DOCKET FILE COPY ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

DEC 2 2 2004

Federal Communications Commission
Office of Secretary

In the Matter of	)	
	)	
Improving Public Safety Communications in the 800 MHz Band	)	WT Docket 02-55
	)	
Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels	)	
	)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems	)	ET Docket No. 00-258
	)	
Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service	)	RM-9498
	)	
Petition for Rule Making of UT Starcom, Inc., Concerning the Unlicensed Personal Communications Service	)	RM-10024
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service	)	ET Docket No. 95-18

PETITION FOR PARTIAL RECONSIDERATION

James A. Kay, Jr. ("Kay"), by his attorney, and pursuant to Section 405 of the Communications Act, of 1934, as amended, 47 U.S.C. § 405, and Section 1.429 of the Commission's Rules and Regulations, 47 C.F.R. § 1.429, hereby petitions the Commission to reconsider certain actions announced in the *Report and Order, Fifth Report and Order, Fourth Memorandum Report and Order, and Order* (FCC 04-168; released August 6, 2004)[1] in the

[1] Text of the *R&O* was published in the Federal Register on November 22, 2004. 69 Fed. Reg. 67,823. This reconsideration petition is timely filed within thirty days thereafter in accordance with 47 C.F.R. §§ 1.4(b)(1) & 1.429(d).

captioned proceedings, 19 FCC Rec. 14969, 33 Comm. Reg. 457 (2004) (hereinafter "*R&O*"), in support whereof the following is respectfully shown:

Introduction

1. Kay opposes and urges the Commission to reconsider two specific aspects of the program set forth in the *R&O*: (a) the mandatory relocation of incumbent licensees in the 800 MHz band who are not responsible for interference to public safety operations, and (b) the unilateral and exclusive award of 1.9 GHz spectrum to Nextel Communications, Inc. ("Nextel") without the opportunity for competing applications and competitive bidding.

The Nature and Cause of the Interference Problem

2. The impetus for this entire proceeding is a desire to resolve interference to public safety communications in the 800 MHz band. The record is clear, however, that the primary, if not sole, source of unresolved interference is the incompatibility of Nextel's digital ESMR operations in a cellular configuration with the more traditional "high site" systems prevalent in the band, including those operated by many public safety entities.[2] There is no record, moreover, of any significant interference to public safety from non-ESMR operations, or that public safety and other non-ESMR operations can not both occupy the 800 MHz band as they have successfully done for decades.

Nextel's Assumption of the Risk

3. Not only are Nextel's ESMR operations the primary cause of the interference problem, but both the Commission and Nextel knew that Nextel's such, as currently configured,

[2] This is not to say that there is never interference between non-ESMR stations, but such situations are comparatively rare. More importantly, interference between properly authorized non-ESMR systems are not something that is inherent in the nature of the operations, but virtually always result from some type of malfunction or compliance failure. Nextel's ESMR operations, by contrast, are incompatible with the incumbent 800 MHz systems even when all equipment is functioning properly. For decades public safety, conventional and trunked SMRS, and private radio users have coexisted in the 800 MHz band with virtually no compatibility problems—interference problems are the exception and, once identified, readily resolved.

would result in interference. Nextel made a business decision to establish its digital operations in the 800 MHz band alongside conventional operations, fully aware of the technical limitations. Moreover, when Nextel proceeded to bid for geographic licenses in the 800 MHz band, it was expressly forewarned as follows:

> The FCC makes no representations or warranties about the use of this spectrum for particular services. Applicants should be aware than an FCC auction represents an opportunity to become an FCC licensee in this service, subject to certain conditions and regulations. An FCC auction does not constitute an endorsement by the FCC of any particular services, technologies or products, nor does an FCC license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding, as they would with any new business venture.

Public Notice (DA 00-1388; released June 23, 2000), *Auction of Licenses for 800 MHz Specialized Mobile Radio (SMR) Frequencies in the Lower 80 Channels*, 15 FCC Rcd 12510 at sec. I.C.3 (WTB 2000).

4. This was consistent the Commission's standard practice of placing on applicants and bidders the onus for conducting due diligence[3] prior to auctions, not only as to the applicable rules and regulations, but also as to the incumbency landscape in the target band. All bidders for 800 MHz spectrum, including Nextel, were on notice of the limitations inherent in this already heavily populated band. "Prospective bidders," including Nextel, were also advised that they "must familiarize themselves thoroughly with the Commission's rules relating to the 800 MHz band, contained in Title 47, Part 90 of the Code of Federal Regulations." *Id.* Among these rules are Section 90.173(b), which provides that "[a]ll applicants and licensees shall cooperate in the selection and use of frequencies in order to reduce interference and make the most effective use of the authorized facilities," 47 C.F.R. § 90.173(b), and Section 90.403(e), which provides that "[l]icensees shall take reasonable precautions to avoid causing harmful interference." 47 C.F.R. § 90.403(e).

[3] The excerpts quoted in paragraphs 3 and 4 were from a section of the auction public notice under the main heading, "Rules and Disclaimers," and the subheading, "Due Diligence."

The Fallacy of Mandatory Relocation

5. We therefore have an interference problem that is not only being caused by Nextel, but it is one that Nextel knew would likely result. Moreover, Nextel was specifically warned going in that it was not being guaranteed that the spectrum band it had chosen would be adequate for its purposes, and it knew there were specific regulations in place that made Nextel responsible for resolving any interference that may result. Now that the interference has in fact proved a real problem, it is proposed that existing 800 MHz licensees (not to mention 1.9 GHz licensees), who are not in any way responsible for the interference, be subject to mandatory relocation of their existing and fully compliant operations. This is inequitable, it is bad public policy, and it is of highly questionable legality. More to the point, however, it is regulatory overkill. It is a complicated and unworkable response to a problem that actually has a very simply solution—namely, require Nextel immediately to resolve the interference it admittedly is causing.

6. The Commission asserts that Section 316 authorizes it to modify the licenses of existing 800 MHz licensees by requiring their relocation within the 800 MHz band. To be sure, Section 316 empowers the Commission to modify an existing Title III authorization, but with two very important conditions. First, the Commission must make a specific finding that the license modification in question is in the public interest. 47 U.S.C. § 316(a). Second, the licensee is entitled to a hearing on that question—a hearing at which the Commission, not the licensee, has the burden of proceeding with evidence and the burden of proof. 47 U.S.C. § 316(b). A generic finding that Nextel's ESMR operations are causing interference to public safety licensees hardly constitutes a showing that the public interest requires the modification of the authorizations of non-ESMR licensees who have not caused any such interference.

7. The Commission's reliance on *California Metro Mobile Communications v. FCC*, 365 F. 3d 38 (D.C. Cir. 2004), is misplaced. That case involved an authorization that was based

on a faulty frequency coordination—the application that resulted in the license should never have been coordinated, filed, or granted in the first instance—justifying the Commission's invocation of Section 316 to rectify the problem. While it is true that this opinion confirms the Commission's authority to act to rectify potential, as well as actual, interference, it is nonetheless not instructive here. The potential interference in *California Metro Mobile* was due to the fact that the facilities as authorized were not in accordance with the Commission's technical regulations. By contrast, in this proceeding the Commission proposes to modify the licenses of existing non-ESMR licensees whose facilities (a) were properly coordinated, applied for, and licensed, (b) are not actually causing any interference, and (c) are not even sources of reasonably anticipated potential interference. There is a more than adequate record in this case to justify the Section 316 modification of Nextel's ESMR licenses, but there is absolutely no record to warrant the modification on other licensees' non-ESMR 800 MHz licenses.

The Fallacy of Abandoning the Auction Mechanism

8. Equally erroneous is the Commission's proposal to award Nextel a block of spectrum at 1.9 GHz without taking competing applications and employing the spectrum auction mechanism. The Commission has, for the past three decades, championed the reliance on market forces rather than agency fiat in addressing a host of regulatory and policy issues. This is in recognition that free market forces are a much better arbiter of the public interest than artificial regulatory constraints. Ever since the adoption of Section 309(j) of the Communications Act, 47 U.S.C. § 309(j), the Commission has extended this policy to spectrum allocation and licensing issues. Indeed, it is now the law of the land that, in most cases, the Commission *must* employ competitive bidding to choose from among mutually exclusive applicants for new authorizations. Among the primary reasons for this is the recognition that the competitive bidding process is better suited than the Commissioners and their bureaucrats to determine the highest, best, and most efficient use of scarce electromagnetic spectrum in the public interest. See, generally, *PP*

Docket No. 93-253, Second Report and Order, 9 FCC Rcd 2348 (1994); *WT Docket No. 97-82*, Third Report and Order and Second Further Notice of Proposed Rule Making, 13 FCC Rcd 374 (1997).

9. The Commission now abandons this long-standing and well-founded policy and proposes, instead, to make a swath of highly valuable 1.9 GHz spectrum available exclusively to Nextel. Competing applicants need not apply! Even if it were not for the glaring incongruity of rewarding a party who has refused to comply with the interference rules at 800 MHz—causing serious interference to public safety operations with the attendant danger to life, limb, and property—there are other serious legal and policy concerns that make this a bad move.

10. It is, first and foremost, an entirely unnecessary move. Giving Nextel exclusive claim to a swath of 1.9 GHz spectrum to which it can relocate its ESMR operations is one possible solution to the interference problem, but it is by no means the only solution, and certainly not the best. The simplest solution, of course, is to simply require Nextel to comply with the technical operation and interference rules that are already on the books. In other words, the Commission should remind Nextel that it was awarded the licenses it now holds subject to the obligation to comply with the regulations in effect. The Commission should not engage in this blatant discrimination and favoritism by requiring virtually any other licensee who causes interference to either correct it or have its license modified or revoked, while in the case of Nextel allowing the interference to continue for years, and then reward it with an exclusive spectrum award.

11. There is apparently a concern that if Nextel were to bring its current systems into conformance with the regulations that were on the books when Nextel was licensed, and if Nextel were required to protect from harmful adjacent-channel interference those public safety and other licensees whom Nextel knew were there when it embarked on its venture, the capacity of Nextel's system would be adversely affected, perhaps causing it to lose customers or market

share. That may or may not be true, but it is not a justification for the drastic solution proposed by the Commission. Nextel made a voluntary business and technical decision to impose its always-on, extremely wide-band, digital iDen signals in a cellular configuration on a band already occupied by public safety and other users operating conventional, high-site systems. It was a gamble, but it was Nextel's gamble to make. Having lost the gamble, Nextel now wants to renege.

12. The Commission's charge is not to protect Nextel's market share, profit margin, or stock price. The Commission's charge is to protect the public interest. There is absolutely no evidence in the record of this proceeding or elsewhere to indicate that the public would be harmed by requiring Nextel to bring its systems into compliance. The Commission may take official notice of the fact that in virtually every major market there are at least four facilities-based commercial providers of wireless personal mobile communications services, not to mention any number of resellers, for what the public generally thinks of as "cellular" service.[4] Nextel represents only about 10% of this total market.[5] There is more than adequate capacity and competing services, therefore, to handle any subscribers lost by Nextel due to a drop in capacity occasioned by compliance with the interference rules.

13. But Nextel need not rely on the largess of the Commission to avoid a loss of spectrum capacity. The Commission should have faith in the market forces it so often touts, and let economic nature take its course. In the many news reports of the recently-announced Nextel-Sprint merger, it is often stated that one of the large benefits for Nextel in the deal is getting access to Sprint's wireless spectrum. This simply illustrates the point: If there is a sufficient need for additional spectrum, there will be a strong incentive for Nextel to use its own financial

---

[4] In most markets there are two cellular carriers (Block A and Block B), at least one broadband PCS licensee (in some markets more than one), and at least one ESMR operator.

[5] According to a report in the May 6, 2004, edition of the *Wall Street Journal*, Nextel serves 10.4% of the nation's subscribers to wireless service.

resources to acquire that spectrum, if not in an FCC auction, then by means of secondary markets, including mergers with entities that have access to needed spectrum.[6] But an exclusive award of spectrum outside the competitive bidding process artificially skews the economic incentives, and indeed creates a disincentive for Nextel to maximize its use of its own resources.

14. It is true that the Commission proposes to have Nextel make a contribution to the U.S. Treasury to compensate for the award of the 1.9 GHz spectrum, but this proposal too has many problems, not the least of which is the Commission's intention to somehow place a value on the spectrum without the benefit of the auction process. Appended hereto is a paper prepared by Mr. Lee L. Selwyn and Ms. Helen E. Golding of Economics and Technology, Inc., a highly respected economic consulting firm based in Boston, Massachusetts. The credentials and expertise of these individuals and their firm are matters of Commission record. This paper presents substantial reasons, based on sound economic analysis, why the attempt to value 1.9 GHz spectrum independently of the competitive bidding process is an inferior approach, and one that does not serve the public interest.

15. Apart from the difficulty of placing a monetary value on this spectrum for its targeted use by Nextel, the Commission can not possibly know what other possible uses there may be for the spectrum and the comparative value—both in monetary terms and intangible public interest terms—of such alternative uses. Under this proposal, only Nextel will be considered as a an applicant and only Nextel's proposed iDen use will be considered. So much for the Commission's oft-stated policy of giving applicants and licensees greater technical flexibility so as to allow market forces to determine the best technology and applications.

---

[6] Nextel may also lease additional spectrum for other licensees pursuant to the Commission's recently-adopted secondary market rules. WT Docket No. 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003). If additional spectrum is valued more highly by Nextel than it is by the licensees currently holding the spectrum, Nextel will be encouraged to acquire access to that spectrum either by leases or acquisitions. The Commission should not artificially interfere with these market forces and incentives.

16. Even if an accurate valuation of the 1.9 GHz spectrum were possible, the assumptions underlying this entire proposal are faulty. What is not being considered is the cost to Nextel of bringing its existing 800 MHz operations into compliance though means other than an exclusive award of 1.9 GHz spectrum. The reason Nextel has not corrected the problem heretofore is that there is some economic cost associate with correcting the problem. So long as the Commission continues to afford preferential treatment to Nextel by not requiring it to solve its interference problem, Nextel has no incentive to incur that cost. The solution, therefore, is for the Commission to enforce its interference rules, and then let the economic forces work.

17. If the Commission were to hold an open auction for 1.9 GHz spectrum, Nextel may indeed face a competing bidder, and it is possible, therefore, that Nextel would be outbid for the spectrum. But this would happen ***only*** if the competing bidder were prepared to pay a price for the 1.9 GHz spectrum that is greater than the cost to Nextel of resolving the interference problem by some other means. In that event, it must be assumed—if the entire philosophy underlying the Commission's competitive bidding scheme has any validity—that the competing bidder's proposal is a higher, better, and more efficient use of the spectrum than Nextel's relocation to that spectrum. Stated another way, it would mean that the public interest is better served by having Nextel resolve the interference in some other way.

18. There are alternatives other than an exclusive award of 1.9 GHz spectrum to Nextel whereby the interference problem can be solved. Those solutions will cost Nextel something, but there is no basis for concluding that a cost to Nextel, even a substantial one, will harm the public interest. The question is not whether Nextel's migration to 1.9 GHz is appropriately part of the solution. Rather, the question is whether the cost of that part of the solution is greater or less than other possible solutions. The market forces, including the spectrum auction process, are quite capable of answering that question, provided the Commission does not arbitrarily and artificially insert itself in the mix. What ever reasons may

be advanced in support of the Commission's proposal to exclusively award the 1.9 GHz spectrum to Nextel, furthering the public interest, convenience, and necessity is not among them.

Conclusion

WHEREFORE, it is respectfully requested that the Commission reconsider the *Report and Order, Fifth Report and Order, Fourth Memorandum Report and Order, and Order* (FCC 04-168; released August 6, 2004) in the respects discussed above.

Respectfully submitted on December 22, 2004,

JAMES A. KAY, JR.

By: Robert J Keller

Robert J. Keller, His Attorney
Law Office of Robert J. Keller, P.C.
P.O. Box 33428 – Farragut Station
Washington, D.C. 20033-3428

Telephone: 202-223-2100
Facsimile: 202-223-2121
Email: rjk@telcomlaw.com

Market-based Valuation vs. Third-party Appraisals as a Means to Ensure Fair Valuation and Efficient Allocation of 1.9 GHz Spectrum

Lee L. Selwyn
Helen E. Golding[1]

Economics and Technology, Inc.

December 2004

I. Introduction

For more than two decades, the Federal Communications Commission ("Commission") has recognized the inherent superiority of using a market-based approach to assigning and valuing scarce spectrum resources, and the economic literature strongly supports this view. While the complexities and unique circumstances surrounding the 800 MHz spectrum to be vacated by Nextel may justify the Commission's reliance upon the inferior alternative of indirect valuation,[2] there is no justification for employing this unreliable and distortion-prone approach for valuing

---

1. This report was prepared at the request of Shainis & Peltzman, Chartered, counsel for James A. Kay, Jr. The authors are, respectively, President and Vice President of Economics and Technology, Inc., Two Center Plaza, Suite 400, Boston, Massachusetts 02108. Information regarding the background and qualifications of the authors and their firm is appended to this report.

2. As explained more fully herein, the 800 MHz spectrum to be vacated by Nextel is earmarked exclusively for public safety licensees or to accommodate non-public safety licensees who may be relocated within the band. To the extent these are otherwise valid regulatory objectives, they create a situation in which opening the already occupied spectrum to auctions for competing replacement uses is impracticable and undercuts the policy goals. For the reasons explained more fully herein, however, these same considerations are either absent from or do not warrant the same weight when it comes to the 1.9 GHz spectrum block at issue here.

the unassigned spectrum at 1.9 GHz, where an auction mechanism is plainly feasible and would provide far superior information.

II. Advantage of auction mechanism over estimation of "value"

The decisions by Congress and by the Commission to award new spectrum by competitive auction reflects compelling economic and public policy rationales. The Commission has repeatedly recognized that the use of competitive auctions is a superior method of ensuring economic efficiency in spectrum allocation, thus yielding the greatest public benefits. For this reason, since 1993, when the Commission received authority to assign licenses by competitive bidding, it has worked systematically to expand its reliance on market-based approaches to spectrum management.

The Commission's own economists have repeatedly shown the public benefits of using auctions to ensure optimal public benefit from scarce spectrum resources. In fact, interest among FCC economists in using auctions predates the 1993 legislation by many years, as reflected in a 1985 paper by Evan Kwerel and Alex Felker, "Using Auctions to Select FCC Licensees," OPP Working Paper No. 16, May 1985.[3] Beyond the obvious benefits of reducing the private and governmental costs associated with assignment, including private application costs, delay costs, and the agency's administrative costs,[4] it was recognized that auctions were a more efficient way to choose among competing applicants and uses of valuable spectrum, while providing a return to taxpayers for valuable spectrum.[5]

As the Commission's experience with market-based spectrum allocation mechanisms has grown, its vision of the potential benefits of using auctions has also broadened. For example, in their November 2002 paper, "A Proposal for a Rapid Transition to Market Allocation of Spectrum," Commission economists Kwerel and Williams describe "a two-sided auction in

---

3. See also, Webbink, D., "Frequency Spectrum Deregulation Alternatives," OPP Working Paper No. 2, October 1980, at 30-31 ("Auctions have several advantages: the license tends to go to the user who will pay the most and for whom the license is most valuable. It is economically efficient to allow resources to go to their highest value use.")

4. Kwerel and Felker at 25-26.

5. *Id.* at 26. "The Commission has found that spectrum auctions more effectively assign licenses than either comparative hearings or lotteries. The auction approach is intended to award the licenses to those who will use them most effectively." Quote from FCC website, Wireless Telecommunications Bureau, "About Auctions."

which the FCC would offer unassigned spectrum in a band ... simultaneously with encumbered spectrum offered by existing licensees" as a means to speed the transition to efficient market allocation. Thus, although the problem posed by interference in the 800 MHz band is admittedly more complex than some of the spectrum allocation challenges the Commission has faced in the past, the Commission has a wealth of experience to draw upon to expand its use of the auction mechanism to address new and complex problems.

In a paper submitted to the Commission in July 2003,[6] we acknowledged that the complexities associated with the existing license assignments in the 800 MHz band might ultimately suggest the use of third-party appraisals rather than competitive bidding to set a value on the licenses being relinquished by Nextel for public safety use. Unlike the case with 1.9 GHz spectrum, the 800 MHz licenses were to be awarded by grant to public safety agencies and, as such, there was no identifiable "market" for such licenses, and consequently no opportunity for a "market-based" valuation to be undertaken. However, none of the arguments that might justify this second-best solution apply with respect to the new spectrum that Nextel would acquire. There is significant demand for this valuable spectrum, which is contiguous both with respect to frequency assignment (a contiguous 10 MHz band) and geographic coverage (a nationwide footprint). There is thus no need to utilize an administratively established value when an arm's length market value can be readily determined.

III. Imprecision and subjectivity of indirect valuation

Indirect methods of valuation, used to set an estimated value on the ten megahertz of spectrum at 1.9 GHz, suffer from a multitude of infirmities that would be eliminated by valuing the spectrum through a competitive auction. Each of the studies submitted in this proceeding reflected multiple assumptions and methodological choices. Each assumption and each methodological choice introduces some opportunity for error in the overall valuation. For example, the assumptions are often based on historical transactions that are differ in various respects (general and specific economic conditions, competitive environment, geography, population density, etc.) that differ from the specific and current market conditions that would be captured in a spectrum auction. Financial assumptions, which also play a key role in valuation, rely on comparisons to other businesses that may be dissimilar in various consequential respects.[7]

---

6. Selwyn, Lee L. and Helen E. Golding, "Market-based Solutions for Realigning Spectrum Use in the 800 MHz Band," June 2003.

7. The Commission sums up its dilemma as follows: "As an initial matter, we note that the valuing of spectrum is not an activity in which the Commission typically engages. We know

(continued...)

With third-party valuation, the purchaser or seller, as the case may be, does not directly signal their willingness to pay by direct action. Rather, a separate entity determines the value (price) on their behalf. The valuation reports relied on by the Commission were judged to have been prepared by reputable firms, but they nonetheless reflect the interests of the client who paid for them. As the Commission observed, "the models and assumptions differed and, in many instances, *appeared tailored to reach a desired result.*"[8]

Beyond the possibility of direct bias in the valuation process, it is telling that the range of estimates submitted to the Commission as evidence of the fair value of the ten megahertz of spectrum that Nextel would acquire at 1.9 GHz is extremely large. In fact, the high estimate ($1.82 per MHz-POP) is nearly 50 percent higher than the low estimate of $1.25 per MHz-POP). This large a range suggests a significant degree of imprecision and speculation in the estimates of market value. This imprecision is not solved by the Commission's attempt to reduce the effects of approximation, data limitations, modeling assumptions, and financial interest by blending the various models and proxies, and adding some assumptions, data points, and adjustments of its own. There is no assurance that an average of valuation estimates each one of which had been based upon unique and specific assumptions and methodologies will be any more reliable than its individual constituents, and certainly no basis upon which the Commission can affirmatively find that such a blending will produce anything that remotely resembles a marketplace outcome.

These opportunities for methodological and data-based errors, as well as for the introduction of subjective bias, are largely if not entirely eliminated by the use of competitive bidding. Economists generally agree that, as a means of allocating spectrum, auctions "reveal[] critical information in the process of bidding and gave bidders the flexibility to adjust strategies in

---

7. (...continued)
from experience that the value of spectrum is seldom static and hinges on multiple variables, some of them intangible, which exist at the moment a willing buyer and willing seller agree to a transaction, or when an informed bidder places its bid an auction. When attempts are made to value a spectrum asset prospectively, the estimator must choose a model and employ underlying assumptions that serve as proxies for multiple variables. Given these approximations and limitations, any single figure derived cannot be exact; it necessarily has an associated uncertainty." Improving Public Safety Communications in the 800 MHz Band, WT Docket 02-55, Report and Order, FCC 04-168, released August 6, 2004, at para. 283.

8. *Id.* at para. 284, emphasis supplied.

response to new information," resulting in more accurate and efficient market valuation of the spectrum in question.[9]

IV. Pre-selection of purchaser distorts evaluation of market price

In its *Report and Order* in Docket WT 02-55, the Commission leads off its discussion of the valuation question by noting the "considerable disagreement among the parties on whether the grant of 1.9 GHz spectrum rights to Nextel constitutes equitable compensation or an unwarranted windfall." Under this approach, the focus is entirely on Nextel, and the issue is simply "does Nextel receive more than it gives up?" But the economic context for the Commission's decision – and its economic consequences – are broader than this formulation of the issue suggests. The decision to set a price for the acquisition of the 1.9 GHz spectrum by a preselected purchaser, rather than having it determined at auction, prevents the Commission from accomplishing the economic objectives underlying Section 309(j) of the Communications Act and the market-based spectrum allocation policies that the Commission has pursued for more than a decade.

The auction mechanism performs several functions that cannot be replicated in the assignment of value for purchase by a single, predetermined buyer. As the Commission observed in its Order, "the value of spectrum is seldom static and hinges on multiples variables, some of them intangible." The Commission acknowledged that this value exists "at the moment a willing buyer and willing seller agree to a transaction, or when an informed bidder places its bid a[t] auction," but attempts to assess it prospectively require assumptions and approximations that inevitably lead to considerable uncertainty in the result.

Moreover, the auction mechanism's superiority to third-party valuation is not simply in producing a far more reliable valuation. It performs an allocative function, selecting the use that investors see as the most efficient use of the spectrum. Indirectly, this may also tend to result in licenses going to firms that are able to demonstrate to investors that they have strong long-term business prospects, reducing the risk that spectrum will be acquired, only to go unused as the result of a business failure. As noted by economist Peter Cramton, "Market competition is putting the licenses in the hands of those companies best able to use them. Firms, consumers, and taxpayers all benefit."[10]

---

9. See, e.g. Cramton, Peter, "The Efficiency of the FCC Spectrum Auctions," *Journal of Law and Economics*, 41 J. Law & Econ. 727, October 1998.

10. Cramton, Peter, "FCC Spectrum Auctions: An early Assessment," *Journal of Economics and Management Strategy*, Volume 6, No. 3, Fall 1997, at 493.

An example of how valuing the transaction from Nextel's perspective, rather than by means of an objective market mechanism, is reflected in the Commission's analysis of the relative value of non-contiguous spectrum being relinquished by Nextel in the 800 MHz band and contiguous spectrum that it will acquire. The Commission rejects arguments by Verizon Wireless suggesting that Nextel should get relatively less credit for the non-contiguous spectrum than for the contiguous spectrum, citing certain inherent technological advantages in the latter. The Commission reasons that Nextel, by virtue of its iDEN network, can make relatively better use of non-contiguous spectrum than other users and, similarly, gains less advantage (because its need is less) from access to contiguous spectrum. Yet, if both the contiguous spectrum and the non-contiguous spectrum were being offered at auction, the most valued use of the spectrum would win out – thus, while Nextel would theoretically offer more than non-iDEN-capable users for the non-contiguous spectrum, some other user would willing to pay more than Nextel for the contiguous spectrum. The Commission ends up giving Nextel a valuation benefit in both directions, simply because it is evaluating the spectrum from Nextel's unique perspective, rather than from a neutral, market-based approach.

Ironically, since the time of the Commission's Order, conditions in the wireless market have changed that may well alter the value to Nextel of the contiguous spectrum in the 800 MHz band. If Nextel completes its merger with wireless PCS provider Sprint, which does not employ iDEN technology, then (for the same reasons the Commission has already acknowledged) the value of this spectrum is likely to be greater than it would have been to Nextel alone. As one news source noted, "Spectrally, a deal also offers some synergies. Sprint's spectrum holdings in the PCS band are adjacent to the airwaves Nextel is expected to receive through the FCC's 800 MHz rebanding plan. In addition, Sprint and Nextel have enough spectrum at 2.5 GHz to provide a nationwide wireless service, something no operator in that band has been able to accomplish to date."[11] Seen from the perspective of the *new* Sprint/Nextel entity, the noncontiguous and geographically isolated holdings in the 800 MHz band may well be worth considerably *less* than they had been to Nextel alone, whereas a contiguous 10MHz block covering a nationwide footprint in the 1.9 GHz band could be worth more than it had been to Nextel standing alone. The market is simply far too fluid for any administratively-set valuation to persist for any length of time and, in the instant case, the resulting windfall to the Sprint/Nextel entity is almost certainly larger than has been posited thus far.

---

11. TelephonyOnline.com, December 10, 2004, accessed 12/21/2004 at http://wirelessreview.com/microsites/newsarticle.asp?mode=print&newsarticleid=2736419&releaseid=&srid=11393&magazineid=9&siteid=3.

V. Nextel's choice to pursue relocation

Nextel's affirmative pursuit of alternative spectrum demonstrates that it has concluded that relocating to 1.9 GHz (with all of the attendant outlays) is more beneficial (i.e., less costly and/or providing greater business value) than remaining in its current spectrum and making the technical changes necessary to avoid interference. This is a business decision. If relocation is absolutely critical to the execution of this decision, then Nextel should be prepared to outbid all other potential applicants. However, it is possible that the value Nextel places on the acquisition of replacement spectrum at 1.9 GHz may not be as high as the value of the spectrum to another party. If that is the case, then economic efficiency would require that such other party, and not Nextel, obtain that spectrum. Without an open bidding process, the Commission has no way of knowing whether another buyer exists whose business value for the 1.9 GHz spectrum exceeds the benefits to Nextel from obtaining replacement spectrum. However, by *preselecting* Nextel as the *de facto* winner of the 1.9 GHz spectrum, the Commission precludes a process that would allow this economic selection to occur.

Avoiding an auction thus artificially suppresses the amount that Nextel might have to spend to fix the 800 MHz problem for which it is primarily responsible. Undoubtedly, spending more to resolve these problems could have a negative impact upon Nextel's business. Yet, as it has often stated, the Commission's pro-competitive objectives aim to protect *competition*, not any particular competitor. Nextel is but one of numerous competitors in the market for ESMR and cellular-like services; thus, preserving the competitiveness of this market does not require that Nextel receive uneconomic subsidy, and indeed providing Nextel with such a subsidy operates to distort and undermine the competitiveness of the market overall. The recent announcement of the Nextel-Sprint merger illustrates one of the various alternative ways that Nextel could gain access to substantial amounts of additional spectrum without the need for regulatory concessions.

VI. Conclusion

The economic benefits clearly militate in favor of using an auction, rather than third-party evaluation, to establish the value and select the most highly valued use of spectrum at 1.9 GHz. While the countervailing policy concerns may have affected the Commission's overall approach to resolving interference with public safety uses of 800 MHz spectrum, these policies do not require an abandonment of market-based valuation with respect to the 1.9 GHz spectrum.

Statement of Qualifications

DR. LEE L. SELWYN

Dr. Lee L. Selwyn has been actively involved in the telecommunications field for more than twenty-five years, and is an internationally recognized authority on telecommunications regulation, economics and public policy. Dr. Selwyn founded the firm of Economics and Technology, Inc. in 1972, and has served as its President since that date. He received his Ph.D. degree from the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology. He also holds a Master of Science degree in Industrial Management from MIT and a Bachelor of Arts degree with honors in Economics from Queens College of the City University of New York.

Dr. Selwyn has testified as an expert on rate design, service cost analysis, form of regulation, and other telecommunications policy issues in telecommunications regulatory proceedings before some forty state commissions, the Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission, among others. He has appeared as a witness on behalf of commercial organizations, non-profit institutions, as well as local, state and federal government authorities responsible for telecommunications regulation and consumer advocacy.

He has served or is now serving as a consultant to numerous state utilities commissions including those in Arizona, Minnesota, Kansas, Kentucky, the District of Columbia, Connecticut, California, Delaware, Maine, Massachusetts, New Hampshire, Vermont, New Mexico, Wisconsin and Washington State, the Office of Telecommunications Policy (Executive Office of the President), the National Telecommunications and Information Administration, the Federal Communications Commission, the Canadian Radio-television and Telecommunications Commission, the United Kingdom Office of Telecommunications, and the Secretaria de Comunicaciones y Transportes of the Republic of Mexico. He has also served as an advisor on telecommunications regulatory matters to the International Communications Association and the Ad Hoc Telecommunications Users Committee, as well as to a number of major corporate telecommunications users, information services providers, paging and cellular carriers, and specialized access services carriers.

Dr. Selwyn has presented testimony as an invited witness before the U.S. House of Representatives Subcommittee on Telecommunications, Consumer Protection and Finance and before the U.S. Senate Judiciary Committee, on subjects dealing with restructuring and deregulation of portions of the telecommunications industry.

In 1970, he was awarded a Post-Doctoral Research Grant in Public Utility Economics under a program sponsored by the American Telephone and Telegraph Company, to conduct research on the economic effects of telephone rate structures upon the computer time sharing industry. This work was conducted at Harvard University's Program on Technology and Society, where he was appointed as a Research Associate. Dr. Selwyn was also a member of the faculty at the College of Business Administration at Boston University from 1968 until 1973, where he taught courses in economics, finance and management information systems.

Dr. Selwyn has published numerous papers and articles in professional and trade journals on the subject of telecommunications service regulation, cost methodology, rate design and pricing policy. These have included:

"Taxes, Corporate Financial Policy and Return to Investors," National Tax Journal, Vol. XX, No.4, December 1967.

"Pricing Telephone Terminal Equipment Under Competition," *Public Utilities Fortnightly*, December 8, 1977.

"Deregulation, Competition, and Regulatory Responsibility in the Telecommunications Industry," *Presented at the 1979 Rate Symposium on Problems of Regulated Industries - Sponsored by: The American University, Foster Associates, Inc., Missouri Public Service Commission, University of Missouri-Columbia*, Kansas City, MO, February 11 - 14, 1979.

"Sifting Out the Economic Costs of Terminal Equipment Services," *Telephone Engineer and Management*, October 15, 1979.

"Usage-Sensitive Pricing" (with G. F. Borton), (a three part series), *Telephony*, January 7, 28, February 11, 1980.

"Perspectives on Usage-Sensitive Pricing," *Public Utilities Fortnightly*, May 7, 1981.

"Diversification, Deregulation, and Increased Uncertainty in the Public Utility Industries" *Comments Presented at the Thirteenth Annual Conference of the Institute of Public Utilities*, Williamsburg, VA - December 14 - 16, 1981.

"Local Telephone Pricing: Is There a Better Way?; The Costs of LMS Exceed its Benefits: a Report on Recent U.S. Experience," *Proceedings of a conference held at Montreal, Quebec - Sponsored by Canadian Radio-Television and Telecommunications Commission and The Centre for the Study of Regulated Industries, McGill University*, May 2-4, 1984.

"Long-Run Regulation of AT&T: A Key Element of A Competitive Telecommunications Policy," *Telematics*, August 1984.

"Is Equal Access an Adequate Justification for Removing Restrictions on BOC Diversification?" *Presented at the Institute of Public Utilities Eighteenth Annual Conference*, Williamsburg, VA, December 8-10, 1986.

"Market Power and Competition Under an Equal Access Environment" *Presented at the Sixteenth Annual Conference, "Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation," Institute of Public Utilities, Michigan State University*, Williamsburg, VA, December 3-5, 1987.

"Contestable Markets: Theory vs. Fact," *Presented at the Conference on Current Issues in Telephone Regulations: Dominance and Cost Allocation in Interexchange Markets - Center for Legal and Regulatory Studies Department of Management Science and Information Systems - Graduate School of Business, University of Texas at Austin*, October 5, 1987.

"The Sources and Exercise of Market Power in the Market for Interexchange Telecommunications Services," *Presented at the Nineteenth Annual Conference - "Alternatives to Traditional Regulation: Options for Reform," Institute of Public Utilities, Michigan State University*, Williamsburg, VA, December, 1987.

"Assessing Market Power and Competition in The Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform," *Federal Communications Law Journal*, Vol. 40 Num. 2, April 1988.

"A Perspective on Price Caps as a Substitute for Traditional Revenue Requirements Regulation," *Presented at the Twentieth Annual Conference - "New Regulatory Concepts, Issues and Controversies" - Institute of Public Utilities, Michigan State University*, Williamsburg, VA, December, 1988.

"The Sustainability of Competition in Light of New Technologies" (with D. N. Townsend and P. D. Kravtin), *Presented at the Twentieth Annual Conference - Institute of Public Utilities Michigan State University*, Williamsburg, VA, December, 1988.

"Adapting Telecom Regulation to Industry Change: Promoting Development Without Compromising Ratepayer Protection" (with S. C. Lundquist), *IEEE Communications Magazine*, January, 1989.

"The Role of Cost Based Pricing of Telecommunications Services in the Age of Technology and Competition," *Presented at National Regulatory Research Institute Conference*, Seattle, July 20, 1990.

"A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network" (with Patricia D. Kravtin and Paul S. Keller), Columbus, Ohio: *National Regulatory Research Institute*, September 1991.

"Telecommunications Regulation and Infrastructure Development: Alternative Models for the Public/Private Partnership," *Prepared for the Economic Symposium of the International Telecommunications Union Europe Telecom '92 Conference, Budapest, Hungary,* October 15, 1992.

"Efficient Infrastructure Development and the Local Telephone Company's Role in Competitive Industry Environment," *Presented at the Twenty-Fourth Annual Conference, Institute of Public Utilities, Graduate School of Business, Michigan State University, "Shifting Boundaries between Regulation and Competition in Telecommunications and Energy"*, Williamsburg, VA, December 1992.

"Measurement of Telecommunications Productivity: Methods, Applications and Limitations" (with Françoise M. Clottes), *Presented at Organisation for Economic Cooperation and Development, Working Party on Telecommunication and Information Services Policies, '93 Conference "Defining Performance Indicators for Competitive Telecommunications Markets", Paris, France,* February 8-9, 1993.

"Telecommunications Investment and Economic Development: Achieving efficiency and balance among competing public policy and stakeholder interests," *Presented at the 105th Annual Convention and Regulatory Symposium, National Association of Regulatory Utility Commissioners, New York,* November 18, 1993.

"The Potential for Competition in the Market for Local Telephone Services" (with David N. Townsend and Paul S. Keller), *Presented at the Organization for Economic Cooperation and Development Workshop on Telecommunication Infrastructure Competition*, December 6-7, 1993.

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," *Utilities Policy*, Vol. 4, No. 1, January 1994.

The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers, (with Susan M. Gately, et al) a report prepared by ETI and Hatfield Associates, Inc. for AT&T, MCI and CompTel, February 1994.

Commercially Feasible Resale of Local Telecommunications Services: An Essential Step in the Transition to Effective Local Competition, (Susan M. Gately, et al) a report prepared by ETI for AT&T, July 1995.

"Efficient Public Investment in Telecommunications Infrastructure," *Land Economics*, Vol 71, No.3, August 1995.

Funding Universal Service: Maximizing Penetration and Efficiency in a Competitive Local Service Environment, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shepheard, A Time Warner Communications Policy White Paper, September 1995.

Stranded Investment and the New Regulatory Bargain, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shepheard, A Time Warner Communications Policy White Paper, September 1995

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," in *Networks, Infrastructure, and the New Task for Regulation*, by Werner Sichel and Donal L. Alexander, eds., University of Michigan Press, 1996.

Establishing Effective Local Exchange Competition: A Recommended Approach Based Upon an Analysis of the United States Experience, Lee L. Selwyn, paper prepared for the Canadian Cable Television Association and filed as evidence in Telecom Public Notice CRTC 95-96, Local Interconnection and Network Component, January 26, 1996.

The Cost of Universal Service, A Critical Assessment of the Benchmark Cost Model, Susan M. Baldwin with Lee L. Selwyn, a report prepared by Economics and Technology, Inc. on behalf of the National Cable Television Association and submitted with Comments in FCC Docket No. CC-96-45, April 1996.

Economic Considerations in the Evaluation of Alternative Digital Television Proposals, Lee L. Selwyn (as Economic Consultant), paper prepared for the Computer Industry Coalition on Advanced Television Service, filed with comments in FCC MM Docket No. 87-268, In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, July 11, 1996.

Assessing Incumbent LEC Claims to Special Revenue Recovery Mechanisms: Revenue opportunities, market assessments, and further empirical analysis of the "Gap" between embedded and forward-looking costs, Patricia D. Kravtin and Lee L. Selwyn, In the Matter of Access Charge Reform, in CC Docket No. 96-262, January 29, 1997.

The Use of Forward-Looking Economic Cost Proxy Models, Susan M. Baldwin and Lee L. Selwyn, Economics and Technology, Inc., February 1997.

The Effect of Internet Use On The Nation's Telephone Network, Lee L. Selwyn and Joseph W. Laszlo, a report prepared for the Internet Access Coalition, July 22, 1997.

Regulatory Treatment of ILEC Operations Support Systems Costs, Lee L. Selwyn, Economics and Technology, Inc., September 1997.

The "Connecticut Experience" with Telecommunications Competition: A Case in Getting it Wrong, Lee L. Selwyn, Helen E. Golding and Susan M. Gately, Economics and Technology, Inc., February 1998.

Where Have All The Numbers Gone?: Long-term Area Code Relief Policies and the Need for Short-term Reform, prepared by Economics and Technology, Inc. for the Ad Hoc Telecommunications Users Committee, International Communications Association, March 1998, second edition, June 2000.

Broken Promises: A Review of Bell Atlantic-Pennsylvania's Performance Under Chapter 30, Lee L. Selwyn, Sonia N. Jorge and Patricia D. Kravtin, Economics and Technology, Inc., June 1998.

Building A Broadband America: The Competitive Keys to the Future of the Internet, Lee L. Selwyn, Patricia D. Kravtin and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, May 1999.

Bringing Broadband to Rural America: Investment and Innovation In the Wake of the Telecom Act, Lee L. Selwyn, Scott C. Lundquist and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, September 1999.

Bringing Local Telephone Competition to Massachusetts, Lee L. Selwyn and Helen E. Golding, prepared for The Massachusetts Coalition for Competitive Phone Service, January 2000.

Subsidizing the Bell Monopolies: How Government Welfare Programs are Undermining Telecommunications Competition, Lee L. Selwyn, April 2002.

Dr. Selwyn has been an invited speaker at numerous seminars and conferences on telecommunications regulation and policy, including meetings and workshops sponsored by the National Telecommunications and Information Administration, the National Association of Regulatory Utility Commissioners, the U.S. General Services Administration, the Institute of Public Utilities at Michigan State University, the National Regulatory Research Institute at Ohio State University, the Harvard University Program on Information Resources Policy, the Columbia University Institute for Tele-Information, the International Communications Association, the Tele-Communications Association, the Western Conference of Public Service Commissioners, at the New England, Mid-America, Southern and Western regional PUC/PSC conferences, as well as at numerous conferences and workshops sponsored by individual regulatory agencies.

Statement of Qualifications

HELEN E. GOLDING

Helen E. Golding, Vice President in ETI's Regulatory Policy Group since 1994, has worked for twenty-five years in the field of utility regulation and public policy. In the public sector, she has worked at both state and federal regulatory agencies; she also has extensive private sector experience in the areas of telecommunications law, strategic planning, and regulatory policy. In addition to her extensive telecommunications industry experience, Ms. Golding has considerable experience in the public policy and law of the energy industry.

Ms. Golding's most recent work at ETI has concentrated onevolving policies concerning Internet-related services and service providers, including policies on Voice over Internet Protocol services and matters involving state taxation of telecommunications and information services. During the past several years, she has also focused on economic and public policy issues related to the FCC's Triennial Review Proceeding and TRO Remand, special access competition, and market-based mechanisms for spectrum allocation.

Following the passage of the landmark *Telecommunications Act of 1996*, Ms. Golding directed work at ETI to evaluate the progress of various Bell operating companies (BOCs) toward meeting the standards of Section 271 of the *Act* (which specifies the conditions for BOC re-entry into the in-region, interLATA services market), as well as ETI's study of the progress toward implementing local competition in the absence of the Section 271 incentive, in the case of The Southern New England Telephone Company. She also directed work analyzing the propriety of Ameritech's application for authorization by the Illinois and Michigan public utilities commissions to provide local exchange service through the same separate subsidiary that Ameritech proposed to employ to provide interLATA long distance services. Along with Dr. Lee L. Selwyn, Ms. Golding submitted a comprehensive statement as evidence in the Canadian Radio and Telecommunications Commission's investigation into forbearance from regulation of toll services provided by the Stentor companies, Canada's equivalent of the pre-divestiture Bell System.

Ms. Golding has done extensive work in the area of telecommunications industry mergers, and is the co-author of two affidavits to the FCC addressing the public interest concerns raised by the SBC-Ameritech and GTE-Bell Atlantic mergers, submitted on behalf of a coalition of state consumer advocates. Ms. Golding was also a key participant in ETI's participation in several state proceedings reviewing major ILEC mergers, including Maine (The Bell Atlantic-NYNEX merger, on behalf of the Public Advocate), Ohio (The SBC-Ameritech merger, on behalf of the Office of Consumer Counsel), California (the GTE-Bell Atlantic merger, on behalf of the Office of Ratepayer Advocate) and Hawaii (the GTE-Bell Atlantic merger, on behalf of the Hawaii Consumer Advocate).

Ms. Golding has directed or had substantial involvement in multiple projects involving the original specification or subsequent revision of alternative regulation plans, including work for

consumer advocates in Colorado, Connecticut, Indiana, Maine, and Massachusetts. Ms. Golding participated in local competition dockets in New York, New Jersey, Massachusetts, and Hawaii, and in state proceedings focusing on universal service in Florida and Tennessee. She has also contributed heavily to numerous submissions to the Federal-State Joint Board and FCC in CC Docket 96-45, the Universal Service proceeding, and various phases of the FCC's LEC Price Cap Review proceedings.

Ms. Golding was Assistant General Counsel of the Massachusetts Department of Public Utilities from November 1988 to September 1992. Ms. Golding managed a staff of hearing officers, who conducted adjudicatory and rulemaking proceedings for all regulated utilities. Her position required case management and policy coordination with the Department's numerous technical divisions (organized by industry sector: telecommunications, electric, gas, water, and transportation). Ms. Golding also served as the Commission's chief legal advisor on matters that spanned the Department's broad utility jurisdiction. In addition to overseeing numerous rate cases for all utilities, these proceedings included the tariffing of new services, design of conservation and load management programs, incentive and competitive rates, licensing, financing, siting and utility management practices.

Immediately prior to joining ETI, Ms. Golding was in the Regulatory Practice Group at Rubin and Rudman, a mid-sized Boston law firm, where she specialized in communications, energy, and municipal law, for clients that included communications and cable companies, municipal electric companies, independent power producers, and public authorities.

Prior to becoming Assistant General Counsel at the DPU, Ms. Golding was Regulatory Counsel and Manager of Telecommunications Public Policy for Honeywell, Inc., providing legal and strategic planning advice concerning rate and regulatory developments affecting the company as a large user of telecommunications service and as a computer manufacturer. In that position, she also provided counsel on tariff and regulatory matters to the company's alarm and customer premises equipment businesses.

Ms. Golding also worked at the Federal Communications Commission, as a General Attorney in the Common Carrier Bureau, Tariff Division, where she was responsible for tariff review and rulemaking proceedings for domestic and international telecommunications services.

Ms. Golding is a graduate of Boston University School of Law (J.D., 1977 and Bryn Mawr College (A.B. *cum laude*, 1974).

While at ETI, Ms. Golding has published several papers and articles on the subject of telecommunications public policy, law, and economics. These have included:

The BCM [Benchmark Cost Model] Debate, A Further Discussion, (with Dr. Lee L. Selwyn and Susan M. Baldwin). Prepared for the National Cable Television Association, submitted in FCC CC Docket No. 96-45, May 1996.

The Phone Wars and How to Win Them, (with Susan M. Baldwin). *Planning*, July 1996 (Volume 62, Number 7).

Interpreting the Telecommunications Act of 1996 Mandate for the Deployment of Advanced Telecommunications Services in a Fiscally Responsible and Fully Informed Manner (with Susan M. Baldwin), *Proceedings of the Tenth NARUC Biennial Regulatory Information Conference*, Volume 3, September 11-13, 1996.

U.S. Regulatory Safeguards: Implications for Canada, Evidence submitted in Canadian Radio and Telecommunications Commission docket CRTC 96-26: Forbearance from Regulation of Toll Services Provided by Dominant Carriers, November 22, 1996.

Report on the Southern New England Telephone Company (SNET), (with Patricia D. Kravtin, et al.), prepared for Cablevision Systems Corporation, July 1997.

The "Connecticut Experience" with Telecommunications Competition: A Case in Getting it Wrong, with Lee L. Selwyn and Susan M. Gately, Economics and Technology, Inc., February 1998.

Affidavit of Susan M. Baldwin and Helen Golding, submitted on behalf of Consumer Groups in FCC Docket CC 98-141, SBC-Ameritech Merger Proceeding, October 15, 1998.

Affidavit of Susan M. Baldwin and Helen Golding, submitted on behalf of Consumer Groups in FCC Docket CC 98-184, Bell Atlantic-GTE Merger Proceeding, December 18, 1998.

Bringing Local Telephone Competition to Massachusetts, (with Lee L. Selwyn) prepared for the Massachusetts Coalition for Competition Telephone Service, January 2000.

Market-based Solutions for Realigning Spectrum Use in the 800 MHz Band, (with Lee L. Selwyn), June 2003.

Competition in Access Markets: Reality or Illusion, (with Lee L. Selwyn and Susan M. Gately) prepared for the Ad Hoc Telecommunications Committee, August 2004.