

the Commission’s “obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings.”⁵⁷ The Commission has interpreted that as an “obligation to attempt to avoid mutual exclusivity by the methods prescribed therein only when doing so would further the public interest goals of Section 309(j)(3).”⁵⁸ Northpoint questions whether the Commission’s interpretation is consistent with the plain meaning of the statute. But even if it is, the Commission must – in the circumstances of this particular proceeding – take steps to avoid accepting applications that would be mutually exclusive with Northpoint’s.

Section 309(j)(3) specifically describes (in five paragraphs lettered (A) through (E)) the public interest goals that the Commission is supposed to consider in deciding whether to use competitive bidding.⁵⁹ The Commission must promote “the development

broadcast stations. *See id.* § 309(j)(2). The Commission has construed the list of exemptions in paragraph (2) to be exhaustive rather than merely illustrative of the kinds of services that are exempt. *See* First Report and Order, *Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses*, 13 FCC Rcd 15920, 16000, ¶ 199 (1998).

⁵⁷ 47 U.S.C. § 309(j)(6)(E).

⁵⁸ Report and Order and Further Notice of Proposed Rule Making, *Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as amended*, WT Docket No. 99-87, FCC 00-403, ¶ 21 (rel. Nov. 20, 2000).

⁵⁹ 47 U.S.C. § 309(j)(3) reads in relevant part as follows:

In identifying classes of licenses and permits to be issued by competitive bidding, in specifying eligibility and other characteristics of such licenses and permits, and in designing the methodologies for use under this subsection, the Commission shall include safeguards to protect the public interest in the use of the spectrum and shall seek to promote the purposes specified in section 151 of this title and the following objectives:

and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays” (paragraph (A)). Northpoint’s low-cost repeater infrastructure can get digital wireless services to rural areas on a very fast timetable – within two years of licensing. No other party has the technology or has committed to roll out the service quickly. By contrast, paragraph (E) requires that any auctions be conducted on a deliberately slow timetable.

The Commission also must promote “economic opportunity and competition . . . by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women” (paragraph (B)). Northpoint’s Broadwave affiliates are small businesses

(A) the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays;

(B) promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women;

(C) 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;

(D) efficient and intensive use of the electromagnetic spectrum;
and

(E) ensure that, in the scheduling of any competitive bidding under this subsection, an adequate period is allowed—

(i) before issuance of bidding rules, to permit notice and comment on proposed auction procedures; and

(ii) after issuance of bidding rules, to ensure that interested parties have a sufficient time to develop business plans, assess market conditions, and evaluate the availability of equipment for the relevant services.

unaffiliated with existing video and data networks; many are based in rural areas, and more than 80 percent are owned or run by women or minorities.

And the Commission must promote “efficient and intensive use” of the electromagnetic spectrum (Paragraph D) – which is precisely what Northpoint’s technology does.

That leaves only paragraph (C), which includes, as one permitted goal, the recovery of “a portion of the value of the public spectrum resource made available for commercial use” and the “avoidance of unjust enrichment.” But Northpoint is not asking the Government to make any new spectrum available for commercial use; the only possibility of unjust enrichment here runs in the opposite direction, if the Government ends up auctioning (in effect) the direct fruits of Northpoint’s innovation. Indeed, it is far from clear that an auction would succeed in capturing any value for the federal treasury because the Commission could be made to disgorge the auction proceeds to the extent that such proceeds represent a taking of Northpoint’s property without just compensation.

Accordingly, even applying the statutory criteria for auctions in section 309(j)(3), it is clear that auctions would be inappropriate and contrary to congressional intent in the circumstances of this case.⁶⁰ That is particularly true in light of the explicit congressional deadlines for the issuance of licenses, to which we now turn.

⁶⁰ For a further discussion of how and why to distinguish Northpoint’s case from the typical one in which an auction would be appropriate, see *Hazlett Declaration* ¶¶ 5-12; 21-23.

III. THE PROPOSED AUCTION OF TERRESTRIAL LICENSES WOULD SUBVERT CONGRESS'S DIRECTIVES TO ISSUE LICENSES QUICKLY IN THE 12 GHz BAND

The Commission should take action to issue licenses to Northpoint's affiliates quickly, in recognition of the strict deadlines for action set by Congress. Rapid issuance of the licenses to Northpoint's affiliates is necessary not only to bring local television signals to rural subscribers in underserved areas but also to bring needed competition to cable and DBS in the markets for Multichannel Video Programming Distribution ("MVPD") and broadband Internet access.

A. The Commission Has Already Failed to Meet Two Important Deadlines Set by Congress

Congress has set three specific statutory deadlines that bear directly on this case – a general deadline in the Communications Act, and two specific deadlines in the Rural Local Broadcast Signal Act ("RLBSA")⁶¹ and the Satellite Home Viewer Improvement Act ("SHVIA").⁶² The Commission has already failed to meet two of these three deadlines.

First, the Communications Act contains a general one-year deadline for Commission action petitions or applications that, like Northpoint's, propose a new technology or service.⁶³ The deadline promotes "the policy of the United States to encourage the provision of new technologies and services to the public."⁶⁴ But the one-year deadline has long passed in Northpoint's case. Northpoint approached the Commission more than three years ago for authorization to move the technology into the

⁶¹ The RLBSA was enacted as Title II of the IPACORA. *See* note 7, *supra*.

⁶² The SHVIA was enacted as Title I of the IPACORA. *See* note 8, *supra*.

⁶³ 47 U.S.C. § 157(b).

marketplace.⁶⁵ Northpoint lined up affiliates and committed to an extraordinarily fast and broad build-out – just *two years* to *nationwide* service. Northpoint’s affiliates filed applications for licenses more than two years ago.⁶⁶ To stop just short of finishing that process at this late stage, and to set in motion a much slower auction process instead, will postpone for many more years the delivery of local broadcast signals to rural users. This is not what Congress intended, as the next deadline it set clearly shows.

Second, the RLBSA required that, by November 29, 2000, the Commission “take all actions necessary to make a determination regarding licenses or other authorizations for facilities that will utilize . . . spectrum *otherwise allocated* to commercial use” to deliver local broadcast signals to satellite television subscribers.⁶⁷ Northpoint has developed and owns the only technology proven capable of doing this, and the legislative history of the RLBSA leaves no doubt that Congress had Northpoint in mind when setting this deadline.⁶⁸ Congress subsequently reaffirmed the importance of that deadline

⁶⁴ *Id.* § 157(a).

⁶⁵ See Petition for Rule Making, *Northpoint Technology Petition for Rule Making to Modify Section 101.147(p) of the Commission’s Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band By Digital Broadcast Satellite Licensees and Their Affiliates*, RM-9245 (FCC filed Mar. 6, 1998).

⁶⁶ Broadwave Albany, L.L.C., et al., Application for License to Provide New Terrestrial Transport Service in the 12.2-12.7 GHz Band (FCC filed Jan. 8, 1999).

⁶⁷ See RLBSA § 2002(a), 113 Stat. at 1501A-544 (emphasis added).

⁶⁸ See, e.g., 145 Cong. Rec. S14,696, S14,712-13 (daily ed. Nov. 17, 1999) (statement of Sen. Lott); 146 Cong. Rec. S11,230, S11,239 (daily ed. Oct. 27, 2000) (statement of Sen. Inouye) (noting that the RLBSA “requires the FCC by November 29, 2000 to grant or deny applications such as those of the Broadwave affiliates, that can provide television service in rural areas”); *id.* (statement of Sen. Hollings) (“Moving this proceeding forward is important, because if Northpoint is able to obtain the necessary regulatory authorizations, it will not only be able to provide competition to cable, but through its affiliate structure, it also will afford small businesses an opportunity to participate in a vibrant segment of the communications marketplace.”).

in the course of approving the Launching Our Communities' Access to Local Television Act of 2000.⁶⁹

Pursuant to the RLBSA, the Commission was to report back by January 1, 2001, “on the extent to which licenses and other authorizations” have facilitated the delivery of local signals to unserved and underserved areas.⁷⁰ In its *Report to Congress*, the Commission confessed, as it had to, that no licenses or authorizations had issued.⁷¹ Remarkably, in its Report to Congress and in its First Report and Order and FNPRM, the Commission argued that it met the November 29th deadline by issuing the First Report and Order and FNPRM itself.⁷² But the First Report and Order and FNPRM made no determinations, other than entirely general ones. The First Report and Order and FNPRM authorized no facilities. And it delivered no local broadcast signals.

Third, the SHVIA provides that, by January 1, 2002, satellite carriers that provide any local-into-local retransmission of broadcast stations must “carry upon request the signals of *all* television broadcast stations located within that local market.”⁷³ But

⁶⁹ RLBSA § 2002(c). See H.R. Conf. Rep. No. 1005, 106th Cong., 2d Sess. 307 (2000) (“The FCC shall take all actions necessary to complete the processing of applications for licenses or other authorizations for facilities that would provide services covered by the Satellite Home Viewers Improvement Act (Public Law 106 113, 113 Stat. 1501), specifically to deliver multi-channel video services including all local broadcast television station signals and broadband services in unserved and underserved local television markets by November 29, 2000, as required by Public Law 106 113, 113 Stat. 1501”).

⁷⁰ RLBSA § 2002(c), 113 Stat. at 1501A-545.

⁷¹ Report, *Report to Congressional Committees Pursuant to the Rural Local Broadcast Signal Act*, FCC 00-454, 2001 WL 2146, ¶ 34 (rel. Jan. 2, 2001). (“Report to Congress”).

⁷² See Report to Congress ¶ 10; First Report and Order and FNPRM ¶ 18.

⁷³ SHVIA §1008(a), 113 Stat. at 1501A-531 (emphasis added) (codified at 47 U.S.C. § 338(a)(1)); see generally Report and Order, *Implementation of the Satellite Home Viewer Improvement Act of 1999: Broadcast Signal Carriage Issues; Retransmission Consent Issues*, CS Docket Nos. 00-96 & 99-363, FCC 00-417 (rel. Nov. 30, 2000).

because there are so many local stations, satellite operators simply lack the capacity to comply nationwide.⁷⁴

Northpoint's technology can meet must-carry requirements in all markets, and satellite operators could contract to use it to fulfill their own must-carry obligations. It is exactly the technology Congress had in mind when it enacted the RLBSA and extended must-carry requirements to satellite carriers. As Senator Patrick Leahy explained:

We've known all along, if we pass legislation authorizing local-into-local, the DBS carriers would readily deliver local channels to those subscribers who are fortunate enough to live in the largest markets. . . . That is why it is so important for the FCC to expedite review of alternative technologies, such as the digital terrestrial wireless system developed by Northpoint Technology, which are capable of delivering local signals into all markets on a must-carry basis.⁷⁵

If the Commission does not authorize the use of Northpoint's technology immediately, DBS will be legally obligated to restrict its local-into-local retransmission next January, leaving dozens of markets unserved.⁷⁶ Having already missed its own two

⁷⁴ See First Report and Order and FNPRM ¶ 290 (“a DBS satellite system with one Continental United States footprint, does not have the capacity to retransmit all of the local channels nationwide”). Although the Association for America's Public Television Stations (“AAPTS”) has stated that digital compression, statistical multiplexing, and use of Ka-band satellites with spot beams, in addition to the Ku-band capacity currently used for DBS service, will eventually enable DBS providers to carry every local broadcast station in the U.S., the DBS satellite carriers have not agreed that this is possible. And the Commission has observed that, assuming it is possible, the marketplace might not reward the adjustment in business plans necessary to accomplish what the AAPTS describes. *See Report to Congress* ¶ 33.

⁷⁵ 145 Cong. Rec. S14,986, S15,023 (daily ed. Nov. 19, 1999) (statement of Sen. Leahy).

⁷⁶ See, e.g., *SBCA, DirecTV, Echostar File Suit to Stop Implementation of Must-Carry Requirement*, *Satellite News*, Sept. 25, 2000 (“Without the [must-carry] requirement, DBS providers could serve up to 70 of the U.S. markets. Otherwise, only 35 to 37 of the top markets could be served . . . said David Baylor, executive vice president of DirecTV.”); Comments of EchoStar Satellite Corp. at 3-4, CS Docket No. 00-96 (FCC filed July 14, 2000) (Must-carry requirement “means at least 22 fewer cities for which the carrier would be able to provide local-into-local service, not even taking into account the capacity needed for mandatory carriage of *commercial* broadcast station. Taking

statutory deadlines, the Commission should not compound its error by delaying the licensing of Northpoint's technology beyond the must-carry deadline set forth in the SHVIA.

B. Important Public Policy Interests Are Served by Issuing Licenses to Northpoint's Affiliates Quickly

The RLBSA and the SHVIA indicate that Congress understood Northpoint's potential to solve the problem of providing local television signals to unserved and underserved rural areas, and the Commission has likewise acknowledged that Northpoint represents a solution to the problem.⁷⁷ But Northpoint's technology also represents an important new source of competition in the markets for MVPD and for broadband Internet access, which have also been a matter of significant concern to Congress.⁷⁸ As discussed more fully in the attached declaration of Thomas Hazlett, delaying

commercial must carry stations into account further reduces the number of cities that can receive local service.”).

⁷⁷ See, e.g., Letter from Chairman William E. Kennard to Rep. Sonny Callahan (June 29, 2000) (noting the Commission's obligation pursuant to the SHVIA to take all actions necessary to ensure that rural and underserved areas receive local television signals, and recognizing that “Northpoint's proposed service could be one alternative in meeting this requirement”); Letter from Chairman William E. Kennard to Sen. Ernest F. Hollings (Aug. 15, 2000) (same); see also *Hazlett Declaration* ¶¶ 33-34.

⁷⁸ See, e.g., Letter from Chairman William E. Kennard to Rep. Lincoln Diaz-Balart (September 19, 2000) (agreeing with Congressman's suggestion that Northpoint's service has “potential to offer much-needed television and broadband Internet access alternatives”); Letter from Chairman William E. Kennard to Rep. Sonny Callahan (June 29, 2000); 146 Cong. Rec. S11,230, S11,239 (daily ed. Oct. 27, 2000) (statement of Sen. Hollings) (“Northpoint has the potential to provide much needed competition to cable by offering low cost multichannel video services and high-speed Internet access.”); 145 Cong. Rec. H11,811, H11,817 (daily ed. Nov. 9, 1999) (statement of Rep. Markey) (“There are, for example, several companies poised to offer competition to cable through wireless services. One of these potential cable rivals is Northpoint Technology”); 146 Cong. Rec. S10,074, S10,075 (daily ed. Oct. 6, 2000) (statement of Sen. Leahy) (“[S]ome of the satellite providers are concerned that Northpoint could compete with them.”).

Northpoint's entry as a competitor in these markets would cost consumers billions of dollars that would never be recouped.⁷⁹ These consumer losses are likely to outweigh by far any revenues or efficiency gains associated with auctions.

IV. COMMENTS REGARDING SPECIFIC LICENSING CRITERIA

The Commission says that it aims to promulgate "flexible rules" that will "encourage the widest variety of services."⁸⁰ Yet all the rules that are needed are already in place; the Commission need only grant Northpoint's waiver petition to permit what is currently prohibited: Point-to-multipoint video broadcasts in the Fixed Wireless allocation.⁸¹ The Commission should not define a new "MVDDS service." The Commission should stop the charade of allocating "new spectrum" to this new service. There is – by definition – no "new spectrum" to be found in the 12 GHz band; there is only a new technology for using the same-old spectrum. If other innovators subsequently develop other technology that makes possible other, non-interfering uses of the same spectrum, the Commission should grant further waivers, on case-by-case basis.⁸²

⁷⁹ See *Hazlett Declaration* ¶¶ 26-32.

⁸⁰ First Report and Order and FNPRM ¶ 289.

⁸¹ Northpoint's affiliates have sought waivers of the following Part 101 rules in connection with their applications: 101.105, 101.107, 101.109, 101.111, 101.115, 101.139, and 101.603. See Corrected Public Notice, *Wireless Telecommunications Bureau Seeks Comment on Broadwave Albany, L.L.C., et al. Requests for Waiver of Part 101 Rules*, DA 99-494 (WTB rel. Mar. 11, 1999). Fixed Wireless licensees in the 12 GHz band are not currently classified as common carriers, and there is no reason to change that. Northpoint envisions providing one-way video programming and data services in the 12 GHz band, with no switched voice or data services.

⁸² Because there is no need for a new "MVDDS service," there is no need for the Commission to consider the eligibility criteria for licenses for that proposed service. Accordingly, Northpoint declines to comment at this time on the issues raised in paragraphs 296-299 of the FNPRM.

As to the specific licenses that it wants granted, Northpoint recognizes that these do have to be defined with some precision. Northpoint supports the Commission's proposal to issue licenses on the basis of Nielsen's Designated Market Areas ("DMAs").⁸³ Those geographic markets are well suited to the low-power character of Northpoint's technology (essential to avoid interference with existing users) and the must-carry obligations that Northpoint is eager to assume in tailoring services to the individual communities its affiliates will serve.⁸⁴

Northpoint likewise supports the issuance of one spectrum block of 500 MHz per service area.⁸⁵ As the Commission has already noted, without the use of advanced compression techniques, and allowing capacity to be available for other services such as high-speed Internet service, the Northpoint technology can provide approximately 96 video channels using the 500 MHz of spectrum in the 12.2-12.7 GHz band.⁸⁶ A smaller block of spectrum would cripple any effort by terrestrial broadcasters in the 12 GHz band to compete with local cable and DBS operators that routinely provide hundreds of channels to subscribers. Because smaller blocks of spectrum would not enable a commercially viable service, the use of smaller blocks would not promote the objectives of section 309(j)(4)(C) or the public interest. Northpoint also agrees with the

⁸³ See First Report and Order and FNPRM ¶¶ 284-286.

⁸⁴ See *id.* ¶ 292; see also *Reauthorization of the Satellite Home Viewer Act: Hearing Before the Subcomm. On Telecommunications, Trade, and Consumer Protection of the House Comm. On Commerce*, 106th Cong., 1st Sess. 50 (1999) (statement of Sophia Collier, President and CEO of Northpoint Technology) ("We will comply with full must-carry and retransmission consent in the very same manner as the cable companies do.").

⁸⁵ See *id.* ¶ 288.

⁸⁶ See *id.* ¶ 289.

Commission's proposal to allow terrestrial licensees in the 12 GHz band to partition their geographic service areas.⁸⁷

Northpoint also agrees with the Commission's proposal to require mitigation of interference beyond that deemed permissible to existing DBS subscribers that occurs within 18 months of the onset of service from a terrestrial transmitter.⁸⁸ Northpoint is legitimately concerned, however, that DBS operators might attempt to raise Northpoint's costs by alleging interference in need of mitigation when in fact the interference, if any, is within permissible levels. Accordingly, Northpoint believes that any mechanism for resolving interference disputes between DBS and terrestrial broadcasters should involve a "loser pays" principle. In the event that a DBS operator's complaint of impermissible interference turns out to be unfounded, the complaining operator should be required to pay any costs incurred by Northpoint in demonstrating that any interference was within the permissible range.

With respect to the criteria used to determine what interference with satellite signals will be permitted, Northpoint believes the Commission should adopt the Equivalent Power Flux Density ("EPFD") limits proposed in the technical appendix for Northpoint's transmitters, just as it has adopted an EPFD limit to enable NGSO-FSS sharing with DBS in this same proceeding. The key advantage of this approach is that EPFD can be measured in the field, thus making it relatively easy to determine whether a particular transmitter is causing impermissible interference at a particular location.

⁸⁷ *See id.* ¶ 305.

⁸⁸ *See id.* ¶ 274. This proposal does not appear to have been incorporated yet into the Commission's proposed rules.

By contrast, the Commission has proposed two possible criteria for permissible interference that cannot be measured with the degree of accuracy and precision needed to enforce the regulations on which they are based. The Commission has suggested that terrestrial broadcasts may not increase the total outage of any DBS system by more than 2.86% per year or, alternatively, by more than 10 minutes in any given month. Because there is no database of baseline availability rates at each customer location, there is no accurate way for anyone to calculate compliance with these criteria. Nor is it possible to use estimates of total outage at a given location in place of actual data because of the extreme degree of precision that would be required. DBS claims to be available approximately 99.95% of the time across the U.S. Hence the “unavailability” of DBS systems is 0.05% of the time, on average, and a 2.86% increase in unavailability would be equal to a time interval of 0.00143% of the year, or seven minutes. No model of unavailability exists that is capable of accurately estimating increased outage to the 5 or 7 decimal places of precision necessary to apply the proposed criteria. Moreover, the main cause of DBS outages is rain, which easily varies by 30% from year to year. The change in outage from year to year due to changes in rain activity is an order of magnitude greater than the proposed criterion, making changes in outage due to Northpoint’s transmissions essentially undetectable.

The specific EPFD limits that Northpoint proposes for each of four different regions, as well as other technical issues on which the Commission sought comment, are addressed in the technical appendix to these comments (App. 2), which is incorporated herein by reference.

CONCLUSION

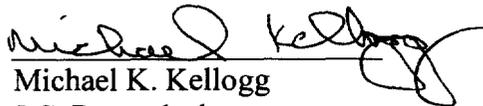
The Commission should issue waivers to permit terrestrial, point-to-multipoint video services under the existing allocation for fixed services in the 12 GHz band, and it should license Northpoint's Broadwave affiliates to provide those services.

Respectfully submitted,

NORTHPOINT TECHNOLOGY, LTD.,
AND BROADWAVE USA, INC.

March 12, 2001

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

In the Matter of

Applications of Northpoint USA, PDC
Broadband Corporation, and Satellite Receivers,
Ltd. to Provide a Fixed Service in the 12.2-12.7
GHz Band

ET Docket No. 98-206
RM-9147
RM-9245

DECLARATION OF THOMAS W. HAZLETT, PH.D.

1. My name is Thomas W. Hazlett. I am a Resident Scholar at the American Enterprise Institute for Public Policy Research in Washington, D.C., and a former Chief Economist of the Federal Communications Commission. I have written extensively on the topic of auctions, licensing, and spectrum allocation policy at the FCC.¹ A brief bio is included as Attachment A.

¹ My research articles include: *The Rationality of U.S. Regulation of the Broadcast Spectrum*, 33 J.L. & Econ. 133 (1990); *The Cost of Rent-Seeking: Evidence from Cellular Telephone License Lotteries*, 59 So. Econ. J. 425 (1993) (co-authored with Robert J. Michaels); *Physical Scarcity, Rent-Seeking and the First Amendment*, 97 Colum. L. Rev. 905 (1997); *Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*, 41 J.L. & Econ. 529 (1998); *The Wireless Craze, the Unlimited Bandwidth Myth, the Spectrum Auctions Faux Pas, and the Punchline to Ronald Coase's 'Big Joke': An Essay on Airwave Allocation Policy*, 15 Harv. J.L. & Tech. (forthcoming Spring 2001, working paper available at <http://www.aei.brookings.org/publications/abstract.asp?pid=117>). I have long been a proponent of both FCC auctions and efficient spectrum use. See *Making Money Out of the Air*, N.Y. Times, Dec. 2, 1987, at A35; *Dial 'G' for Giveaway*, Barron's, June 4, 1990; *Spectrum Auctions - Only a First Step*, Wall St. J., Dec. 20, 1994, at A14.

SUMMARY

2. At the request of Northpoint Technology and its Broadwave USA affiliates (collectively “Northpoint”), I have examined the Commission’s policies in the above-captioned matter. My analysis focuses on the consumer welfare aspects of the Commission’s response to Northpoint’s application for licenses to provide nationwide terrestrial video and data services in the 12.2-12.7 GHz frequency band. Although it has approved Northpoint’s proposed service in principle, the Commission has not licensed Northpoint to provide that service, but has instead created a “new terrestrial fixed Multichannel Video Distribution and Data Service (‘MVDDS’),” and commenced a rulemaking proceeding to determine how best to license the service. This new rulemaking will, at a minimum, delay introduction of Northpoint’s innovative spectrum re-use system, most likely for several years. This delay will produce substantial social losses. Households will be deprived of an array of competitive television and broadband access services. Even using a conservative estimate, the prompt establishment of competition for these services could save consumers over \$1 billion annually. Businesses, too, will lose productivity-enhancing choices as Northpoint’s broadly applicable techniques for enhancing spectrum capacity are blocked from market adaptation. The experience, innovations, and upgrades that would naturally flow from deployment of these technological advances could deliver further benefits throughout the wireless sector. Even over the short run, then, the social losses associated with delay are likely to outweigh any revenues or efficiency gains associated with auctions.

3. Yet, perhaps more destructive of consumer welfare is the long-run effect of a Commission decision to auction rights to deploy Northpoint’s technology.

Northpoint's considerable investment in research and development discovered a way to deliver valuable telecommunications services via airwaves already thought fully allocated. Northpoint made substantial investments applying for a change in Commission rules and in documenting the precise nature of the new service. In the absence of these investments, this opportunity would not be known to the FCC. Were the producer-side gains accruing to Northpoint's risk-taking to be appropriated by a government auction, the policy would impose a potentially confiscatory tax on the most vulnerable and yet most valuable asset in the spectrum allocation process – the entrepreneur. Such an action would clearly have a deleterious effect on future risk-taking to discover and implement efficiencies in the use of radio spectrum.

4. The Commission's expeditious grant of Northpoint's request – issuing licenses for fixed service with such waivers of the Commission's Part 101 rules as are necessary to provide point-to-multipoint video broadcasts and one-way data transmission – will maximize consumer welfare. The efficiencies would be far-reaching, and include the following.

- *Driving wireless innovation to remedy the "spectrum drought."* Each successful entrepreneur attracts rivals. Northpoint's successful innovation will signal inventors, venture capitalists, and investors that barriers to entry are substantially lower than if the Commission were to delay the launch of service and appropriate returns to innovation by auctioning Northpoint's right to compete.
- *Encouraging spectrum re-use.* The implementation of Northpoint's advances in spectrum engineering will offer guidance for adaptation in other bands.

Deployment will speed new applications and promote a wide variety of advanced wireless communications.

- *Enhancing cable TV competition.* Conservatively assuming a 5% price reduction in the price of cable television services would create approximately \$2 billion in annual consumer benefits. Each year of delay sacrifices such gains, which cannot be recouped.
- *Promoting Internet access competition.* Northpoint's entry into local markets introduces a third major competitor in the broadband access race. This would yield substantial social gains in lowering the price and improving the quality of high-speed access service, promoting broadband network development.
- *Enabling a low-cost distribution mechanism for local TV channels.* Traditional broadcast TV signals are relatively expensive for satellite broadcasters to retransmit, but relatively inexpensive for Northpoint's hybrid satellite/terrestrial service. This allows the Commission to introduce a market solution to the carriage of local signals to TV viewers, mitigating the costs associated with must-carry and the digital television transition.

ENCOURAGING ENTREPRENEURSHIP IN WIRELESS TECHNOLOGY

5. Competitive bidding for FCC licenses was a major policy advance. The principle benefit of auctions is in assigning rights relatively quickly to parties most likely to provide good service to the public. They are particularly effective tools when the Commission has created a new service and it is difficult to determine *ex ante* which

applicants will be the most efficient operators. Competitive bidding allows the Commission to let the market select. Firms willing and able to bid the most are likely to be the most efficient service providers.

6. In the Northpoint application, however, the competitive process has already determined the firm willing to invest the most to provide service. It is Northpoint, the firm that invested substantial sums to create the possibility of additional service in the 12 GHz band. The application the firm has filed requests permission to commence service long after the firm discovered the means for creating new service, negotiated complicated bandwidth sharing arrangements with other users of the 12 GHz band, and funded extensive experiments documenting the viability of the negotiated interference standards.

7. Auctions can efficiently eliminate excess demand for a right. Yet the situation that obtains here features only one firm undertaking to create the opportunity for sharing 12.2 GHz to 12.7 GHz. No firm offered to defray Northpoint's expenses in creating additional service. No firm simultaneously developed a competing system for spectrum re-use in the 12 GHz band. No firm contested Northpoint's status as the sole applicant to provide service under FCC rules in response to a formal public invitation to do so issued November 2, 1998. Upon the cut-off date for applications, January 8, 1999, Northpoint stood alone in applying for the right to provide multi-channel video service via spectrum re-use in 12 GHz.²

² First Report and Order and Further Notice of Proposed Rule Making, *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 00-418, ¶¶ 262-263 (rel. Dec. 8, 2000) ("*First Report and Order and FNPRM*").

8. Not only is Northpoint the unrivaled creator of the service in question, it seeks only to share bandwidth already allocated to other services. It does not seek exclusive use of this band. It does not oppose further sharing in this band. Future applicants may also be licensed to offer service in this band on a non-interfering basis. Additional users are not precluded by the timely granting of Northpoint's request; in fact, they are encouraged by rules yielding incentives for innovative wireless system design.

9. It is true that, due to Northpoint's investment in developing and demonstrating the superior quality of its technology, demand for licenses is building. Firms are attracted to an opportunity to free ride on Northpoint's investment in creating a business opportunity. The Commission should not, however, delay service to artificially create excess demand. Delays directly harm consumers, and the appropriation of entrepreneurial risk capital deadens the dynamic economic process.³

10. The Commission finds that "incumbent cable companies possess very large market shares and would find it rational to foreclose or at least delay the emergence of new firms that might drive prices down or otherwise increase MVPD competition."⁴ By imposing multiple administrative proceedings delaying the entry of Northpoint for "years,"⁵ the Commission would harm consumers with anti-competitive actions – a course it condemns when undertaken by market actors.

³ Auction bids can be an efficient way for government to finance expenditures, precisely because up-front bids do not distort marginal incentives. Sales and income taxes, on the other hand, change trade-offs for decision makers, leading to inefficiencies. To delay or restrict licensing to extract extra auction revenues, however, typically distorts economic activity more profoundly than do income taxes. Hence, the rationale for auctions as a revenue-raising device disappears once policy makers attempt to drive up auction receipts through anti-consumer allocation policies.

⁴ *First Report and Order and FNPRM* ¶ 298.

⁵ *Id.* at 190 (statement of Commissioner Furchtgott-Roth).

11. The FCC has placed its auction authority into proper context. For instance, in its 1997 Report to Congress on Spectrum Auctions, the Commission wrote: “[T]he Commission’s statutory authority continues to instruct that the agency not base spectrum allocation decisions ‘solely or predominantly’ on the expectation of revenues that auctions may generate. The Commission’s primary mission in conducting auctions is promoting competition by awarding licenses rapidly to those who value them most highly.”⁶ The Commission observed “the inherent tension between use of the spectrum auction as a revenue-raising measure and its use as an efficient means of assigning licenses.”⁷ When Wireless Communications Services licenses attracted low bids, the Commission noted that promptly assigning licenses trumped the extraction of revenues: “WCS spectrum can be used for many promising applications (*e.g.*, Internet access, wireless cable, low power telephony). As a result, consumers will soon benefit from the deployment of this new service – regardless of the amount of revenue raised by auction. In fact, winning bidders from WCS licenses are already investing in the development of new technologies and formulating ideas for the efficient use of this spectrum band.”⁸

12. Pushing efficient solutions to market creates consumer gains that dominate the extraction of potential profits through license auctions. For instance, Jerry Hausman estimates that the gain in consumer surplus from the introduction of cellular telephones amounted to \$24 billion to \$50 billion annually. Gregory L. Rosston estimated that, if auctioned by the FCC in 1982, cellular licenses might have brought as much as \$30

⁶ Report, *FCC Report to Congress on Spectrum Auctions*, WT Docket No. 97-150, FCC 97-353, at 33 (rel. Oct. 9, 1997) (footnote omitted).

⁷ *Id.* at 35.

⁸ *Id.*

billion in aggregate.⁹ Hence, using conservative projections either way, the total discounted present value of producers' surplus is about equivalent to the *annual* gains seen by consumers. This implies that, using a real social discount rate of 5%, the consumer benefits swamp auction receipts by *twenty to one*.

13. Besides the high costs of delay, there is a more general manner in which auctioning Northpoint's rights to supply service will undermine consumer welfare. It involves the tension between license auctions and a liberal spectrum allocation system, where innovations are readily introduced to the marketplace. I write about this in my paper, *The Wireless Craze* (see *supra* note 1). The way that the spectrum allocation system has developed under the Radio Act of 1927 and the Communications Act of 1934 prevents new wireless services or technologies from being adopted until an entrepreneur successfully petitions the FCC to gain the rules necessary to commence service. The Commission relies on private parties to discover new wireless applications, bring them to the attention of regulators, file substantial applications, and – in many cases – negotiate interference contours with technical experts, regulators and other operators.

14. Suppose a private party does discover, develop, and demonstrate an innovative wireless technology, and then goes on to surmount a difficult and costly regulatory process to obtain a rule making approving the new service. Traditionally, the Commission has observed an informal queue, and parties petitioning the Commission for

⁹ Jerry Hausman, *Valuing the Effect of Regulation on New Services in Telecommunications 22-23*, in *Brookings Papers on Economic Activity – Microeconomics* (Martin Baily et al. eds., 1997). This was the estimate of consumer gains from the introduction of cellular. Had there been an auction to assign cellular licenses in 1982, likely receipts were estimated by Gregory L. Rosston, *An Economic Analysis of the Effects of FCC Regulation on Land Mobile Radio 145* (1994) (unpublished Ph.D. dissertation, Stanford University).

rule makings stand at the head of the line to receive licenses. Where the Commission assigns licenses by auction, however, the value of new technology may be appropriated from innovators. Forced to bid against firms that invested nothing to create the business opportunity being licensed, the entrepreneur will logically see its rivals – as well as the auction authority – as free riders.

15. It is a genuine problem, and not one of simple equity. When entrepreneurs foresee the prospect of appropriation, they are less likely to invest scarce resources in discovering new wireless applications, technologies, or efficiencies. Once discovered, they are less likely to invest considerable sums to bring them to the attention of the FCC, or to spend years pursuing formal inquiries, rule makings, negotiations, field trials, and documentation. Consumers lose as the pace of technological advance in spectrum-based services declines due to a peculiar form of over-taxation.

16. Northpoint has patented its technology and has licensed its technology to the individual Broadwave USA affiliates that have sought FCC licenses in the current proceeding. Northpoint's patent rights mean that it may be in a position to capture some share of the revenue stream its investment makes possible even if operating licenses are assigned by competitive bidding. It is likely that one of two scenarios would obtain: (1) although Northpoint has stated that it would not participate in an FCC license auction, Northpoint could, in principle, bid and win a license at auction. (2) A firm other than Northpoint could win the auction, and then negotiate a partnership, licensing, or joint venture agreement to use Northpoint technology in exchange for a share of revenues or

profits.¹⁰ While Northpoint's innovative technology will be used regardless of the license assignment method, efficiency will still be affected.

17. First, when ultimate resource use is not in doubt, delays associated with license auctions are not offset by market selection benefits accruing from competitive bidding. Second, auctioning license rights introduces additional bargaining. If a firm other than Northpoint wins the auction, for instance, the strategic interests of the licensee (or the need to adjudicate the licensee's rights to use Northpoint's technology) may preclude rapid provision of service. Finally, assuming that the auction proceeds without cost and without surprise – and Northpoint emerges victorious with a bid of \$X – the outcome tends to depress the incentive for investments in new wireless technology. The payment of \$X represents double billing to Northpoint's providers of risk capital. Having advanced substantial sums to create a technology and to then gain FCC rules permitting an opportunity for a new business to operate, Northpoint must then outbid other firms for the right to profit from this opportunity. That other firms would have to share their profits with Northpoint to use its innovative technology does not eliminate the tax on Northpoint's investment. It is as if, having demonstrated a successful business model with initial rounds of funding from venture capitalists, a start-up (and its equity owners) are forced to bid for ownership of the business model. What motivates the firm's founders to discover such entrepreneurial opportunities is the right to capture what it creates, a right to *not* bid against other firms. That is true even where the start-up owns key patents that would allow it to capture some of the profits generated.

¹⁰ This assumes that neither cable nor DBS operators would win the licenses, eliminating competitive issues from this discussion. It also assumes that the FCC's

18. Other investors and entrepreneurs are watching what happens here. If the Commission elects to appropriate the investment Northpoint has made in creating the very service it now seeks to provide over airwaves thought by the FCC to be fully utilized and capable of no further public benefit, then it establishes incentives for all spectrum innovators to cease and desist. Even the bravest among them will have access to substantially reduced funding for the inputs used to produce advances.

19. FCC policy respects this tension and seeks to mitigate it in some respects. One is the Commission policy with respect to renewal of licenses. Even licenses that are assigned by competitive bidding are renewed without auctions. To subject licenses to re-auction at renewal might capture additional revenues for the Treasury.¹¹ Yet, “[w]ithout confidence in their long-term rights, licensees would tend to underinvest in license-specific assets.”¹² Similarly, when an existing wireless service provider is granted a waiver enhancing the scope of its license, the Commission does not auction the new right. Examples include the decision to liberalize cellular rules by granting operators the right to offer digital service,¹³ reforms allowing two-way data to be offered by “wireless cable” operators wanting to migrate to fixed broadband access service,¹⁴ and changes permitting

licensing process does not lead to a patent infringement dispute, which could delay the introduction of terrestrial services in the 12 GHz band indefinitely.

¹¹ Of course, initial bids would be adjusted downward to reflect subsequent auctions. But net receipts could unambiguously be generated by auctioning licenses awarded by lottery or comparative hearings at renewal – which the Commission does not do.

¹² Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 Fed. Comm. L.J. 87, 111 (1997).

¹³ Report and Order, *Amendment of Parts 2 and 22 of the Commission's Rules to Permit Liberalization of Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Services*, 3 FCC Rcd 7033 (1988).

¹⁴ See Report and Order, *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, 13 FCC Rcd 19112 (1998); Report and Order on