

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

In the Matter of	)	
	)	
Amendment of Parts 1, 21, 73, 74 and 101 of	)	
the Commission's Rules to Facilitate the	)	WT Docket No. 03-66
Provision of Fixed and Mobile Broadband	)	RM-10586
Access, Educational and Other Advanced	)	
Services in the 2150-2162 and 2500-2690	)	
MHz Band	)	
	)	
Part 1 of the Commission's Rules - Further	)	
Competitive Bidding Procedures	)	WT Docket No. 03-67
	)	
Amendment of Parts 21 and 74 to Enable	)	
Multipoint Distribution Service and the	)	
Instructional Television Fixed Service	)	MM Docket No. 97-217
Amendment of Parts 21 and 74 to Engage in	)	
Fixed Two Way Transmissions	)	
	)	
Amendment of Parts 21 and 74 of the	)	
Commission's Rules With Regard to	)	
Licensing in the Multipoint Distribution	)	WT Docket No. 02-68
Service and in the Instructional Television	)	RM-9718
Fixed Service for the Gulf of Mexico	)	

To: The Commission

**COMMENTS OF ILLINOIS INSTITUTE OF TECHNOLOGY**

By: Laura C. Mow  
Gardner, Carton & Douglas  
1301 K Street, N.W.  
Suite 900, East Tower  
Washington, D.C. 20005  
(202) 230-5000

September 8, 2003

Its Attorneys

## **SUMMARY**

This proceeding seeks to restructure the ITFS/MDS band to implement the Commission's decision to allow "flexible use" of the band. Although the Commission seeks to meet several goals through this rule-making, it has repeatedly assured the educational community that it will not undermine the educational mission launched several decades ago. IIT urges the Commission to adhere to these assurances, and to ensure that the core educational focus of the ITFS channels be preserved.

The educational community has made extensive use of ITFS spectrum for its intended purposes. IIT's experience in Chicago is but one example of the broad scope of existing ITFS operations and the extent to which ITFS programming has been incorporated into university curriculums. The FCC's own license files confirms that there are active ITFS operations in all of the top 50 markets and that a least one ITFS station operates in most areas of the country. Moreover, the majority of these stations reserve 25% of total capacity for ITFS use, well over the FCC-mandated minimum 5% reservation of capacity. Although alternative means of providing educational content to students may be on the horizon, at the present time, such alternative technologies (such as the Internet) do not provide comparable picture quality, and would require substantial lead time before being incorporated into educational programs in any event.

IIT believes that the best way to enable high power and low power systems to operate simultaneously in the 2500-2690 MHz band is to transition existing licensees into segmented bands, with the middle segment reserved for high powered MDS and ITFS stations and the two segments above and below reserved for lower power operation. This band option best protects the educational programming currently existing and nsures that ITFS licensees are able to continue to use their frequencies for their educational mission. Accordingly, IIT supports (with

some modifications) the segmented band proposal put forth by the Coalition and opposes the alternative all low power band proposal.

IIT would modify the Coalition's Proposal in certain respects to ensure that ITFS licensees are sufficiently protected and that the transition process is a fair one. IIT believes, for example, that the size of the middle band segment set aside for high-power, high-site operations should vary depending upon the characteristics of the market involved. Each market should have a "default" plan for the mid-band, the size of which could be based on the number of channels used by ITFS licensees for educational programming in the given market. Thus, if ITFS licensees in a given market are using more than 25% of their total ITFS capacity to provide educational programming, the mid-band would include more frequencies for high-power, high-site operations. Each ITFS licensee should be entitled to invoke the default plan, and each ITFS licensee should be guaranteed sufficient channels to maintain existing ITFS operations -- at least for a specified transition period.

IIT's other proposed modifications to the Coalition's segmented band proposal include certain protections from potential Proponent abuses. Any transition plan, for example, must sustain any ITFS licensee's existing digital operations; a forced return to analog constitutes a return to less efficient operations and should not be permitted. Any rules ultimately adopted also should ensure that the transition process does not allow anti-competitive behavior that slows the transition process. Competing commercial operators in a given market should not be permitted to "game" the system to their advantage.

IIT believes that the transition to a segmented band plan should be completed within five (5) years. Such a transition period would permit educational institutions reasonably to plan for

the shift in frequencies. A Proponent should be able to implement the transition within a shorter time frame, subject to the protections for ITFS licensees discussed in IIT's Comments herein.

In sum, IIT supports the Commission's efforts to restructure the ITFS/MDS band and endorses the segmented band concept with certain modifications, as noted. Any actions taken by the FCC, however, should ensure that the educational mission of the ITFS licensees is not undermined. In this regard, IIT believes that any consideration of auctions for vacant ITFS spectrum or the removal of ITFS eligibility restrictions is premature and should not be the subject of this proceeding.

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

In the Matter of	)	
	)	
	)	
Amendment of Parts 1, 21, 73, 74 and 101 of	)	WT Docket No. 03-66
the Commission's Rules to Facilitate the	)	RM-10586
Provision of Fixed and Mobile Broadband	)	
Access, Educational and Other Advanced	)	
Services in the 2150-2162 and 2500-2690	)	
MHz Band	)	
	)	
Part 1 of the Commission's Rules - Further	)	WT Docket No. 03-67
Competitive Bidding Procedures	)	
	)	
Amendment of Parts 21 and 74 to Enable	)	MM Docket No. 97-217
Multipoint Distribution Service and the	)	
Instructional Television Fixed Service	)	
Amendment of Parts 21 and 74 to Engage in	)	
Fixed Two Way Transmissions	)	
	)	
Amendment of Parts 21 and 74 of the	)	WT Docket No. 02-68
Commission's Rules With Regard to	)	RM-9718
Licensing in the Multipoint Distribution	)	
Service and in the Instructional Television	)	
Fixed Service for the Gulf of Mexico	)	

To: The Commission

**COMMENTS OF ILLINOIS INSTITUTE OF TECHNOLOGY**

Illinois Institute of Technology ("IIT"), by its attorneys, hereby submits its comments on the Notice of Proposed Rulemaking and Memorandum Opinion and Order, WT Docket No. 03-66, RM-10586 ("NPRM"), released by the Federal Communications Commission (the "FCC" or

“Commission”) on April 2, 2003 (the “NPRM”). By this NPRM, the FCC seeks to further “competition, innovation and investment in wireless broadband services, and to promote educational services.” NPRM at ¶ 1. To accomplish these objectives, the FCC seeks comment on whether and how to reconfigure the 2500-2690 MHz band, currently home to the Instructional Television Fixed Service (“ITFS”) and the Multichannel Multipoint Distribution Service (“MMDS”). While acknowledging that the various proposed rule changes are intended primarily “to facilitate the provision of high-speed data and voice services accessible to mobile and well as fixed users,” the FCC has assured the educational community that it “[does] not intend to evict any incumbent licensees from the affected band” so long as they are in compliance with FCC rules, “nor [does] it intend to undermine the educational mission of ITFS licensees.” NPRM at ¶ 2.

The NPRM was prompted, in large part, by a self-styled “industry consensus” proposal to transition existing licensees in the 2500-2690 MHz band into separate band segments so as to enable high-power and low-power systems to operate simultaneously within the band without causing mutual interference.<sup>1</sup> In its Comments on the Coalition Proposal, IIT registered qualified support for the segmented band concept, and, as will be discussed in greater detail later in this filing, offered a variety of suggested modifications which IIT believes are necessary to ensure a fair and efficient transition to a new band plan.

---

<sup>1</sup> See, “A Proposal for Revising the MDS and ITFS Regulatory Regime,” filed by the Wireless Communications Association International, Inc., the National ITFS Association and the Catholic Television Network (collectively, the “Coalition”) on October 7, 2002 (“the Coalition Proposal” or “Coalition White Paper”); see also Public Notice, “Wireless Telecommunications Bureau Seeks Comment on Proposal to Revise Multichannel Distribution Service and the Instructional Television Fixed Service Rules,” DA-02-2732, released October 17, 2002.

IIT supports many of the policy goals espoused by the Commission in the NPRM, in particular, promoting the availability of broadband technologies to the public and improving the efficient use of spectrum. The Coalition Proposal, with certain modifications, goes a long way towards realizing these and other important FCC goals. In considering the comprehensive restructuring proposals set out in the NPRM, however, it is critical to preserve another important public policy goal first articulated in 1963 when ITFS was established, and which has been reiterated throughout the various refinements, revisions, and expansions to the FCC rules governing ITFS spectrum in the 2500-2690 MHz band: that is, to enhance educational programs by providing space for radio transmission of educational materials.<sup>2</sup> The NPRM proposals, while laudable in their scope and ambition, should not lose sight of this core focus for the ITFS channels, and should take care that the fundamental educational mission launched in 1963 is not overtaken by commercial interests.<sup>3</sup>

In addition, the concerns prompting this NPRM were primarily technical in nature, relating to the interference difficulties inherent in combined high and low power operations in

---

<sup>2</sup> See e.g., Educational Television Report and Order, Docket No. 14744, 39 FCC 846 (1963), recon. denied, 39 FCC 873 (1964); Amendment of the Commission's Rules With Regard to the Instructional Television Fixed Service, the Multipoint Distribution Service, and Applications for an Experimental Station and Establishment of Multichannel Systems, *Report and Order*, 94 FCC2d 1203 (1983)("First Leasing Decision"); Amendment of Part 74 of the Commission's Rules With Regard to the Instructional Television Fixed Service, *Second Report and Order*, 101 FCC 2d 50 (1985); Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, *Report and Order*, 13 FCC Rcd 19112 (1998), *recon.*, 14 FCC Rcd 12764 (1999), *further recon.*, 15 FCC Rcd 14566 (2000)("Two-Way Order").

<sup>3</sup> It should be noted in this regard that many of the major urban markets have a multitude of commercial service providers offering mobile and two-way services using other technologies. In Chicago, for example, there are numerous satellite Internet providers, such as Linx, AT&T, Charter, Time Warner, MediaOne, and Insight. Wireless companies providing Internet services include Sprint, Boingo, Airewaves, Verizon and AT&T, among others. And DSL service is provided by dozens of vendors, such as SBC, Earthlink, DSLi, and Comcast. In short, while there may be a growing market for broadband services, in many of the larger markets at least, there are other technologies available on an immediate basis to deliver these commercial services. The same cannot be said for educational services.

the same band. This is not the time, IIT believes, to consider peripheral issues, such as whether to auction unlicensed ITFS spectrum or whether to change the eligibility rules for ITFS. The challenge at hand is to solve the technical difficulties faced by existing licensees in the 2500-2690 MHz band while pursuing different missions -- educational on the one hand, and commercial on the other. In IIT's view, consideration of far-reaching allocation issues involving licensee eligibility restrictions and auctions is premature and distracts from the primary purpose of this proceeding.

## I.

### DISCUSSION

#### A. **The Educational Mission Exemplified By ITFS Serves A Vital Need And Must Be Preserved.**

Despite assurances by the FCC that it does not intend to undermine the educational mission of ITFS licensees, the NPRM questions whether the spectrum allocated to ITFS is widely used for educational purposes and considers whether and how to shift the spectrum into the hands of commercial entities. Thus, while acknowledging that "at least one ITFS station operates in most areas of the United States" and that "in 49 of the 50 largest metropolitan areas ... all 31 ITFS/MDS channels are licensed within 100 miles of the cities considered,"<sup>4</sup> the FCC nevertheless seeks to "increase the intensity and efficiency of use of the ITFS spectrum" by proposing to auction unassigned ITFS spectrum using geographic area licensing, and even to hold "two-sided" auctions that would restructure the ITFS spectrum with "new" -- i.e., commercial -- licensees. NPRM at ¶¶ 231-232. Moreover, despite stressing that it "does not contemplate reclaiming licenses from any incumbent licensees," the FCC requests comment on

---

<sup>4</sup> NPRM at ¶ 29.

whether to maintain ITFS as a separate service requiring educational programming, or to modify the eligibility requirements to allow for-profit companies to be eligible licensees. NPRM at ¶116. And while noting that the “primary use of ITFS is for educational and cultural development,” the NPRM suggests that the required 5% minimum reservation of digital capacity is indicative of low educational use. NPRM at ¶ 113.

Underlying each of these statements is the apparent belief, although never explicitly stated, that *actual* use of the 2500 – 2690 MHz band for educational purposes is minimal, that removal of eligibility restrictions currently imposed by FCC rules would enable commercial interests to make better use of the spectrum, and that alternative technologies are available to ITFS licensees to provide educational services. As will be discussed below, such assumptions are not supportable, and any rules permitting commercial entities to directly license the ITFS spectrum would surely undermine the vital educational mission historically supported by the FCC.

### **1. The ITFS Spectrum Is Being Used For Its Intended Purpose.**

In considering the extent to which ITFS frequencies actually are being used to further educational purposes, the NPRM suggests that this spectrum is “underutilized.” NPRM at ¶ 50.<sup>5</sup> Certainly, the spectrum could be better utilized if, as the NPRM candidly admits, the continuously evolving FCC regulations governing deployment of this spectrum had not impeded its use for commercial purposes. But even without significant commercialization of the spectrum (and the accompanying increase in revenues available to educational institutions through

---

<sup>5</sup> In so suggesting, the FCC admits that it is “not aware of any current, comprehensive source of information on the nature or extent of ITFS services other than [its] license files.” NPRM at ¶ 29.

partnering with commercial operators), the use of high-site, high power ITFS systems for education is robust and fills a significant need in the educational community.

Since the inception of ITFS, educational institutions have committed significant time, energy and investment incorporating this spectrum into their educational mission. IIT's experience with ITFS in the Chicago market provides a case in point. Following the FCC's 1971 allocation of twenty-eight 6 MHz channels in the 2500-2690 band exclusively to ITFS, IIT launched what has become one of nation's longest running ITFS educational systems, providing educational programming to its remote students located throughout Chicagoland. In the decades since, IIT has enhanced and expanded its distance learning and educational programming, as well as the supporting plant and infrastructure associated with these systems. Currently, the distance learning program and the FCC-licensed spectrum over which it is delivered, are essential to IIT's educational mission.

IIT holds licenses for eight (8) ITFS channels in Chicago, Illinois.<sup>6</sup> Two (2) of these channels are operated digitally at 5:1 compression; five (5) of the channels operate in an analog mode.<sup>7</sup> IIT uses these channels to offer fifteen (15) simultaneous, unique live broadcasts viewed by two thousand two hundred (2200) "remote" student enrollments over the academic year. Through its ITFS operations, IIT offers nineteen (19) master's degree programs, thirty-three (33) certificate programs, and courses in engineering, the sciences, business and law. In all, IIT airs over five hundred (500) hours of educational programming each week to fifty eight (58) corporate and public sites.

---

<sup>6</sup> These are the E Channel Group (Call Sign WBM 648) and the G Channel Group (Call Sign WHG 269).

<sup>7</sup> The eighth channel is leased to IIT's commercial partner.

The breadth and scope of IIT's distance learning program has expanded steadily since its launch in the mid-1970s, reflecting significant investments of labor and financial resources. For example, the number of broadcast rooms for ITFS programming has increased from nine (9) in 1995 to twenty-four (24) in 2003. The number of courses offered through ITFS programming has increased each year to its current level of two hundred and fifty (250) courses in 2003. Expanded faculty training has expanded "on camera" teaching techniques and instructional design support for faculty materials presented on camera. In addition, IIT has expanded the receive sites utilized in distance learning with new sites being added each semester.

At the same time, IIT has sought to incorporate the latest technological developments into its ITFS systems, in order to ensure high quality programming and efficient use of resources. For example, IIT implemented digital compression on two of its channels in the first window provided by the FCC. This technology upgrade enabled IIT to increase its educational programming from eight (8) simultaneous, unique broadcast courses to fifteen (15), while at the same time, expanding the airtime available to its commercial partner. The result was a better use of the spectrum resource for multiple purposes -- the precise goal supported by the FCC. IIT completed this conversion at the considerable cost of \$750,000, but viewed the infrastructure investment as essential to its mission to provide education with convenience to Chicago-area professionals.

IIT also is in the process of implementing plans for continued expansion of the plant and infrastructure necessary to support its ITFS programming and distance learning. IIT shortly will be opening its new McCormick-Tribune Campus Center with six new broadcasting facilities. In addition, Wishnick Hall on the IIT campus is undergoing renovations to render two additional classrooms and an auditorium compatible for broadcasting. Each of these construction projects

incorporates newly laid fiber, video and audio origination and transmission equipment used to enable broadcast capability from these buildings.

In the longer term, IIT has developed 10- and 20-year technology plans, which call for the expansion of its internal networking, fiber connectivity, multiplexers and expanded switching. These changes are intended to ensure IIT's continued ability to provide distance learning to those students who need it by supporting alternative technologies as they become available. As will be discussed below, however, such alternative technologies are not at this time sufficiently developed to match the services provided through IIT's existing ITFS systems.

IIT's experience in Chicago is but one example of the robustness of existing ITFS operations. In assessing the extent of ITFS operations in 2003, the NPRM describes the ITFS systems of several educational/non-profit entities, including various local branches of the Roman Catholic Church, the F Corporation and George Mason University, Network for Instructional TV, Inc. and its affiliates, Stanford University, as well as IIT. As an active ITFS operator, IIT has kept itself apprised of how ITFS is used in major markets throughout the country, and can report to the Commission that there are active ITFS operations in all of the top 50 TV markets.<sup>8</sup> Many of these operations either pre-date the Commission's excess capacity leasing program and have been traditionally self-supporting, or were started without leasing revenues and only turned to leasing after the FCC commenced its program for a partnership of commercial and educational interests in the 2500-2690 MHz band. Although educators have worked with commercial interests and welcomed their assistance, in these major markets, distance-learning through ITFS has not necessarily been driven by the subsidy of excess capacity leasing revenues. Rather, it has

---

<sup>8</sup> In the Chicago market, for example, IIT and the other ITFS licensees provide a combined 750-1,000 hours of educational programming each week.

been and remains such an important educational tool that non-profit and governmental educators have been willing to finance it without resort to leasing.<sup>9</sup>

The FCC's review of its own database as of November 6, 2000 confirms that the most populated portions of the United States are heavily licensed and that at least one ITFS station operates in most areas of the country. NPRM at ¶ 29.<sup>10</sup> Accordingly, the available evidence suggests -- particularly for the large metropolitan areas -- that ITFS use is robust and that educational institutions have deployed these frequencies for their intended use.

## **2. The FCC's Minimum Use Requirements For ITFS Do Not Translate Into Actual Use Statistics.**

The NPRM next asks whether the requirement that ITFS licensees reserve at least five percent (5%) of their digital capacity exclusively for educational purposes is indicative of low actual educational use. NPRM at ¶¶ 109, 113. Any such conclusion, however, would be purely superficial and not supported by the facts. This relatively recent requirement is a *minimum* which says nothing about the *actual* level of spectrum use by ITFS licensees.

Historically, the Commission required that an ITFS licensee engaged in analog operations and leasing excess channel capacity to a wireless cable operator, provide at least twenty (20)

---

<sup>9</sup> In the smaller markets, where many schools have greater financial needs, the tool of ITFS distance-learning has been made an affordable teaching tool due in large part to the FCC's creative ITFS excess capacity leasing program.

<sup>10</sup> With the exception of a five-day filing window in 1995, new applications for ITFS licenses have been under a filing "freeze" since 1993. Since that date, the FCC has adopted numerous technical revisions to service rules in order to enhance the working partnership between ITFS licensees and commercial operators -- changes which, for a variety of reasons, the commercial industry has been slow to implement. See, e.g., Amendment of Part 74 of the Commission's Rules with Regard to the Instructional Television Fixed Service, *Notice of Proposed Rulemaking*, MM Docket No. 93-24, 8 FCC Rcd 1275 (1993); Notice of Instructional Television Fixed Service Filing Window From October 16, 1995, through October 20, 1995, *Public Notice*, Report No. 23565A (rel. Aug. 4, 1995); Two Way Order, 13 FCC Rcd 19112 (1998). As a result, ITFS has had little opportunity for greater independent and robust growth in recent years.

hours per channel per week of ITFS programming on its authorized channels and retain a mandatory right to “recapture” an additional twenty (20) hours per channel per week.<sup>11</sup> When the FCC determined that MDS and ITFS licensees should be permitted to employ digital technologies in 1996, the total channel capacity potentially available to ITFS operators increased by a factor of five (5).<sup>12</sup> While the Commission considered arguments by the ITFS community that new digital rules should include a mandatory right of the ITFS licensee to recapture twenty-five percent (25%) of the total digital capacity,<sup>13</sup> the Commission ultimately deferred to the position (forcefully advocated by BellSouth Wireless Cable, Inc.) that a maximum five percent (5%) reservation of total capacity (without additional recapture rights) was necessary to ensure sufficient flexibility and certainty for commercial operators.<sup>14</sup> Accordingly, the FCC retained the

---

<sup>11</sup> See, 74 C.F.R. § 74.931(c). An ITFS licensee is allowed to shift its required educational programming onto fewer than its authorized number of channels via channel loading or channel mapping, and may agree to a transmission of recapture time on channels not authorized to it but which are included in the wireless cable system of which it is a part. See Amendment of Part 74 of the Commission’s Rules Governing Use of the Frequencies in the Instructional Television Fixed Service, *Report and Order*, MM Docket 93-106, FCC Rcd 3360 ¶2.

<sup>12</sup> See Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations, *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996) (“Digital Modulation Declaratory Ruling and Order”). The potential digital compression factor is continually evolving. In IIT’s experience, a compression of 5:1 supports adequate quality for educational programming. Engineering and science classes, for example, see the professor using a document camera and PC application packages to show detailed components, chemical properties, schematics and blueprints, spreadsheets and renderings, laboratory experiments and the like. While IIT is not opposed to a greater compression rate, IIT believes that a compression rate greater than 5:1 should be permitted in a given ITFS system *only* at the discretion of the ITFS licensee, taking into account the subject matter, the presentation mode and the expectations of the students.

<sup>13</sup> These arguments were supported by a *Joint Statement* articulated by the Wireless Cable Association and the National ITFS Association. Two-Way Order, 15 FCC Rcd at ¶87-88.

<sup>14</sup> *Id.*, at ¶89. At that time, digital headends could cost from \$30 to \$20 million. Accordingly, unless wireless cable operators could retain up to 95% of the digital capacity they created, commentators and the Commission feared that the operators would not invest in digital technology. While a 5% floor on the educational digital reservation may appear small, with 5:1 compression, the educator had the ability to provide a 24-hour-a-day program station that would consume more bandwidth than the educator would be required to keep or recapture if analog channels were used.

existing minimum educational usage requirements for analog ITFS (i.e., twenty (20) hours per channel per week, plus the right to recapture an additional twenty (20) hours per channel per week), and adopted a new minimum five percent (5%) overall capacity reservation for digital ITFS.<sup>15</sup> In so doing, however, the FCC acknowledged and emphasized that “an ITFS licensee may reserve for itself in excess capacity lease negotiations more than the minimum required reservation of capacity, and is free not to lease its excess capacity at all if it does not wish to do so.”<sup>16</sup>

To date, few digital systems have been built. Indeed, the vast majority of ITFS licensees who lease excess capacity retain at least twenty (20) hours per week per channel (which totals in most instances to eighty (80) hours per week of educational fare), and regularly reserve at least twenty-five percent (25%) of “total” capacity for ITFS use. This can be verified by reviewing the ITFS lease agreements on file at the Commission.<sup>17</sup>

Of those few ITFS stations broadcasting in digital, most of the licensees retain much more than minimum five percent (5%) of total capacity for educational use. IIT, for example, uses more than eighty percent (80%) of its total bandwidth capacity -- two (2) digitized channels at 5:1 compression and five (5) additional analog channels -- leasing the remaining one (1) licensed channel to its commercial partner. It also should be noted that the Coalition Plan would *increase* the total educational reservation to twenty five percent (25%) by placing one of each group’s channels in the high-power, high-site “mid-band.” This reflects an industry

---

<sup>15</sup> Id., at ¶ 89; see also, 47 C.F.R. § 74.931(d)(1).

<sup>16</sup> Two Way Order, at ¶ 91.

<sup>17</sup> Although IIT is aware of no official survey of lease provisions on this point, it is a commonly believed fact that most lease agreements routinely include this twenty-five percent (25%) reservation feature.

consensus decision that ITFS-based educational services remain important and should be preserved. Moreover, the Coalition Plan would preserve the interdependent relationship between educators and commercial operators first developed by the Commission in 1983 and persisting today.<sup>18</sup>

Clearly, at this juncture, there is a continuing need for high-power, high-site operations for educational use. While eventually that need may disappear, as explained below, as yet there is no ready alternative to high power, high site operations for the provision of educational programming. Accordingly, the “mid-band” should be a part of the new rules, perhaps subject to a fresh look at its utility after the transition of the spectrum to the new band plan.

### **3. Alternative Technologies Do Not Yet Offer Comparable Avenues For Delivering Educational Programming.**

In considering the continuing role of ITFS for distance-learning, the FCC cites the development of alternative means of providing educational content to students. In particular, the FCC notes that “the public may obtain educational programming by using the Internet to receive college courses as well as obtaining the services of for-profit corporations that provide educational programming,” and requests comment on whether the Internet offers educators a delivery option comparable to ITFS. NPRM at ¶ 114. The NPRM further asks whether commercial programming can fulfill educators’ needs. *Id.*

---

<sup>18</sup> The creation of this partnership was prompted by the FCC’s recognition that educators, as non-profit entities, had limited access to the funds required to build ITFS systems as a result of the decrease in federal funding for ITFS. See Amendment of Parts 2, 21, 74 and 94 of the Commission’s Rules, *Report and Order*, 94 FCC 2d 1203, ¶114 (1983). By creating the structure for a partnership between educators and commercial interests, educators were able to barter spectrum for the financial resources, equipment and programming required to operate educational TV systems. The explosion in ITFS licensing and (analog) operations that resulted in the mid-1980s to the mid-1990s is evidence of the success of this unique system of promoting education.

As a preliminary matter, IIT questions whether multimedia educational programming, including video, is all that prevalent. IIT has studied the Internet educational arena closely. Most of the Internet ventures are text-based, rather than multimedia-based. Indeed, during the past thirty six (36) months, many Internet educational ventures have closed their virtual programs, after investments of many millions of dollars. Others have redefined their goals and limited their scope. Most notable of the closures or redefined programs are Cornell, NYUonline, the University of Maryland's for-profit venture (one of the top four distance providers), Virtual Temple and the Open University. While there may have been many reasons for each of these closures, the most commonly cited grounds for shutdown is the cost of providing good course material.

Whatever the extent of educational programming currently offered over the Internet, the nature and quality of such programming are distinctly different from the programming provided via ITFS. At IIT, for example, most courses are taught in a 2-hour, 50 minute period -- or, at most, two 75-minute sessions. Each session includes video of the instructor, screens of detailed materials, demonstrations in video, graphics, and animations in real-time. Students can call into the live classroom from remote sites to ask questions. Downstream transmissions are of some length and must be "interruption free" to maintain minimum quality.

These types of courses simply do not translate effectively to the Internet at this time. For example, the full-motion video utilized in ITFS cannot be provided over the Internet with comparable or even minimally acceptable quality. Streamed-video windows typically cover only a quarter of the PC screen, making it difficult for students to see the details of the presentation. The entire pedagogy of asynchronous versus synchronous delivery presents enormous challenges to faculty, technologists, instructional designers and campus infrastructure, among other things.

The difficulty in achieving comparable quality in Internet programming is dramatically illustrated by the images set forth in Exhibit A, attached hereto. These images provide a comparison of the picture quality associated with (i) ITFS, as seen through a TV monitor, and (ii) streaming video over the Internet as seen through a PC. The differences in video quality are obvious. The Internet options simply do not meet minimum expectations for video educational programming -- a significant failing, particularly when it is the video component of ITFS that aids in the learning process.

In addition to quality issues, campus networking must undergo dramatic expansion to accommodate the digitizing servers, storage systems, access controls, and other resources to manage Internet courses.<sup>19</sup> Course materials must be re-developed for the new platform to account for the differences in bandwidth and resolution.<sup>20</sup> And enterprise course management systems are necessary to support students who cannot ask questions in real-time as they can with ITFS deliver platforms.<sup>21</sup>

This is not to say that educational programming offered via the Internet will never be a viable alternative or that it does not offer distinct possibilities. IIT has long been at the forefront of adapting to new technologies to improve the delivery of its educational programming. IIT enthusiastically incorporated digital technology into its ITFS systems at the earliest possible time

---

<sup>19</sup> It also may be necessary to change existing contracts with remote receive sites, a time consuming task by any measure.

<sup>20</sup> In addition, ITFS (as opposed to Internet) delivery imposes no recurring costs on the student. There is no charge to students or remote sites for receipt of courses on the microwave path, only the regular fee for the enrollment in the course itself. Students should not be required to pay additional amounts to a commercial provider to connect for 3 courses each semester, totaling 8,160 minutes or 136 hours of class time.

<sup>21</sup> At the current time, many students may be unable to view classes over the Internet at their corporate site due to security restrictions, while such restrictions do not prevent viewing ITFS programming.

and uses streamed-video to deliver select courses over the Internet when possible. The Internet offers interesting potential as an alternative delivery means, but currently presents quality issues and administrative challenges which preclude any wholesale shift from ITFS as the primary mode of delivery at this time. Moreover, any shift to a new delivery system such as the Internet requires substantial lead time to enable both students and institutions to make the adjustments necessary to ensure the success of programming delivery. Students need time to identify and purchase the equipment necessary to take advantage of this alternative technology. Institutions need time to plan for, and implement, significant infrastructure changes to accommodate other delivery systems. While IIT is prepared to examine alternative delivery options, at the current time, ITFS is critical to its educational mission and any move to alternative technologies must be a thoughtful and extended process that allows sufficient time for all of the preparation and adjustments that are associated with such a move.<sup>22</sup>

**B. A Segmented Band Plan Is The Best Option For Compatible High Power and Low Power Operations.**

With the development of digital two-way technology in the 2500-2690 MHz band, the original band plan based on multiple interleaved 6 MHz channels has become increasingly unable to accommodate the disparate services offered over this spectrum. In particular, as noted by the NPRM, an interleaved channelization scheme simply is unworkable when one licensee seeks to operate at low power while another, contiguous licensee continues operating at high power -- largely because low-power services are susceptible to interference from high-power transmissions on adjacent channels. NPRM at ¶ 48. The NPRM considers two band plan

---

<sup>22</sup> In 2003, IIT delivered educational programming via ITFS to approximately 35% of its engineering, science and humanities graduate part-time professional students. These students cannot be supported by other technological means at this time. The cost to IIT of failing to continue to deliver courses, interrupting and or terminating programs of study to these students is unacceptably high.

alternatives to address this basic problem: (i) a proposal to split the 2500-2690 MHz into three segments, with the middle segment reserved for high powered MDS and ITFS stations and the two segments above and below reserved for lower power operation -- the so-called “Coalition Proposal,” and (ii) a proposal to adopt an across-the-board reduction in signal strengths to be imposed after a designated “transition” period. This latter proposal would effectively terminate all high power operations in due course, essentially ending ITFS as it currently exists. IIT strongly opposes this latter alternative and supports -- with certain modifications discussed below -- the segmented band approach proposed by the Coalition.

**1. An All Low-Power Band Plan Would Destroy ITFS Distance Learning.**

The NPRM notes that the Coalition members “appear to believe that the predominant future use of this band will be low power mobile services,” and requested comments on whether it would be necessary to reserve a portion of this band in the long term to accommodate high power services. NPRM at ¶57. IIT believes that it is premature to make allocation decisions based on such a premise. Given the significant amount of high power use currently existing in the 2500-2690 MHz band, IIT urges the Commission to commit only to a plan that would enable high power and low power operations to co-exist without interference in this band, and not to prejudge the degree to which technology developments will impact this band.

Currently, ITFS distance-learning could not survive financially if forced to operate with the power and height restrictions proposed for either the lower or the upper bands. Low-power, low-site architectures are ideally suited for communications systems where the users control the content of the communication. In that instance, limiting the amount of radiation is important so that spectrum can be re-used. But in broadcast systems like those used for ITFS distance-learning, efficiency is obtained by increased height and power, as every user is receiving the

same message. If educators are forced to convert their high-power, high-site single transmitter operations into low-power, low-site multiple transmitter operations, few if any ITFS distance learning systems could be cost justified.<sup>23</sup> Quite simply, educators need the mid-band.

An across-the-board limit of signal strengths, even after a transition period during which existing high power operations could continue to operate, fails to adequately protect the interests and mission of the educational community, and constitutes a wholesale spectrum grant to commercial interests. For the FCC to impose a transition deadline by which high-power operations must cease, it must make certain assumptions as to the existence and pace of technology developments that simply are not supportable at this time. If such technological alternatives do not develop as anticipated, the burden will be on the ITFS community to beg for extensions of the transition date and it is the ITFS community that will suffer the consequences if such extensions are not granted.

IIT proposes instead that the FCC adopt a more measured approach that would preserve the right of the ITFS licensee to continue with its high-power operations for the provision of educational programming. At some point in the future, as technological improvements continue, it may be appropriate to revisit the issue of whether a high-power mid-band is needed. Any decision at that point, however, would be based on alternative technologies actually available and not speculation as to what alternatives might become available in the future.

---

<sup>23</sup> As just one example of the costs associated with a forced conversion, receive sites would have to close down or much larger dishes would have to be installed (assuming that the receive sites even agreed to such a change). Many communities have restrictions on the size of this equipment and may deny such installation. Once again, student programs of study would be interrupted, or even worse, halted entirely.

**2. The Segmented Band Plan Approach Best Preserves The Disparate Interests of Existing Licensees.**

IIT believes that a segmented band plan with lower, middle and upper band sections and suitable guard bands, is the most efficient plan in the near term and best meets more of the public policy goals articulated by the FCC. A segmented band plan would preserve a middle band for high power operations, and reserve the upper and lower band for low power operations.<sup>24</sup> NPRM at ¶ 50. Licensees (or lessees) pursuing each type of operation could do so without interfering with each other, thus improving technical flexibility in the entire band.

The size and specific frequency make-up of the middle band segment present certain challenges in the short term. The Coalition’s band plan specifies the middle band segment as follows:

J	2566.0000	2572.0000	GB
A4	2572.0000	2578.0000	HIGH POWER
B4	2578.0000	2584.0000	
C4	2584.0000	2590.0000	
D4	2590.0000	2596.0000	
E4	2596.0000	2602.0000	
F4	2602.0000	2608.0000	
G4	2608.0000	2614.0000	
K	2614.0000	2620.0000	GB

This band plan constitutes the initial “default” plan for each market. It may be appropriate, however, to vary the specific amount of high power bandwidth designated for the middle band segment based on market size and ITFS use. While there is some appeal to a standard recommendation for band size on a national basis, in major urban areas, such as Chicago, a larger MBS is necessary in order to accommodate existing ITFS use. In rural areas where there

<sup>24</sup> The lower band segment would be designated as the mobile station transmit and the upper band segment would be designated as the base station transmit band. NPRM at ¶ 51.

may be more limited use of ITFS spectrum for educational purposes, on the other hand, a smaller MBS might be sufficient.

One possible threshold requirement useful in determining the size of the middle band segment is the number of channels used by ITFS licensees for educational programming. If the ITFS licensees in a given market are using twenty-five percent (25%) or less of their total ITFS channel capacity for educational programming, for example, the middle band segment could be reduced by moving the two (2) MMDS channels into the upper or lower band segments which are designated for low power operations, as follows:

J	2566.0000	2572.0000	GB
A4	2572.0000	2578.0000	HP
B4	2578.0000	2584.0000	HP
C4	2584.0000	2590.0000	HP
D4	2590.0000	2596.0000	HP
G4	2596.0000	2602.0000	HP
K	2602.0000	2608.0000	GB
F4	2608.0000	2614.0000	UB
E4	2614.0000	2620.0000	UB

In markets, such as Chicago, where ITFS licensees utilize at least 25% of their ITFS channels for educational programming, the default plan (including the two E4 and F4 MMDS channels in the middle band segment) would apply.<sup>25</sup>

Once the appropriate default plan for a particular market is in place, each ITFS licensee should be entitled to rely upon the default plan and insist upon its implementation in the face of a proponent's alternative proposal. The resort to this default plan is critical, IIT believes, in order

<sup>25</sup> Indeed, as noted previously, some ITFS licensees use significantly more than twenty-five (25%) of their total capacity for educational purposes, and may require more than one channel in the mid-band to maintain existing ITFS operations. As will be discussed below, in such cases, these ITFS licensees should be entitled to retain enough high-power frequencies to ensure that current ITFS operations are not interrupted -- at least through the proposed five-year transition period.

to ensure fairness and certainty in the transition process and to allow for planning. No one licensee or proponent should be allowed to force different frequency assignments on any existing licensee without its consent.

**C. The Transition To A Segmented Band Plan Must Respect Existing ITFS Licensees.**

Although IIT supports the Coalition Proposal for a segmented band plan, IIT takes issue in many respects with the manner in which the Coalition Proposal would transition existing licensees to this plan. Many of these concerns were set forth in IIT's comments on the Coalition's White Paper, and those comments are incorporated here. As a general matter, IIT believes that the Coalition Proposal unduly favors the qualified "Proponent" in the transition process, and vests excessive power in the Proponent to the detriment of existing licensees and competitors to the Proponent. Accordingly, IIT's comments on the White Paper and here are intended to ensure a more balanced, pro-competitive, and less controversial transition process.

Any transition process, for example, must be based on the premise that all existing licensees are entitled to assignment of their default plan frequencies. No Proponent should be permitted to impose a transition plan that would assign licensees to MBS, UBS, LBS, J-Group, K-Group or I-Group channels that are different from those allocated to that licensee by the applicable default plan, absent that licensee's consent to such change. In addition, for the period up to the transition deadline discussed in Section D, *infra*, no Proponent should be permitted to implement a transition plan that reduces the amount of high power programming currently being offered by an ITFS licensee if the ITFS licensee objects to such reduction. To the extent that such a plan is proposed, any ITFS licensee whose high power operations would be reduced should be entitled to veto the plan up to the transition deadline.

Similarly, any transition plan must sustain any licensee's existing digital operations; a forced return to analog constitutes a return to less efficient technologies and should not be permitted.<sup>26</sup> The Proponent also should be expressly prohibited from conditioning a transition on a licensee's willingness to enter into a new or amended transmission capacity lease with the Proponent. Equally important to existing licensees, the process of *deciding* the transition plan should be balanced and fair. The Coalition's Proposal that the Proponent's plan be accepted unless it is "unreasonable" skews the transition process in favor of the Proponent, without allowing adequate consideration of any submitted counterproposal. Nor does the Coalition's Proposal allow adequate time for affected licensee's to evaluate and respond to a Proponent's plan.<sup>27</sup>

Any rules ultimately adopted also should ensure that the transition process does not allow anti-competitive behavior that slows the transition process. In many markets, there will be more than one commercial operator, each building a platform of ITFS and MDS channels to compete against the other as well as cable modem and DSL services. These competitors should not be able to game the system to their advantage. For example, one competitor might threaten another competitor who has achieved Proponent status (or who otherwise is moving forward to assist in re-farming the frequencies) with a tort suit for "intentional interference" with the threatening competitor's lease with a licensee in the market. The alleged "interference" would be the

---

<sup>26</sup> IIT, for example, currently offers fifteen (15) educational programming tracts to the Chicagoland area -- each tract broadcasting a live simultaneous, unique for-credit educational course. These tracts are created with just seven (7) ITFS channels (2 ITFS channels carry 5 digitally-compressed educational programming tracts and 5 ITFS channels carry 5 analog programming tracts), thereby enabling IIT to offer many more program tracts than the number of channels licensed to it.

<sup>27</sup> In its comments on the Coalition's White Paper, IIT made a number of specific suggestions to alleviate these and other concerns with the transition process, including the adoption of a specific window period for completing a transition plan, the provision of sufficient advance notice to licensees of potential transition activity, and provision for return to the status quo in the face of a non-performing Proponent.

attempt to change the licensee's channels to conform to the Commission's re-farming plan, thus rendering the frequencies not useful for the purposes for which they were leased. Obviously such threats offer no public interest benefits, and serve merely to delay the introduction of new competition. The Commission should specifically prohibit this form of gamesmanship by mandating that no cause of action at law or in equity may be maintained, nor any damages collected or injunction issued, based upon actions to promote or implement the Commission's re-farming plan that are inconsistent with any rights granted under any lease or license of MDS or ITFS transmission capacity.

Similarly, transmission capacity lessees should not be able to sue their capacity lessors on any theory based upon the fact that re-farming makes it impossible for the lessor to provide the lessee with that spectrum contemplated by the lease.<sup>28</sup> These regulatory safeguards may not be necessary if the re-farming of the channels in any area follows a Commission-mandated schedule. But if the Commission allows voluntary re-farming by a Proponent or otherwise in advance of any Commission-imposed deadline, these safeguards are necessary to ensure that such voluntary action serves the public interest.

#### **D. The Transition To A Segmented Band Plan Should Be Completed By A Date Certain.**

While acknowledging that the Coalition's proposals are a "major step forward" in addressing the issues associated with the 2500-2690 MHz band, the NPRM has requested

---

<sup>28</sup> Inasmuch as lessees lease capacity subject to the licensing restrictions of the Communications Act, no lessee should have any equitable or legal grounds to claim foul as a result of re-farming. Under Section 304 of the Act, licensees waive any right to assert a claim to the use of any frequency as against the regulatory power of the United States. Among those powers is the power to modify licenses either individually under the procedures of Section 316 or globally by rule-making. Capacity lessees are charged with constructive knowledge of these powers, and accordingly, assume the risks of regulatory change in leasing the transmission capacity.

comment on a number of matters relating to that proposal. NPRM at ¶ 46. Chief among these is the issue of whether to establish a specific deadline for the completion of the transition process. IIT believes that the adoption of a specific deadline to implement the segmented band plan would better ensure measurable progress towards the policy goals articulated by the NPRM. Care should be taken, however, to provide adequate time for existing licensees to shift operations, equipment and program features. Moreover, in many markets, the Proponent may not be prepared to move immediately forward in any event.

Accordingly, IIT supports the adoption of a five (5) year plan for completion of the transition to a segmented band plan. With this deadline, educational institutions can proceed to provide downstream video without change for incoming freshman and first year graduate students who have committed to a program. As a general matter, it will take several years to develop equipment capable of operating within the segmented band concept. Most commercial operators will likely need several years to develop and implement a working business plan for the new band plan. Of course, to the extent that a Proponent is ready to move more quickly, the transition can be completed within a shorter period of time (provided that the Proponent is required to comply with the suggestions summarized above and in IIT's comments on the White Paper). If there is no Proponent in a given market, however, the licensees in that market should be required to transition the market themselves by the five year deadline. In this manner, the Commission can be assured that the 2500-2690 MHz band plan will have evolved to accommodate both high power and low power operations within a specific period of time.

#### **E. Consideration of Spectrum Licensing Issues, Such As Auctions, Should Be Deferred To Later Proceedings.**

Much of the NPRM is devoted to issues involved in licensing vacant ITFS spectrum -- issues that are somewhat complex given the non-profit nature of ITFS licensees in the 2500-2690 band. While ultimately a scheme for licensing new stations using ITFS spectrum may be required, IIT believes that the Commission's resources should be devoted now to the difficult task of creating technical rules that will allow this spectrum the flexibility it needs to offer new and competitive services efficiently.<sup>29</sup>

That said, IIT has reviewed the Commission's two-sided auction discussion with interest and has concluded that it presents a dedication of Commission resources of little practical benefit to the public or the licensees. Quite aside from the issue of whether the Commission has statutory authority to conduct two-sided auctions,<sup>30</sup> auctions do not assure the promotion of competition, innovation and educational services that were among the stated goals of the NPRM. Auctions may produce higher purchase prices than individually negotiated transactions, but that is not always the case.

Some elements of value defy the auction method. For example, an ITFS licensee may be interested in the relationship it creates with a bidder as much as the money the bidder brings to the table. Moreover, IIT believes that a Commission-conducted two-sided auction will not be nearly as lucrative to educators than auctions they may conduct on their own. A Commission conducted two-sided auction would aggregate the Nation's entire ITFS resource in a single

---

<sup>29</sup> In fact, as noted previously in these Comments, there is very little ITFS "white area" that would be available for licensing by auction or otherwise, thus demonstrating the relative insignificance of developing an ITFS licensing procedure at this time.

<sup>30</sup> Section 309(j)(1) of the Act appears to restrict the Commission's auction authority to situations in which there is application mutual-exclusivity involving "any initial license or construction permit..." This would not be the case for incumbent licenses included in a two-sided auction.

auction. Whatever quantity of money that would be available in the market to buy at that auction would be spread very thinly, thus reducing the dollars per MHz per population obtained in the auction. Simple supply-and-demand economics suggest that a licensee would do better to auction or sell its excess spectrum at another time, when supply for sale is less. Further, a Nationwide auction results in purchase choices made on less than sufficient knowledge of the attributes of the auctioned spectrum. Regrettable purchase decisions are a natural result, requiring the development of yet another secondary market to sell off the auctioned spectrum that does not truly fit within the buyer's strategic plan.

## II.

### CONCLUSION

IIT appreciates the opportunity to comment on the NPRM and urges the Commission to follow the suggestions contained herein as it proceeds to consider new technical rules for the ITFS/MDS band. IIT believes that any restructuring of the MDS and ITFS band must take into account all of the interests at issue. In particular, IIT urges the Commission to protect and preserve the integrity of the educational programming systems in place which serve such vital needs of the communities in which they operate.

Respectfully submitted,

**ILLINOIS INSTITUTE OF TECHNOLOGY**

By:   
\_\_\_\_\_

Laura C. Mow  
Gardner, Carton & Douglas  
1301 K Street, N.W., Suite 900 East Tower  
Washington, D.C. 20005  
(202) 230-5000

September 8, 2003

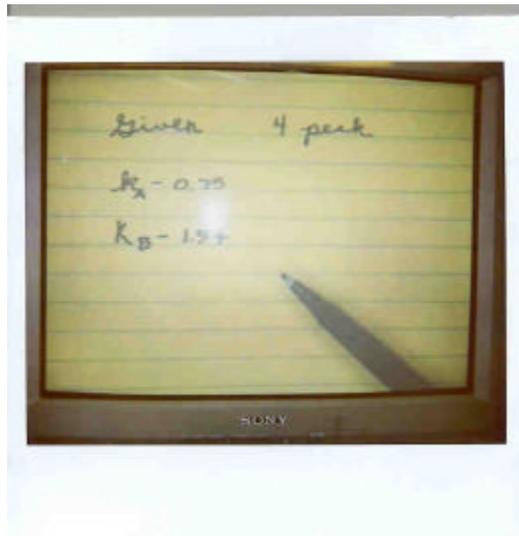
Its Attorneys

## EXHIBIT A

ITFS is based on NTSC (National Television Standards Committee) standard and supports 525 lines of information, 30 fps (frames per second) on a standard TV receiver. This equates to about 7,500,000 pieces of information per second. Most modems operate at approximately 56,000 bytes - per second (56 kbytes/sec). There is no modem or telecommunications technology that can provide 7.5M bytes per second. Therefore, the image must greatly compressed, resulting in a smaller than full screen, less than 30 fps, reduced palette, etc.

The standard size of streaming-video window is about 3"x4" – the equivalent of a 5" TV screen, compared to a typical TV screen with a diagonal size of 27 inches or more. A comparison follows:

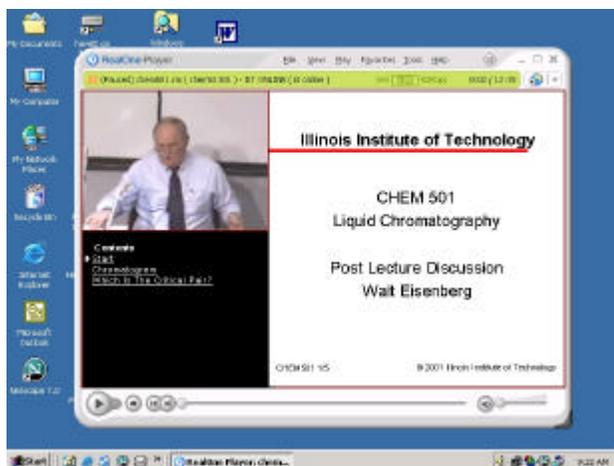
1. The image below is of a TV set being used in ITFS class instruction. The picture was taken with a Polaroid camera. (The hot spot is the reflection of the flash.) The remote ITFS student would see clearly what the instructor was writing on a legal pad, on the board and so on.



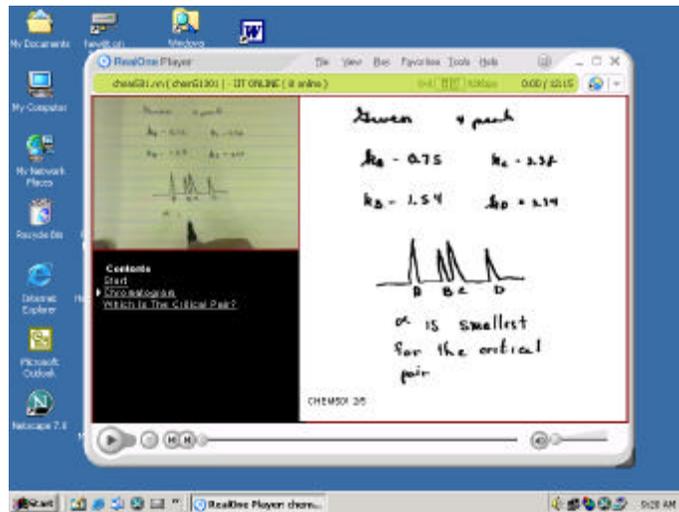
2. Next is an example of a student watching her class via the Internet – a streamed-video of the entire 170 minutes of class video plus synchronized slides. Note the small streaming video window in the upper left of the PC screen.



3. The next image is a close-up of that PC screen showing the small streaming video window, table of contents below the video window, and the synchronized slide to the right. If the instructor is just speaking, the video is fine.



4. When the instructor is writing on the board or the legal pad, however, this is impossible to read. The slide to the right of the video window is an edit from the legal pad, after the class, and entered into a Windows PowerPoint file that is then synchronized with the video. These files must be stored and accessible to the students on demand, 24/7 for the entire semester.



Stanford, Rensselaer Polytechnic Institute, and IIT, and all of the other colleges and universities are using similar small video-streaming windows. That is the technology and bandwidth available today on the Internet. Quite simply, it is not comparable to the ITFS technology.

DC01/402517.4

## TABLE OF CONTENTS

	<b>Page</b>
SUMMARY .....	i
DISCUSSION.....	4
A.    The Educational Mission Exemplified By ITFS Serves A Vital Need And Must Be Preserved. ....	4
1.    The ITFS Spectrum Is Being Used For Its Intended Purpose.....	5
2.    The FCC’s Minimum Use Requirements For ITFS Do Not Translate Into Actual Use Statistics.....	9
3.    Alternative Technologies Do Not Yet Offer Comparable Avenues For Delivering Educational Programming.....	12
B.    A Segmented Band Plan Is The Best Option For Compatible High Power and Low Power Operations.....	15
1.    An All Low-Power Band Plan Would Destroy ITFS Distance Learning. ....	16
2.    The Segmented Band Plan Approach Best Preserves The Disparate Interests of Existing Licensees. ....	18
C.    The Transition To A Segmented Band Plan Must Respect Existing ITFS Licensees.....	20
D.    The Transition To A Segmented Band Plan Should Be Completed By A Date Certain .....	22
E.    Consideration of Spectrum Licensing Issues, Such As Auctions, Should Be Deferred To Later Proceedings. ....	24
CONCLUSION.....	25

**WARNING:** This section retains the original formatting, including headers and footers, of the main document. If you delete the section break above this message, any special formatting, including headers and footers for the Table of Contents/Authorities section will be lost.

If you delete the section break above the Table of Contents/Authorities, you will overwrite the headers and footers of the main document with Table of Contents/Authorities headers and footers.

To delete the Table of Contents/Authorities, begin your selection at the section break above the TOC/TOA section and continue through the end of this message.