensively and to be much more tolerant of interference . . .”.
- “No single regulatory model should be applied to all spectrum . . .”.
- “. . . [S]pectrum policy must evolve towards more flexible and market-oriented regulatory models.”
- “Such models must be based on clear definitions of rights and responsibilities. . . particularly with respect to interference and interference protection.”

NAF, *et al.*, welcome the Task Force recommendation in favor of moving away from the traditional command-and-control zoning model in favor of finding a new and appropriate balance between two alternative regulatory models – one based on licensing exclusive usage rights and the other on creating unlicensed spectrum “commons” – both to be premised on an enhanced concept of flexible use (p. 17). The key word, however, is *balance*.

“Balance” does not mean simply ensuring that unlicensed uses have sufficient useful spectrum and do not remain a mere “afterthought” to the prime real estate granted to licensed uses. Rather, “balance” means exploring the wealth of opportunities between these two models. As NAF, *et al.* proposed in the comments to the Task Force, one can grant well-defined exclusive rights to licensees without granting property rights in perpetuity to licensees.

The Report’s “Key Elements of a New Spectrum Policy” include very important and forward-looking recommendations along these lines that Commenters would advocate for inclusion in future legislative and regulatory reforms. One of these elements is the ability to fashion allocation policies that account for “variations in frequency, space, power, and time to maximize the use of spectrum.” (p. 19). The Report notes that spread spectrum and frequency-hopping “smart” radio technologies have “created the potential for development of services and uses that are not tied to specific frequency bands,” or which can utilize or share “white space” within existing allocations that might otherwise lay fallow. It may be possible, for example, to license high-power uses of a band (*e.g.*, broadcasting) on an exclusive basis while reserving for general public access, on an unlicensed basis, low-power uses that do not cause harmful interference with the

commercial licensee. Spectrum policy reform should certainly anticipate changes in technology that are already developing means by which frequencies can serve the needs of multiple users without creating undue interference.

A related and very important common element the Task Force recommends for future spectrum policy involves the “periodic review and revision of spectrum rules to account for technological advances and other changes.” (p. 16). NAF, *et al.*, agree that preserving the regulatory flexibility to refashion spectrum management policy in response to changing technologies and social needs is critical. For example, just a few years ago the possibility of facilitating low-cost, wireless Internet access using frequency-agile, software-defined radios capable of sharing underutilized bands across wide ranges of the spectrum was virtually unknown. Without the ability periodically to review and refashion the rights of both licensed and unlicensed users of the public airwaves, the Commission’s ability to exploit such advances for the general public interest could indeed be squandered.

Another of the Report’s “common elements” for future spectrum policy that NAF, *et al.*, heartily endorse is the need to “provide incentives for efficient spectrum use.” There is little disagreement that the current combination of restricted service rules and cost-free access to scarce spectrum space enjoyed by most incumbents fails to internalize incentives for more intensive and efficient use. As Commenters discuss at greater length below, a new combination of ongoing user fees and secondary market transferability for commercial licensees can both internalize market-based incentives for spectrum use efficiency and reduce the up-front auction cost of new flexible license assignments.

While NAF, *et al.*, agree with the general direction and stated goals of the Task Force findings and recommendations, we are concerned that the means to these ends – and, in particular, the discussion of an appropriate transition to more flexible license rights – suggests a path at odds with the fundamental principles of the Communications Act and the First Amendment. In the comments below, NAF, *et al.*, examine three areas of concern that all in various ways relate to the issue of whether the spectrum will continue to be managed as a publicly-owned asset and in a manner that ensures the public retains “their collective right to have the medium function consistently with the ends and purposes of the First Amendment.” *Red Lion Broadcasting Co., Inc. v. FCC*, 395 U.S. 367, 390 (1969).

First, although the Task Force correctly advocates increased spectrum allocations for unlicensed operations – and a balance between the alternative models of exclusive usage rights and unlicensed spectrum sharing – NAF, *et al.*, are concerned that creating any sort of permanent property-like interests in frequency assignments could undermine the potential of emerging “smart” radio technologies that can dynamically share underutilized spectrum space. Freezing the old zoning system into permanent private property rights would turn sharing into “trespassing,” allowing licensees to demand payment for access to “*their*” airwaves. As the Commission grants licenses with greater service flexibility and marketability, it must avoid creating any sort of permanent property interests in particular frequencies.¹² The Commission (and Congress) should be careful to ensure that new, more flexible license rights do not lengthen license terms,

¹² As an initial matter, the Communications Act expressly prohibits any property interest in a license, *see* 47 USC §301, 304, 309(h), and prohibits alienation of such licenses without an affirmative, particularized finding by the Commission that the specific license transfer in question serves the public interest. 47 USC §310(d); *see also In re Nextwave Personal Communications Inc.*, 200 F.3d 43 (2nd Cir. 1999).

transfer residual usage rights to incumbents, or otherwise undermine the government's ability to reorder spectrum rights and responsibilities in the future as technologies and social needs change. It is essential that the Commission specify defined, limited and relatively short license terms, as under current law. This will have the beneficial effect of allowing the public to retain greater control of the spectrum through consistent re-evaluation, and will also allow the public to recoup the value of the spectrum more efficiently. Moreover, if the Commission finds that the opportunistic sharing of licensed frequencies serves the public interest and can be done without causing harmful interference, then it can circumscribe licensed rights to permit multiple users on a frequency without resort to the extra costs imposed if users need to negotiate with many private "owners" of frequencies.

Furthermore, the creation of permanent property interests in the airwaves runs afoul of the First Amendment. As the Supreme Court explained in *Red Lion*, a private monopoly with the capacity to suppress speech is as odious to the First Amendment as government censorship. *Red Lion*, 395 U.S. at 389-90. In the past, the FCC has protected the First Amendment interests of the public either by imposing common carriage or by imposing other public interest requirements. To grant unlimited flexibility to exclude others and *no* public interest obligations contravenes the First Amendment.¹³

¹³ In this regard, the Task Force's proposal that the Commission re-evaluate the public interest obligations of broadcasters (p.44-45) must be rejected as contrary to law. Broadcasters provide a valuable service, but part of that service comes from the obligations that inhere in every broadcast license. Broadcasters are trustees with fiduciary duties to their listeners, not private owners who serve the community only from a sense of *noblese oblige* and only to the extent it does not interfere with business. To the contrary, providing programming that serves the diverse needs of the entire listening/viewing area is the *sine qua non* of the broadcasting system mandated by the Communications Act. *United Church of Christ v. FCC*, 359 F.2d 994 (D.C. Cir. 1966). On the other hand, commentators observe that unlicensed uses, which maximize the ability of all individuals to speak, are fully consistent with the First Amendment even without additional public interest obligations. Indeed, it is possible that some time in the future, the technology will mature to

Second, NAF, *et al.*, argue that in fashioning a transition to more flexible license rights, the Commission should avoid conferring a windfall on incumbent licensees at the expense of taxpayers – and should instead recommend that Congress adopt a process that combines auctions (for initial assignment) with ongoing lease fees that would attach after the initial license period (*e.g.*, after 10 years, or sooner in the case of current incumbents). The Commission must do more than simply define and grant new and far more valuable “flexible” licenses to incumbents, or establish what the Task Force describes as a “two-sided” auction process that allows incumbents to capture public revenue and unduly favors incumbents over their private sector competitors. Absent safeguards, the giveaway transition options described favorably in the Report would unlawfully and unjustly enrich incumbents and deprive “the public of a portion of the value of the public spectrum resource made available for commercial use.” 47 USC §309(j)(3)(C). Further, NAF, *et al.*, emphasized that a number of auction and leasing fee methods are available to assign new flexible license rights efficiently among competing firms, to compensate the public who owns the spectrum, and to avoid “unjust enrichment.” The Commission is constrained by the Act to use a competitive means of assignment and ensure compensation to the public for any new and valuable license rights, with limited exceptions.

Finally, although NAF, *et al.*, support the Task Force recommendation that “the Commission should consider designating additional bands for unlicensed use,” (p. 54) Commenters are disappointed at the Report’s restrictive approach both to the opportunistic sharing of underutilized spectrum and to the management of new

a point where any exclusive licensing scheme would violate the First Amendment. *FCC v. League of Women Voters*, 468 U.S. 364, 376 n.11 (1984).

unlicensed bands. The Report describes private “secondary market” transactions and government-defined “easements” as alternative approaches to facilitate access to licensed spectrum by opportunistic devices able to dynamically share underutilized bands on a non-interfering basis (p. 55). Unfortunately, the Task Force recommends “that in the first instance” the Commission should rely on private secondary market transactions to facilitate access, asserting that licensees “will generally find it advantageous to allow others to use unused portions of their spectrum if they are adequately compensated” and that this will occur “at reasonable transaction costs.” (p. 57). Commentors agree with this approach to the extent that the access sought would result in *actual harmful interference* to a licensed incumbent’s ongoing operations. However, the Task Force recommends relying on negotiated private transactions in most instances where the user seeking access operates above a hypothetical “interference temperature threshold” – a new quantitative measure that would define the total level of RF emission a licensed operator must tolerate in a given band. To the extent that this “temperature threshold” is more restrictive than is necessary to protect against actual harmful interference – or to the extent the threshold concept is not applied to today’s incumbent licensees, or is not reviewed and adjusted upward periodically to reflect advances in receiver technology – it will deter access and sharing.¹⁴

The Task Force also recommends that in “new unlicensed bands, access should be controlled by a new type of band manager or frequency coordinator selected by the FCC.” (p. 54). NAF, *et al.*, submit that the Commission should adopt an initial

¹⁴ It is also worth noting in this regard that the transaction costs for individuals or small groups wishing to utilize unlicensed spectrum may be prohibitively high. Consider the example of the Unlicensed PCS band. Originally set-aside for use on academic campuses, the FCC’s imposition of a band manager and the cost of relocation of incumbent users introduced a barrier to entry for innovators who otherwise may have made

presumption against designating an entity to “control” access to unlicensed spectrum, or even to promulgate “rules of the road” that might tend to protect or lock in Wi-Fi or any other current technology or service. Protocols to facilitate wireless networking on unlicensed spectrum must *not* come at the price of limiting the sort of freewheeling innovation that allows an entrepreneurial technology like Wi-Fi and Bluetooth to develop on unlicensed bands.

As a preface to the remainder of these comments – and as a reminder of fundamental principles of U.S. communications policy not mentioned in the Task Force Report – NAF, *et al.*, reiterate four basic principles that should guide the Commission and Congress in acting on the Task Force recommendations:

1. The airwaves must be managed as a public asset that is owned collectively by all Americans and with an emphasis on promoting First Amendment values;
2. The old industrial policy of rigid spectrum “zoning” should be replaced with a more flexible, market-based allocation system that enhances spectral efficiency and consumer welfare;
3. To recoup more effectively for the public the value of licenses for the exclusive use of frequencies, and to provide incentives for deployment and innovation, commercial licensees should pay regular license leasing fees rather than a single lump-sum that conveys property-like rights; and
4. The Commission should expand the spectrum designated for open, unlicensed use by citizens – including the dynamic sharing of underutilized frequencies on both licensed and unlicensed bands – and continue to allocate spectrum exclusively for noncommercial uses (e.g., public broadcasting) as needed to serve unmet public needs.

use of this bandwidth.

I. THE COMMISSION MAY NOT PRIVATIZE OR CREATE PERMANENT PROPERTY INTERESTS IN FREQUENCIES, AS THIS VIOLATES THE COMMUNICATIONS ACT AND WOULD UNDERMINE THE SOCIAL AND ECONOMIC VALUE OF UNLICENSED MODELS FOR ACCESS TO THE AIRWAVES

While NAF, *et al.*, agree with the Task Force recommendation that service, technical and market “flexibility” should be incorporated in future commercial licenses, Commenters are concerned that the Report could be interpreted as supporting the radical step of creating permanent and vested property interests in licensed frequencies. The Task Force does not explicitly recommend the conveyance of permanent property-like interests in frequencies – and presumably could not because such an act would run contrary to the Communications Act. Nevertheless, NAF, *et al.* believe the Report does not sufficiently emphasize the public interest in preserving the authority of the public – through elected and appointed policymakers – to adjust spectrum policy in the future to changing technologies and social needs.¹⁵ The Commission should adopt a policy clarifying that although it would be a positive step to enhance the service, technical and market “flexibility” of licensees, the public interest in enhanced flexibility can be achieved while maintaining the Act’s basic framework of public trusteeship, particularly with respect to granting licenses for limited (and relatively short) terms, reserving residual rights to the public and requiring, as appropriate, a return to the public for the commercial use of exclusive access to frequencies.

¹⁵ The government’s ongoing fiduciary responsibility to manage spectrum allocation so that adequate non-commercial bands are set aside for both society’s collective needs and for the exercise of unmediated communication by individual citizens is legitimate and derives from the fact that the airwaves, like the atmosphere itself, is a commonly-owned natural system. *See* Gerald Torres, “Who Owns the Sky?” 18 *Pace Environmental L. Rev.* 227 (2001) for an overview of the legal status of common assets and the application of the public trust doctrine to federal management of the atmosphere and emissions trading.

As a general proposition, NAF, *et al.*, strongly support maximum flexibility for both licensed and unlicensed users. Licenses that added grants of flexibility would represent a fairly radical and generally welcome change from the Commission’s traditional policy of rigidly zoning the spectrum by service and prescribing technical rules – both of which become outdated as technology and market demand changes over the years. Indeed, the Commission has generally accorded new licenses auctioned since 1993 a great deal of flexibility and, in addition, has even relaxed service rules on legacy grants of spectrum for analog cellular communication so that those firms could upgrade service to a more efficient digital service.

However, as the Task Force correctly recognizes, when policymakers determine what “flexibility” actually means in practice, the license rights will not be absolute, or permanent, but will necessarily be circumscribed based on other competing policy goals and evolving considerations of the public interest. In this context, the Report defines flexibility as necessarily limited by “rules that are necessary to afford reasonable opportunities for access by other spectrum users and to prevent or limit interference among multiple spectrum uses.” (p. 16) Although not mentioned explicitly in the Report, the degree of “flexibility” granted to a licensee must also be limited by the fundamental and still very relevant tenets of the Communications Act.¹⁶ The law authorizes the FCC

¹⁸ Section 301 of the Communications Act explicitly states that:

It is the purpose of this Act to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions and period of the license.

47 USC 301 (emphasis added). Section 304 of the Communications Act reads:

No station license shall be granted by the Commission until the applicant therefore shall have waived any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

to allocate frequencies to various services and to grant licenses only “for limited periods of time” and consistent with the “public interest, convenience, and necessity.” Under the Act’s “public trustee” model, for example, the exclusive (and free) access of broadcasters to the airwaves has always been conditioned on certain public interest obligations. The Supreme Court explicitly recognized this principle in *FCC v. Sanders Bros. Radio Station*,¹⁷ holding that the Commission could not consider the economic impact on an existing licensee in its determination of whether to award a new license because “[t]he policy of the Act is clear that *no person is to have anything in the nature of a property right as a result of the granting of a license.*”¹⁸ The Second Circuit recently reaffirmed the principle that no property interest attaches to a license to use the spectrum in *NextWave Personal Communications v. FCC*.¹⁹ The court explained that “[a] license **does not convey a property right**; it merely permits the licensee to use the portion of the spectrum covered by the license in accordance with its terms . . . Licenses are revocable by the FCC, and the FCC can impose conditions upon them in the name of the public good.”²⁰

Some free market economists advocate permanent privatization of the airwaves. Their long-held view is that creating permanent private ownership rights in frequencies is the most efficient way to cope with the scarcity and interference problems that justify

47 USC §304. The Commission complies with this statute by recapitulating this precise language on every license and requiring every holder of a license to sign an express waiver of “any claim . . . as against the regulatory power of the United States.”

¹⁷ 309 U.S. 470, 475 (1940).

¹⁸ 309 U.S. at 475 (emphasis added). *See also Red Lion Broadcasting Co. V. FCC*, 395 U.S. 367, 393 (“[I]licenses to broadcast do not confer ownership of designated frequencies, but only the temporary privilege of using them”).

¹⁹ 200 F.3d 43, 51 (2nd Cir. 1999).

²⁰ *Id.*

licensing.²¹ In this Coasean view, the economic efficiency of using a price mechanism should prevail over a historic conception that the airwaves are a natural system – like the atmosphere and navigable waterways – and therefore inherently a commonly-owned asset.

While it may be true that employing a price mechanism to determine initial assignment, conferring flexible usage rights, and facilitating secondary markets for wireless bandwidth would improve the efficient allocation of frequencies licensed for commercial use, this by no means necessitates private ownership (or “propertizing,” as one advocate calls it²²). Private property itself is not absolute, but rather a bundle of rights that are “strong” or “weak” in various respects. Along the continuum between central planning and complete privatization, private rights in spectrum licenses can be defined that allow holders (for the period of the license) to sell, transfer, sublease, aggregate, or change the use of spectrum – a degree of property-like rights not now associated with the “free” but encumbered licenses conferred as an instrument of FCC industrial policy. A substantial degree of market-oriented flexibility can be granted by license for limited and relatively short periods, as now required by statute, without denying the public a fair monetary return on a valuable public asset, or foreclosing the ability of Congress and the Commission to reorganize social use of the airwaves as technologies and social needs evolve over time.

²¹ See, e.g., Thomas W. Hazlett, “The Wireless Craze, The Unlimited Bandwidth Myth, The Spectrum Auction Faux Pas, and the Punchline to Ronald Coase’s ‘Big Joke’,” *Harvard Journal of Law and Technology* (Spring 2001) (<http://www.aei.org/scholars/hazlett.htm>), and R.H. Coase, “The Federal Communications Commission,” 2 *Journal of Law & Economics* 577 (1959).

²² Lawrence J. White, “‘Propertizing’ the Electromagnetic Spectrum: Why It’s Important and How to Begin,” in J.A. Eisenach and R.J. May, eds., *Communications Deregulation and FCC Reform: What Comes Next?*, 9 *Media Law & Policy* 19 (2000).

Whatever price mechanism is used, it is critical that licenses be issued for limited and relatively short license terms, as under current law, and not imply entitlements in perpetuity. If society's common ownership of the airwaves is inalienable, then the public's flexibility to alter today's regulatory regime should not be overly constrained. The government's ability to reorder spectrum rights and responsibilities in the future, as technologies and social needs change, has the beneficial effect of allowing the public to retain greater control of the spectrum through consistent re-evaluation as well as "the recovery for the public of a portion of the value of the public spectrum resource made available for commercial use and the avoidance of unjust enrichment . . .".²³

Professor Jon M. Peha, associate director of the Center for Wireless and Broadband Networks at Carnegie Mellon University, was one of a number of commentators who warned about the dangers of implementing "flexibility" in a manner that created vested rights that might constrain the Commission's ability to accommodate change:

[I]ncreasing the license-holder's flexibility also decreases the discretion of the regulator to adapt to new needs and new technologies. . . . When extending flexibility, the Commission must similarly maintain enough authority to clear the way for the next important innovation – whatever it is. This is one reason why the Commission should *not* consider making spectrum rights permanent. Licenses must expire, so that regulators have the opportunity to introduce change.²⁴

Recent advances in ultrawideband and "smart," software-defined radio technologies suggest we shouldn't presume to know the optimal way to organize *future* access to the airwaves. For example, if the Commission finds that the opportunistic

²³ 47 U.S.C. § 309(j)(3)(C).

²⁴ "More Market Mechanisms in Moderation," Comments of Jon M. Peha, In the Matter of Spectrum Policy Task Force, ET Docket No. 02-135, July 7, 2002, at 4.

sharing of licensed frequencies serves the public interest – and can be done without causing harmful interference – then it must maintain the discretion to circumscribe licensed rights to permit multiple users to share a frequency without resort to the extra costs imposed if users need to negotiate with many private “owners” of frequencies. Likewise, the Commission or Congress may determine that increasing allocations of spectrum to unlicensed operations – such as high-speed, wireless Internet access – is in the public interest. It would be a terrible deterrent to adopting, or even seriously considering, a future policy shift from a primarily licensed to a primarily unlicensed communications policy if incumbent licensees could claim to have acquired some permanent property interest in particular frequencies. Does it serve the public interest to create “owners of the airwaves” who could claim that future reallocations of spectrum are a “taking” and that Congress must appropriate tens of billions of dollars to settle eminent domain proceedings?

In this regard, it is worth noting that permanent private property rights – while less intrusive than the current command-and-control scheme to the incumbent licensees – represents a significant intrusive regulatory regime to the many citizens of the United States who wish to avail themselves of the public airwaves. While flexibility and exclusive rights represent a step in the right direction now, it cannot claim the mantle of “deregulation” or “unregulation” as some of its proponents wish.

Moreover, there is no reason to believe that conferring permanent or indefinite rights to a public asset is more efficient than leasing short-term rights. Many assets are efficiently leased out on a short-term basis. Other public assets (such as mineral and timber and grazing rights on public lands) are leased for fixed and relatively short terms.

A primary reason the government might lease some assets on a long-term basis, or to maintain a presumptive right of license renewal (as we generally do now with spectrum), is asset specificity – and hence the desire to protect fixed capital investments that are tied to a particular frequency assignment. For example, a railroad right of way anticipates a very geographically-rooted sunk cost and a long amortization period. But in the emerging era of digital, software-defined radio, asset specificity will greatly diminish. If both transmitting and receiving equipment can easily be reprogrammed, rather than replaced, then the “switching costs” among frequencies is greatly reduced for both producers and consumers. This facilitates secondary markets – as well as competition and consumer choice – but it also makes the long-term guarantee of controlling a particular frequency a less relevant concern.

If protecting investments by incumbents is the concern, neither fixed license terms nor leasing fees are inconsistent with a presumptive right of license renewal; presumably any substantial diminution of a licensee’s rights would be accompanied by a long notice period and even compensation (as were the microwave incumbents relocated in favor of PCS auction winners). In short, statutory requirements aside, there is no efficiency or consumer welfare loss inherent in granting full flexibility within the context of continued public ownership and short-term licensing of the radio frequencies.

II. NEW, ‘FLEXIBLE’ LICENSE RIGHTS MUST BE ASSIGNED BY COMPETITIVE AUCTION, SECURE A FINANCIAL RETURN TO THE PUBLIC AND AVOID A WINDFALL TO INCUMBENTS – STATUTORY GOALS BEST ACCOMPLISHED BY A COMBINATION OF AUCTIONS AND ONGOING LEASE FEES

The Task Force Report devotes considerable attention to the vexing problem of how best to transition spectrum users (and aspiring users) “from the restrictive legacy

licensing regimes to more flexible rights models that create opportunities for new, more efficient and beneficial uses.” (p. 46) The Task Force recognizes that “the core issue” in selecting a transition mechanism to more flexible licenses and expanded unlicensed use is “the treatment of incumbents”:

Do they remain in the band or are they cleared or relocated? If incumbents are cleared or relocated out of the band, what mechanisms are used? If incumbents remain in the band, does the Commission grant them expanded rights outright or does it use a new licensing vehicle to award expanded rights? (p. 47)

Unfortunately, at least two of the four options described by the Task Force violate the plain meaning of the Communications Act and reflect little or no concern with the intent of several policies adopted or reiterated by Congress during the past decade. At the same time, the Task Force fails to consider the proposal made by NAF, *et al.* to employ a third way, patterned after the DTV ancillary and supplementary services model adopted by Congress. In short, rather than giving away valuable new spectrum rights to incumbents, or “selling” spectrum at a one-off auction that imposes massive up-front payments on bidders, the Commission should “lease” spectrum for a set term of years, allowing commercial users complete flexibility during the term of the lease. While Congress may choose to amend the Communications Act and promulgate a different path to spectrum allocation reform, the Commission is constrained by the Act to use a competitive means of assignment, to ensure compensation to the public for any new and valuable license rights, and to avoid the unjust enrichment of commercial users.

Indeed, the Supreme Court’s decision in *FCC v. Nextwave* underscores the perils of auctions and the virtues of the lease model. The Court has now opened the door for parties to make outrageous bids to secure spectrum licenses, then hide behind the

protection of the bankruptcy code. A lease model, by contrast, would reduce the need for costly up-front payments and would allow the Commission to maintain an ongoing level of supervision that would alleviate this danger.

A. THE COMMISSION MAY NOT EFFECTIVELY PRIVATIZE THE PUBLIC AIRWAVES OR CONFER WINDFALLS ON INCUMBENT LICENSEES, AT TAXPAYER EXPENSE, BY GIVING AWAY NEW AND MARKETABLE LICENSE RIGHTS

The Communications Act requires that new license rights or modified licenses granting service flexibility must generally be assigned by auction and in a manner that compensates the public and avoids the unjust enrichment of commercial licensees.²⁵ Congress clearly intended that auctions be used not only as a tool for efficient initial assignment of licenses, but also as a means of avoiding windfalls and capturing for the public a fair return on the rental value of this scarce public asset.²⁶

There is a point at which the redefinition of a license becomes equivalent to assigning a new license – and clearly the sort of “fully flexible” licenses described by the Task Force is both different in kind and far more valuable than the traditional “service license” held by most spectrum incumbents (digital PCS providers that bid for their very flexible license rights since 1994 would be an exception). It is important to remember that with the arguable exception of bands auctioned for CMRS after 1993, incumbent

²⁵ With few exceptions Section 309(j) of the Communications Act requires the FCC to use auctions to award mutually exclusive applications for spectrum license rights assigned to commercial users. The enumerated objectives of spectrum auction policy specified by Congress in the 1996 Telecommunications Act include “recovery for the public of a portion of the value of the public spectrum resource made available for commercial use and avoidance of unjust enrichment through the methods employed to award uses of that resource.” 47 U.S.C. § 309(j)(3)(C).

²⁶ While the Commission can, and should, consider the effects of its decisions on the willingness of companies to invest generally, 47 USC §303(y)(2)(B), it may not consider the investment of a licensee as a determining factor. *FCC v. Pottsville Broadcasting*, 309 U.S. 134, 137-38 (1940); *FCC v. Sanders Bros. Radio Station*, 309 U.S. 470, 473-74 (1940). As the Supreme Court admonished long ago: “The public, not some private interest, convenience, or necessity governs the issuance of licenses under the Act.” *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327, 333 (1945).

commercial licensees typically possess a limited-term license to operate a particular service on a particular range of frequencies, subject to certain service and operating rules. The public trustee model was premised on the notion that because only a limited number of providers would be licensed to transmit a particular service (*e.g.*, television broadcasting), the license must be conditioned on certain public interest obligations, which in theory ensured the public a return on commercial use of scarce spectrum. The concepts of spectrum “flexibility” and secondary markets for wireless bandwidth, in contrast, contemplate a future where commercial spectrum is treated more like a commodity; for the limited period of the license, commercial licensees could potentially sell, sublease or completely change their use of spectrum without seeking FCC approval, subject primarily to very general rules concerning harmful interference.²⁷

The issuance or modification of a license that grants such new, valuable and “flexible” rights to private parties is the equivalent of a new license. This is most obviously the case concerning “site” licenses (*e.g.*, broadcasting, private land mobile), since the license concerns the operation of particular equipment at a particular frequency for a particular purpose – whereas a geographic area license to operate any service, whether or not the incumbent site licensee is temporarily protected from harmful interference, is an entirely different (and more valuable) type of license. If the Commission reaches the decision that the “public interest, convenience and necessity” supports opening a band to an entirely new service – by granting “flexibility” within that band – then, whether or not discretion to define that service is delegated to the licensee, there appears to be no statutory or policy reason why that redefined and far more valuable

²⁷ This does not negate the licensee’s status as a trustee for the public. Rather, it reflects the evolution in understanding as to how the public interest may best be served, informed by the 70 years of history and the

license would not be opened to competitive bidding. *See, e.g., Ku Band Sharing Order* at ¶ 241 (finding that Commission should auction new service license).²⁸ All of the policy rationales for competitive assignment of new license rights appear to apply equally to the assignment of licenses with enhanced flexibility. Even assuming that incumbent licensees have developed a reasonable expectation of license renewal, which arguably promotes certainty concerning sunk capital costs related to the service they are licensed to provide, incumbents certainly have no reasonable expectation of preferential treatment when new, more flexible licenses are granted. As noted below, the capital investments made by incumbent licensees can be protected without conferring windfall profits. While any commercial incumbent would happily accept a free grant of flexibility, only a competitive process is fair to competing firms and can ensure that this important resource is put to its highest-value use (or at least its highest value use as judged by private markets).²⁹

Even the possibility that the Commission would depart from the statutory framework of competitive assignment would both damage the value of spectrum won by incumbents at auction in recent years and increase the incentives of all incumbent holders to resist returning spectrum they may not need. If these new licenses can be used for categories of service anticipated for assignment by auction under Section 309(j) of the

continued evolution of technology.

²⁸ Although Commentors support this approach as a general rule, the specific factual situation surrounding the application of Northpoint/Broadwave warrant a different result, and Commentors do not endorse the Commission's conclusion in *Ku Band sharing Order* as applied to Northpoint/Broadwave.

²⁹ NAF, *et al.* emphasize that the argument advanced here is not relevant to non-commercial allocations, except perhaps where Congress identifies a need to select among competing providers. Non-commercial providers are generally exempted from the competitive assignment rules for good reason. For example, since the Public Broadcasting System is structured by Congress to offer a non-commercial broadcasting service in each community, it would be contrary to current policy goals to either grant PBS full flexibility or to require PBS stations to drain their limited budgets competing with commercial providers to maintain adequate spectrum space.

Act, which includes commercial mobile radio services (CMRS) among others, then the Commission must use its authority to ensure: (a) that these new “flexible” license rights are assigned to firms on a competitive basis, making it more likely they will be put to a high-value use; and (b) the “recovery for the public of a portion of the value of the public spectrum resource made available for commercial use,” thereby avoiding the “unjust enrichment” of incumbent licensees, as required by law.³⁰ The Balanced Budget Act of 1997³¹ amended Section 309(j) of the Communications Act to expand and broaden the FCC’s auction authority. Whereas previous statutes gave the FCC the authority to use auctions as a tool for efficient license assignment, the Balanced Budget Act *requires* the FCC to use auctions to award mutually exclusive applications for most types of spectrum licenses for commercial services.³²

Finally, NAF, *et al.* observe that relieving broadcasters of their public interest responsibilities would have the same effect as increasing flexibility without requiring some further auction or payment by incumbent licensees in other services. Broadcasters received their licenses on the express understanding that they provide valuable public services to their communities. Where the Commission has relieved broadcasters of explicit public interest obligations, it has done so because it found that these rules had become a hindrance and prevented broadcasters from offering valuable services to their communities. *See, e.g. Report Concerning General Fairness Obligations of Broadcast Licensees*, 102 F.C.C.2d 143 (1985) (finding (erroneously) that fairness doctrine

³⁰ 47 U.S.C. § 309(j)(3)(C).

³¹ Codified at 47 USC §§153 nt; 254 nt; 309 nt; & 925 nt.

³² Exempted from auctions are licenses or site permits for: “public safety radio services;” “digital television service given to existing terrestrial broadcast licensees to replace their analog television service licenses”; and “noncommercial educational broadcast stations and public broadcast stations.”

obligations hindered local broadcasters from editorializing or providing coverage of controversial issues).

As the Commission itself recently observed, Congress established a scheme for local broadcasters rooted in localism and dedicated to preserving competition and diversity in the marketplace of ideas. *2002 Biennial Review*, MB 02-277 ¶¶29-32. Central to this scheme is the requirement that broadcasters serve their local communities via public interest obligations –most notably the broadcast of programming that serves the local community. The Commission may not relieve broadcasters of their public interest obligations, as suggested by the Task Force.

Finally, the Commission must not provide a windfall to broadcasters, who as recently as 1996 received over \$70 Billion in free spectrum. Rather than embrace the Task Force recommendation of transforming broadcast licenses from trusteeships to a fee simple to the detriment of the public, NAF, *et al.* urge the FCC to revive its moribund proceeding on the public interest obligations of digital broadcasters, *Public Interest Obligations of Digital Broadcasters*, MM 99-360, and to ensure that the public receives a fair return on Congress' investment that the broadcasters hold in trust.

B. AUCTION AND LEASING FEE MECHANISMS ARE AVAILABLE TO EFFICIENTLY ASSIGN NEW FLEXIBLE LICENSES AMONG COMPETING FIRMS, TO COMPENSATE THE PUBLIC, AND TO AVOID UNJUST ENRICHMENT

It is important to realize that the government's failure to recover a portion of the value of exclusive rights to spectrum is an exception to longstanding public policy at the federal and state levels. Where scarce and valuable public assets are made available for commerce – such as the lease rights to extract coal and oil, cut timber and graze herds on public lands – a combination of auctions and lease fees generate billions of dollars in

public revenue. Auctions, fees and royalties are typically used to allocate public assets for three reasons. One is to ensure that a scarce resource is assigned to firms that value it most highly. A second reason is that internalizing the opportunity cost of alternative uses gives licensees a financial incentive to use the resources efficiently. A third objective is to provide a fair return to the public, revenue that can either help to reduce other taxes, or which can be earmarked to pay for public investment in the same sector.³³

In their original comments, NAF, *et al.* argued that auction and user fee methods are available to accomplish the statutory goals of spectrum allocation policy mandated by Congress. NAF, *et al.* emphasized that if new “flexible” license rights are assigned, and if auction winners (or current incumbents) are given an option to renew the license, then an ongoing lease fee should attach at that point (alternatively, the incumbent can return the license for re-auction). Once service flexibility and secondary markets for spectrum are well established, lease fees can be imputed based on a modest percentage of the value evidenced by secondary market transactions for spectrum with similar propagation characteristics, or imposed based on either a modest percentage of revenue generated from commercial use of spectrum..

³³ An example of auction, lease and royalty fees paid on a public asset is the Outer Continental Shelf Lands Act of 1953, which has yielded over \$122 billion in revenues to the federal government and coastal state governments since 1954. The OCSLA aims to provide "orderly leasing of these lands, while affording protection of the environment and ensuring that the federal government receives fair value for both lands leased and the production that might result." Successful bidders for tracts pay a combination of "bonuses" (up-front cash payments to secure a lease tract), rent of leased tracts (to incent active use of the tract), and royalties on oil or gas production). Congressional Research Service, "Outer Continental Shelf: Oil and Gas Leasing and Revenue," May 2000. Federal OCS revenue is earmarked for investment through the Land and Water Conservation Fund, a trust fund established in 1964 for the purpose of acquiring new recreation lands, and the National Historic Preservation Fund. See Congressional Research Service, "Land and Water Conservation Fund," March 2001. Similarly, the Bureau of Land Management administers combinations of auctions and leasing fees for the commercial use of public lands for extracting energy and minerals, logging timber, grazing animals and securing rights-of-way for pipelines. See "The Private Use of Public Assets: Examples of Auction and Lease Fees Paid on Public Resources," Fact Sheet, New America Foundation (August 2002).

The use of ongoing user fees for spectrum serve several important objectives: first, to recover for the public an ongoing and market-based return on the public resource of spectrum; second, to provide a market-based incentive for spectrum use efficiency, particularly by incumbent licensees that have used the resource completely free of charge; third, to reduce the up-front auction cost of the new flexible license rights (and of new commercial assignments generally), since bidders would not be anticipating permanent cost-free control of the frequency; and finally, to encourage capital investment by giving the new incumbents an option to convert after the initial license term to a leasing arrangement with expectation of renewal. All commercial licensees would end up on a level playing field, benefit from a more flexible and valuable licensing arrangement, and in return pay a modest annual lease fee back to the public.

C. THREE OPTIONS FOR A TRANSITION TO FLEXIBLE SPECTRUM LICENSES AND LEASE FEES

In comments to the Task Force, NAF, *et al.* outlined three broad options for transitioning to this new allocation system based on flexible licenses, secondary markets, protecting incumbent capital investments, and charging all commercial licensees equally for use of spectrum. One would involve auctioning new license rights with service flexibility as an “overlay” license permitting any use that did not cause harmful interference to the incumbent service already operating on the band. Ideally the incumbent’s protection from harmful interference would “wear away” after a reasonable number of years. While incumbents would have every incentive to make the winning bid, other bidders could be required to compensate incumbents for either reasonable relocation costs, or for the depreciated value of their capital equipment. A trust fund from auction proceeds could facilitate this process, although under no circumstances

should commercial incumbents receive a windfall or “pay-off” for returning a license. After the initial license term, the holders of these completely flexible licenses would be given the presumptive right to renew the license subject to payment of an annual lease fee.

A second option, more favorable to incumbents, could give current commercial incumbents an option to renew their license with enhanced rights, including service flexibility and the ability to sell or sublease (for the period of the license), in return for paying a market-based spectrum user fee to the public. A precedent for this approach is current law governing the allocation of TV channels for digital broadcasting. Congress granted broadcasters the flexibility to use a portion of their 6 MHz DTV channel for ancillary services (that is, for paid services separate from their obligation to broadcast a primary “free” signal), but provided that they must pay a market-based fee the FCC has set at 5 percent of gross revenue. Although giving incumbents an option to acquire flexible license rights by converting directly to a user fee (rather than by competitive assignment) would require Congressional authorization, it would at least link the goals of replacing spectrum “zoning” with flexible, market-based allocations while also ensuring “recovery for the public of a portion of the value of the public spectrum resource made available for commercial use. . . .”³⁴

A third option for a transition to flexible, market-based allocations that also would achieve the various goals of the Communications Act was proposed in comments filed with the Task Force by Jon M. Peha, a professor of electrical engineering at Carnegie Mellon University. Professor Peha explains why recent PCS auctions, in which “an auction-winner is likely to pay an enormous one-time fee for access to spectrum and

nothing thereafter,” creates many problems.³⁵ His proposed solution is “to replace this one-time payment with annual spectrum fees; the winner of the auction is the entity that offers at auction to pay the highest annual fee for as long as it holds the license.”³⁶ Correctly structured, an auction based on bidding a rental stream would lower barriers of entry to spectrum by amortizing the cost over future years, internalize an ongoing incentive for efficient use of the band, facilitate secondary markets, ensure the public a future recovery on the public resource, and allow licensees to simply return the spectrum for re-auction if in the future the private return is not sufficiently higher than the rental liability.

D. TASK FORCE TRANSITION OPTIONS THREE AND FOUR ARE ESSENTIALLY ‘GIVEAWAYS’ THAT VIOLATE THE COMMUNICATIONS ACT AND WOULD BE UNFAIR TO COMPETITORS AND TAXPAYERS

In contrast to the flexibility-and-leasing options proposed by NAF, *et al.*, the Task Force does not consider spectrum fees, but instead includes two options that would deprive the public of a return on spectrum and confer unearned windfalls on incumbent license holders to the detriment of competitors. Under the third listed option, “the Commission reallocates restricted spectrum to more flexible use, grants the expanded usage rights under new licenses, and establishes a simultaneous market-based exchange mechanism to encourage voluntary band-clearing or restructuring of the band by incumbents.” (p. 48) This so-called “Big Bang” auction is described in a separate paper by the FCC’s senior staff economists and released concurrently with the Task Force

³⁴ 47 U.S.C. § 309(j)(3)(C).

³⁵ More Market Mechanisms in Moderation,” Comments of Jon M. Peha, In the Matter of Spectrum Policy Task Force, ET Docket No. 02-135, July 7, 2002, at 3.

³⁶ *Ibid.*

Report.³⁷ The proposal is dressed up as an “auction” (specifically, a “two sided auction” with “simultaneous exchanges”), but one in which any incumbent opting to sell their license would be entitled to keep 100 percent of the revenue – money that under current law would flow into the public treasury. Incumbent licensees would be given the option to sell their license rights and keep the revenue, or to keep their licenses and acquire more valuable, flexible and marketable new license rights at zero cost. Apparently the Task Force realizes the Commission does not have the legal authority to pursue this transition method, since the Report later recommends “that Congress amend Section 309(j) of the Act to include an express grant of authority to the FCC to conduct two-sided auctions and simultaneous exchanges.” (p. 53)

Under the fourth option listed, “the Commission grants expanded flexible rights directly to incumbents through modification of their existing licenses.” In this case the Task Force does reference the Commission’s possible lack of authority to give away expanded rights to incumbents, noting this option “also may raise equity issues relating to possible windfalls or unjust enrichment.” (p. 51). Moreover, the Report states, this option could create incentives for speculation and spectrum hoarding: “. . . [S]uch a policy would encourage parties to make future bids on presumably low-cost spectrum that is allocated for low-value uses and that has no flexibility, then petition for an expansion of those rights after acquiring the license.” (p. 51)

The essential logic of both options – and of excluding the option of leasing spectrum licenses for limited terms – appears to be premised on the staff’s belief that broadcasters and other spectrum incumbents have so much political clout that the only

³⁷ See Evan Kwerel and John Williams, “A Proposal for a Rapid Transition to Market Allocation of Spectrum,” OPP Working Paper Series, No. 38 (FCC, November 2002).

practical way to reduce scarcity and promote flexibility is to bribe them to bring their spectrum to market. At its deepest level, the “two-sided auctions” giveaway proposed by the agency’s senior economists is based on the assumption that spectrum incumbents have holdup power. In a negotiating situation, the two players to a transaction have different reservation prices. The reservation price is the point at which each party to a transaction is better off than without the transaction. There is generally a gap between the two reservation prices and this is the bargaining zone. If one party has holdup power, then it can capture the entire difference between the two reservation prices. In the case of spectrum, the current allocation system is clearly inefficient. But who should capture the gains from increasing the efficiency with which this public asset is used? The two-sided auction giveaway assumes that spectrum incumbents have veto power over the move to greater efficiency – and will be able to hold out until they can capture the entire economic benefit from a more efficient allocation of the airwaves. Ironically, the two giveaway options emphasized by the Task Force are the ultimate in command and control allocation: either amounts to the administrative taking of an invaluable resource – in this case a public resource by reverse eminent domain – and awarding it to a politically favored class of recipients, to the detriment of both taxpayers and competitors who don’t similarly receive free resources.

NAF, *et al.* contend that the Commission must do more than simply grant new and far more valuable “flexible” licenses to incumbents, rent-free, or to establish a “two-sided” auction process that allows incumbents to capture public auction revenue and unduly favors incumbents over their private sector competitors. Absent safeguards, the giveaway transition options described favorably in the Report would unlawfully and

unjustly enrich incumbents and deprive “the public of a portion of the value of the public spectrum resource made available for commercial use.” 47 USC §309(j)(3)(C).

III. TO PROMOTE INNOVATION AND FREE EXPRESSION, THE COMMISSION SHOULD ADOPT RULES TO PROMOTE THE SPECTRUM “COMMONS” MODEL BOTH BY ALLOWING UNLICENSED USERS TO SHARE UNDERUTILIZED FREQUENCIES AND BY DESIGNATING NEW UNLICENSED BANDS.

Although NAF, *et al.*, support the Task Force recommendation that “the Commission should consider designating additional bands for unlicensed use,” (p. 54) Commenters are disappointed at the Report’s tepid commitment to reallocating frequencies below 5 GHz to new unlicensed bands, its restrictive approach to the opportunistic sharing of underutilized spectrum, and the potential restrictions on access and innovation associated with its recommendation that new unlicensed bands “be controlled by a new type of band manager or frequency coordinator selected by the FCC.”

Before addressing the specifics of these three shortcomings, NAF, *et al.* wish to reiterate a vital consideration of communications policy that the Task Force neither mentions nor seems to have given any weight: the First Amendment. In two earlier comments to the Task Force, NAF, *et al.* emphasized that the proper balance between what the Task Force calls the “exclusive rights” model and the “commons” model for access to the airwaves cannot be decided only, or even primarily, on economic criteria. The Commission must recognize that requiring a license to communicate – or granting certain parties “exclusive rights” over the frequencies – is a form of intrusive regulation that necessarily burdens the ability of other citizens to communicate. Accordingly, where the Commission does choose to grant exclusive licenses to communicate, it must do so in

a manner that promotes the interest of the First Amendment. *Red Lion Broadcasting Co., Inc. v. FCC*, 395 U.S. 367, 387-95 (1969). Because only the practical need to manage scarcity can justify licensing exclusive access to the airwaves, the Commission must minimize the need for licenses wherever possible. The Commission should therefore adopt an express preference for unlicensed access over exclusive uses, and for non-exclusive licensing (such as overlays and band-sharing arrangements) in preference over exclusive licenses. Where the Commission considers new unlicensed services, the burden should fall to licensees to demonstrate that harmful interference will result.³⁸

The Task Force’s own findings support the conclusion that whereas the analog era may have justified a government grant of exclusive rights to control a band of frequencies, emerging digital technologies will steadily reduce scarcity and permit policies that give many more citizens access to the airwaves on a non-exclusive (and non-interfering) basis. The Report states:

Preliminary data and general observations indicate that many portions of the radio spectrum are not in use for significant periods of time, and that spectrum use of these “white spaces” (both temporal and geographic) can be increased significantly. (p. 3-4)

Moreover, the Task Force findings confirm that the rapid development of digital and software-defined (“smart”) radio technologies can permit individual citizens to dynamically share wide ranges of spectrum without imposing harmful interference on licensed or on other unlicensed users. The Report states:

Digital signals are inherently more robust, and resistant to interference, than analog signals. ... Thus, spectrum policies can and should reflect this increased ability to tolerate interference. (p. 13)

³⁸ Because the technology facilitating unlicensed sharing remains in its infancy, the Commission must proceed cautiously. As the statute requires, the Commission must consider whether permitting additional unlicensed uses will create “*harmful* interference.” 47 USC §303(y)(C) (emphasis added). The burden, however, should lie with those seeking to deny others access to the airwaves.

... Often technologies such as software-defined radio are called “smart” or “opportunistic” technologies because, due to their operational flexibility, software-defined radios can search the radio spectrum, sense the environment, and operate in spectrum not in use by others.

... That is, because their operations are so agile and can be changed nearly instantaneously, they can operate for short periods of time in unused spectrum. (p. 14)

Unfortunately, rather than embrace this evolving technology as an opportunity to expand unregulated citizen access and more efficient sharing of frequencies, the Task Force recommends a preference for rationing (and hence diminishing) citizen access by turning sharing into “trespassing” – and allowing incumbents with “exclusive rights” to demand the public pay toll charges for access to “*their*” airwaves.

This turns the appropriate First Amendment analysis on its head. As the Supreme Court has explained at length, restrictions on individual speech is abhorrent to the First Amendment – whether they flow from the exercise of government authority or the exercise of private right. *Red Lion*, 395 U.S. at 389-91. The government may regulate activity to ensure that the public may enjoy use of the electromagnetic spectrum, but such government supervision is necessarily a poor substitute for genuinely unfettered freedom for the public to use the public airwaves. To propose, as the Task Force does, that the government should act to enshrine scarcity by creating a new set of private property interest is repugnant to the spirit of the First Amendment.

A. THE COMMISSION SHOULD EXPAND UNLICENSED ALLOCATIONS TO FACILITATE BROADBAND WIRELESS NETWORKING, INCLUDING IN PRIME FREQUENCIES BELOW 5 GHz

NAF, *et al.* heartily concur in the Task Force recommendation that the Commission should “consider designating additional bands for unlicensed use to better

optimize spectrum access.” (p. 54) The Task Force notes the exploding popularity of wireless Internet access and computer networking that operate on unlicensed bands. There are already more than 10 million consumer Wi-Fi devices that share the unlicensed 2.4 GHz band, a rapidly growing market that already exceeds \$2 billion per year in sales. A wireless “last mile” connection for very high-speed Internet access to homes and small businesses is another potential use that could necessitate substantial additional allocations of unlicensed spectrum, ideally at lower frequencies that pass through foliage, weather and walls.

In this regard, the Commission’s current NOI on the compatibility of spread spectrum unlicensed uses in the broadcast spectrum makes a good beginning. This NOI has the potential to open more space to unlicensed uses without ‘propertizing’ the spectrum first or disrupting existing uses. It focuses on expanding the useful spectrum and concurrent benefits to the American people, such as potential delivery of new broadband services. The Task Force Report expresses skepticism concerning the Commission’s ability to reallocate to unlicensed citizen use another band comparable to the 83.5 MHz available to consumer devices at 2.4 GHz, observing “there is little ‘low-hanging fruit’ left for unlicensed band use.” Yet with only 12 percent of U.S. households still relying on terrestrial over-the-air broadcasting to receive their primary TV signal – and with such a small share of the upper VHF channels in operation nationwide – the broadcast TV bands may be the ideal space to evolve in a controlled manner, over a period of years, into a new “national park” for open citizen access to the airwaves.

The Task Force Report also discusses which spectrum would be most suitable for licensed and unlicensed operations. It concludes that “[t]he commons model should be

applied primarily but not exclusively in bands where scarcity is relatively low and transaction costs [associated with market-based negotiation of access rights] are relatively high.” Not surprisingly, therefore, incumbent licensees occupying more valuable low-frequency spectrum should remain where they are while unlicensed allocations are relegated to less valuable, very high-frequency bands. (p. 5) However, it is at best a tautology to assert that what the Report calls the “exclusive-use model” should apply where “scarcity is high” and “transactions costs low.” The radio frequencies are not relatively scarce or abundant except as government industrial policy has made them so. There is no reason to believe that services given low-frequency assignments decades ago, in the context of analog technology, should be given preference over emerging services (such as mobile Internet access) simply because the FCC sustains a licensing policy that makes low frequencies “scarce.” Moreover, when one considers unlicensed wireless LAN technologies, such as Wi-Fi, it’s not at all clear that its operation at relatively low or high frequencies dramatically changes the “transaction costs associated with market-based negotiation of access rights.”

B. THE COMMISSION SHOULD ALLOW THE DYNAMIC SHARING OF UNDERUTILIZED SPECTRUM, EXCEPT WHERE IT CAUSES ACTUAL HARMFUL INTERFERENCE WITH A LICENSED SERVICE

Commenters are disappointed at the Report’s restrictive approach to facilitating the opportunistic sharing of underutilized spectrum. The Report describes private “secondary market” transactions and government-defined “easements” as alternative approaches to facilitate citizen access to licensed spectrum by opportunistic devices able to dynamically share underutilized bands on a non-interfering basis. (p. 55) Unfortunately, the Task Force recommends “that in the first instance” the Commission

should rely on private secondary market transactions to facilitate access, asserting that licensees “will generally find it advantageous to allow others to use unused portions of their spectrum if they are adequately compensated” and that this will occur “at reasonable transaction costs.” (p. 57).

We agree with this approach to the extent that the access sought would result in *actual harmful interference* to a licensed incumbent’s ongoing operations. To the extent that the unlicensed user would cause harmful interference, the concept of enhancing license rights with complete service, technical and market flexibility anticipates the licensee’s ability to negotiate compensation in return for sacrificing (i.e., subleasing) his own access. However, the Task Force recommends initial and primary reliance on negotiated private transactions whenever the user seeking access to licensed spectrum would be operating above a hypothetical “interference temperature threshold” – a new quantitative measure that would define the total level of RF emission a licensed operator must tolerate in a given band. To the extent that this “interference threshold” is more restrictive than is necessary to protect against actual harmful interference – or to the extent the threshold concept is not applied to today’s incumbent licensees (as the Report implies), or is not reviewed and adjusted upward periodically to reflect advances in receiver technology – it will deter access and sharing.

On balance, NAF *et al.* believe that the Report’s concept of an “interference temperature threshold” may do more to reduce than to facilitate shared access to underutilized bands. On the one hand, the threshold would need to be set band by band to account for vast differences in legacy receivers and incumbent services. For example, presumably the old “dumb” analog receivers operating on a terrestrial broadcast TV

channel would be far sensitive to interference from a low-power wireless LAN device than would be a rooftop-mounted, line-of-sight digital broadcast satellite receiver. But setting the interference “threshold” band by band would fall hostage to special interest pleading by incumbent services, which would have a self-interest in minimizing spectrum sharing (not only to reduce their risks, but to increase scarcity and hence the value of both their bandwidth and of the access they might sell through secondary markets). Thus, rather than create a preemptive obstacle to shared access, NAF, *et al.* urge the Commission to put the burden where it belongs – on those who would claim that sharing creates actual harmful interference.

While there is no way to know how restrictive the “interference temperature threshold” would be in practice, the report clearly anticipates that it will be set at a level considerably below that necessary to avoid harmful interference to a licensee’s operations. But to the extent that the shared access sought would not cause actual harmful interference, it would be contrary to public policy to allow licensees to demand a toll charge, particularly for low-power and short-range communication by individual consumer devices.

First, such compensation is unnecessary; as explained in Section I above, the government can license spectrum (or renew a license) subject to sharing requirements. There are no residual private interests beyond the term of the license that should inhibit policymakers from expanding, over time and as technology allows, the more efficient and democratic alternative of unlicensed and opportunistic sharing of virtually any underutilized bands.

Second, the efficiency of requiring private secondary market transactions breaks down precisely in the situation where dynamic sharing with emerging “smart” radio technologies will be most beneficial to the public interest – that is, with low-power, relatively short range and spread spectrum transmissions associated with sharing high-speed Internet access on a wireless basis. Although the Report rather summarily concludes that private secondary market mechanisms can be developed “at reasonable transaction costs,” (p. 57) this will be least true for individual consumer devices, similar to Wi-Fi, that could easily be deterred by access charges. The Task Force is correct to note that a key question here is the relative cost of using a private market mechanism to enforce the excludability of bits from a licensed band compared to the cost of defining a government “easement” for shared access. However, a major reason most roads, waterways and parks operate toll free is that it is prohibitively expensive and inconvenient to monitor and charge individual users. Imagine paying a toll every time you turn onto a side street. Similarly, low-power uses are characterized by high costs of excludability and low marginal costs – the classic attributes of a public good. To give a licensee exclusive control over every dimension of a frequency’s use – regardless of harmful interference – is to artificially restrict low power use.

The reason that the Internet pricing model works is because once the network is in place, the marginal cost of transporting additional bits of information is essentially zero (assuming the network is operating below capacity). Wireless networks also are fixed cost operations, particularly for low-power users; and, as the Task Force finds, there is substantial unused spectrum capacity. There is a substantial cost to radiate a signal across an entire city; but the cost to radiate a signal among wireless appliances around

your home or business is almost immeasurable. Thus, for personal communications with nearly zero marginal cost, allocating access to underutilized frequencies using a secondary market mechanism would be grossly inefficient.

The Task Force does recognize this transaction cost problem. The Report offers that “there may be instances where secondary markets work less well because they impose such significant transaction costs on parties that negotiations do not occur. Under this approach, unlicensed devices operating above the interference temperature threshold would be allowed to operate on licensed spectrum on a non-interfering basis subject to specified conditions and with no negotiation with the licensee required.” Indeed, in describing what it calls an “easements model,” the Task Force acknowledges that allocating access to spectrum need not be “all or nothing” with respect to licensed and unlicensed use. “By definition, the easements model allows for efficient and low-cost access to spectrum, because the government establishes overall rules and protocols under which any user would be allowed access to the spectrum, and negotiations with the individual licensees are not required,” the Report states. (p. 58) Still, the Task Force recommends that “in the first instance, the Commission should focus on use of the secondary markets model” On the contrary, NAF, *et al.* have argued throughout the Task Force process that by adhering to the core principles of the Communications Act – which include public ownership of the airwaves, licensing for limited terms, residual rights held by the public, and securing an appropriate return to the public for exclusive license rights – policymakers will do better to maintain the flexibility to choose hybrid models (such as licensing with limited sharing) as appropriate.

Finally, while NAF, *et al.* generally support the approach the Task Force calls “easements,” they observe that any analogy to easements across private real property is misleading. The Commission should avoid using the term “easement” in this context, as it implies that shared access to the airwaves is an exception carved from some pre-existing property right of licensees to exert complete control over *any* potential use of a band. In fact, the Communications Act does not provide for licensing frequencies, let alone for conferring property interests in them. The Act authorizes licenses for the operation of specified services at particular frequencies – and not for the sort of pervasive control (or “ownership”) that Americans associate with real property. Hence, what the Task Force calls an “easement” is better understood as simply a use of the frequency reserved to the public and no part of the license at all. While it would be undesirable to impair the licensee’s reasonable expectations during the term of the license, or without adequate notice, the scope of the license can be redefined by the licensor (the government) to allow more or less sharing of the band from one license term to the next. This would be as true for new licenses enhanced by service, technical and market flexibility as it is for today’s largely restricted licensing model.

C. THE COMMISSION SHOULD NOT PRESUME THAT A “BAND MANAGER” IS APPROPRIATE OR NEEDED TO CONTROL ACCESS TO NEW UNLICENSED BANDS

Finally, NAF, *et al.* urge the Commission to regard with some skepticism the Task Force recommendation that in “new unlicensed bands, access should be controlled by a new type of band manager or frequency coordinator selected by the FCC.” (p. 54). NAF, *et al.*, submit that the Commission should adopt an initial presumption against designating an entity to “control” access to unlicensed spectrum, or even to promulgate

“rules of the road” that might tend to protect or lock in Wi-Fi or any other current technology or service. Protocols to facilitate wireless networking on unlicensed spectrum must *not* come at the price of limiting the sort of freewheeling innovation that is possible on the current “junk” band of unlicensed at 2.4 GHz; it is precisely the usage-flexible character of this band (or another, larger space designated in its place) that allows an entrepreneurial technology like Wi-Fi and Bluetooth to develop.

The Commission should not foreclose future innovation by placing service rule-like restrictions on the primary band available for unlicensed experimentation. Rather, as David Reed, a noted technologist and co-developer of Internet Protocol, stated in his comments, the Commission should encourage “a communications protocol that is independent of the underlying transmission architecture that enables internetworking of radio systems. Like the Internet protocol layer called IP, it [‘radio IP’] should be as simple as possible, while allowing the expression of the desired communications functionality.”³⁹ End users would define the highest value use of available spectrum “use-by-use,” on a decentralized market model, rather than relying on a spectrum “manager” to bureaucratically allocate capacity based on estimates of demand in advance of providing the service.⁴⁰ Such an open wireless networking architecture – like the Internet itself – may benefit from general “rules of the road” (as does any commons), whereas a “band manager” should be a last resort. Before resorting to a “band manager,” NAF, *et al.* suggest that the Commission look at alternatives such as considering whether the demonstrated demand for broadband wireless networking justifies the creation of a

³⁹ David P. Reed, PhD, “Comments for FCC Spectrum Policy Task Force,” July 8, 2002, p. 13 (<http://www.reed.com/OpenSpectrum/FCC02-135Reed.html>).

⁴⁰ See Kevin Werbach, “Here’s a Cure for the Broadband Blues,” ZDNet, Nov. 28, 2001 (<http://zdnet.com.com/2100-1107-51165.html>).

new unlicensed band with protocols optimized for that purpose, or equipment certification rules that hard wire “etiquette” protocols to help avoid any potential “tragedy of the commons.”