



Item: I-1

Wednesday, September 10, 2008

**SUBJECT: EDUCATIONAL BROADBAND SERVICE LICENSES AND STRATEGIC
ACADEMIC ENHANCEMENT INITIATIVE**

PROPOSED COMMITTEE ACTION

Not applicable.

BACKGROUND INFORMATION

FAU holds various Federal Communications Commission ("FCC") microwave licenses in the Educational Broadband Service (EBS). These were licensed in the 1980s and 1990s and had been used for point to multipoint educational services, with any excess capacity leased to commercial operators for wireless cable television services. FAU previously leased out the bulk of its EBS spectrum to Sprint in 1995, in order to help fund distance learning channels. This Sprint lease is no longer in effect.

In 2000, the FCC gave all EBS stations (except secondary stations) a protected 35 mile circular service area. In 2005 the FCC converted all EBS stations to geographic service areas ("GSAs") of operation licensing and proposed certain changes in frequencies and operating rules to allow the EBS stations to be used for new wireless broadband services including WiMAX. The FCC requires that a certain percentage of the capacity on each EBS license be reserved and used for educational purposes.

In recent years, FAU's spectrum has become less useful for traditional distance learning because without wireless cable operators to put antennas on each building, individual students or the university would have to provide antennas and converters for each receive site. The instructional and non-instructional activities of FAU previously passed over the FCC educational broadband spectrum are now routed via the Internet. The Internet, and the more plentiful availability of broadband connections from commercial service providers, has provided students with a more user-directed method of obtaining educational content, not to mention superior speed and security.

Recent revisions to the FCC's rules to reconfigure the stations' frequencies for low power mobile broadband services has also directly affected not only the usefulness of the frequencies but the service entry cost as well. There is a higher entry cost for developing a routed cellularized system, which removed the cost efficiency of having a single transmit site with multiple receive sites and instead would require FAU to build multisite cellularized systems with backhaul and traffic management.

FAU currently has seven (7) active EBS licenses, which accounts for 24-26 individual channels. FAU conducted a publicly-open Invitation to Negotiate (ITN) in order to ascertain the best value for FAU with respect to these channels, both educationally and financially, and in the joint interests of our neighboring educational entities and surrounding communities. Contemporaneously with the ITN, FAU entered into a Spectrum Coordination Agreement regarding certain of the channels held by FAU for the benefit of the Palm Beach County School Board.

Clearwire Corporation, the parent company of Clearwire Spectrum Holdings II, LLC ("Clearwire"), builds and operates wireless broadband services for high-speed Internet communications. Clearwire was the successful bidder in the ITN process and entered into a long term lease with FAU to: (i) assist FAU with satisfying its educational use requirements and any associated construction and maintenance needs on FAU's reserved spectrum capacity; and (ii) launch and operate a competitive wireless broadband network on the remaining excess spectrum capacity on or before May 1, 2015.

The Lease provides for an initial ten (10) year term, with two renewal terms of ten (10) years each at Clearwire's option, for a maximum term allowable by the FCC of 30 years. The Lease provides for two forms of lease payments from Clearwire to FAU: (i) initial payments to be made upon FCC approval of the long-term lease application for each license and (ii) annual and/or monthly payments thereafter. A financial analysis conducted by an outside third-party has confirmed that the financial terms of the proposed EBS Lease are comparable with, if not better, than other EBS deals in the market.

The Lease contains certain negotiated rights of exclusivity, rights of first refusal, rights to participate and termination rights consistent with other deals of this nature. The Lease further provides that certain equipment and discounts shall be made available to FAU students, staff and faculty and other educational institutions or not-for-profit organizations in the Southeast Florida market in connection with Clearwire's wireless broadband services offerings.

IMPLEMENTATION PLAN/DATE

The initial FCC approvals were granted this summer and Clearwire has recently begun making Lease payments to the University.

FISCAL IMPLICATIONS

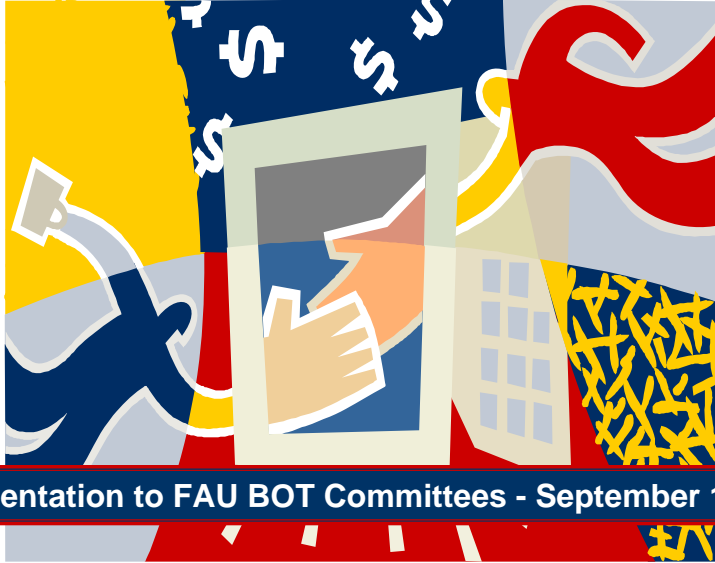
Through the provision of both initial Lease payments and monthly and/or annual payments over the potential thirty (30) year term of the Lease, FAU has the potential to realize valuable long term net revenues for the benefit of our educational and research endeavors. The administration proposes investing the Lease revenue in six strategic areas.

Supporting Documentation: **See attached**

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FAU's Strategic Academic Enhancement Initiative



Presentation to FAU BOT Committees - September 10, 2008

FAU Board of Trustees – FAU Academic Enhancement Initiative



FAU's Strategic Academic Enhancement Initiative

The Foundation:

**FAU's Educational Broadband
Service Licenses**

FAU Board of Trustees – FAU Academic Enhancement Initiative





Educational Broadband Service Licenses

- In the 1980s and 1990s, the Florida Board of Regents (BOR) received from the Federal Communications Commission (FCC) several Instructional Television Fixed Service (ITFS) microwave television licenses, on behalf of FAU.
- The ITFS licenses enabled FAU to broadcast credit courses via one-way video and audio television signals to neighboring corporations and the Downtown Fort Lauderdale campus and the Davie campus.
- The FCC requires that a certain percentage of the capacity on each ITFS license be reserved and used for educational purposes. The BOR, like many other educational entities, leased FAU's excess ITFS capacity (i.e., the bandwidth beyond that which we used) to commercial operators for wireless cable television services.



Educational Broadband Service Licenses (con't)

- With the transition from the BOR to individual university boards of trustees, the Florida Atlantic University Board of Trustees became the successor licensee to the ITFS licenses held by the BOR for FAU.
- The ITFS licenses were originally granted as point-to-multipoint licenses. Between 2000 and 2005, the FCC expanded these ITFS licenses into protected geographic service areas (GSAs). The FCC simultaneously developed changes in frequencies and operating rules to allow the ITFS stations to be used for new wireless broadband services, including a powerful new wireless technology called WiMAX.
- The ITFS licenses are now referred to by the FCC as Educational Broadband Service (EBS) licenses.



FAU's EBS Spectrum -- A Look Back

- The ITFS system of one-way video and two-way audio served the university well for a time, but over the years other technologies advanced and the original ITFS equipment became less useful and difficult to repair because of aging and lack of availability of replacement parts or important upgrades.
- FAU maintained the system to comply with FCC rules and regulations, but the university advanced with other course delivery methods -- specifically, IP computer network and compressed video technologies.
- The hurricanes in 2004 and 2005 caused considerable damage to FAU's ITFS/EBS transmission equipment. The FCC was notified of the damage and approved the status while engineers did basic repairs to the damaged system locations. Full repairs to restore complete transmission capabilities were cost-prohibitive.
- The transmission locations were repaired to a level of very basic transmission abilities in order to maintain the FCC licenses, but are no longer delivering course content.



Newer Technologies

- Beginning in 2001, FAU deployed an OC-12 underground Internet Protocol (IP) connection to connect its campuses with a data exchange rate of 622 megabits per second. This speed far outpaced that of the existing T-1 lines used at that time to connect FAU campuses, which was 1.54 megabits per second. Using these new IP connections, FAU installed two-way videoconferencing equipment on all campuses. These units connect all FAU campuses and other locations nationally or internationally for academic, research and general communication purposes.
- Using the IP connections for videoconferencing is more effective and efficient than our ITFS/EBS transmission capabilities. IP connections provide superior speed and security to that which is available via the radio wave spectrums covered by our EBS licenses.
- Because our videoconferencing needs are now met more effectively by IP, we no longer need a significant portion of our EBS licenses' bandwidth. This creates excess bandwidth capacity that, like the BOR previously and many other educational institutions today (including UCF, FGCU, and the Miami-Dade School District), we now have the opportunity to lease.



FAU's EBS Lease ITN

- FAU currently has seven (7) active EBS licenses, which account for 24-26 individual channels.
- Beginning last Fall, FAU conducted a publicly-open Invitation to Negotiate (ITN) process for a potential lease of our excess bandwidth in order to ascertain the best value for FAU, both educationally and financially, and in the joint interests of our neighboring educational entities and surrounding communities. Multiple bidders responded.
- An ITN Evaluation Committee was formed, which included the participation of Trustee Scott Adams. The Evaluation Committee engaged outside telecommunications counsel with considerable experience in the EBS arena, and engaged a consultant to provide a market analysis and valuation study for the EBS stations and the proposals received.
- The consultant's market analysis concluded that the financial terms of the offers received were "well above the market trend" and ranked with recent lease terms in Los Angeles, Dallas, Detroit and Boston.
 - Average MHz/Pop in 7 locations surveyed: .13
 - Average MHz/POP for FAU: .31



The Winner: Clearwire

- Clearwire Corporation builds and operates wireless broadband services for high-speed Internet communications, including WiMAX networks.
- Clearwire operates throughout the United States and parts of Europe. In 2007 it reported total revenue in excess of \$150,000,000. Through the first two quarters of 2008 it reported more than \$100,000,000 in total revenue, and it is projected to reach nearly \$200,000,000 in total revenue for all of 2008.
- Clearwire has formed a multi-billion dollar strategic partnership with Sprint, Google, Comcast, Motorola, and Intel (among others) to develop a national WiMAX network.
- After many months of careful analysis, the ITN Committee determined that Clearwire's bid offered the best financial and overall package for FAU and our neighboring educational entities and communities. Upon the committee's unanimous recommendation, and after consulting with the Board's leadership, President Brogan executed an excess bandwidth capacity lease with Clearwire.



The Clearwire Lease

- The Clearwire Lease runs for an initial ten (10) year term, with two renewal terms of ten (10) years each at Clearwire's option, for a maximum term allowable by the FCC of 30 years.
- Clearwire will (i) assist FAU with satisfying its educational use requirements and any associated construction and maintenance needs on FAU's reserved spectrum capacity, and (ii) launch and operate a competitive WiMAX broadband network on the remaining excess spectrum capacity on or before May 1, 2015.
- The Lease also provides that certain equipment and discounts shall be made available to FAU students, staff and faculty and other educational institutions or not-for-profit organizations in the Southeast Florida market in connection with Clearwire's WiMAX offerings.
- The Lease also provides for two forms of lease payments from Clearwire to FAU:
 - upfront payments to be made upon FCC approval of the long-term lease application for each license; and,
 - annual and/or monthly payments thereafter.
- The initial FCC approvals were granted this summer, and Clearwire has recently begun making lease payments to the university.



Lease Payments

	At Current Approvals	Upon All Approvals
Channels	(1) 877 (A1, 2, 3) (2) 894 (A1, 2, 3) (3) 895 (A1, 2, 3, 4) (4) 896 (B1, 2, 3, 4) (5) 901 (C1, 2, 3, 4) (6) 897 (C1, 2, 3, 4) (7) 296 (D3, 4)	(1) 877 (A1, 2, 3) (2) 894 (A1, 2, 3) (3) 895 (A1, 2, 3, 4) (4) 896 (B1, 2, 3, 4) (5) 901 (C1, 2, 3, 4) (6) 897 (C1, 2, 3, 4) (7) 296 (D1, 2, 3, 4)
Total # of Channels	24 total	26 total
Upfront Payment	\$8,597,710	\$9,976,223
Lease Payments	\$3,541,928 per year (years 1-5) \$4,073,218 per year (years 6-10) \$4,604,506 per year (years 11-15) \$5,091,522 per year (years 16-20) \$5,534,264 per year (years 21-30)	\$4,087,279 per year (years 1-5) \$4,700,372 per year (years 6-10) \$5,313,462 per year (years 11-15) \$5,875,464 per year (years 16-20) \$6,386,375 per year (years 21-30)
Total Upfront & Lease Payments Over 10 & 30 years	10 years = \$46,673,440 30 years = \$150,496,220	10 years = \$53,914,478 30 years = \$173,722,856
Services & Equipment	\$4,282,597 (estimated value)	\$4,282,597 (estimated value)



Proposed Allocation of Payments

- The administration proposes investing the lease revenue in six strategic areas. Total proposed investments in each area during the first five years are as follows:
 - Fostering Student Success
 - \$2.4M
 - Strengthening the Information Technology Infrastructure
 - \$11.8M
 - Strategic Investment in Research
 - \$7.6M
 - University-wide Academic Enhancement
 - \$2.5M
 - Establishing an Academic Enhancement Endowment
 - \$3.9M
 - Reward Faculty and Staff Contributions to FAU's Mission
 - \$3.08M



FAU's Strategic Academic Enhancement Initiative

The Five-year Plan:

PART I: Fostering Student Success



Fostering Student Success

- Strategic Plan Goal 1: Objectives 3-7
- Initiatives
 - ♦ Promote academic success and retention of FAU undergraduate students
 - ♦ Promote timely completion of degrees by both First Time in College (FTIC) and transfer students
- Action
 - ♦ Provide an average of \$480,000 for each of the next five years



Fostering Student Success (con't)

- Return on Investment

Note: Items 1, 2, 3 below are new initiatives which involve assisting faculty to address teaching methodologies.

 1. Establish faculty learning communities to serve 30 faculty annually in Year 1 and growing to 50 faculty by Year 5 to engage one another in the pedagogy of teaching with the goal of enhancing learning.
 2. Organize biweekly workshops/seminars on teaching pedagogy in Year 1, growing to weekly workshops/seminars by Year 3. An average of 20 faculty will be served directly at each event. Each workshop will also be available via webcast to all faculty and graduate teaching assistants.
 3. A Master Teacher Program will be developed in all eight colleges offering undergraduate courses. Designated faculty will mentor all new faculty as to effective teaching methodologies.



Fostering Student Success (con't)

- **Return on Investment (con't)**

Note: Items 4, 5, 6, 7 below are directed specifically to students.

4. Supplemental instruction courses will grow from the current 22 courses to circa 40 courses per semester by Year 5. The number of students served will grow from 3,958 served in 07-08 to more than 20,000 by Year 5.
5. Funds for Freshman Learning Communities (5 communities, 135 students) and Living Learning Communities (17 communities, 371 students) will provide activities to link students to their disciplines. For example, Business LLCs could bring in business leaders to discuss marketing strategies.
6. Within five years, tutoring activities in all lower division core courses not covered by Supplemental Institution will be doubled.
7. To promote undergraduate participation in research, 20 grants will be provided to students in Year 1, growing to 50 grants in Year 5. To recognize meritorious faculty performance in directing undergraduate research, stipends will be provided beginning with two in Year 1 and increasing to five in Year 5.



FAU's Strategic Academic Enhancement Initiative: The Five-year Plan

PART II: Strengthening the Information Technology Teaching Learning Infrastructure



Strengthening the Information Technology Teaching Learning Infrastructure

- Strategic Plan Goal 5: Objectives 1, 3-7
- Initiatives
 1. FAU's Information Technology infrastructure will continually evolve as a reliable and progressive resource.
 2. Students and faculty will be provided continually up-dated and reliable access to contemporary hardware and software.
 3. Faculty and students will participate in the teaching/learning environment with up-to-date facilities and technology.
 4. Additional expansion of distance learning capabilities will enhance student access through expanding facilities and increasing faculty participation in distance learning modalities.
 5. Additional Banner-support will provide for full utilization for all student/faculty/staff information services (admissions, registration, financial aid, housing, human resources, payroll, graduation, etc).



Strengthening the Information Technology Teaching Learning Infrastructure (con't)

- Action
 - Provide an average of \$2,400,000 for each of the next five years
- Return on Investment
 1. One hundred sixty-four out of 400 switches on FAU campuses have exceeded service life. Approximately 25-35 of the 164 will be replaced each year for the next five years.
 2. A total of approximately 1,000 computers currently exist on all campuses in open and instructional laboratories. Approximately 300 will be replaced each year to ensure capabilities for newest software.
 3. On all campuses, FAU operates 95 classrooms with full electronic capabilities (not to be confused with distance learning). An additional 55 classrooms will be converted to full electronic capabilities.



Strengthening the Information Technology Teaching Learning Infrastructure (con't)

- Return on Investment (cont')
 4. Currently 45 videoconferencing/distance classrooms exist on all campuses. This number will be increased by six per year for each of the next five years to yield a total of 75.
 5. With the full implementation of the Banner System (human resource, financial and student information system), additional add-ons and updates will be provided in future years to maintain the currency of the system.



FAU's Strategic Academic Enhancement Initiative: The Five-year Plan

PART III: Strategic Investment in Research



Strategic Investment in Research

- **Strategic Plan Goal 3: Objectives 1- 4**
- **Initiatives**
 - Increase the university's contract and grant portfolio and annual research expenditures
 - Increase indirect cost recoveries to the university to in turn be used to further invest in research infrastructure
 - Promote the recruitment of faculty and graduate assistants in areas critical to the research growth of the university
 - Increase the potential for commercialization of intellectual properties derived from university research and subsequent revenue streams to the university



Strategic Investment in Research (con't)

- **Action**
 - Provide an average of \$1,520,000 for each of the next five years
- **Return on Investment**
 1. Fully completing research program (lab and equipment) commitments to 17 faculty in strategic areas of science and engineering research will maximize their productivity in obtaining additional grant support.
 2. Establish a fund to provide set-up support for future faculty hires in strategic areas.
 3. Upgrading and maintaining core research facilities, such as proteomics, will promote interdisciplinary collaboration and partnerships with outside research organizations.
 4. Provide 40 stipend supplements of up to \$10,000 annually to recruit and retain graduate students in strategic research areas.



Strategic Investment in Research (con't)

- **Return on Investment (con't)**
 - 6) Provide recognition and awards for high achieving researchers in strategically targeted areas.
 - 7) Establish a grant-matching/cost-sharing fund to improve success rate of extramural equipment grant proposals.
 - 8) Establish a fund to support patent applications to protect university-developed intellectual property prior to commercialization.
 - 9) Reinvestment of commercially derived revenues will seed more research and development, thus further multiplying the positive gains from the enhanced R&D cycle.



FAU's Strategic Academic Enhancement Initiative: The Five-year Plan

PART IV: University-wide Academic Enhancement




University-wide Academic Enhancement

- Strategic Plan Goals 1 and 3
- Initiatives
 - Increase undergraduate enrollments and FTE production to augment general university revenues
 - Provide incentives to stimulate faculty/staff involvement and commitment to student success and research development initiatives
- Action
 - Provide an average of \$500,000 for each of the next five years
- Return on Investment
 1. Augmented activities in middle school and community venues to promote academic preparation in underserved population (This promotes diversity enrollment.)
 2. Increase the percentage of out-of-state undergraduates from the current 7 percent to 10 percent.
 3. Additional faculty/staff compensation from new awards programs which address faculty/staff performance in areas of student success and research development




FAU's Strategic Academic Enhancement Initiative: The Five-year Plan

PART V: Establishment of the Academic Enhancement Endowment



Establishment of the Academic Enhancement Endowment


- Strategic Plan Goals 1, 3, and 5 (other goals as appropriate)
- Initiative
 - Create an endowment to fund future strategic issues
- Actions
 - Provide an average of \$780,000 for each of the next five years to an endowment fund, and
 - Provide an average of \$1,120,000 for each of the following five years to an endowment fund
- Return on Investment
 1. At the end of the first five years the endowment fund will be valued at more than \$3,900,000 and at the end of 10 years, the fund will be valued at more than \$12,000,000.
 2. This fund is eligible for matching gifts by donors.
 3. Endowment revenues will be directed to strategic priorities through appropriate approval processes.

FAU Board of Trustees – FAU Academic Enhancement Initiative 



FAU Strategic Academic Enhancement Initiative: The Five-year Plan

**PART VI:
Rewarding Faculty and Staff
Contributions to FAU's Mission**

FAU Board of Trustees – FAU Academic Enhancement Initiative 



Rewarding Faculty and Staff Contributions to FAU's Mission

- **Strategic Plan Goal 3: Objective 5**
- **Initiatives**
 - Increase overall compensation for eligible FAU faculty and staff
 - Promote retention of faculty and staff
- **Actions**
 - Provide a pool of funding for a \$1,000 lump-sum bonus for all eligible staff
 - Provide a pool of funding to initiate in FY 08/09 a 1% increase in base salaries of eligible staff, effective November 1, 2008
 - Provide a pool of funding to address potential compensation increases for all eligible faculty
- **Return on Investment**
 - More competitive faculty/staff compensation
 - Retention of highly productive faculty/staff