TEXAS TECH UNIVERSITY SYSTEM
LUBBOCK, TEXAS

MINUTES OF THE BOARD OF REGENTS
OF
TEXAS TECH UNIVERSITY

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TEXAS TECH UNIVERSITY SYSTEM

MINUTES OF THE BOARD OF REGENTS
OF
TEXAS TECH UNIVERSITY

DECEMBER 9-10, 1999

TEXAS TECH UNIVERSITY SYSTEM
Lubbock, Texas

Minutes

Board of Regents
December 9-10, 1999

Thursday, December 9, 1999.—The members of the Board of Regents of Texas Tech University System convened at 3:20 p.m. (delayed from 1:00 p.m. because of inclement weather) on Thursday, December 9, 1999, in the Conference Room, Midland Hilton and Towers, Midland, Texas, with the following in attendance:

ATTENDANCE.—

Regents present were James E. Sowell, Chairman; J. Robert Brown, Vice Chairman; E. R. "Dick" Brooks; John W. Jones; Dr. Nancy E. Jones; Brian C. Newby; J. Michael Weiss; and Alan B. White. Due to delays related to inclement weather, Regent Carin Barth was unable to attend Thursday's sessions but joined the meeting for Friday's sessions.

Also participating at the opening of the meeting were John T. Montford, Chancellor; James L. Crowson, Deputy Chancellor for Administration; Mike Moses, Deputy Chancellor for System Operations; Donald R. Haragan, President, Texas Tech University; David R. Smith, President, Texas Tech University Health Sciences Center; Pat Campbell, Vice Chancellor and General Counsel; Jim Brunjes, Chief Financial Officer; and Marcie Johnston, Executive Director for the Chancellor's Council and Special Events.

I. Chairman Sowell announced a quorum present and called the meeting to order.

II. Chairman Sowell called on President Haragan who gave the invocation.

III. Chairman Sowell called on Chancellor Montford who introduced to the Board Dr. Wayne Daum, regional dean at the School of Medicine in Odessa; Dr. Sharon Cannon, regional dean of the School of Nursing in Odessa; Dr. Michael Clark, director of the Physician Assistant Program in Midland; and Dr. Robin Satterwhite, regional dean of the School of Allied Health in Odessa.

Chairman Sowell called on President Smith who introduced Dr. Michael Clark, director of the Physician Assistant Program. Dr. Clark presented the report on the Physician Assistant Program.

IV. RECESS TO EXECUTIVE SESSION.—At 3:40 p.m. at the direction of Chairman Sowell, the Board recessed and convened in Executive Session as authorized by Chapter 551 of the *Texas Government Code*.

V. RECONVENING OF THE BOARD TO OPEN SESSION—At approximately 4:30 p.m., following its executive session, the board reconvened in open session at the direction of Chairman Sowell.

VI. RECESS TO STANDING COMMITTEES--At approximately 4:30 p.m., at the direction of Chairman Sowell, the board recessed into open meetings of its standing committees, which were conducted sequentially in open session as follows: the Finance and Administration Committee met from approximately 4:35 p.m. until approximately 4:45 p.m. in Room 203, Midland Hotel and Towers; and the Academic, Clinical and Student Affairs Committee met from approximately 4:46 p.m. until approximately 5:29 p.m. in Room 201, Midland Hilton and Towers. At the conclusion of the Academic, Clinical and Student Affairs Committee, it was determined that the Facilities Committee would begin its deliberations at 8:30 a.m. on Friday, December 10. The Facilities Committee met from approximately 8:31 a.m. until 9:25 a.m. on December 10 in Room 201, Midland Hotel and Towers.

VII. RECONVENING OF THE BOARD TO OPEN SESSION.—At approximately 9:30 a.m. on Friday, December 10, the Board reconvened in open session in the Conference Room, Midland Hotel and Towers in Midland, Texas to consider items as a Board and in the Committee of the Whole.

VII.A. APPROVAL OF MINUTES—Regent Sowell called on Deputy Chancellor Crowson who noted the following corrections to the minutes of October 1, 1999 Board meeting: (1) VII.D.4. The addition of the sentence, 'Regent Weiss asked to be recorded as voting "no"'; and (2) VII.F.7. The amount of $28.825 million was corrected to read $21.825 million. Regent Newby moved that the minutes, as corrected, of the Board meeting held on October 1, 1999 be approved. Regent Brooks seconded the motion, and the motion passed unanimously.

VII.B. COMMITTEE OF THE WHOLE

Chairman Sowell announced that for the purpose of facilitating action on the items to be considered, Vice Chairman Brown would preside over the Committee of the Whole.

1. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding approval of the consent agenda and acknowledgment of review of the Information Agenda. Regent Brown moved that the Consent Agenda be approved. The motion was seconded and passed unanimously. The following are the Minute Orders approved by this motion:

   a. <u>TTU: Approve appointment of Professor Jimmy H. Smith as Advisor to the Texas Board of Professional Engineers.</u>—The Board approved the appointment of

Professor Jimmy H. Smith as a professional and technical advisor to the Texas Board of Professional Engineers. Dr. Smith's appointment will be effective immediately and will be temporary in nature. The compensation for serving in this advisory capacity will be $2,500/month for a maximum of six months.

b. TTU: Approve Faculty Development Leaves.—The Board approved the following official leaves of absence as recommended by the Office of the President and the Office of the Chancellor.

Leave with pay for Dr. Linda J. S. Allen, Professor, Department of Mathematics and Statistics, from January 10, 2001, to May 31, 2001, to revise and complete a final draft of a monograph in mathematical biology. Leave will be conducted at Texas Tech University.

Leave with pay for Professor Joseph L. Aranha, Associate Professor, College of Architecture, from September 1, 2000, to May 31, 2001, to conduct field research on the traditional architecture of the Ndebele, Tsonga and other traditional cultures indigenous to Zimbabwe. This leave will be taken in Zimbabwe.

Leave with pay for Dr. Dick L. Auld, Professor and Chairman, Department of Plant and Soil Science, from September 1, 2000, to January 10, 2001, to enhance the competitiveness of his research program and to ensure that his educational program is providing cutting edge information. This leave will be taken at Los Alamos National Laboratory (LANL) and New Mexico State University (NMSU).

Leave with pay for Dr. Richard L. Blanton, Associate Professor, Department of Biological Sciences, from January 10, 2001,, to May 31, 2001, to study the regulation of expression of the gene for the cellulose synthase in the cellular slime mold *Dictyostelium discoideum*. This leave will be taken at the University of Dundee, Scotland.

Leave with pay for Dr. Bruce C. Clarke, Professor, Department of English, from September 1, 2000, to January 10, 2001, to develop and refine two related book manuscripts on the interaction of comparative literature and

science studies. This leave will be taken in Lubbock, Texas.

Leave with pay for Dr. Howard J. Curzer, Professor, Department of Philosophy, from September 1, 2000, to May 31, 2001, to complete a book-length, virtue-oriented commentary on Aristotle's Nicomachean Ethics. Leave will be taken in Lubbock, Texas

Leave with pay for Dr. Ann A. Daghistany, Associate Professor, Department of English, from September 1, 2000, to January 10, 2001, to research the archetypes of the literary artist as healer, Orpheus and the Muses, in preparation for a book length study as well as the foundations for a graduate course in the same subject. Leave will be taken in Lubbock, Texas.

Leave with pay for Dr. Patrick Dunne, Associate Professor, College of Business Administration, from January 10, 2001, to May 31, 2001, to examine the only publicly available collection of Sam Walton's correspondence on the development of his retailing strategy in order to produce a monograph and/or a series of academic articles on the subject. This leave will be taken at the Harry W. Bass Business History Collection at the University of Oklahoma.

Leave with pay for Dr. Artila Ertas, Professor, Department of Mechanical Engineering, from September 1, 2000, to January 10, 2001, to develop WEB based International Integrative research, education and training program models. This leave will be taken through the ICC Institute at the University of Texas and the Institute for Design and Advanced Technology at Texas Tech University.

Leave with pay for Professor Timothy W. Floyd, School of Law, from September 1, 2000, to January 10, 2001, to work on a book entitled, *The Trouble with Lawyers: Legal Culture and the Future of the Profession*. This leave will be taken in Lubbock, Texas.

Leave with pay for Dr. Hafid Gafaiti, Qualia Professor of French, Department of Classical and Modern Languages and Literatures, from September 1, 2000, to January 10, 2001, to investigate the evolution of censorship in Algeria

from the colonial past to the postcolonial present through a book-project. This leave will be taken in Aix-en-Provence, the Centre des Littèratures Francophones et Comparèes of Universitè Paris XIII, Algeria, Paris, and Lubbock, Texas.

Leave with pay for Professor Robly A. Glover, Associate Professor, Department of Art, from September 1, 2000, to January 10, 2001, to continue ongoing technical and artistic research of vessel forms with precious and non-precious metal. Leave will be taken at the Dallas Museum of Art and the Museum of Fine Arts in Houston.

Leave with pay for Dr. John M. Howe, Professor, Department of History, from September 1, 2000, to May 31, 2001, to spend the academic year in a program of intensive research and writing about the early stages of the ecclesiastical reform movements of Western Europe around the year 1000. This leave will be taken at Princeton or Rome.

Leave with pay for Dr. William Y. Lan, Associate Professor, College of Education, from September 1, 2000 to January 10, 2001, to conduct a research project in which a national database of TIMSS (Third International Mathematics and Sciences Study) will be used to investigate students' learning at different levels with various cognitive complexity. This leave will be taken at Texas Tech University with possible trips to Washington D.C to attend seminars.

Leave with pay for Dr. David H. J. Larmour, Professor, Department of Classical and Modern Languages and Literatures, from January 10, 2001 to May 31, 2001, to complete the research for a book on the Roman satirist Juvenal, and on satiric discourse in general, and to begin writing the book. This leave will be taken in Illinois, London, and Oxford.

Leave with pay for Dr. Walt McDonald, Horn Professor, Department of English, from January 10, 2001 to May 31, 2001, to write poems and explore the craft of poetry. This leave will be taken in Lubbock, Texas, at the ocean, and in the Rocky Mountains.

Leave with pay for Dr. Sharon A. Myers, Associate Professor, Department of Classical and Modern Languages and Literatures, from January 10, 2001, to May 31, 2001, to write the first two chapters of a book concerning second and foreign language teaching. Leave will be taken in Lubbock, Texas, using the Texas Tech Library and its research services.

Leave with pay for Dr. Sharon D. Nell, Associate Professor, Department of Classical and Modern Languages and Literatures, from January 10, 2001, to May 31, 2001, to study a book entitled *Dangerous Diversions: Gender and Desire from La Fontaine to Rousseau* on French literary texts from 1660 to 1770 from the perspective of Lacanian and post-Lacanian psychoanalysis. Leave will be taken in Lubbock, Texas and at the Harry Ransom Humanities Research Center (University of Texas) in Austin

Leave with pay for Leslie J. Patterson, Assistant Professor, Department of English, from September 1, 2000, to January 10, 2001, to complete a collection of original short stories in nine months. Leave will be taken in Lubbock, Texas and the Dallas/Ft. Worth metroplex.

Leave with pay for Dr. Alberto J. Pèrez, Associate Professor, Department of Classical and Modern Languages and Literatures, from January 10, 2001 to May 31, 2001, to work on a book-length manuscript on the generation of 1837 in Argentina. Leave will be taken in Argentina and Texas.

Leave with pay for Dr. Genaro J. Pèrez, Professor, Department of Classical and Modern Languages and Literatures, from January 10, 2001 to May 31, 2001, to write a book length study of intertextual methods as practiced in Hispanic literatures. Leave will be taken in Austin, Texas and Lubbock, Texas.

Leave with pay for Dr. Robert V. Price, Associate Professor, Department of Educational Psychology & Leadership, from September 1, 2000, to January 10, 2001, to provide time for development of an authoring guide for developers of worldwide web distance education courses. Leave will be taken in The University of Texas Telecampus, The University of Oregon, and The Pennsylvania State University and others.

Leave with pay for Dr. Marjean D. Purinton, Associate Professor, Department of English, from January 10, 2001, to May 31, 2001, to complete a book project, already in progress, entitled, "British Romantic Drama and Cultural Identity." Leave will be taken in Lubbock, Texas.

Leave with pay for Dr. Partha P. Sarkar, Associate Professor, Department of Civil Engineering, from September 1, 2000, to January 10, 2001, to participate in research/commercial projects involving wind-tunnel testing. Leave will be taken at the Boundary-Layer Wind Tunnel Facilities in Ontario, Canada and at the Indian Institute of Technology, Kanpur, India.

Leave with pay for Dr. Carolyn E. Tate, Associate Professor, Department of Art, from September 1, 2000, to May 31, 2001, to conduct research leading to publication on the Olmec site of La Venta, Tabasco, Mexico. Leave will be taken at the Dumbarton Oaks Pre-Columbian Research Libraries in Washington, D.C. and The University of Texas at Austin Benson Latin American Collection.

Leave with pay for Professor Sara Waters, Professor, Department of Art, from January 10, 2001, to May 31, 2001, to research information on site specific installations and the artists who make them. Leave will be taken in London, England, Aberdeen, Scotland, and the Shetland Islands.

Leave with pay for Dr. Diane S. Wood, Associate Professor, Department of Classical and Modern Languages and Literatures, from September 1, 2000, to May 31, 2001, to write a 200 page monograph entitled "Gratien Du Pont: The Rhetorics of Misogyny." Leave will be taken in Paris at the Bibliothèque Nationale Francois Mitterand and in Lubbock, Texas.

c. TTU: Approve conferral of degrees for December 18, 1999 Commencement—The Board approved conferral of degrees for December 18, 1999 commencement, included herewith as Attachment No. 1.

d. TTU: Approve delegation of signature authority.—The board approved delegation of signature authority as written:

(1) To sign checks drawn on the revolving fund and all other checking accounts of the university in any depository bank, except the University's Cashier's Account in American State Bank, Lubbock, Texas, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from the university or assigned other responsibilities, and further provided that any mechanically signed check of $25,000 or more shall be reviewed and manually signed by one of the employees listed who may sign:

John T. Montford, Chancellor
Jim Brunjes, Chief Financial Office
James L. Crowson, Deputy Chancellor for Administration
Mike Moses, Deputy Chancellor for System Operations
Donald R. Haragan, President
Gloria J. Hale, Assistant Vice President for Human Resources
Charlie Stallings, Assistant Vice President for Business Affairs
Carole Wardroup, Director of Accounting Services
Ted W. Johnston, Manager of Grants and Contracts Accounting
Deana Miller, Assistant Director of Accounting Services

(2) To sign and/or countersign cashier's checks drawn on the university's Cashier's Account in American State Bank, Lubbock, Texas, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from the university or assigned other responsibilities, and further provided that any mechanically signed check of $25,000 or more shall be reviewed and manually signed by one of the employees listed:

Employees who may sign or countersign:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
James L. Crowson, Deputy Chancellor for Administration;

Mike Moses, Deputy Chancellor for System Operations;
Donald R. Haragan, President;
Gloria J. Hale, Assistant Vice President for Human Resources;
Charlie L. Stallings, Assistant Vice President for Business Affairs;
Carole Wardroup, Director of Accounting Services;
Ted W. Johnston, Manager of Grants and Contracts Accounting; or
Deana Miller, Assistant Director of Accounting Services.

Employees who may countersign only are:

James E. Meiers, Director of Student Business Services; or
Lona Donnelly, Operations Manager of Student Business Services.

(3) To authorize transfer by wire or other means, of funds between Texas Tech University depositories, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from the university or assigned other responsibilities, whichever comes first.

Employees who may authorize or counter-authorize:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
James L. Crowson, Deputy Chancellor for Administration;
Mike Moses, Deputy Chancellor for System Operations;
Donald R. Haragan, President;
Edmund W. McGee, Assistant Vice Chancellor for Investments;
Charlie L. Stallings, Assistant Vice President for Business Affairs;
Carole Wardroup, Director of Accounting Services; or
Winnie Long, Manager of Cash Management.

(4) To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities which are owned or controlled by Texas Tech University provided such action is approved by any two of the individuals listed below, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from the university or assigned other duties or responsibilities:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
Donald R. Haragan, President;
Edmund W. McGee, Assistant Vice Chancellor for Investments; or
Charlie L. Stallings, Assistant Vice President for Business Affairs.

However, for all instruments contributed to the university, one of the two required signatures must be from one of the following:

Ronda J. Johnson, Vice Chancellor for Institutional Advancement; or
Greg Teeter, Legal Counsel for Institutional Advancement.

e. TTUHSC: Approve delegation of signature authority. – The Board approved delegation of signature authority as written:

(1) To sign checks drawn on the revolving fund and all other checking accounts of the Health Sciences Center in any depository bank, except the Heath Sciences Center's Cashier's Account in the American State Bank, Lubbock, Texas, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from Texas Tech or assigned other responsibilities, and further provided that any mechanically signed check of $25,000 or more shall be reviewed and manually signed by one of the employees listed who may sign:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
James L. Crowson, Deputy Chancellor for Administration;

Mike Moses, Deputy Chancellor for System Operations;
David R. Smith, M.D., President;
Elmo M. Cavin, Vice President for Fiscal Affairs;
Michael Crowder, Associate Vice President for Business Affairs;
Douglas Moore, Director of Accounting Services;
JoAnna Marshall, Assistant Director of Accounting Services;
Tami James, Accounting Group Supervisor;
Susan Snead, Accounting Group Supervisor;
Gloria J. Hale, Assistant Vice President for Human Resources, TTU;
Charlie Stallings, Assistant Vice President for Business Affairs, TTU;
Carole Wardroup, Director of Accounting Services, TTU; or
Deana Miller, Assistant Director of Accounting Services, TTU.

(2) To sign checks drawn on the Health Sciences Center's Cashier's Account in the American State Bank, Lubbock, Texas, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from Texas Tech or assigned other responsibilities, and further provided that any mechanically signed check of $25,000 or more shall be reviewed and manually signed by one of the employees listed who may sign or countersign:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
James L. Crowson, Deputy Chancellor for Administration;
Mike Moses, Deputy Chancellor for System Operations;
David R. Smith, M.D., President;
Elmo M. Cavin, Vice President for Fiscal Affairs;
Michael Crowder, Associate Vice President for Business Affairs;
Douglas Moore, Director of Accounting Services;
JoAnna Marshall, Assistant Director of Accounting Services;
Tami James, Accounting Group Supervisor; or
Susan Snead, Accounting Group Supervisor.

(3) To authorize transfers, by wire or other means, of funds between Texas Tech University Health Sciences Center depositories, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from Texas Tech or assigned other responsibilities:

Employees who may authorize or counter-authorize:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
James L. Crowson, Deputy Chancellor for Administration;
Mike Moses, Deputy Chancellor for System Operations;
David R. Smith, M.D., President;
Elmo Cavin, Vice President for Fiscal Affairs;
Edmund W. McGee, Assistant Vice Chancellor for Investments;
Michael Crowder, Associate Vice President for Business Affairs;
Douglas Moore, Director of Accounting Services;
Charlie Stallings, Assistant Vice President for Business Affairs, TTU;
Carole Wardroup, Director of Accounting Services, TTU; or
Winnie Long, Manager of Cash Management, TTU.

(4) To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities which are owned or controlled by the Health Sciences Center provided such action is approved by any two of the individuals listed below, effective December 10, 1999, and to continue until August 31, 2000, or until such time as they are separated from Texas Tech or assigned other duties or responsibilities:

John T. Montford, Chancellor;
Jim Brunjes, Chief Financial Officer;
David R. Smith, M.D., President;
Elmo M. Cavin, Vice President for Fiscal Affairs;
Edmund W. McGee, Assistant Vice Chancellor for Investments;

Michael Crowder, Associate Vice President for Business Affairs;
Douglas Moore, Director of Accounting Services; or
Charlie Stallings, Assistant Vice President for Business Affairs, TTU;

However, for all instruments contributed to the Health Sciences Center one of the two required signatures must be from one of the following:

Ronda J. Johnson, Vice Chancellor for Institutional Advancement; or
Greg Teeter, Legal Counsel for Institutional Advancement.

f. TTUHSC: Approve request for exception to *Board of Regents Policy 04.23*. – The Board approved an exception to *Board of Regents Policy 04.23*, Nepotism, to allow Colette Schneider, spouse of Dr. Brandt Schneider, Assistant Professor, Cell Biology and Biochemistry, School of Medicine, to work as a technician in his laboratory. All personnel actions, compensation decisions, performance evaluations, merit increases and all other administrative decisions will fall under the direct purview of Harry Weitlauf, M.D., Chair of Cell Biology and Biochemistry.

g. TTUHSC: Approve revision and extension to current agreement with Brenda Arnett and Associates.—The Board approved revision and extension of the current agreement with Brenda Arnett and Associates (Houston, Texas). The agreement is to begin January 1, 2000 and end August 31, 2000, and is being revised to provide that Brenda Arnett and Associates shall assist both TTU and TTUHSC to enhance federal and private support for the expansion of research, education, and service programs.

h. TTU and TTUHSC: Approve an amendment to a contract between Texas Tech University and Cassidy and Associates to perform communications and public relations services for federal research and development funding.—The Board approved an amendment to a contract between TTU and Cassidy and Associates (Washington, D.C.). The contract is to begin October 21, 1999 and end October 20, 2002. The purpose of the contract is to perform communications and public relations services for federal research and develop-

ment funding through Cassidy and Associates' subsidiary Powell Tate.

i. TTUHSC: Approve a consulting agreement with Arthur Andersen LLP to complete the School of Medicine and Graduate School of Biomedical Sciences Strategic Plan. – The Board approved a consulting agreement with Arthur Andersen LLP to work with the School of Medicine and Graduate School of Biomedical Sciences leadership and assist with the review and completion of the strategic plan. The term of the agreement will be December 13, 1999 through June 30, 2000. The anticipated cost is approximately $50,000 plus expenses.

j. TTU and TTUHSC: Approve commissioning of police officers.—The Board approved commissioning of police officers as follows: Bobby J. Jones and Gordon L. Polley, effective October 8, 1999; Johnny T. Arroyos, Christopher L. Fox, Mark J. Hyatt, Leticia R. Mata, and Keith A. Miller, effective October 18, 1999; and James M. Kelley and Billy W. McAlister, effective November 9, 1999.

k. TTU: Approve acceptance of major gifts-in-kind to the College of Engineering. – The Board approved acceptance of three gifts-in-kind for the benefit of the College of Engineering: (1) a Precision 5000 cluster tool from Applied Materials, Inc. of Santa Clara, California and valued between $1.4 and $1.6 million, (2) laboratory equipment, an electrical rheometer, and a microcomputer from the National Institute of Standards of Gaithersburg, Maryland, valued at $168,039; and (3) various computer software from the Schlumberger GeoQuest of Houston, Texas with a value of $11,173,200.

l. TTU: Approve acceptance of major gift-in-kind to the Museum. – The Board approved acceptance of a gift-in-kind for the benefit of the Museum: two paintings by Henriette Wyeth Hurd, titled *Glory in the Snow* and *Nautilus Shell*, and one painting titled *Snow Drops* from M. Gladys Scales of Lubbock, Texas. The gift is valued at a total of $66,500.

Mr. Brown then moved that the board acknowledge its review of the Information Agenda as follows:

Information Agenda

(1) TTU: Summary of Revenues by Budget Category – Fiscal Year 1999
(2) TTUHSC: Summary of Revenues by Budget Category – Fiscal Year 1999
(3) TTU: Travel Report for Quarter IV, 1999
(4) TTUHSC: Travel Report for Quarter IV, 1999
(5) TTUHSC: School of Medicine Faculty Employment Contracts
(6) TTU: Report of Award of Contracts to Minority-owned and Women-owned Businesses for the Cost of Issuance of Bonds and the Items to be Financed by Such Bonds
(7) TTUHSC: Report of Award of Contracts to Minority-owned and Women-owned Businesses for the Cost of Issuance of Bonds and the Items to be Financed by Such Bonds
(8) TTUHSC: Contract renewed per *Board Policy 04.05.5*, August 1, 1999 to September 30, 1999
(9) TTUHSC: Energy Conservation II – Lighting Retrofit, HSC Building – El Paso
(10) TTUHSC: Exterior North Stair Renovation Phase I
(11) TTUHSC: Exterior North Stair Renovation Phase II

The motion passed unanimously.

2. Regent Brown called on Deputy Chancellor Crowson and Regent Nancy Jones who presented the item regarding provisional approval of Sections 03, 10 and 15 of the proposed *Regent Rules.* Regent N. Jones moved that the board provisionally approve Sections 03, 10 and 15 of the proposed *Regent Rules and Regulations*, included herewith as Attachment No. 2. The motion was seconded, and passed unanimously.

3. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the revision of *Board of Regents Policy 01.06* authorizing the creation and use of the official seal of the Texas Tech University System, included herewith as Attachment No. 3.

   Regent Brown moved that the board approve the revision of *Board of Regents Policy 01.06* authorizing the creation and use of the official seal of the Texas Tech University System. The motion was seconded, and passed unanimously.

4. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the amendment of *Board of Regents Policy 04.02,* Debt Management Policy, included herewith as Attachment No. 4.

   Regent Brown moved that the board approve the amendment of *Board of Regents Policy 04.02,* Debt Management Policy. The motion was seconded, and passed unanimously.

5. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the amendment of *Board of Regents Policy 04.11,* Investments of Institutional Funds, included herewith as Attachment No. 5.

   Regent Brown moved that the board approve the amendment of *Board of Regents Policy 04.11,* Investments of Institutional Funds. The motion was seconded, and passed unanimously.

6. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the amendment of *Board of Regents Policy 05.06(3),* Investment Policy Statement, included herewith as Attachment No. 6.

   Regent Brown moved that the board approve the amendment of *Board of Regents Policy 05.06(3),* Investment Policy Statement. The motion was seconded, and passed unanimously.

7. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the revision of the traffic and parking regulations, including vehicle registration fees, included herewith as Attachment No. 7.

   Regent Brown moved that the board approve the revision of the traffic and parking regulations, including vehicle registration fees. The motion was seconded, and passed unanimously.

8. Regent Brown called on Deputy Chancellor Crowson who presented the item regarding the amended and restated Seventh Supplemental Resolution to the Master Resolution, included herewith as Attachment No. 8.

   Regent Brown moved that the board approve the amended and restated Seventh Supplemental Resolution to the Master Resolution. The motion was seconded, and passed unanimously.

VII.C. REPORT OF EXECUTIVE SESSION

As a result of the executive session, Vice Chair Brown moved that the board ratify the employment contract between Mike Leach and Texas Tech University wherein Mr. Leach is employed as the head football coach of Texas Tech.

Opportunity for discussion by the board followed the presentation.

The motion was seconded, and passed unanimously.

VII.D. REPORT OF THE ACADEMIC, CLINICAL AND STUDENT AFFAIRS COMMITTEE

Chairman Sowell called on Regent N. Jones, Chair, to give the report of the Academic, Clinical and Student Affairs Committee.

Committee Chairman N. Jones reported that the Academic, Clinical and Student Affairs Committee met in open session on Thursday, December 9, 1999, to consider those matters on its agenda and to formulate recommendations to the Board of Regents of Texas Tech University. Unless otherwise indicated, the actions set forth in the Minute Orders which follow were recommended by the Academic, Clinical and Student Affairs Committee and approved in open session and without objection by the Board of Regents of Texas Tech University System.

1. TTU: Approve appointment of governing board to direct Early Head Start Program.—The Board approved the appointment of a governing board to direct the Early Head Start Program administered by the Department of Human Development and Family Studies in the College of Human Sciences.

2. TTU: Approve a Doctor of Philosophy degree in Higher Education Research in the College of Education.—The Board approved a new degree program for a Doctor of Philosophy in Higher Education Research in the College of Education and authorized the Office of the Chancellor to cause documents to be submitted to the Texas Higher Education Coordinating Board seeking its approval for such a program.

3. TTUHSC: Approve conferral of an Honorary Doctor of Human Letters.—The Board approved the conferring of an honorary Doctor of Human Letters to Miles Teel Bivins at the School of Pharmacy's initial graduation on May 21, 2000.

4. TTUHSC: Approve the Health Services Research Graduate Program in the School of Medicine.—The Board approved a Health Services Research Graduate Program resulting in a Master of Science degree and authorized the Office of the Chancellor to cause a proposal to be submitted to the Texas

Higher Education Coordinating Board seeking approval for such a program.

5. TTUHSC: Approve a new masters degree in vocational rehabilitation.—The Board approved a new Master of Vocational Rehabilitation degree to be established in the Department of Rehabilitation Sciences in the School of Allied Health and authorized the Office of the Chancellor to cause a proposal to be submitted to the Texas Higher Education Coordinating Board seeking approval for such a program.

6. TTUHSC: Approve a new masters degree in athletic training.—The Board approved a new Master of Athletic Training degree to be established in the Department of Rehabilitation Sciences of the School of Allied Health and authorized the Office of the Chancellor to cause a proposal to be submitted to the Texas Higher Education Coordinating Board seeking approval for such a program.

7. TTUHSC: Ratify the creation of an Institute for Healthy Aging to include a Geriatric Long Term Care and Teaching Center, Geriatric Assessment Center and a Rural Long Term Care Telemedicine Network.—The Board ratified the creation of an Institute for Healthy Aging to include a Geriatric Long Term Care and Teaching Center, Geriatric Assessment Center and a Rural Long Term Care Telemedicine Network.

8. TTUHSC: Ratify an agreement with the Immigration and Naturalization Service to provide health service to federal detainees.—The Board ratified an agreement with the Immigration and Naturalization Service and the related subcontract to provide health care services to federal detainees.

9. TTUHSC: Authorize negotiations for a ground lease and master coordinating agreement with University Medical Center to build and operate an outpatient Geriatric Assessment Center.—The Board authorized an agreement with University Medical Center for the development of a long-term ground lease, based on fair market value, of approximately two acres of land pursuant to an amended master coordinating agreement to build and operate an outpatient Geriatric Assessment Center on the TTU campus.

The board accepted the following reports:

10. Report by Dr. Robert Ewalt regarding discussion of issues related to notification of parents regarding alcohol abuse.

11. Report by Dr. David Schmidly on TTU research funding, included herewith as Attachment No. 9.

12. Report by Dr. Joel Kupersmith on TTUHSC research funding, included herewith as Attachment No. 10.

VII.E. REPORT OF THE FINANCE AND ADMINISTRATION COMMITTEE

Chairman Sowell called on Regent White, Chair, to give the report of the Finance and Administration Committee.

Committee Chairman White reported that the Finance and Administration Committee met in open session to consider those matters on its agenda and to formulate recommendations to the Board of Regents of Texas Tech University. Unless otherwise indicated, the actions set forth in the Minute Orders which follow were recommended by the Finance and Administration Committee and approved in open session and without objection by the Board of Regents of Texas Tech University System.

1. TTU: Authorize the president to sell a remainder interest in real estate bequeathed to the Ranching Heritage Center. —The Board authorized the Office of the President the specific authority to see a remainder interest in real estate bequeathed to the Ranching Heritage Center, appraised at $6,200 to be used for the benefit of the Ranching Heritage Center.

2. TTU: Approve a delegation of authority to the Office of the Chancellor to sign an agreement with a firm to provide all marketing and media productions for the Department of Athletics. – The Board approved delegation of authority to the Office of the Chancellor to review responses to the Requests for Proposals, negotiate a contract, and enter into an agreement with a firm to provide exclusive media productions for the Department of Athletics for the period January 1, 2000 through December 31, 2003.

3. Approve expenditure of Telecommunications Infrastructure Fund Grant for purchase of Library Technology and Distance Education equipment.—The Board approved purchases of library information technology and distance education equipment through funds allocated by the Telecommunications Infrastructure Fund Grant under the terms of the grant.

4. TTU: Ratify and approve budget and salary adjustments for the period September 1, 1999 through October 31, 1999.—The Board ratified and approved budget and salary adjustments for the period September 1, 1999 through October 31, 1999, included herewith as Attachment No. 11.

5. TTUHSC: Ratify and approve budget adjustment and salary increase for the period September 1, 1999 through October 31, 1999.—The Board ratified and approved a budget adjustment and salary increase for the period September 1, 1999 through October 31, 1999, included herewith as Attachment No. 12.

VII.F. REPORT OF THE FACILITIES COMMITTEE

Chairman J. Jones gave the report of the Facilities Committee.

Committee Chairman Jones reported that the Facilities Committee met in open session to consider those matters on its agenda and to formulate recommendations to the Board of Regents of Texas Tech University. Unless otherwise indicated, the actions set forth in the Minute Orders which follow were recommended by the Facilities Committee and approved in open session and without objection by the Board of Regents of Texas Tech University System.

1. TTU: Approve renaming of Holden Hall Courtyard.—The Board authorized the naming of the inner courtyard of Holden Hall in honor of Dr. Otto Millard Nelson in honor and recognition of Dr. Nelson's commitment to the teaching, research, and service missions of TTU.

2. TTU: Approve renaming the University Theatre.—The Board approved the change of the name of the theatre to the Charles E. Maedgen, Jr. Theatre in honor and recognition of Louise and Charles Maedgen's commitment to the Department of Theatre and Dance at TTU and for their generous gifts for renovation of the theatre building.

3. TTU: Approve renovation of the Department of Art.—The Board approved the upgrading of the environmental infrastructure of the Department of Art building; an increase in the budget to $2,500,000; an appropriation of funds from the Higher Education Assistance Funds; the submittal of documents to the Texas Higher Education Coordinating Board for approval and upon receiving such approval, to award a construction contract through the sealed competitive proposal process.

4. TTU: Approve expansion of the University Center.—The Board approved the expansion and renovation of the University Center; the establishment of a project budget of $35,000,000; the appropriation of funds from to be repaid by University Center Fees, University Center Fund Balance, and Bookstore proceeds; the preparation and submittal of documents to the Texas Higher Education Coordinating Board for approval and upon receiving such approval, the select a construction manager-at-risk for the project through the sealed proposal process and the awarding of a construction contract. The Office of the Chancellor will retain an owner's representative for the project through the process of request for qualifications and request for proposals.

5. TTU: Approve planning a biological safety level 4 facility—The Board approved the planning of a Biological Safety Level 4 containment facility at the Institute for Environmental and Human Health; the establishment of a planning budget of $200,000 form Indirect Cost Recovery; the selection of an architect to develop the program of requirements, cost estimate and schematic design of the facility.

6. TTU: Approve amending Texas Tech University Master Plan.—The Board approved amending the campus master plan to designate a 49-acre tract west of the proposed Texas Tech Boulevard for recreational sports expansion and the designation of a portion of the land previously designated for recreational sports for the location of the new softball and tennis facilities.

7. TTU: Approve master parking plan. – The Board approved the following:

   (a) that a Five-Year Master Parking Plan for Texas Tech University consisting of the following elements be adopted:

      (1) conversion over time to primarily area-reserved parking with space-specific reserved parking at a higher fee;

      (2) implementation of a system of charges for visitor and night parking in lots around the Administration Building, University Center, Theatre, Bookstore, Development Office, and Business Administration Building;

      (3) conversion of the C10 Commuter Parking Lot to a permanent commuter lot at an estimated cost of $250,000 to be

funded by a previously approved budget; (No additional commuter parking will be required until the TTU Boulevard is constructed.)

(4) conversion of the temporary R18 parking lots (north of the Greenhouse and the Physical Plant) to permanent faculty/staff parking lots at an estimated cost of $110,000 and $50,000 respectively to be funded by parking fund balances;

(5) the probability of:
   (i) construction of a parking garage on the corner of 18th Street and Flint Avenue;
   (ii) construction of a parking garage on the corner of 15th Street and Akron Avenue to provide for the increased demand for visitor parking in this area from the expansion and renovation of the University Center and the move of the Bookstore and, as a part of this project, rework the R-7 parking lot to develop a pedestrian mall from the University Center to the Administration Building; and
   (iii) construction of a parking garage adjacent to the north side of the United Spirit Arena.

(b) that a previously authorized planning budget for the study of the location of Parking Garage #2 be increased from $50,000 to $100,000 and that the scope of the budget be amended to provide for the study of the precise locations and capacities of parking garages at the corner of 15th Street and Akron, at the corner of 18th Street and Flint, and adjacent to the arena on its north side. The increase will be funded from parking fund balances.

(c) that the following fee increases be implemented beginning May 14, 2000:

Category	From	To
Faculty and Staff		
Garage Reserved	$0	$0
Garage Area-reserved	$0	$0
Surface Reserved	$125	$250
Surface Area-reserved	$66	$90
Students		
Resident Garage (Area-reserved)	$0	$0
Resident Surface	$71	$90
Commuter	$49	$70
Summer Resident	$24	$33
Summer Commuter	$24	$33

It is further recommended that approved refunds be calculated on the same basis as refunds were calculated for the current academic year.

Depending in some measure on the outcome of the study noted in Recommendation (b), it is expected that it will be recommended that parking fees for 2001 and 2002 be established approximately as follows:

Category	2001	2002
Faculty and Staff		
Garage Reserved	$0	$400
Garage Area-reserved	$0	$250
Surface Reserved	$325	$375
Surface Area-reserved	$110	$130
Students		
Resident Garage (Area-reserved)	$0	$250
Resident Surface	$110	$130
Commuter	$90	$110
Summer Resident	$45	$55
Summer Commuter	$45	$55

(d) that Section VI.C. of the Traffic and Parking Regulations for Texas Tech University and Texas Tech University Health Sciences Center (*Board of Regents Policy 03.11*) be amended to read as follows:

"C. The following illegal parking acts may result in a citation being issued:

	Violation	Fine
**1.	Parking in non-designated areas.	$25.00
2.	Permit not properly installed.	10.00
**3.	Parking in a fire lane.	50.00 ~~25.00~~
4.	Failure to remove expired permit(s).	20.00 ~~10.00~~
**5.	Parking in a no parking or tow away zone.	25.00 ~~15.00~~
**6.	Parking service vehicle spaces, service drives, or access drives.	20.00 ~~15.00~~
**7.	Unauthorized parking reserved parking spaces	25.00
**8.	Obstructing traffic, street, sidewalk, crosswalk, driveway, trash container, building entrance or exit, or space and/or curb cut designed to aid persons with disabilities.	25.00

**9.	Parking overtime in a time limit zone.	20.00	~~10.00~~
**10.	Parking a bicycle in violation of these regulations.		10.00
11.	Parking a motor vehicle beyond the Lines of a parking space.	20.00	~~10.00~~
**12.	Parking in reserved zones without proper permit.	25.00	~~15.00~~
13.	Parking on wrong side of street facing oncoming traffic.	20.00	~~15.00~~
**14.	Parking without a valid permit.		25.00
**15.	Parking a motor vehicle upon any unmarked (including turf) or unimproved ground which has not been designated for parking.		25.00
**16.	Parking in a space or area designated for persons with disabilities without the proper insignia.	250.00+	~~100.00~~
**17.	Blocking an access ramp or curb cut designed to aid persons with disabilities.	250.00+	~~100.00~~
**18.	Display or use of a lost, stolen, forged, or altered permit. Such violation may result in the responsible party/parties being referred to the appropriate office for disciplinary action which may include loss of parking privileges for the remainder of the academic year.	up to $200.00	
**19.	Other parking violations as defined on the face of the citation.	20.00	~~10.00~~

** Impoundable Offenses
+ Required by state law.

(e) that a new Section 5 be added to *Board of Regents Policy 03.12* to read as follows:

5. Parking Lots.

(a) Each construction project that displaces established permanent parking will bear the cost of replacing such parking.

(b) The project scope for each permanent surface parking lot construction project shall include provisions for appropriate irrigation, landscaping, and lighting.

8. TTU and TTUHSC: Modify campus master plan architectural and site design guidelines. – The Board approved a revision of the guidelines relating to roofing in the *Architectural and Site Design Guidelines* document, a component of the Campus Master Plan documents, to read: Clay Barrel Mission Roof Tile: As manufactured by Ludowici Roof Tile of Lexington, Ohio or approved equal.

The board accepted the following reports:

9. Report by Stan Cowan, et al of Mesa Design Group, on the Pfluger and Engineering Key Fountains, included herewith as Attachment No. 13.

VII.G. AD HOC BOARD POLICY MANUAL REVIEW COMMITTEE REPORT--Chairman Sowell noted that Regent Nancy Jones' report on the activities of the Ad Hoc Board Policy Manual Review Committee had previously been given.

VII.H. INVESTMENT ADVISORY COMMITTEE REPORT--Chairman Sowell called on Investment Advisory Committee Chair Robert Brown who, speaking from the material attached hereto as Attachment No. 14, presented the Investment Advisory Committee report.

VII.I. REPORT ON SCHOLARSHIPS--Chairman Sowell called on Regent Weiss who, speaking from the material attached hereto as Attachment No. 15, presented a report on scholarships.

VII.J. REPORT ON ISSUES RELATED TO THE COLLEGE OF BUSINESS ADMINISTRATION—Chairman Sowell called on Regent Barth who presented a report on issues related to the College of Business Administration.

VII.K. REPORT ON CULTURAL DIVERSITY—Chairman Sowell called on Ms. Cathy Allen, Vice Chancellor for Cultural Diversity, who speaking from the material attached hereto as Attachment No. 16, presented a report on cultural diversity.

VII.L. REPORT ON ENROLLMENT MANAGEMENT, TTU—Chairman Sowell called on Dr. Michael Heintze, Vice President for Enrollment Management, who speaking from the material attached hereto as Attachment No. 17, presented a report on enrollment management at Texas Tech University.

VII.M. REPORT ON ENROLLMENT MANAGEMENT, TTUHSC—Chairman Sowell called on Mr. Richard Butler, Vice President for Operations and Student Support, who, speaking from the material attached hereto as Attachment No. 18, presented a report on enrollment management at the Texas Tech University Health Sciences Center.

VII.N. REPORT FROM THE CAMPUS CARE GIVERS COMMITTEE— Chairman Sowell called on Mrs. Debbie Montford who presented a report on the activities of the Campus Care Givers Committee.

VII.O. SCHEDULE FOR BOARD MEETINGS--Mr. Crowson presented the schedule for future Board meetings and asked for comments. The established schedule is as follows: February 10-11, 2000, Houston; May 11-12, 2000, Lubbock; August 10-11, 2000, Lubbock; October or November 2000 [SECRETARY'S NOTE: THIS MEETING HAS NOW BEEN SCHEDULED FOR NOVEMBER 1-2, 2000, LUBBOCK]; December 14-15, 2000, El Paso; February 8-9, 2001, San Antonio; May 10-11, 2001, Lubbock.

VII.P. THE PRESIDENT'S REPORT, TTU—Chairman Sowell called on President Haragan who presented the President's Report. Dr. Haragan and the Board expressed their appreciation to Dr. Robert Ewalt on the occasion of his retirement in January, 2000.

VII.Q. THE PRESIDENT'S REPORT, TTUHSC—Chairman Sowell called on President Smith who, speaking from the material attached hereto as Attachment No. 19, presented the President's Report.

VII.R. CHANCELLOR'S REPORT--Chairman Sowell called on Chancellor Montford who, speaking from the materials attached hereto as Attachment No. 20, presented the Chancellor's Report.

VII.S. ADJOURNMENT--Chairman Sowell adjourned the meeting at approximately 12:53 p.m.

INDEX OF ATTACHMENTS

Attachment 1	Commencement Program
Attachment 2	*Board of Regents Rules, Sections 03, 10 and 15*
Attachment 3	*Board of Regents Rules, Section 01.06*
Attachment 4	*Board of Regents Rules, Sections 04.02*
Attachment 5	*Board of Regents Rules, Sections 04.11*
Attachment 6	*Board of Regents Policy 05.06(3)*
Attachment 7	Traffic and Parking Regulations
Attachment 8	Seventh Supplemental Resolution
Attachment 9	Report by Dr. David Schmidly
Attachment 10	Report by Dr. Joel Kupersmith
Attachment 11	TTU Budget and Salary Adjustments for September 1, 1999 through October 31, 1999
Attachment 12	TTUHSC Budget and Salary Adjustment for September 1, 199 Through October 31, 1999
Attachment 13	Report by Mesa Design Group
Attachment 14	Investment Advisory Committee Report
Attachment 15	Report on Scholarships
Attachment 16	Cultural Diversity Report
Attachment 17	TTU Enrollment Management Report
Attachment 18	TTUHSC Enrollment Management Report
Attachment 19	TTUHSC President's Report
Attachment 20	Chancellor's Report

I, James L. Crowson, the duly appointed and qualified Assistant Secretary of the Board of Regents, hereby certify that the above and foregoing is a true and correct copy of the Minutes of the Texas Tech University Board of Regents meeting on December 9-10, 1999.

James L. Crowson
Assistant Secretary

Seal

Ad Hoc Committee for Revision of the Board of Regents Policy Manual of the Texas Tech University System

Sections 10, 03, and 15: Revision Annotations

10 Fiscal Management

10.01 Accounting
This text is taken from OP 62.25 TECHFIM. The committee recommends that most of this policy stay at the OP level; however, we recommend that the first four subsections reside in the board rules.

10.02 Audits
Francis Grogan and her staff have made extensive revisions to the previous board policy 04.03. The revisions reflect current trends in the auditing and consulting industry.

10.03 Budget rules and procedures
This section was board policy 04.04. Revisions have been made that reflect changes in administrative titles.

10.04 Debt management policy
This section was board policy 04.02. Revisions have been made that reflect changes in administrative titles. Revisions that reflect current law regarding approval for new construction and major repairs have been made to the Revenue Financing System and Higher Education Assistance Fund debt management policies. The Texas Higher Education Coordinating Board must approve new construction exceeding $1,000,000 and major repairs exceeding $2,000,000.

10.05 Extension of credit
This section was board policy 04.32.

10.06 Deposits with the state comptroller
This section was part of the UT board rules. The committee recommends incorporating this policy with changes to "state treasury."

10.07 Selection of primary and secondary depositories for the Texas Tech University System
This section was board policy 04.08.

10.08 Travel authorization, reimbursement, and institutional regulations

10.08.1 Authority to approve travel
This section was board policy 04.15. The committee recommends moving the text of this policy to the OP level and replacing it in the current board rules with a general statement.

10.08.2 Travel and other expenses for board members
This section was board policy 04.16.

10.08.3 Travel and other expenses of the chancellor
This section was board policy 04.17.

10.08.4 Travel of faculty and staff
This section was board policy 04.18.

10.08.5 Travel expenses paid from gift and grant funds
This section was board policy 04.19. The board recommends changing the allowable per day expenses to $225.

10.08.6 Travel for the athletic department
This section was board policy 04.20.

03 Personnel (from 03.11 to 3.20)

03.11 through 3.20 are the non-faculty sections of 03.

03.11 The classified compensation plan
This section was OP 70.14 12. Salary Administration. The committee recommends that this policy stays at the OP level and that the board rules contain a general statement.

03.12 Ethics policy
This section was board policy 01.12. The nepotism section of the board rules (03.12.8) has been replaced with the nepotism policy that previously resided at board policy 04.23.

03.13 Conduct of Texas Tech community
This section was board policy 04.06 Conduct of Texas Tech Members.

03.14 Appellate procedures for grievances
This section was board policy 01.07

03.15 Consulting or outside employment
This section was board policy 04.07.

03.16 Holidays
This section was OP 70.06.5. The committee recommends that this policy stays at the OP level and that the board rules contain a general statement.

03.17 Leaves
The committee recommends that the board rules contain a general statement on leaves and that board policy 04.30 Sick Leave Pool resides at the OP level.

03.18 Sale of educational material
This section was board policy 04.26. The committee recommends that this policy be moved to the OP level and that the board rules contain a general statement.

03.19 **Retirement of system employees**
This section was board policy 04.14. The committee recommends that this policy be moved to the OP level and that the board rules contain a general statement.

03.20 **Personnel files**
This section was board policy 04.13.

15 Investments, Trusts, and Lands

15.01 **Investment of institutional funds**
This section was board policy 04.11. This section has been reviewed by Mr. Brunjes and Mr. Cavin and reflects the changes they recommended. This section has been revised to reflect administrative title changes.

15.02 **Mineral leases**
This section was board policy 04.12.

03 Personnel [from 3.11 to 3.20]

03.11 **The Classified Compensation Plan.** Each component institution shall promulgate policies and procedures for the appropriate classification and compensation of non-faculty employees. Each institution shall publish and annually review the classified compensation plan to ensure that employees are compensated in a fair and equitable manner by establishing rates of pay that are directly related to such factors as skill, ability, education, training, experience, level of responsibility, physical and mental effort demanded, and the working conditions involved.

03.12 **Ethics policy.** It is important that the people of Texas have complete confidence in the integrity of their public servants. This need is especially critical in the area of state supported higher education. The responsibility for educating and training the future leaders of the state and nation carries with it the duty to adhere to the highest ethical standards and principles. The principles and guidelines contained in this policy shall apply to officers and employees of any component institution, agency, or service of Texas Tech regardless of rank or position. If a topic has also been addressed in other policy statements or manuals of Texas Tech, the procedures and statements contained therein are hereby reaffirmed and made a part hereof for all purposes. Specifically, Texas Tech University's and Texas Tech University Health Sciences Center's *Operating Policies and Procedures Manuals* should be referenced for further information and/or greater specifics. References of the term "Texas Tech employees" throughout these documents include all persons employed by the Texas Tech University System.

03.12.1 **Standards of conduct**

a. Texas Tech officers and employees should not:

(1) accept or solicit any gift, favor, or service that might reasonably tend to influence officers or employees in the discharge of official duties or that officers or employees know, or should know, is being offered with the intent to influence the officers' or employees' official conduct;

(2) accept other employment or engage in a business or professional activity that officers or employees might reasonably expect would require or induce them to disclose confidential information acquired by reason of the official position;

(3) accept other appointments or any employment or compensation that could reasonably be expected to impair officers' or employees' independence of judgment in the performance of official duties;

(4) make personal investments that could reasonably be expected to create a substantial conflict between the officers' or employees' private interest and the public interest; or

(5) intentionally or knowingly solicit, accept, or agree to accept any benefit for having exercised their official powers or performed official duties in favor of another.

03.12.2 **Principles of ethical behavior**

a. Texas Tech officers and employees shall:

(1) put forth honest effort in the performance of their duties;

(2) not make unauthorized commitments or promises of any kind purporting to bind Texas Tech or any of its components;

(3) not use their public offices for private gain;

(4) act impartially and not give preferential treatment to any private or public organization or individual;

(5) protect and conserve public property and shall not use it for anything other than authorized activities;

(6) promptly disclose waste, fraud, abuse, and corruption to appropriate authorities;

(7) adhere to all laws, regulations, and policies that provide equal opportunity for all persons regardless of race, color, religion, sex, national origin, age, or disability; and

(8) endeavor to avoid any actions that would create the appearance that they are violating the law or the ethical standards of Texas Tech.

03.12.3 **Conflict of interest.** It is state policy that state officers and employees may not have direct or indirect interests, including financial and other interests, engage in business transactions or professional activities, or incur any obligation of any nature that is in substantial conflict with the proper discharge of the officers' or employees' duties in the public interest.

03.12.4 **Benefits, gifts, and honoraria**

a. A "benefit" is anything reasonably regarded as pecuniary gain or pecuniary advantage, including benefit to any other person in whose welfare a Texas Tech employee has a direct and substantial interest as included in state laws.

(1) **Bribery.** No Texas Tech officers or employees may solicit, offer, or accept any benefit in exchange for their decisions, opinions, recommendations, votes, or other exercises of official power or discretion. A benefit that is otherwise allowed by Texas Tech policy is nevertheless prohibited if it is offered in exchange for official action.

(2) **Prohibited benefits.** Public servants who exercise discretion in connection with contracts, purchases, payments, claims,

and other pecuniary transactions of government, commit an offense if they solicit, accept, or agree to accept any benefit from any person against any person the public servants know is interested in or is likely to become interested in any contract, purchase, payment, claim, or transaction involving Texas Tech officers' or employees' discretion. The prohibition does not apply to the following:

(a) gifts or other benefits conferred on account of kinship or a personal, professional, or business relationship independent of the official status of the recipient;

(b) a fee prescribed by law to be received by public servants or any other benefit to which they are lawfully entitled or for which they give legitimate consideration in a capacity other than as public servants;

(c) a gift, award, or memento that is received from a lobbyist who is required to make reports under Chapter 305 of the *Texas Government Code*; and

(d) items having a value of less than $50, not including cash or negotiable instruments.

Texas Tech officers or employees who receive an unsolicited benefit that they are prohibited from accepting by law may donate the benefit to a governmental entity that has the authority to accept the gift or may donate the benefit to a recognized tax-exempt charitable organization formed for educational, religious, or scientific purposes.

(3) **Food, lodging, transportation, and entertainment received as a guest.** Public servants may accept food, lodging, transportation, or entertainment from persons or entities they know or reasonably should know, are interested in or likely to become interested in a contract, purchase, payment, claim, decision, or transaction involving the exercise of the public servants' discretion only if the public servants are "guests" as defined by the state laws. Public servants are "guests" if the person or a representative of the entity providing the food, lodging, transportation, or entertainment is present at the time the food, lodging, transportation, or entertainment is received or enjoyed by the public servants.

Public servants are required to report any such benefits valued at over $250 on their annual disclosure statements filed with the Texas Ethics Commission.

(4) **Benefits from friends, relatives, and associates.** Public servants may accept benefits from personal friends, relatives, or business associates with whom they have a relationship in-

dependent of their official status, so long as the benefit is not offered in exchange for official action or decision.

(5) **Awards.** Public servants may accept plaques and similar recognition.

(6) **Honoraria.** Public servants may not solicit, accept, or agree to accept an honorarium in consideration for services they would not have been asked to provide, but for their official position or duties. This prohibition includes a request for or acceptance of a payment made to a third party if made in exchange for such services. However, they may accept the direct provision of or reimbursement for expenses for transportation and lodging incurred in connection with a speaking engagement at a conference or similar event. Meals provided as a part of the event or reimbursement for actual expenses for meals may also be accepted. Participation by a public servant must be more than merely perfunctory.

03.12.5 **Political activities**

a. **Use of Texas Tech funds or property.** No public servant shall expend or authorize the expenditure of any Texas Tech funds for the purpose of influencing the outcome of any election, or the passage or defeat of any legislative measure (see TTU OP 62.10).

b. **Political contributions.** Unless prohibited by state law, public servants may make personal contributions to political organizations and candidates for political office.

03.12.6 **Use of authority**

a. **Misapplication of property.** It is a violation of state law for public servants, acting with the intent to obtain a benefit or with intent to harm another, to intentionally or knowingly misapply any thing of value belonging to the government that comes into their custody or possession by virtue of their office as stated in state law.

b. **Misuse of official information.** It is a violation of state law for public servants if, in reliance on information that they have access to in an official capacity and that has not been made public, they (1) acquire or aid another to acquire a pecuniary interest in any property, transaction, or enterprise that may be affected by the information; or (2) speculate or aid another to speculate on the basis of the information as stated in state laws.

03.12.7 **Sexual harassment**

a. Public servants should maintain a workplace environment that is free of sexual harassment and intimidation.

b. It is a violation of Title VII of the Civil Rights Act of 1964 to engage in sexual harassment. Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

(1) submission to such conduct is made either explicitly or implicitly a term or condition of employment;

(2) submission to or rejection of such conduct is used as the basis for employment decisions; or

(3) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

03.12.8 **Nepotism**

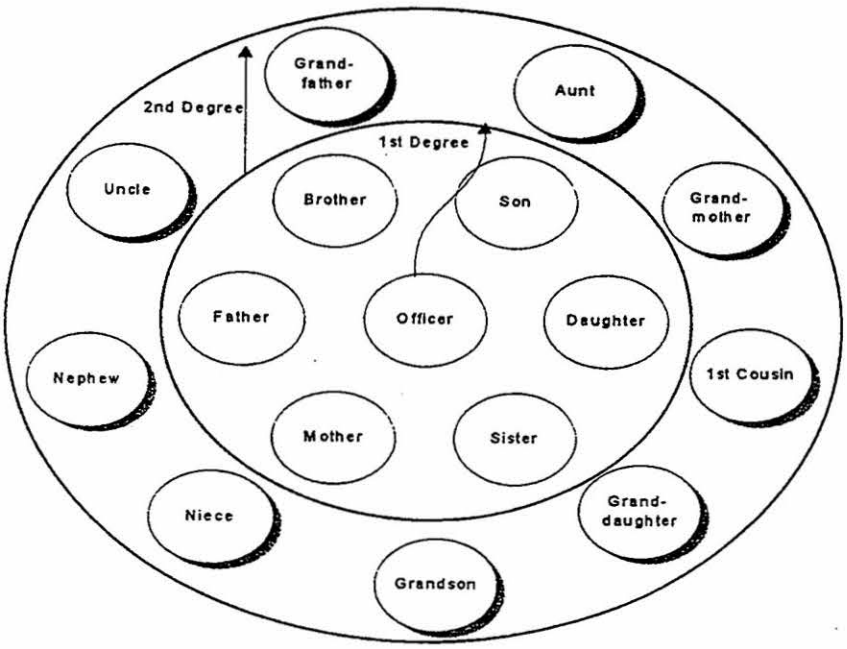
a. Whenever an appointment is made, either on a full or part-time basis, it shall be made on the basis of the qualifications and suitability of the appointee, subject to applicable statutes and subject to the provisions of this policy.

b. No person related within the second degree of affinity or the third degree of consanguinity to any member of the board or to the president or chancellor shall be eligible for appointment to any position in Texas Tech when the compensation therefor is paid from any public funds.

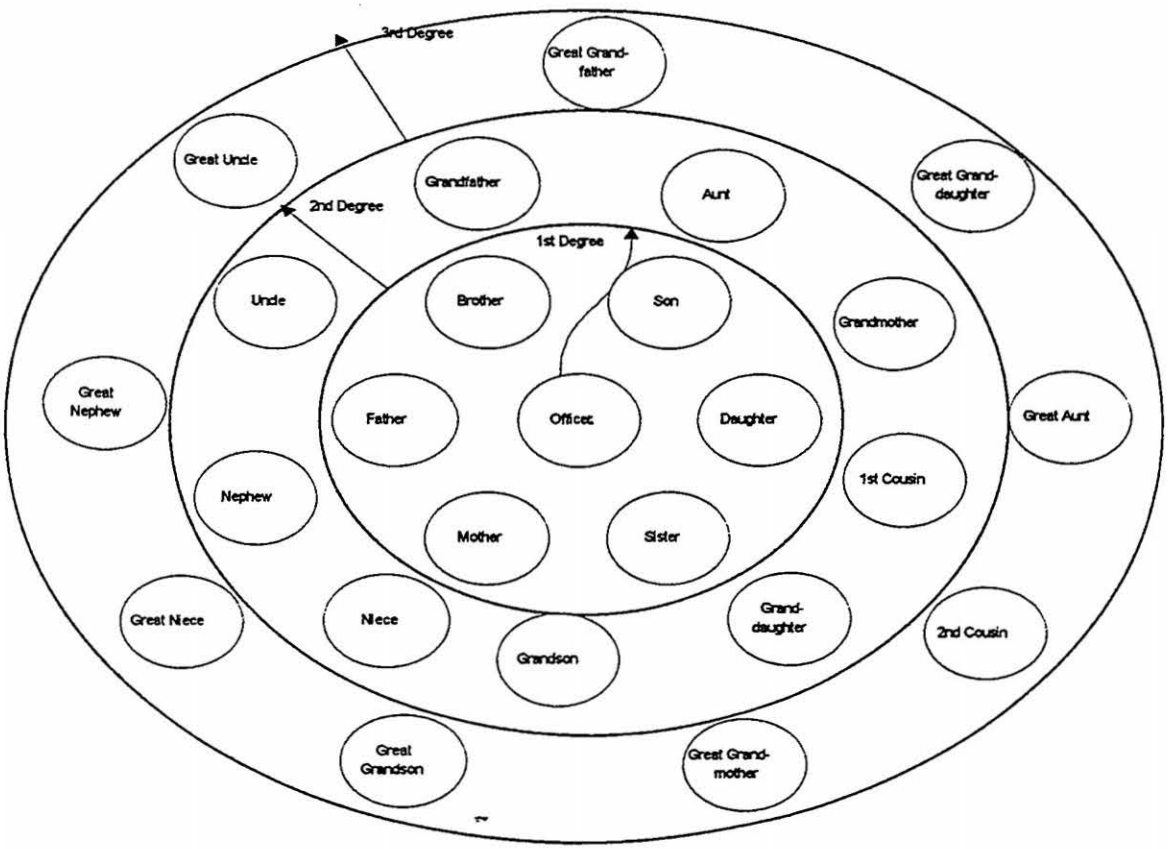
(1) The above does not apply to any employee who has been continuously employed for thirty or more days prior to appointment of a member to the board or to the president or chancellor who is related to the employee within a prohibited degree, and it does not apply to non-remunerative positions.

(2) Any employee who has been continuously employed for less than thirty days prior to the appointment of a member to the board or to the president or chancellor who is related within a prohibited degree will be terminated.

(3) Persons related within the prohibited degrees are shown on the chart attached to this policy.



Affinity Kinship Chart



Consanguinity Kinship Chart

c. No person shall be eligible for initial appointment to a position in an area of responsibility over which an administrator has appointive authority in whole or in part when the person is related to the administrator within a prohibited degree. Exceptions to this restriction to the initial appointment of a person may be made only by the board upon recommendation of the chancellor and then only when the administrator in question does not directly supervise the person to be appointed.

d. If the reappointment, reclassification, reassignment or promotion of an employee places the employee under an administrative supervisor who is related within a prohibited degree, all subsequent personnel and compensation actions affecting the employee shall become the responsibility of the next higher administrative supervisor.

(1) The provisions of this subsection shall apply to situations where two employees marry and one spouse is the administrative supervisor of the other.

(2) All instances where an employee marries an administrative supervisor or is placed under the administrative supervision of a relative within the prohibited degree will be reported to the board as an information item.

03.12.9 **Affirmative Action.** Texas Tech officers and employees will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, physical or mental disability, Vietnam Era or Special Disabled Veteran Status. Texas Tech personnel will take affirmative action to provide a nondiscriminatory application process. Such action shall include, but not be limited to the following employment transactions: upgrading, demotion, or transfer; recruitment or recruitment advertising; lay-off or termination; rate of pay or other forms of compensation; and selection for training, including apprenticeship. (See TTU OP 40.01.)

03.13 **Conduct of Texas Tech Community**

03.13.1 Colleges and universities that are tax supported must function in accordance with the public trust and the actions by faculty, staff and students within them must be consistent with the execution of that trust. A breach of trust includes, but will not be limited to, the following offenses:

a. academic dishonesty such as giving or receiving aid on a test, examination, quiz, or other academic assignment

b. plagiarism;

c. forgery, alteration or unauthorized use of Texas Tech documents, records, or identification materials;

d. knowingly furnishing false information to Texas Tech;

e. the use of force or violence or other methods of obstructing the functions of Texas Tech, which include teaching, research, administration, public service, presentations by guest lecturers and speakers, and other authorized activities;

f. physical abuse of any person on Texas Tech-owned or controlled property or at Texas Tech-sponsored or supervised functions or conduct which threatens or endangers the health or safety of any such person;

g. theft of or damage to the tangible property of Texas Tech or of a member of the Texas Tech community or campus visitor;

h. unauthorized entry to or use of Texas Tech facilities;

i. unlawful manufacture, distribution, dispensing, possession or use of a controlled substance, or any substance the possession or distribution of which is regulated by federal or Texas law, except where the manufacture, distribution, dispensing, possession or use are in accordance with the laws of each;

j. lewd, indecent or obscene conduct on Texas Tech-owned or controlled property or at a Texas Tech-sponsored or supervised function;

k. failure to comply with the lawful directions of Texas Tech officials where such directions are issued in the performance of their duties; and

l. violation of other laws or promulgated Texas Tech policies or rules.

03.13.2 Each faculty, staff and/or student employee is required to notify Texas Tech of any criminal drug conviction no later than five days after such conviction.

03.13.3 Adjudication of a violation of the standards established in this policy will result in the assessment of a penalty ranging from an oral reprimand to separation from Texas Tech.

03.14 Appellate procedures for grievances

03.14.1 The board does not serve as an appellate body for individual grievances of students, faculty or staff members.

03.14.2 Texas Tech University and Texas Tech University Health Sciences shall establish grievance procedures for various types of grievances of students, faculty and staff members. Each such procedure will indicate the final level of review within the institution that is available to an individual grievant, and a decision at the level so indicated will constitute final institutional action on the grievance.

03.15 **Consulting or outside employment**

03.15.1 Outside employment is defined to be any compensated service or employment by an entity, other than Texas Tech, of a Texas Tech employee.

03.15.2 The primary responsibility of Texas Tech employees is the full and complete execution of all assigned duties, the fulfillment of those professional obligations not ordinarily reduced to written assignment and the maintenance of current professional skills. Outside employment must be compatible with the interests of Texas Tech and of such a nature that it will not detract from the effectiveness and performance of the employee.

03.15.3 Full-time clinical faculty involved in outside employment must do so under the provisions of each school's respective Income Plan.

03.16 **Holidays.** Each component institution annually shall prepare and present to the board for approval a holiday schedule for the following fiscal year. This schedule shall be prepared in accordance with state law and shall provide the same number of holidays observed by other state agencies. The holiday schedule may differ from the prescribed state holidays so as to coincide with the academic calendar.

03.17 **Leaves.** Each component institution shall promulgate operating policies and procedures governing employee leave regulations in conformity with federal and state laws.

03.18 **Sale of educational material.** Each component institution shall promulgate operating policies and procedures governing the sale of education material in conformity with federal and state laws.

03.19 **Retirement of system employees.** Each component institution shall promulgate operating policies and procedures governing the retirement of institutional employees in conformity with federal and state laws.

03.20 **Personnel files**

03.20.1 Texas Tech will maintain, in an appropriate office, a personnel file on each employee. This file shall contain the employee's application for employment, appointment papers, contracts, performance evaluation, and such additional material as is appropriate.

03.20.2 The contents of the personnel file and copies of all parts of the contents of the file that may be maintained elsewhere by the institution are confidential except as provided by law. The materials described in this policy shall be disclosed to the employee and to such other officers, including members of the Board of Regents, and employees of Texas Tech as have responsibilities requiring use of the records.

03.20.3 Upon receipt by Texas Tech of a subpoena or a court order, or upon the request of the employee, access to personnel files will be granted to persons not having access under subsection 03.20.2 hereof in the manner and under the terms specified in the subpoena, order, or request.

10 Fiscal Management

10.01 Accounting

10.01.1 The TECHFIM system is a comprehensive financial management system designed to meet the specific processing and reporting requirements of Texas Tech University and the Texas Tech University Health Sciences Center (collectively TTU/TTUHSC). The TECHFIM system, in order to operate effectively and efficiently, requires several interrelated elements, including:

a. competent, trained personnel;

b. documented policies, procedures, and guidelines; and

c. the automated TECHFIM system.

10.01.2 The automated TECHFIM system maintains a financial database which supports accounting and reporting on a fund basis. The system provides assistance with the following processes typically required in the college and university environment:

a. budget preparation (at the budget line item level);

b. appropriation control;

c. budgetary control, including encumbering and free balance tracking;

d. requisitioning;

e. purchase order processing;

f. matching purchase order, receiver, and invoice data;

g. purchase (payment) voucher processing, including automated purchase (payment) voucher preparation;

h. check printing;

i. vendor payment tracking;

j. check reconciliation;

k. cash management;

l. revenue realization monitoring;

m. grant and contract processing; and

n. management reporting.

10.01.3 The automated TECHFIM system also provides support for processing requirements unique to Texas colleges and universities, including:

a. appropriation number selection (i.e. selection of the general revenue or local revenue funding for payments made from state appropriations);

b. identification of purchases by General Services Commission purchase type (e.g., spot purchase, automated contract, non-automated contract, open market purchase);

c. identification of commodities by a 14-digit code as required by the Purchasing Commission;

d. TTU/TTUHSC vendor identification cross-reference to the state vendor identification number;

e. TTU/TTUHSC purchase identification number cross-reference to the Purchasing Commission-assigned purchase order number;

f. identification of payments by funding type (e.g., local funds, state funds, revolving funds);

g. state purchase voucher printing;

h. outstanding state purchase voucher tracking;

i. state warrant tracking and reconciliation;

j. revolving funds reimbursement processing (i.e., multi-vendor voucher and batch cover voucher processing, printing, and tracking); and

k. financial accounting and reporting for the Uniform Statewide Accounting System.

10.01.4 The automated TECHFIM system also produces management level reporting commensurate with the level of responsibility. Management level reports include:

a. monthly operating reports;

i. unappropriated fund balances;

ii. statement of realization of estimated income;

iii. summary balance sheet; and

iv. expense budget summary;

b. balance sheet by fund class;

c. account summary report (D210);

d. detail transaction report—monthly (A712); and

e. funds management reports.

10.02 Audits

10.02.1 **Mission statement.** The Office of Internal Audit and Consulting is to assist the Board of Regents and other university management in identifying, avoiding, and, where necessary, mitigating risks.

10.02.2 **Objectives and goals:**

a. conduct reviews within the university that comply with The Internal Audit Act of Texas and the standards of the practice of the profession of internal auditing ("the standards");

b. provide relevant, useful, reliable, and timely information to management for a basis of their decision making;

c. participate on committees and tasks forces as an ex-officio member in order to ensure proper control structures are established; and

d. participate in system design as an advisor.

10.02.3 **Organizational responsibility, reporting relationships, and authority.**

a. The Office of Internal Audit and Consulting is established by the board in accordance with the state's Internal Auditing Act. The board is responsible for the employment and dismissal of a director of internal audit to manage the affairs of the office. The chancellor has the authority to make recommendations to the board on the employment and dismissal of the director. The director reports functionally to the board's chair of the Finance and Administration Committee, and administratively to the chancellor. Annually, the chancellor and the board will evaluate the performance of the director of internal audit.

b. Office of Internal Audit and Consulting employees are granted full, free, and unrestricted access to all manual or electronic records (including medical), policies, physical properties, plans, and personnel the office believes to be relevant to any audit or review. Documents and information given to internal auditors during the course of an audit or review will be handled in a prudent manner.

c. To ensure independence and objectivity, the Office of Internal Audit and Consulting staff have no direct responsibility or authority for activities or operations that may be audited or reviewed. For example, internal auditors do not develop and install procedures, prepare records, make management decisions, or engage in any other activity that could be reasonably construed to compromise their independence. Internal auditors are not, however, precluded from making recommendations and suggestions for the improvement of internal controls or operating policies and procedures. An auditor review does not substitute or relieve other system personnel from their assigned responsibilities.

d. The director of internal audit will be involved in the selection of external auditors and will coordinate any external audit effort performed by certified public accountants, the State Auditor's Office, or governmental auditors. This coordination includes entrance and exit conferences and the submission of responses to findings and recommendations to the external auditors.

10.02.4 **Annual and long-range plan**

a. Annually, the director of Internal Audit and Consulting will prepare an audit activities plan. The plan will be prepared for the institution's fiscal year ending August 31. The director will consult with the chair of the Finance and Administration Committee of the board, the chancellor, deputy chancellors, the president of TTU, the president of TTUHSC, the vice president for fiscal affairs of TTU and the vice president for fiscal affairs of TTUHSC.

b. In order to provide broad systematic audit coverage to the system, a portion of time is set aside for audits of selected system operations. Part of the plan is dedicated to performing audits that are required by state law or institutional policy. The remaining time is allocated to cyclical (long-range) audits and those determined through the use of risk assessment techniques.

c. The chair of the Finance and Administration Committee of the board, chancellor and the director of internal audit and consulting will each review and approve the audit plan. The approved plan will be submitted to all members of the board. The director of internal audit and consulting will keep the chair of the Finance and Administration Committee of the board, the chancellor and the presidents informed of any changes to the plan.

d. After the end of each fiscal year, the director of internal audit and consulting will prepare an annual report of audit activities required by the state's Internal Auditing Act. This annual report will be submitted to each board member and the appropriate president and the chancellor.

10.02.5 **Scope of work.** The Office of Internal Audit and Consulting will conduct its activities in accordance with applicable standards for professional practice of internal auditing. The scope of each audit will be based on all or any combination of the following:

a. **reliability and integrity of information** -- review the reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report such information;

b. **compliance with policies, plans, procedures, laws, and regulations** -- review the systems established to ensure compliance with those policies, plans, procedures, laws, and regulations that could have a significant impact on operations and reports and determining the extent of the organization's compliance;

c. **safeguarding of assets** -- review the means of safeguarding assets and, as appropriate, verify the existence of such assets;

d. **economical and efficient use of resources** -- appraise the economy and efficiency with which resources are employed; and

e. **accomplishment of established objectives and goals for operations or programs** – review operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.

10.02.6 **Reporting**

a. At the conclusion of each audit, the Office of Internal Audit and Consulting will generally issue a report to which the responsible institutional manager will respond. Conflicts and differences of opinion will be resolved by the appropriate level of management. Management is responsible for implementing the course of action outlined in its response. Management's decision not to implement a recommendation is its implied assumption of any risk associated with such a decision.

b. Before each board meeting, the director of internal audit will meet individually, in private, with the presidents, the chancellor, and the chair of the Finance and Administration Committee of the board to review and discuss the results of audits completed since the last board meeting.

10.02.7 **Quality control and improvement effort.** The Office of Internal Audit and Consulting has instituted a continuous quality improvement/control effort required by internal auditing standards. The quality of internal audit services is evaluated by answering a self-assessment questionnaire at the end of each of the three phases inherent in every audit (planning, fieldwork, and reporting); providing audit clients the opportunity to express their level of satisfaction with the services provided them; and measuring staff performance against predetermined benchmarks that encourage excellence. Once every three years, the Office of Internal Audit and Consulting will arrange for an external quality assurance review by individuals independent of the Office of Internal Audit and Consulting. The result of this review will be submitted to each board member, the presidents and the chancellor.

10.03 **Budget rules and procedures**

10.03.1 **General**

a. The board is required by law and *Board of Regents Rules and Regulations 01.01* to approve an annual budget covering the operation of the ensuing fiscal year. This budget shall be prepared within the limits of revenue available from legislative appropriations and estimated local and other funds.

b. The budget is to be constructed along organizational lines and using appropriate fund groupings required by state law or recommended by the State Auditor's Office or the State Comptroller's Office.

c. The board has the overall responsibility for the budget; however, limitations of time make it impractical and inappropriate for the board to address other than major policies and priorities. The board

effectively discharges its budgetary responsibilities by reviewing and approving general policies. Detailed budgetary development and control is delegated to the chancellor, presidents, chief fiscal officers, and to the chief financial officer.

d. The annual budget shall be prepared and adopted well in advance of the fiscal period and shall include all anticipated operating revenues, expenditures, transfers, and allocations. Adjustments to the budget will be approved in accordance with Board policy stated in Section 10.03.4 below.

e. The chief fiscal officers are responsible for the compilation of estimates of revenues and the development of appropriate contingencies.

f. The presidents, with the assistance of the chief fiscal officers, will work with principal administrators of the institutions to develop recommendations on major budgetary policies and programs. These include such items as salary and wage increases, improvements in certain programs, implementation of new programs, reduction or elimination of existing programs, and other items. The board's budgetary policies will be communicated by the presidents, with the assistance of the chief fiscal officers, to the deans, directors, and departmental heads.

g. The presidents, with the assistance of the chief fiscal officers, shall present the budget recommendations to the board that will include a comparison of the proposed budget with those of previous years, explanation of major changes, description of programs added or eliminated, and salary and wage policies.

h. The chief fiscal officers are responsible for communicating with budgetary units and providing each unit a copy of its approved budget.

10.03.2 **Budgetary control**

a. An essential element of budgeting is the establishment of effective budgetary control. Budgetary control shall ensure that expenditures do not exceed available funds.

b. The chief fiscal officers are responsible to the presidents, the chancellor, and to the board for maintaining budgetary controls. All expenditures in the institutions must be made within approved budgets. Administrators are not authorized to commit funds without a budget approved by the chief fiscal officers or his designee. The chief fiscal officers shall inform the president, the chancellor and board of any major deviations from this policy.

c. Budgetary control starts with the responsible department head (e.g., dean, chair, director). This officer has the primary responsibility to control expenditures within the department. Once the budget has been approved, department heads are responsible for assuring that

there is no deviation without approval from the appropriate authority.

d. The chief fiscal officers are responsible for assuring that monthly reports of revenues and expenditures are prepared and sent to the budget units.

10.03.3 **Certification of budgets and other expenditures**

a. Administrators must receive an approved budget from chief fiscal officer or designee prior to expending funds or committing to expenditures. The chief fiscal officers are responsible for certifying that funds are available for each budget approved.

b. Expenditures requiring board approval, including the annual operating budget and certain construction projects, must have a separate written certification statement by the chief fiscal officer. The purpose of the statement is to provide the board an objective analysis of the adequacy of the funding provisions.

c. Certification may be made with or without qualifications. If the certification is qualified, these qualifications will be identified. Typical qualifications would be assumptions that are material to the adequacy of the funding.

10.03.4 **Budget adjustments.** Adjustments to the annual operating budget or to any other expenditures requiring board approval are defined in the following sections. Adjustments may not be split to fall within lower levels of approval.

a. **Board of Regents approval is required prior to effective date of action for:**

(1) adjustments that establish a new budget for or increase an existing one by an amount of $250,000 or more;

(2) adjustments to salary not required by law for the chancellor; and

(3) in an emergency, adjustments of $250,000 or more may be approved by either the chair of the board or chair of the Finance and Administration Committee with subsequent ratification at the next regular board meeting.

b. **Chancellor's approval is required prior to effective date of action for the following:**

(1) adjustments that establish a new budget for or increase an existing one by an amount of $100,000 to $249,999;

(2) adjustments to the salary of an administrative head who reports directly to the presidents except for positions covered under the provisions of *the Board of Regents Rules and Regulations 02.12*;

(3) adjustments to an employee's total salary rate or wage rate not required by law when such adjustment is 10% more per annum; this does not apply to:

(a) bona fide promotions;

(b) supplemental compensation payments as provided by law;

(c) adjustments on annual contracts from non-appropriated funds that have a period other than the state fiscal year if the increase is consistent with the institutional increases given to other persons and if the chief fiscal officers have reviewed the adjustment and the president has approved it;

(d) adjustments to an employee's total salary rate or wage rate that result in a per annum increase of an amount less than or equal to $2,000; or

(e) adjustments to salaries for positions covered under the provisions of *Board of Regents 02.12.*

(5) adjustments to establish a budget for new activities that will be conducted away from facilities or property controlled by the board;

(6) adjustments authorized by law, but which require board approval; and

(7) fiscal adjustments of more than $100,000 required to close one fiscal year and open the following fiscal year.

c. **Presidential approval is required for the following:**

(1) all other budget adjustments of less than $100,000 to the original operating budget, and

(2) to approve budget adjustments that do not require approval or ratification by the board, the president may delegate authority to appropriate budget and financial officials.

d. **Salary lapse adjustments are to be made as follows:** Any savings resulting from salary lapses in accounts funded from legislative appropriations will be lapsed from these accounts and rebudgeted in accordance with the above procedures and appropriate law to satisfy other requirements. Accounts for Organized Activities, Extension and Public Service, and Service Departments shall not rebudget savings from salary lapses without approval by the chief fiscal officer or designee.

e. Approval of any agreement or contract, in accordance with *Board of Regents Rules and Regulations 01.02* constitutes authority to accept the award or consideration and establish a maximum budget that does

not exceed the amount of the approved agreement or contract without further board action.

10.04 Debt management policy

10.04.1 General debt management policy

a. All debt programs will be made in accordance with applicable state and federal statutes and regulations. The board will authorize the issuance of all TTU and TTUHSC indebtedness.

b. To the extent permitted by law, the board has granted to the Office of the Chancellor the authority for the issuance of short-term indebtedness up to $50 million of Higher Education Assistance Fund Commercial Paper to the extent permitted by law and an initial aggregate principal amount not to exceed $50 million of Revenue Financing System Commercial Paper, but with a maximum aggregate limit of $100 million if subsequently authorized by the board . The short-term debt program will be utilized for capital projects during construction and equipment acquisition. All conversions to long-term or bond indebtedness will be approved by the board.

c. The chief financial officer is authorized to approve the pricing of bond and note issues and is responsible for assuring that all bond covenants are in compliance and that all necessary approvals, certifications and authorizations are fully documented and made available to the board and to all bondholders.

d. The chief financial officer is responsible for assuring that all debt service payments are made in a timely manner to the appropriate paying agents.

e. Debt service funding is the responsibility of each institution participating in the Revenue Financing System and the Higher Education Assistance Fund programs.

f. If a project requires Texas Higher Education Coordinating Board approval, no debt proceeds will be allocated to that project prior to receiving such approval.

10.04.2 Revenue Financing System ("RFS") debt management policy

a. **General.** Both TTU and TTUHSC are eligible to participate in the RFS.

b. **Guidelines**

(1) Capital Construction: Buildings and other major capital projects will be financed for a period of up to the lesser of the project's estimated useful life or forty years.

(2) Equipment: Equipment will be financed for a period up to the lesser of its projected useful life or ten years.

(3) To the extent required by law, Texas Higher Education Coordinating Board approval will be obtained if project costs exceed $1,000,000 for new construction or $2,000,000 for major repair and rehabilitation. Debt proceeds will not be allocated to a project prior to receiving Coordinating Board approval. If Coordinating Board approval is not required, documentation of the excepting criteria will be provided to the chancellor by the chief financial officer.

(4) Individual revenue streams considered for debt service must meet a 1.15 debt coverage ratio test, unless the debt is being issued as "tuition revenue" debt, in which case, it must meet a 1.00 debt coverage ratio test. Debt coverage is defined as total revenue divided by total debt service. In arriving at the 1.15 debt coverage ratio, it is considered prudent to use no more than 25 percent of available pledged revenues, after expenditures, for capital projects.

(5) The board will approve designated debt financing resources when a project is initiated. Reimbursement clauses, revenue stream certification, nondefault certification, and all requirements of the RFS Master Resolution will be included in agenda items submitted to the board.

(6) Application to and approval from the Texas Bond Review Board is required for all new long-term issues. Long-term issuances are also subject to the approval of the Texas Attorney General.

c. **General**

(1) **Certification by TTU and TTUHSC.** As long as RFS debt remains outstanding, TTU and TTUHSC will prepare end of fiscal year certifications . The certification, signed and approved by the president and vice president for fiscal affairs of each entity, will be submitted to the chief financial officer no later than November 15 of each year and will be used as input for reporting on the status of the RFS to the deputy chancellor of administration, the chancellor, and the board. The certification will include the following:

(a) a comparison of revenue projections with those actually collected in the previous year and an updated assessment of anticipated future revenues. If actual revenues were not sufficient, then an explanation as to why they were insufficient and the impact on the institution's current and future ability to pay for its share of debt service must be included;

(b) verification that the institution has sufficient legally available funds for the next fiscal year's principal/interest payments; and,

(c) verification that the institution is in compliance with all RFS bond covenants *and Board of Regents Rules and Regulations* relative to the issuance of RFS debt.

(2) **Report on the status of the Revenue Financing System.** The chief financial officer will prepare an annual report on the status of RFS obligations for the deputy chancellor for administration, the chancellor, and the board. The report will include the following:

(a) the balance of RFS obligations outstanding at the beginning of the fiscal year and on the date of the report;

(b) a listing of projected needs (by institution and funding source) for the next year;

(c) the amount of RFS obligations that will be necessary to fund each institution's needs for the next year; and

(d) a certification that TTU and TTUHSC are current on debt service funding for RFS obligations outstanding. If an institution is not in compliance, the steps being taken to bring the institution into compliance will be included and will be reported quarterly until compliance is achieved.

10.04.3 **Higher Education Assistance Fund ("HEAF") debt management policy**

a. **General.** TTU and TTUHSC are eligible to participate in HEAF financing.

b. **Guidelines**

(1) Except as described in section (4) below, HEAF debt proceeds may be used for acquiring land, construction, and equipping permanent improvements, major repair and rehabilitation of permanent improvements and refunding previously issued HEAF indebtedness.

(2) Indebtedness will be payable with state appropriated moneys. Maturities will not exceed 10 years and will be limited to the current HEAF funding cycle. HEAF bonds will be competitively bid. HEAF notes (e.g., commercial paper notes) need not be competitively bid. HEAF indebtedness is subject to approval by the Texas Attorney General.

(3) No more than 50 percent of the annual HEAF allocation of TTU and TTUHSC will be used for paying debt service on HEAF indebtedness issued on behalf of TTU or TTUHSC.

(4) HEAF debt proceeds are not permitted by current law to be used for maintenance, minor repairs, operating expenses, student housing, intercollegiate athletics, or auxiliary enterprises.

(5) Prior approval of the legislature or the Texas Higher Education Coordinating Board is required for expenditure of HEAF fund proceeds for new construction in excess of $1,000,000, major repair and rehabilitation in excess of $2,000,000 and land acquisitions, providing that any acquisition request submitted within a three-month period before a legislative session shall automatically be referred to the legislature.

10.04.4 **Equipment financing program procedures under the commercial paper program(s)**

a. **General.** In order to obtain approval for the issuance of RFS debt to purchase equipment, TTU and TTUHSC must, by July 1 of each fiscal year, determine equipment needs for the following fiscal year. The board will approve the financing through the Equipment Financing Program of equipment costing $250,000 or more. For equipment costing less than $250,000 but more than $100,000 that is to be financed through the Equipment Financing Program, the approval of the chancellor with concurrence of either the chair of the board or the chair of the Finance Committee is required. The approval of the chancellor is required for equipment costing less than $100,000 that is to be financed through the Equipment Financing Program. The Office of the Chancellor will then submit the required notice to the Texas Bond Review Board.

b. **Guidelines.** The minimum aggregate amount of equipment value to be financed under the Equipment Financing Program is $100,000 for each of TTU and TTUHSC. Several smaller equipment purchases may be commingled to achieve the minimum amount. Each piece of equipment must have a useful life of not less than three years. The equipment will be purchased from the vendor by TTU or TTUHSC and RFS will be issued on any business day for direct acquisition or to reimburse TTU or TTUHSC for the equipment purchases. The debt will be amortized each February 15 and August 15 and will be fully amortized up to the lesser of its project useful life or 10 years.

10.04.5 **Procedures to be used in the event of a failed remarketing of RFS commercial paper**

a. **Notice by commercial paper dealer of failure to purchase maturing RFS commercial paper notes.** The commercial paper dealer, J. P. Morgan, has until 12:00 p.m., New York time on the day

of maturity of TTU Tax-Exempt Commercial Paper Notes to notify TTU/TTUHSC that they are unable to purchase such notes and to request that TTU/TTUHSC provide funds with which to purchase the maturing notes. The notice is to be received in writing and delivered by registered mail, postage prepaid, tested telex or facsimile transmission. The notice is to be delivered by registered mail, postage prepaid, tested telex or facsimile transmission. The notice is to be delivered to: Mr. Ed McGee (or his successor in function, as provided in Section 1.01 of the Liquidity Agreement), Office of the Assistant Vice Chancellor for Investments, Texas Tech University, Drane Hall, Room 3XX, Lubbock, Texas 79409 - Attention: Office of the Assistant Vice Chancellor for Investments, Telephone (806) 742-3243, Telecopier (806) 742-0717.

The dealer contact person is: Mr. Tom Gallo (or his successor in function, as provided in Section 8 of the Liquidity Agreement), J. P. Morgan Securities, Inc., 60 Wall Street, 33rd Floor, New York, New York 10260-0060 - Attention: Tax Exempt Commercial Paper Origination, Telephone (212) 648-0913, Telecopier (212) 648-5916. The paying agent contact person is: Ms. Collene Shay-Persaud (or her successor in function, as provided in Section 8 of the Liquidity Agreement), Bankers' Trust Company, 4 Albany, 4th Floor, Mailstop 5041, New York, New York 10006, Telephone (212) 250-6125, Telecopier (212) 250-6727.

b. **Advance request - commercial paper liquidity provider.** Morgan Guaranty Trust Company of New York is the commercial paper liquidity provider. The TTU/TTUHSC representatives authorized to request an advance from the commercial paper liquidity provider are: chancellor, the chief financial officer, vice president for fiscal affairs of TTU, vice president for fiscal affairs of TTUHSC, assistant vice chancellor for investments, and other officials appointed by the board chair.

The request for an advance to fund the maturing Commercial Paper Notes must be made no later than 12:45 p.m., New York time. The request shall be delivered telecopied or sent by telephonic notice, confirmed as soon as possible (but in no event later than 1:00 p.m., New York time) to: Morgan Guaranty Trust Company of New York - Attention: Mr. William Wood (or his successor in function, as provided in Section 8 of the Liquidity Agreement), c/o J. P. Morgan Services, Inc., 500 Stanton Christiana Road, Newark, Delaware, 19713, Telephone (302) 634-4204, Telecopier (302) 634-4061, Telex (177425, Answer Back: 174425 MBDELUT).

The request shall be a signed Notice of Advance, substantially in the form of Exhibit B of the Liquidity Agreement. The Notice of Advance shall specify the time and date of the advance and the amount of the advance.

At, or prior to, 3:00 p.m., New York time, on the date for which the advance is requested, Morgan Guaranty shall make available to the paying agent (Bankers' Trust) the funds necessary to repurchase the maturing TTU Tax-Exempt Commercial Paper Notes.

10.05 **Extension of credit.** The chancellor is authorized to approve the sale of goods and services on credit provided that there is documentable public purpose for the sale and that controls limiting risk of loss have been established and reviewed by the Office of Internal Audit and Consulting.

10.06 **Deposits with the state comptroller**

10.06.1 The statutes and the current Appropriations Act require that all cash receipts accruing to component institutions be deposited in the state treasury, with the exception of those funds named in Section 51.008 of the *Texas Education Code*, including those funds from auxiliary enterprises, noninstructional services, agency, designated and restricted funds, endowment funds, trust funds, other gift funds, student loan funds, funds retained under Chapter 145 of the *Texas Education Code*, and Constitutional College Building Amendment Funds.

10.06.2 Cash receipts that are required to be deposited in the state treasury shall be so deposited in the manner prescribed in the statutes and the current Appropriations Act.

10.06.3 Component institutions of the system are authorized by the current Appropriations Act to establish Revolving Funds under certain prescribed procedures to facilitate the payment of nominal expenses and to pay bills within cash discount periods, as well as for regular monthly payrolls, weekly, and special payrolls.

10.07 **Selection of primary and secondary depositories for the Texas Tech University System.** It is the intent of the board that only those banks selected as prescribed by this policy shall be used to deposit and safeguard any and all of the funds subject to the control of this board and in compliance with all existing statutes.

10.07.1 **Primary depository.** A primary depository is defined as the bank or banks selected under this policy as the financial institution(s) in which all funds of the institutions, except as herein provided, are deposited for operating or investment purposes. If more than one written bid is received, the board shall have the sole discretion in selecting the primary depositories.

10.07.2 **Secondary depositories**

a. Secondary depositories may be selected by the vice president for fiscal affairs of each component institution with the approval of the appropriate president as banks in which the institutions may maintain deposits temporarily, prior to transmittal to primary depositories.

b. Balances in secondary depository accounts shall be fully secured by the Federal Deposit Insurance Corporation (or its successor) and in accordance with the provisions *of Board of Regents Rules and Regulations 04.11*, with a pledge of qualified securities held by a custodian bank and in an amount equal to the difference between the amount insured by FDIC and the greatest amount expected to be on deposit at any time. The chief fiscal officers of each component institution may exempt secondary depositories from the affiliated custodian provisions of *Board of Regents Rules and Regulations 15.01*.

c. Funds in secondary depository accounts will be transferred to the primary operating depository as soon as possible but at least once each seven calendar days. However, in no event will the amount on deposit exceed the amount insured by FDIC plus any collateral pledged against the account.

10.08 Travel authorization, reimbursement, and institutional regulations

10.08.1 **Authority to approve travel.** Each component institution shall promulgate operating policies and procedures governing employee travel regulations in conformity with federal and state laws.

10.08.2 Travel and other expenses for board members

a. All travel by board members that is to be paid from Texas Tech University Health Sciences Center and Texas Tech University funds shall be for official business.

b. Members, when traveling on official business, are authorized by law to be reimbursed from appropriated funds for the actual cost of meals, and lodging, subject to the rates and limitations established in statutory authority, local transportation and parking fees and for airfare at the next lowest rate below first class unless it is not available. Members are authorized to travel first class when considered appropriate by the members and also to be reimbursed from appropriate funds for the additional costs thereof.

c. When a spouse is required to accompany the member for a valid public purpose, as determined by the member, the spouse's expenses shall be reimbursed from other funds.

d. Vouchers for travel or other expenses of members will be prepared in the Office of the Board of Regents, forwarded to the Office of the chief financial officer for review and returned to the Office of the Board of Regents for further approval. Either the chair of the board or the chair of the Finance and Administration Committee must approve all travel vouchers for members. A member may not approve his own voucher.

e. Vouchers for reimbursements to members for other expenses shall be processed in accordance with section d. above. These expenses

must be for a valid public purpose as certified by the member. Any extraordinary expenses must be approved in advance by either the chair of the board or the chair of the Finance and Administration Committee.

f. The chief financial officer will assure that expense vouchers for members are audited annually.

10.08.3 **Travel and other expenses of the chancellor**

a. The chancellor's travel that is to be paid from Texas Tech funds shall be for official business.

b. The chancellor is the executive head of a state agency and, when traveling on official business, is authorized by law to be reimbursed from appropriated funds for the actual costs of meals, lodging, local transportation, and parking fees, and for airfare at the next lowest rate below first class unless it is not available. The chancellor is authorized to travel first class when considered appropriate by the chancellor and to be reimbursed for the additional cost thereof from other funds. Other funds are those derived from gifts from private sources.

c. When the chancellor's spouse is required to travel for a valid public purpose, as determined by the chancellor, the spouse's expenses shall be reimbursed from other funds.

d. Vouchers for travel or other expenses of the chancellor will be forwarded to the office of the chief financial officer for review and then forwarded for approval to the chair of the Finance and Administration Committee or, in his absence, the board chair. Vouchers should be approved normally within ten days.

e. Whenever official business shall require the chancellor to be absent from the campus for a period in excess of seven days, excluding official university holidays, the Office of the Board of Regents shall be notified in writing, with copies of the correspondence provided to the board chair and the vice chair.

f. The chief financial officer will assure that processed expense vouchers for the chancellor are audited annually.

10.08.4 **Travel of faculty and staff**

a. Trips off campus for faculty and staff shall contribute to the mission of Texas Tech and shall be made only after obtaining appropriate approval by the designated administrative officials in accordance with established procedures.

b. Faculty and staff travel may not interfere with the primary academic or administrative responsibilities of the traveler.

10.08.5 **Travel expenses paid from gift and grant funds**

a. Travel allowances for grants or contracts from, or derived from, federal or state agencies shall be paid in accordance with the State of Texas travel regulations as specified in the current General Appropriations Act of the legislature, except that reimbursement of actual expenses for meals and lodging may be allowed under federal agency agreements if specifically negotiated with and approved by the funding agency.

b. Travel allowances on gift, foundation, grant and other non-appropriated funds, and not covered by section a. above or by separate board policy, shall be paid in accordance with state travel regulations as specified in the current General Appropriations Act of the legislature, except that reimbursement from gift, foundation and grant funds only, may be paid for actual expenses for meals and lodging not to exceed the amount allowed by law, unless the provisions of a contract, grant, or gift specify otherwise. The amount allowed by law limitation on actual expenses to be reimbursed from gift, foundation, grant and non-appropriated sources not otherwise restricted may be waived in justified circumstances and upon written request and approval of the president, the chief fiscal officers or the assistant vice presidents for fiscal affairs.

10.08.6 **Travel for the athletic department.** Travel for all personnel in the athletic department shall be made only after appropriate approval is obtained from the director of athletics or the director's designated administrative official in accordance with established procedures of the university and/or athletic department.

15 Investments, Trusts, and Lands

15.01 **Investment of institutional funds.** This policy statement is issued by the Board of Regents of Texas Tech for guidance in the investment of institutional funds, known as the "Short/Intermediate Term Investment Fund" ("SITIF"), of the Texas Tech University System. Certain eligible endowment funds may be invested in a separate fund, called the Long-Term Investment Fund, in accordance with *Board of Regents Rules and Regulations* _____. Certain other institutional funds in amounts determined from time to time by the board may be invested in accordance with the policies governing the Long-Term Investment Fund. All other funds will comply with this policy statement.

Notwithstanding the above, this policy statement does not preclude the acceptance and retention of securities as gifts to TTU and/or TTUHSC. The Texas Tech University System shall manage and safeguard such securities in their original form, in accordance with the donor's written instructions. However, upon the partial or total disposition of the original investment, the proceeds will be invested in accordance with this policy.

15.01.1 **Authority for investments.** The *Texas Education Code* provides that TTU and TTUHSC invest all funds under prudent person standards. The prudent person standard is the standard of judgment and care that persons of ordinary prudence, discretion, and intelligence exercise in the management of their affairs in regard to the investments of their funds considering probable income as well as probable safety of their capital.

15.01.2 **Investment objectives**

a. The investment of funds under this policy statement shall be governed by the following investment objectives, in order of priority:

(1) preservation and safety of principal;

(2) liquidity; and

(3) yield..

b. The investment of funds shall also consider asset diversification, yield, suitability and the experience, quality, and capability of investment personnel.

c. In determining whether the above objectives have been exercised, the following shall be taken into consideration;

(1) the investment of all funds rather than a consideration as to the prudence of a single investment; and

(2) whether the investment decision was consistent with this written policy.

15.01.3 **Investment concept**

a. The SITIF shall employ a hold to maturity concept to provide stability of yield to the SITIF. Under such a concept, the ability to purchase an eligible security possessing an acceptable yield and to hold that security to maturity, even though market values may decline, requires the SITIF to maintain an adequate liquidity position. Because the SITIF shall maintain both the ability and intent to hold securities to maturity, unrealized gains and losses will not be recorded. This concept differs significantly from a "total return" investment where market timing is critical.

b. Notwithstanding the preceding paragraph, certain SITIF securities may be sold provided that there is a significant material advantage to be gained by the transaction and it is in compliance with federal and state laws, university policy and this policy statement.

15.01.4 **Performance goals and objectives.** As discussed below, the SITIF will be comprised primarily of collateralized bank accounts, money market mutual funds and eligible fixed income securities. Consequently, the SITIF's annual performance will be compared to the indices of comparable securities. The annual yield objective of the SITIF is to exceed the annual yield of both the Lehman Brothers Intermediate Term U.S. Treasury Index and the Lehman Brothers Intermediate Term Government Index.

15.01.5 **Authorized officials.** The Board of Regents designates the chief financial officer as the authorized investment officer. However, at each August meeting, the Board of Regents will further delegate its authority to sell, purchase, and transfer investments to the following officers:

a. **Texas Tech University.** To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities which are owned or controlled by Texas Tech University provided such action is approved by any two of the officers listed below;

(1) chancellor;

(2) president;

(3) chief financial officer;

(4) assistant vice chancellor for investments;

(5) vice president for fiscal affairs; or

(6) assistant vice president for business affairs.

b. However, for all instruments contributed to Texas Tech University, one of the two officers named below must approve any sale:

(1) vice chancellor for institutional advancement; or

(2) legal counsel for institutional advancement

c. **Texas Tech University Health Sciences Center.** To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities that are owned or controlled by Texas Tech University Health Sciences Center provided such action is approved by any two of the officers listed below;

(1) chancellor;

(2) president;

(3) chief financial officer;

(4) assistant vice chancellor for investments;

(5) vice president for fiscal affairs;

(6) associate vice president for business affairs; or

(7) director of accounting services.

d. However, for all instruments contributed to Texas Tech University Health Sciences Center, one of the two officers named below must approve any sale:

(1) vice chancellor for institutional advancement; or

(2) legal counsel for institutional advancement.

15.01.6 **Potential conflicts of interest.** Any officer authorized in section 15.01.5, who has a personal business relationship with an entity seeking to sell an investment to TTU, TTUHSC, or the Texas Tech University System shall file a statement disclosing the personal business interest. An investment officer who is related within the second degree of affinity or consanguinity to an individual seeking to sell an investment to TTU, TTUHSC, or the Texas Tech University System shall file a statement disclosing that relationship. A statement required under this section of the policy statement must be filed with the board and the Texas Ethics Commission.

15.01.7 **Authorized investments.** The following are authorized investments:

a. Obligations of, or guaranteed by, governmental entities:

(1) obligations of the United States or its agencies and instrumentalities;

(2) direct obligations of the state of Texas or its agencies and instrumentalities;

(3) collateralized mortgage obligations ("CMOs") directly issued by a federal agency or instrumentality of the United States, the underlying security for which is guaranteed by an agency or instrumentality of the United States; and

(4) other obligations, such as mortgage-backed securities, the principal and interest of which are unconditionally guaranteed or insured by, or backed by the full faith and credit of, the

state of Texas or the United States or their respective agencies and instrumentalities.

b. Notwithstanding the above, the following investments are not authorized under this section:

(1) obligations whose payment represents the coupon payments on the outstanding principal balance of the underlying mortgage-backed security collateral and pays no principal;

(2) obligations whose payment represents the principal stream of cash flow from the underlying mortgage-backed security collateral and bears no interest;

(3) collateralized mortgage obligations that have a weighted average maturity at time of purchase of greater than 10 years; and

(4) collateralized mortgage obligations the interest rate of which is determined by an index that adjusts opposite to the changes in a market index.

c. Limitations on authorized investments:

(1) obligations of the United States or its agencies and instrumentalities:

(a) maximum term -- 10 years;

(b) maximum single purchase -- without limitation; or

(c) maximum aggregate position -- no limit.

(2) direct obligation of the state of Texas or its agencies and instrumentalities:

(a) maximum term -- 10 years;

(b) maximum single purchase -- 5% of portfolio; or

(c) maximum aggregate position -- 25% of portfolio.

(3) collateralized mortgage obligation (CMOs) directly issued by a federal agency or instrumentality of the United States, the underlying security for which is guaranteed by an agency or instrumentality of the United States:

(a) maximum term -- 10 years weighted average life, at time of purchase;

(b) maximum single purchase -- 3% of portfolio; or

(c) maximum aggregate position -- not to exceed 75% of portfolio (with the specific intent to reduce, over time, the CMO component to 40% of the portfolio).

(4) other obligations, such as mortgage-backed securities, the principal and interest of which are unconditionally guaranteed or insured by, or backed by the full faith and credit of, the

state of Texas or the United States or their respective agencies and instrumentalities:

(a) maximum weighted average life -- 15 years, at time of purchase;

(b) maximum single purchase -- 3% of portfolio; or

(c) maximum aggregate position -- 25% of portfolio.

d. **Bank deposits and certificates of deposit**

(1) Funds shall be deposited into those depositories consistent with *Board of Regent Rule* _____ on Selection of Primary and Secondary Depositories for Texas Tech University and Texas Tech University Health Sciences Center.

On any given day, no depository bank shall have institutional funds on deposit in an amount that exceeds any one of the following limits:

(a) twenty five percent of the total funds available for investment by TTU/TTUHSC; or

(b) based upon the bank's latest regularly published statement of financial condition: (1) fifteen percent of its total deposits or (2) an amount equal to the sum of its capital, permanent surplus, retained earnings, and reserves.

(c) The above limitations shall not be construed to establish a commitment and/or guarantee on the part of TTU or TTUHSC to deposit any particular amount in any one bank. TTU/TTUHSC may develop additional institutional guidelines that may employ other criteria to establish limits on the total amount of deposits in any bank. Such guidelines, however, shall not allow the total deposits in any bank to exceed the limits otherwise established under this policy.

(2) Certificates of deposit if issued by a state or national bank or a savings and loan association domiciled in the state of Texas.

Limitations:

(a) maximum term -- 10 years;

(b) maximum single purchase -- 3% of portfolio; and

(c) maximum aggregate position -- same as bank deposits, see above.

For both bank deposits and certificates of deposits, discussed in subparagraphs (1) and (2) above, the following provisions apply.

(a) All cash instruments, including certificates of deposit, must be fully collateralized as required in the *Texas Education Code* and with the Public Funds Investment Act, as amended, except that surety bonds are not authorized as collateral. The pledged collateral shall be placed in a custodian bank or banks named by TTU or TTUHSC. In no event will the custodian be affiliated with the depository bank.

(b) Deposits and certificates of deposits must be guaranteed or insured by the Federal Deposit Insurance Corporation or its successor or be secured by eligible obligations that are described in section 15.01.7 a., above, including mortgage backed securities directly issued by a federal agency or instrumentality that have a market value of not less than the principal amount of the deposits and/or certificates.

e. **Repurchase agreements.** A repurchase agreement means a simultaneous agreement to buy, hold for a specified time, and sell back at a future date obligations described in section 15.01.7 a. above, at a market value at the time the funds are disbursed of not less than the principal amount of the funds disbursed. A fully collateralized repurchase agreement is an authorized investment if the repurchase agreement is secured by obligations described in section 15.01.7 a. above, and requires the securities being purchased to be pledged to TTU/ TTUHSC and deposited at the time the investment is made with a third party selected and approved by TTU and TTUHSC. Repurchase agreements must be placed through a primary government securities dealer, as defined by the Federal Reserve, or a financial institution doing business in Texas.

Limitations: same as bank deposits, see above. Reverse repurchase agreements are not permitted.

f. **Guaranteed investment contracts.** A guaranteed investment contract is an authorized investment for bond proceeds if the guaranteed investment contract:

(1) has a defined termination date;

(2) is secured by obligations described by section 15.01.7 a. above, in an amount at least equal to the amount of bond proceeds invested under the contract; and

(3) is pledged to TTU/TTUHSC and deposited with a third party selected and approved by TTU/TTUHSC.

Bond proceeds may not be invested in a guaranteed investment contract with a term longer than five years from the date of issuance of the bonds.

To be eligible as an authorized investment, bids from at least three separate providers with no material financial interest in the bonds from which proceeds were received must be obtained. TTU/ TTUHSC must purchase the highest yielding guaranteed investment contract for which a qualifying bid is received. The price of the guaranteed investment contract must take into account the reasonably expected drawdown schedule for the bond proceeds to be invested. The provider must certify the administrative costs reasonably expected to be paid to third parties in connection with the guaranteed investment contract.

g. **Money Market Mutual Funds.** A no-load money market mutual fund is an authorized investment if it:

(1) is regulated by the Securities and Exchange Commission;

(2) has a dollar-weighted average stated maturity of 90 days or fewer;

(3) includes in its investment objective the maintenance of a stable net asset value of $1 for each share; and

(4) invests in only U.S. Government and government agency securities.

The investment in any one no-load money market mutual fund cannot exceed 25 percent of the market value of the Long-Term Investment Fund.

h. **Investment pools.** Eligible investment pools are authorized investments.

(1) To be considered an eligible investment pool, the investment pool must furnish an offering circular or other similar disclosure instrument that contains, at a minimum, the following information:

(a) the types of investments in which money is allowed to be invested;

(b) the maximum average dollar-weighted maturity allowed, based on the stated maturity date, of the pool;

(c) the maximum stated maturity date of any investment security within the portfolio;

(d) the objectives of the pool;

(e) the size of the pool;

(f) the names of the members of the advisory board of the pool and the dates their terms expire;

(g) the custodian bank that will safekeep the pool's assets;

(h) whether the intent of the pool is to maintain a net asset value of one dollar and the risk of market price fluctuation;

(i) whether the only source of payment is the assets of the pool at market value or whether there is a secondary source of payment, such as insurance or guarantees, and a description of the secondary source of payment;

(j) the name and address of the independent auditor of the pool;

(k) the requirements to be satisfied for the TTU / TTUHSC to deposit funds in and withdraw funds from the pool and any deadlines or other operating policies required for the TTU/TTUHSC to invest funds in and withdraw funds from the pool; and

(l) the performance history of the pool, including yield, average dollar-weighted maturities, and expense ratios.

(2) To maintain eligibility, the investment pool must furnish the following:

(a) investment transaction confirmations; and

(b) a monthly report that contains, at a minimum, the following:

i. the types and percentage breakdown of securities in which the pool is invested;
ii. the current average dollar-weighted maturity of the pool, based on the stated maturity date;
iii. the current percentage of the pool's portfolio in investments that have stated maturities of more than one year;
iv. the book value versus the market value of the pool's portfolio, using amortized cost valuation;
v. the size of the pool;
vi. the number of participants in the pool;
vii. the custodian bank that is safekeeping the assets of the pool;
viii. a listing of daily transaction activity of the TTU/TTUHSC;
ix. the yield and expense ratio of the pool;
x. the portfolio managers of the pool; and
xi. any changes or addenda to the offering circular.

In addition to the eligibility requirements discussed above, the investment pool must mark its portfolio to market daily and, to the extent reasonably possible, stabilized at a $1 net asset value. If the ratio of the market value of the portfolio divided by the book value of the portfolio is less than 0.995 or greater than 1.005, portfolio holdings shall be sold by the pool as necessary to maintain the ratio between 0.995 and 1.005. Further, the investment pool must be continuously rated no lower than AAA or AAA-m or at an equivalent rating by at least one nationally recognized rating service.

The eligible investment pool for Texas Tech University and Texas Tech University Health Sciences Center is TexPool.

i. **Bankers' acceptances.** Bankers' acceptances are eligible investments if the bankers' acceptance:

(1) has a stated maturity of 270 days or less from the date of its issuance;

(2) will be, in accordance with its terms, liquidated in full at maturity;

(3) is eligible for collateral for borrowing from a Federal Reserve Bank; and

(4) is acceptable by a bank organized and existing under the laws of the United States or any state, if the short-term obligations of the bank, or of a bank holding company of which the bank is the largest subsidiary, are rated not less than A-1 or P-1 or an equivalent rating by at least one nationally recognized credit rating agency.

(5) Limitations:

(a) maximum single purchase--3% of portfolio; and

(b) maximum aggregate position--10% of portfolio.

j. **Commercial paper.** Commercial paper is an eligible investment if the commercial paper:

(1) has a stated maturity of 270 days or less from the date of its issuance; and

(2) is rated not less than A-1 or P-1 or an equivalent rating by at least:

(a) two nationally recognized credit rating agencies; or

(b) one nationally recognized credit rating agency and is fully secured by an irrevocable letter of credit issued by a bank organized and existing under the laws of the United States or any state.

(3) Limitations:

(a) maximum single purchase--3% of the portfolio; and

(b) maximum aggregate position--10% of the portfolio.

k. **Cash management and fixed income funds.** Cash management and fixed income funds are eligible investments if they are sponsored by organizations exempt from federal income taxation under Section 501(f), Internal Revenue Code of 1986.

Limitation: maximum aggregate position--25% of portfolio.

l. **Corporate bonds, debentures and similar debt obligations.** Corporate bonds, debentures, or similar debt obligations are eligible investments if rated by a nationally recognized investment rating firm in one of the two highest long-term rating categories.

Limitations: Maximum Exposure to any one

(1) corporation -- 3% of the portfolio; and

(2) maximum aggregate position -- 15% of the portfolio.

15.01.8 **Selection of securities dealers**

a. TTU and TTUHSC may rely on certain information and advice of securities sales representatives concerning proposed investments, investment timing and pricing. It is essential that TTU and TTUHSC have sufficient knowledge about the securities firms and personnel with whom they are doing business. Firms that are unwilling to provide complete and timely disclosure of their financial conditions will not be utilized.

b. The following will be considered in the selection of securities firms:

(1) the ability of the securities dealer to fulfill commitments as evidenced by capital strength, liquidity and operating results. This evidence shall be gathered from current financial data, annual reports, credit reports and other sources of financial information;

(2) the dealer's general reputation for financial stability and fair and honest dealings with customers;

(3) information available from state or federal securities regulators and securities industry self-regulatory organizations, such as the National Association of Securities Dealers, concerning any formal enforcement actions against the dealer, its affiliates or associated personnel; and

(4) a review of the background of the sales representative with whom business will be conducted in order to determine his or her experience and expertise.

c. A copy of this policy statement is to be provided to all securities dealers seeking to conduct securities transactions with TTU and TTUHSC.

d. TTU and TTUHSC shall make reasonable, good faith efforts to include woman-owned and minority-owned businesses in its investment process. A minority-owned business means a business entity in which 51 percent of the ownership interests in the entity are held by one or more minority group members. A woman-owned business means a business entity in which at least 51 percent of the ownership interests in the entity are held by one or more women.

15.01.9 **Investment training.** The appropriate officers discussed in 15.01.5, above, shall attend at least one training session per year relating to the person's responsibilities. The training should include education in investment controls, security risks, strategy risks, market risks, and compliance with certain state statutes and this policy statement.

15.01.10 **Internal management reports.** Not less than quarterly, the chief financial officer shall prepare and submit to the chairman of the Board of Regents' Finance Committee, the chancellor, and to the presidents of TTU and TTUHSC a written report of investments. The report shall:

a. describe the investment position of the SITIF; and

b. contain a summary of:

(1) the beginning market value of the reporting period;

(2) additions and changes to the market value during the period;

(3) ending market value for the period;

(4) state the book value and market value of investments at the beginning and the end of the reporting period by type of asset invested;

(5) the weighted average maturity of each asset type; and

(6) the compliance of the SITIF as it relates to this policy statement.

The chief financial officer shall, at the beginning of each fiscal year, present to the Board of Regents a report of the investments of the TTU and TTUHSC during the preceding fiscal year. The report will summarize all investment activity for the year along with total investment income and annual investment rate of return.

15.02 **Mineral leases.** It is the intent of the board to lease oil, gas, sulfur, ore, water, and other mineral interests of Texas Tech for development whenever there is a demand that will reasonably insure that they may be leased advantageously and it is in the best interest of Texas Tech. All leases will be executed in accordance with the applicable laws and with rules and regulations adopted by the board that are not inconsistent with the provisions of law. The reason for leasing minerals is to obtain additional in-

come to be used by the board for the administration of Texas Tech, for payment of principal of and interest on revenue bonds and notes issued by the board, and for any other purpose that in the judgment of the board may be for the good of Texas Tech.

15.02.1 **Lands under exclusive control of the board and owned by the state of Texas**

a. Leases will be negotiated with prospective lessees to obtain their best offer above the minimum outlined in section c., below.

b. Leases normally will be for oil and gas production only. Separate leases will be required for other mineral production, whether strip-mined or not.

c. The board may not sell a lease for less than the royalty and rental terms demanded at that time by the General Land Office in connection with the sale of oil, gas, and other mineral leases of the public lands of this state. In addition, no bid or proposal shall be accepted that offers a royalty of less than one-quarter of production, a primary term greater than five years or a delay rental of less than $5.00 per acre per year.

d. No state lands shall be sold unless the mineral rights are retained by the state, unless impractical.

e. Use of Texas Tech standardized oil and gas lease or oil and gas and mineral lease forms will be required for all leases.

f. Use of Texas Tech standardized division order forms will be required for all division orders.

15.02.2 **Mineral and royalty interests derived from trusts and gifts**

a. Leases will be negotiated with prospective lessees to obtain their best offer above the minimums outlined in section c. below.

b. Leases will normally be for oil and gas production only. Separate leases will be required for other mineral production, whether strip-mined or not.

c. No proposal shall be accepted that offers a royalty of less than one-quarter of production, a primary term of more than five years or a delay rental of less than $5.00 per year per mineral acre, beginning with the second year of the lease.

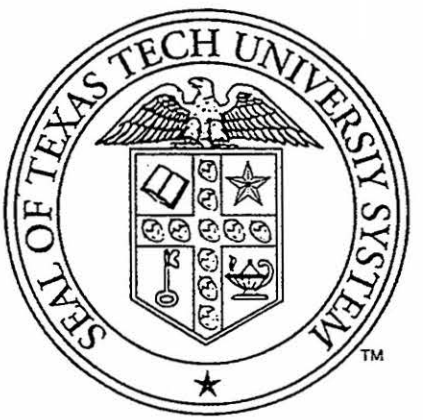
d. Use of Texas Tech standardized oil and gas lease or oil and gas and mineral lease forms will be required for all leases.

e. Use of Texas Tech standardized division order forms will be required for all division orders.

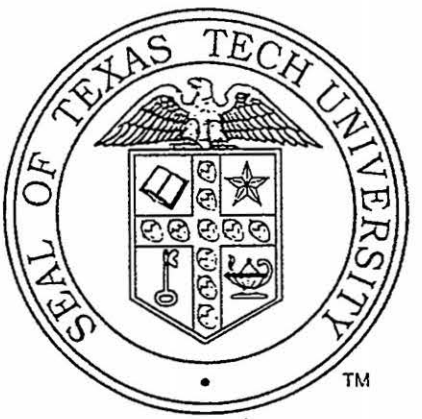
15.02.3 **Approval.** All leases and other documents relating to leasing will be approved by the Finance and Administration Committee, by the board as a ratification item and signed by the chancellor.

01.06 Seals of the Texas Tech University System, Texas Tech University, and Texas Tech University Health Sciences Center

1. The Seal of the Texas Tech University System shall be:



2~~1~~. The Seal of Texas Tech University shall be:



3~~2~~. The Seal of Texas Tech University Health Sciences Center shall be:

4~~3~~. The Secretary of the Board of Regents of Texas Tech shall be the custodian of the Seals. The System Seal shall be used by the Secretary to attest to acts of the Board and its Chair and to demonstrate the validity and authenticity of documents, artifacts, deeds, contracts, and other instruments as authorized by the Board of Regents. Where necessary and proper, the Secretary shall use the appropriate University Seal to attest to the authority of administrative or executive officers of the Texas Tech University Health Sciences Center and Texas Tech University.

54 The Secretary is authorized to permit the Registrars of Texas Tech University and Texas Tech University Health Sciences Center to use the appropriate University Seal for the purpose of authenticating student transcripts.

04.02 Debt Management Policy

1. **General Debt Management Policy.**

   a. As provided in the Texas Education Code, each member of the Board of Regents has the legal responsibility of a fiduciary in the management of indebtedness for Texas Tech University (TTU) and Texas Tech University Health Sciences Center (TTUHSC). All debt programs will be made in accordance with applicable state and federal statutes and regulations. The Board of Regents will authorize the issuance of all TTU and TTUHSC indebtedness.

   b. The Board of Regents has granted to the Office of the Chancellor the authority for the issuance of short-term indebtedness up to $50 million of Higher Education Assistance Fund Commercial Paper to the extent permitted by law and an initial aggregate principal amount not to exceed $50 million of Revenue Financing System Commercial Paper, but with a maximum aggregate limit of $100 million if subsequently authorized by the Board of Regents. The short-term debt program will be utilized for capital projects during construction and equipment acquisition. All conversions to long-term or bond indebtedness will be approved by the Board of Regents.

   c. The ~~Deputy Chancellor~~ Chief Financial Officer is authorized to approve the pricing of bond and note issues and is responsible for assuring that all bond covenants are in compliance and that all necessary approvals, certifications and authorizations are fully documented and made available to the Board of Regents and to all bondholders.

   d. The ~~Vice Chancellor for Administration and Finance~~ Chief Financial Officer is responsible for assuring that all debt service payments are made in a timely manner to the appropriate paying agents.

   e. Debt service funding is the responsibility of each institution participating in the Revenue Financing System and the Higher Education Assistance Fund programs.

   f. If a project requires Texas Higher Education Coordinating Board approval, no debt proceeds will be allocated to that project prior to receiving such approval.

2. **Revenue Financing System (RFS) Debt Management Policy**

   a. **General.** Both TTU and TTUHSC are eligible to participate in the Revenue Financing System (RFS).

b. **Guidelines.**

(1) Capital Construction: Buildings and other major capital projects will be financed for a period of up to the lesser of the project's estimated useful life or 40 years.

(2) Equipment: Equipment will be financed for a period up to the lesser of its projected useful life or ten years.

(3) To the extent required by law, Texas Higher Education Coordinating Board approval will be obtained if project costs exceed ~~$300,000~~ 1,000,000 for new constructions or ~~$600,000~~ 2,000,000 for major repair and rehabilitation. Debt proceeds will not be allocated to a project prior to receiving Coordinating Board approval. If Coordinating Board approval is not required documentation of the excepting criteria will be provided to the Chancellor by the ~~Vice Chancellor for Administration and Finance~~ Chief Financial Officer.

(4) Individual revenue streams considered for debt service must meet a 1.15 debt coverage ratio test, unless the debt is being issued as "tuition revenue" debt in which case, it must meet a 1.00 debt coverage test. Debt coverage is defined as total revenue divided by total debt service. In arriving at the 1.15 debt coverage ratio, it is considered prudent to use no more than 25 percent of available pledged revenues, after expenditures, for capital projects.

(5) Designated debt financing resources will be approved by the Board when a project is initiated. Reimbursement clauses, revenue stream certification, nondefault certification, and all requirements of the RFS Master Resolution will be included in agenda items submitted to the Board.

(6) Application to and approval from the Texas Bond Review Board is required for all new long-term issues. Long-term issuances are also subject to the approval of the Texas Attorney General.

c. **General.**

(1) **Certification by TTU and TTUHSC.** As long as RFS debt remains outstanding, an end of year certification will be prepared by TTU and TTUHSC. The certification, signed and approved by the President and Vice President for Fiscal Affairs of each entity, will be submitted to the ~~Vice Chancellor for Administration and Finance~~ Chief Financial Officer no later than November 15 of each year and will be used as input for reporting on the status of the RFS to ~~the~~

~~Deputy Chancellor,~~ the Chancellor, and the Board of Regents. The certification will include the following:

(a) A comparison of revenue projections with those actually collected in the previous year and an updated assessment of anticipated future revenues. If actual revenues were not sufficient, an explanation as to why they were insufficient and the impact on the institution's current and future ability to pay for its share of debt service will be required.

(b) Verification that the institution has sufficient legally available funds for the next fiscal year's principal/interest payments; and

(c) Verification that the institution is in compliance with all RFS bond convenants and Board policies relative to the issuance of RFS debt.

(2) **Report on the Status of the Revenue Financing System.** The ~~Vice Chancellor for Administration and Finance~~ Chief Financial Officer will prepare an annual report on the status of RFS obligations for the ~~Deputy Chancellor, the~~ Chancellor, and the Board of Regents. The report will include the following:

(a) The balance of RFS obligations outstanding at the beginning of the fiscal year and on the date of the report;

(b) A listing of projected needs (by institution and funding source) for the next year;

(c) The amount of RFS obligations that will be necessary to fund each institution's needs for the next year;

(d) A certification that TTU and TTUHSC are current on debt service funding for RFS obligations outstanding. If an institution is not in compliance, the steps being taken to bring the institution into compliance will be included and will be reported quarterly until compliance is achieved.

3. Higher Education Assistance Fund (HEAF) Debt Management Policy.

a. **General.** TTU and TTUHSC are eligible to participate in Higher Education Assistance Funds (HEAF) financing.

b. **Guidelines.**

(1) Except as described in section (4) below, HEAF debt proceeds may be used for acquiring land, construction, and equipping permanent improvements, major repair and rehabilitation of permanent improvements and refunding previously issued HEAF indebtedness.

(2) Indebtedness will be payable with state appropriated moneys. Maturities will not be exceed 10 years and will be limited to the current HEAF funding cycles. HEAF bonds will be competitively bid. HEAF notes (e.g. commercial paper notes) need not be competitively bid. HEAF indebtedness is subject to approval by the Texas Attorney General.

(3) No more than 50 percent of the annual HEAF allocation of TTU and TTUHSC will be used for paying debt service on HEAF indebtedness issued on behalf of TTU or TTUHSC.

(4) HEAF debt proceeds are not permitted by current law to be used for maintenance, minor repairs, operating expenses, student housing, intercollegiate athletics, or auxiliary enterprises.

(5) Prior approval of the Legislature or the Texas Higher Education Coordinating Board is required for expenditures of HEAF fund proceeds for new construction in excess of ~~$300,000~~ 1,000,000, major repair and rehabilitation in excess of ~~$600,000~~ 2,000,000, and land acquisitions, providing that any acquisition request submitted within a three-month period before a legislative session shall automatically be referred to the Legislature.

4. **Equipment Financing Program Procedures Under the Commercial Paper Program(s).**

a. **General**. In order to obtain approval for the issuance of RFS debt to purchase equipment, each of TTU and TTUHSC must, by July 1 of each fiscal year, determine equipment needs for the following fiscal year. The Board of Regents will approve the financing through the Equipment Financing Program of equipment costing $250,000 or more. For equipment costing less than $250,000 but more than $100,000 that is to be financed through the Equipment Financing Program, the approval of the Chancellor with concurrence of either the chair of the Board or the chair of the Finance Committee is required. The approval of the Chancellor is required for equipment costing less than $100,000 that is to be finance through the Equipment Financing Program. The

Office of the Chancellor will then submit the required notice to the Texas Bond Review Board.

b. **Guidelines.** The minimum aggregate amount of equipment value to be financed under the Equipment Financing Program is $100,000 for each of TTU and TTUHSC. Several smaller equipment purchases may be commingled to achieve the minimum amount. The equipment will be purchased from the vendor by TTU or TTUHSC and RFS will be issued on any business day for direct acquisition or to reimburse TTU or TTUHSC for the equipment purchases. The debt will be amortized each February 15 and August 15 and will be fully amortized up to the lesser of its project useful life or 10 years.

5. **Procedures to be Used in the Event of a Failed Remarketing of RFS Commercial Paper.**

Notice by Commercial Paper Dealer of Failure to Purchase Maturing RFS Commercial Paper Notes. The commercial paper dealer has until 12:30 p.m., New York time on the day of maturity of TTU Tax-Exempt Commercial Paper Notes to notify TTU/TTUHSC that they are unable to purchase such Notes and to request that TTU/TTUHSC provide funds with which to purchase the maturing Notes. The notice is to be received in writing and delivered by registered mail, postage prepaid, tested telex or facsimile transmission.

a. **Advance Request – Commercial Paper Liquidity Provider.** The TTU/TTUHSC representatives authorized to request an advance from the Commercial Paper Liquidity Provider are:

Chancellor ~~of TTU and TTU Health Sciences Center~~
~~Deputy Chancellor~~ ~~of TTU and~~ ~~TTU Health Sciences Center~~ Chief Financial Officer
~~Vice Chancellor for Administration and Finance~~
Vice President for Fiscal Affairs of TTU
Vice President for Fiscal Affairs of TTUHSC
Assistant Vice Chancellor for Investments
Other Officials appointed by Chair of the Board of Regents

The request for an advance to fund the maturing Commercial Paper Notes must be made no later than 12:45 p.m., New York time. The request shall be delivered telecopied or sent by telephonic notice, confirmed as soon as possible (but in no event later than 1:00 p.m., New York time)

The request shall be a signed Notice of Advance, substantially in the form of Exhibit B of the Liquidity Agreement. The Notice of Advance shall specify the time and date of the advance and the amount of the advance.

At, or prior to 3:00 p.m., New York time, on the date for which the Advance is requested, the commercial paper dealer shall make available to the Paying Agent the funds necessary to repurchase the maturing TTU Tax-Exempt Commercial Paper Notes.

04.11 Investments of Institutional Funds

(1) Preface

This policy statement is issued by the Board of Regents of Texas Tech for guidance in the investment of the institutional funds of Texas Tech University and Texas Tech University Health Sciences Center, known as the "Short/Intermediate Term Investment Fund" ("SITIF"). Certain eligible endowment funds may be invested in a separate fund, called the Long-Term Investment Fund, in accordance with Board of Regents Policy 05.06. Certain other institutional funds in amounts determined from time to time by the Board of Regents may be invested in accordance with the policies governing the Long-Term Investment Fund. All other funds will comply with this policy statement.

Notwithstanding the above, this policy statement does not preclude the acceptance and retention of securities as gifts to TTU and/or HSC. TTU and HSC shall manage and safeguard such securities in their original form, in accordance with the donor's written instructions. However, upon the partial or total disposition of the original investment, the proceeds will be invested in accordance with this policy.

(2) Authority for Investments

Section 51.0031 of the Texas Education Code provides that TTU and HSC invest all funds under prudent person standards. As defined in the Education Code, the prudent person standard means that standard of judgment and care that persons of ordinary prudence, discretion, and intelligence exercise in the management of their affairs in regard to the investments of their funds considering probable income as well as probable safety of their capital.

(3) Investment Objectives:

The investment of funds under this policy statement shall be governed by the following investment objectives, in order of priority:

(1) Preservation and safety of principal;
(2) Liquidity; and
(3) Yield

The investment of funds shall also consider asset diversification, yield, suitability and the experience, quality and capability of investment personnel.

In determining whether the above objectives have been exercised, the following shall be taken into consideration;

(1) The investment of all funds rather than a consideration as to the prudence of a single investment; and
(2) Whether the investment decision was consistent with this written policy.

(4) Investment Concept:

The SITIF shall employ a hold to maturity concept to provide stability of yield to the SITIF. Under such a concept, the ability to purchase an eligible security possessing an acceptable yield and to hold that security to maturity, even though market values may decline, requires the SITIF to maintain an adequate liquidity position. Because the SITIF shall maintain both the ability and intent to hold securities to maturity, unrealized gains and losses will not be recorded. This concept differs significantly from a "total return" investor where market timing is critical.

Notwithstanding the preceding paragraph, certain SITIF securities may be sold provided that there is a significant material advantage to be gained by the transaction and it is in compliance with Federal and State laws, University policy and this policy statement.

(5) Performance Goals and Objectives:

As discussed below, the SITIF will be comprised primarily of collateralized bank accounts, money market mutual funds and eligible fixed income securities. Consequently, the SITIF's annual performance will be compared to the indices of comparable securities. The annual yield objective of the SITIF is to exceed the annual yield of both the Lehman Brothers Intermediate Term U.S. Treasury Index and the Lehman Brothers Intermediate Term Government Index.

(6) Authorized Officials:

The Board of Regents designates the Chief Financial Officer ~~Vice Chancellor for Administration and Finance~~ as the authorized Investment Officer. However, at each August meeting, the Board of Regents will further delegate its authority to sell, purchase and transfer investments to the following officers:

Texas Tech University:

To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities which are owned or controlled by Texas Tech University provided such action is approved by any two of the officers listed below;

- Chancellor
- ~~Deputy Chancellor~~ Chief Financial Officer

- ~~Vice Chancellor for Administration and Finance~~
- Assistant Vice Chancellor for Investments
- Vice President for Fiscal Affairs
- Associate Vice President for Business Affairs ~~and Comptroller~~
- ~~Assistant Comptroller~~

However, for all instruments contributed to Texas Tech University, one of the two officers named below must approve any sale:

- Vice Chancellor for Institutional Advancement
- ~~Assistant Vice President for Development~~ Legal Counsel for Institutional Advancement

Texas Tech University Health Sciences Center:

To authorize and approve the sale, purchase and transfer of stocks, bonds, and other securities which are owned or controlled by Texas Tech University Health Sciences Center provided such action is approved by any two of the officers listed below;

- Chancellor
- ~~Deputy Chancellor~~ Chief Financial Officer
- ~~Vice Chancellor for Administration and Finance~~
- Assistant Vice Chancellor for Investments
- Vice President for Fiscal Affairs
- ~~Assistant Vice President for Fiscal Affairs~~ Associate Vice President for Business Affairs
- Director of Accounting Services

However, for all instruments contributed to Texas Tech University Health Sciences Center, one of the two officers named below must approve any sale:

- Vice Chancellor for Institutional Advancement
- ~~Assistant Vice President for Development~~ Legal Counsel for Institutional Advancement

(7) **Potential Conflicts of Interest:**

Any officer authorized in paragraph (6), above, who has a personal business relationship with an entity seeking to sell an investment to TTU or HSC shall file a statement disclosing that personal business interest. An investment officer who is related within the second degree of affinity or consanguinity to an individual seeking to sell an investment to TTU or HSC shall file a statement disclosing that relationship. A statement required under this section of the policy statement must be filed with the Texas Ethics Commission and with the Board of Regents.

(8) Authorized Investments:

The following are authorized investments:

(A) Obligations of, or Guaranteed by, Governmental Entities:

(1) Obligations of the United States or its agencies and instrumentalities;
(2) Direct obligations of the State of Texas or its agencies and instrumentalities;
(3) Collateralized mortgage obligations (CMOs) directly issued by a federal agency or instrumentality of the United States, the underlying security for which is guaranteed by an agency or instrumentality of the United States; and
(4) Other obligations, such as mortgage-backed securities, the principal and interest of which are unconditionally guaranteed or insured by, or backed by the full faith and credit of, the State of Texas or the United States or their respective agencies and instrumentalities.

Notwithstanding the above, the following investments are not authorized under this section (A):

(1) Obligations whose payment represents the coupon payments on the outstanding principal balance of the underlying mortgage-backed security collateral and pays no principal;
(2) Obligations whose payment represents the principal stream of cash flow from the underlying mortgage-backed security collateral and bears no interest;
(3) Collateralized mortgage obligations that have a weighted average maturity at time of purchase of greater than 10 years; and
(4) Collateralized mortgage obligations the interest rate of which is determined by an index that adjusts opposite to the changes in a market index.

Limitations on authorized investments:

(1) Obligations of the United States or its agencies and instrumentalities:

Maximum Term	10 years
Maximum Single Purchase	Without Limitation
Maximum Aggregate Position	No Limit

(2) Direct obligation of the State of Texas or its agencies and instrumentalities:

Maximum Term	10 years
Maximum Single Purchase	5% of Portfolio

Maximum Aggregate Position	25% of Portfolio

(3) Collateralized mortgage obligation (CMOs) directly issued by a federal agency or instrumentality of the United States, the underlying security for which is guaranteed by an agency or instrumentality of the United States:

Maximum Term	10 years Weighted Average Life, at time of purchase
Maximum Single Purchase	3% of Portfolio
Maximum Aggregate Position	Not to Exceed 75% of Portfolio (with the specific intent to reduce, over time, the CMO component to 40% of the portfolio)

(4) Other obligations, such as mortgage-backed securities, the principal and interest of which are unconditionally guaranteed or insured by, or backed by the full faith and credit of, the State of Texas or the United States or their respective agencies and instrumentalities:

Maximum Weighted Average Life	15 Years, at time of purchase
Maximum Single Purchase	3% of Portfolio
Maximum Aggregate Position	25% of Portfolio

(B) Bank Deposits and Certificates of Deposit:

(1) Funds shall be deposited into those depositories consistent with Board of Regent Policy Statement 04.08 (Selection of Primary and Secondary Depositories for Texas Tech University and Texas Tech University Health Sciences Center).

On any given day, no depository bank shall have institutional funds on deposit in an amount which exceeds any one of the following limits:

(a) Twenty five percent of the total funds available for investment by TTU/HSC; or

(b) Based upon the bank's latest regularly published statement of financial condition:

1. Fifteen percent of its total deposits;

2. An amount equal to the sum of its capital, permanent surplus, retained earnings, and reserves.

The above limitations shall not be construed to establish a commitment and/or guarantee on the part of TTU or HSC to deposit any particular amount in any one bank. TTU/HSC may develop additional institutional guidelines which may employ other criteria to establish limits on the total amount of deposits in any bank. Such guidelines, however, shall not allow the total deposits in any bank to exceed the limits otherwise established under this policy statement.

(2) Certificates of deposit if issued by a state or national bank or a savings and loan association domiciled in the State of Texas.

Limitations:

Maximum Term	10 Years
Maximum Single Purchase	3% of Portfolio
Maximum Aggregate Position	Same as bank deposits, see above

For both Bank Deposits and Certificates of Deposits, discussed in subparagraphs (1) and (2) above, the following provisions apply:

- All cash instruments, including Certificates of Deposit, must be fully collateralized as required in Section 51.003(c) of the Texas Education Code and with the Public Funds Investment Act, as amended, except that surety bonds are not authorized as collateral. The pledged collateral shall be placed in a custodian bank or banks named by TTU or HSC. In no event will the custodian be affiliated with the depository bank.

- Deposits and Certificates of Deposits must be guaranteed or insured by the Federal Deposit Insurance Corporation or its successor or be secured by eligible obligations that are described in section (A), above, including mortgage backed securities directly issued by a federal agency or instrumentality that have a market value of not less than the principal amount of the deposits and/or certificates.

(C) Repurchase Agreements:

A repurchase agreement means a simultaneous agreement to buy, hold for a specified time, and sell back at a future date obligations described in section (A), above, at a market value at the time the funds are disbursed of not less than the principal amount of the funds disbursed. A fully collateralized repurchase agreement is an authorized investment if the repurchase agreement is secured by obligations described in section (A), above and requires the securities being purchased to be pledged to TTU/HSC and deposited at the time the investment is made with a third party selected and approved by TTU and HSC. Repurchase Agreements must be placed through a primary government securities dealer, as defined by the Federal Reserve, or a financial institution doing business in the State of Texas.

Limitations:

Same as bank deposits, see above

Reverse Repurchase Agreements are not permitted.

(D) Guaranteed Investment Contracts:

A guaranteed investment contract is an authorized investment for bond proceeds if the guaranteed investment contract:

- Has a defined termination date;
- Is secured by obligations described by section (A), above, in an amount at least equal to the amount of bond proceeds invested under the contract; and
- Is pledged to TTU/HSC and deposited with a third party selected and approved by TTU/HSC.

Bond proceeds may not be invested in a guaranteed investment contract with a term longer than five years from the date of issuance of the bonds.

To be eligible as an authorized investment, bids from at least three separate providers with no material financial interest in the bonds from which proceeds were received must be obtained. TTU/HSC must purchase the highest yielding guaranteed investment contract for which a qualifying bid is received. The price of the guaranteed investment contract must take into account the reasonably expected drawdown schedule for the bond proceeds to be invested. The provider must certify the administrative costs reasonably expected to be paid to third parties in connection with the guaranteed investment contract.

(E) Money Market Mutual Funds:

A no-load money market mutual fund is an authorized investment if it:

(1) Is regulated by the Securities and Exchange Commission;
(2) Has a dollar-weighted average stated maturity of 90 days or fewer;
(3) Includes in its investment objective the maintenance of a stable net asset value of $1 for each share; and
(4) Invests in only U.S. Government and government agency securities.

The investment in any one no-load money market mutual fund cannot exceed 25 percent of the market value of the SITIF.

(F) Investment Pools:

Eligible investment pools are authorized investments.

To be considered an eligible investment pool, the investment pool must furnish an offering circular or other similar disclosure instrument that contains, at a minimum, the following information:

(1) the types of investments in which money is allowed to be invested;
(2) the maximum average dollar-weighted maturity allowed, based on the stated maturity date, of the pool;
(3) the maximum stated maturity date any investment security within the portfolio has;
(4) the objectives of the pool;
(5) the size of the pool;
(6) the names of the members of the advisory board of the pool and the dates their terms expire;
(7) the custodian bank that will safekeep the pool's assets;
(8) whether the intent of the pool is to maintain a net asset value of one dollar and the risk of market price fluctuation;
(9) whether the only source of payment is the assets of the pool at market value or whether there is a secondary source of payment, such as insurance or guarantees, and a description of the secondary source of payment;
(10) the name and address of the independent auditor of the pool;
(11) the requirements to be satisfied for the University/Health Sciences Center to deposit funds in and withdraw funds from

the pool and any deadlines or other operating policies required for the University/Health Sciences Center to invest funds in and withdraw funds from the pool; and

(12) the performance history of the pool, including yield, average dollar-weighted maturities, and expense ratios.

To maintain eligibility, the investment pool must furnish the following:

(1) investment transaction confirmations; and
(2) a monthly report that contains, at a minimum, the following:
  (a) the types and percentage breakdown of securities in which the pool is invested;
  (b) the current average dollar-weighted maturity, based on the stated maturity dated, of the pool;
  (c) the current percentage of the pool's portfolio in investments that have stated maturities of more than one year;
  (d) the book value versus the market value of the pool's portfolio, using amortized cost valuation;
  (e) the size of the pool;
  (f) the number of participants in the pool;
  (g) the custodian bank that is safekeeping the assets of the pool;
  (h) a listing of daily transaction activity of the University/Health Sciences Center;
  (i) the yield and expense ratio of the pool;
  (j) the portfolio managers of the pool; and
  (k) any changes or addenda to the offering circular.

In addition to the eligibility requirements discussed above, the investment pool must mark its portfolio to market daily and, to the extent reasonably possibly, stabilized at a $1 net asset value. If the ratio of the market value of the portfolio divided by the book value of the portfolio is less than 0.995 or greater than 1.005, portfolio holdings shall be sold by the pool as necessary to maintain the ratio between 0.995 and 1.005. Further, the investment pool must be continuously rated no lower than AAA or AAA-m or at an equivalent rating by at least one nationally recognized rating service.

The eligible investment pools for Texas Tech University and Texas Tech University Health Sciences Center is TexPool.

(G) Bankers' Acceptances:

Bankers' acceptances are eligible investments if the bankers' acceptance:

(1) has a stated maturity of 270 days or less from the date of its issuance;
(2) will be, in accordance with its terms, liquidated in full at maturity;
(3) is eligible for collateral for borrowing from a Federal Reserve Bank; and
(4) is acceptable by a bank organized and existing under the laws of the United States or any state, if the short-term obligations of the bank, or of a bank holding company of which the bank is the largest subsidiary, are rated not less than A-1 or P-1 or an equivalent rating by at least one nationally recognized credit rating agency.

Limitations:

Maximum Single Purchase:	3% of Portfolio
Maximum Aggregate Position:	10% of Portfolio

(H) Commercial Paper:

Commercial paper is an eligible investment if the commercial paper:

(1) has a stated maturity of 270 days or less from the date of its issuance; and
(2) is rated not less than A-1 or P-1 or an equivalent rating by at least:
    (a) two nationally recognized credit rating agencies; or
    (b) one nationally recognized credit rating agency and is fully secured by an irrevocable letter of credit issued by a bank organized and existing under the laws of the United States or any state.

Limitations:

Maximum Single Purchase:	3% of the Portfolio
Maximum Aggregate Position:	10% of the Portfolio

(I) Cash Management and Fixed Income Funds:

Cash management and fixed income funds are eligible investments if they are sponsored by organizations exempt from federal income taxation under Section 501(f), Internal Revenue Code of 1986.

Limitations:

Maximum Aggregate Position:	25% of Portfolio

(J) Corporate bonds, debentures, or similar debt obligations rated by a nationally recognized investment rating firm in one of the two highest long-term rating categories.

Limitations:

Maximum Exposure to any one Corporation	3% of the Portfolio
Maximum Aggregate Position	15% of the Portfolio

(9) Selection of Securities Dealers:

TTU and HSC may rely on certain information and advice of securities sales representatives concerning proposed investments, investment timing and pricing. It is essential that TTU and HSC have sufficient knowledge about the securities firms and personnel with whom they are doing business. Firms that are unwilling to provide complete and timely disclosure of their financial conditions will not be utilized.

The following will be considered in the selection of securities firms:

(1) The ability of the securities dealer to fulfill commitments as evidenced by capital strength, liquidity and operating results. This evidence shall be gathered from current financial data, annual reports, credit reports and other sources of financial information.
(2) The dealer's general reputation for financial stability and fair and honest dealings with customers.
(3) Information available from State or Federal securities regulators and securities industry self-regulatory organizations, such as the National Association of Securities Dealers, concerning any formal enforcement actions against the dealer, its affiliates or associated personnel.

(4) A review of the background of the sales representative with whom business will be conducted in order to determine his or her experience and expertise.

A copy of this policy statement is to be provided to all securities dealers seeking to conduct securities transactions with TTU and HSC.

TTU and HSC shall make reasonable, good faith efforts to include woman-owned and minority-owned businesses in its investment process. A minority-owned business means a business entity in which 51 percent of the ownership interests in the entity are held by one or more minority group members. A woman-owned business means a business entity in which at least 51 percent of the ownership interests in the entity are held by one or more women.

(10) Investment Training:

The appropriate officers discussed in section (6), above, shall attend at least one training session per year relating to the person's responsibilities. The training should include education in investment controls, security risks, strategy risks, market risks and compliance with certain State statutes and this policy statement.

(11) Internal Management Reports:

Not less than quarterly, the Chief Financial Officer ~~Vice Chancellor for Administration and Finance~~ shall prepare and submit to the Chairman of the Board of Regents' Finance Committee, the Chancellor and to the Presidents of TTU and HSC a written report of investments. The report shall include the following:

(A) Describe the investment position of the SITIF;
(B) Contain a summary of:
  (1) The beginning market value of the reporting period;
  (2) Additions and changes to the market value during the period;
  (3) Ending market value for the period;
  (4) State the book value and market value of investments at the beginning and the end of the reporting period by type of asset invested;
  (5) State the weighted average maturity of each asset type;

(6) State the compliance of the SITIF as it relates to this policy statement.

The Chief Financial Officer ~~Vice Chancellor for Administration and Finance~~ shall, at the beginning of each fiscal year, present to the Board of Regents a report of the investments of the TTU and HSC during the preceding fiscal year. The report will summarize all investment activity for the year along with total investment income and annual investment rate of return.

05.06 Investment Policy Statement for Endowment and Certain Long-Term Institutional Funds

(3) Investment Philosophy - Management Procedures

No endowment or other institutional fund shall be considered for management under this Policy Statement unless it is under the sole control with full discretion as to investment of principal and expenditure of spendable income of the Board of Regents of Texas Tech. Further, the Vice Chancellor for Institutional Advancement shall ensure that there are no donor-imposed restrictions preventing the use of the Long-Term Investment Fund ("LTIF"), including restrictions against both investment in equity securities or corporate debt, and expenditure of net realized appreciation of existing endowment funds. The donors of existing endowment funds shall be advised of changes to the investment philosophy and policy to be used in connection with endowment accounts. The beneficiaries (account managers) of endowments whose funds are currently invested in the Short/Intermediate Term Investment Fund shall be advised by the Chief Financial Officer ~~Deputy Chancellor~~ of the redeployment of such endowments into the LTIF. Future donors shall be advised of the investment policy at the times their gifts are made. Funds excluded from consideration from this Policy Statement will be invested in the Short/Intermediate Term Investment Fund, as authorized by Board Policy 04.11 or, if instructed by the donor, will be managed and safeguarded in their original form.

The commingled endowment/institutional fund is to be known as the LTIF. The LTIF shall be unitized and each new endowment gift added to the Fund shall receive units in the Fund based upon the market value of the gift and the unit value of the fund at the latest month end preceding the date of receipt of the gift. The unit value of the LTIF shall be determined at least monthly. Income determined under the Policy Statement's Spending Policy shall be calculated on a unit basis for distribution purposes.

The LTIF may invest in such securities and investments as permitted by Subchapter A of Chapter 51, *Education Code* and Section 163.002, Property Code (Uniform Management of Institutional Funds Act). The LTIF may be further limited to such eligible investments as directed by the Board of Regents (see section (9), "Asset Allocation", below).

In addition, the LTIF may retain, with the approval of the Board of Regents, those professional services deemed appropriate for the management and investment of the Fund. All investment managers employed shall be registered under the Investment Act of 1940 and provide the most recent advisor registration form (ADV) filed with the SEC.

APPENDIX A
TEXAS TECH UNIVERSITY
2000-2001

I. The following are the regulations that apply to the University, including fee and refund schedules, and are effective ~~May 16, 1999,~~ May 14, 2000, through the end of the week following Graduation in the Spring Semester of 2001.

II. Types of Registration Permits (See Map for Areas)

A. Reserved parking spaces are assigned to full-time faculty and staff and part-time faculty and staff not enrolled as students as space is available. Any space remaining after the needs of the faculty and staff are met will be available for assignment to part-time instructors, graduate teaching assistants, and graduate research assistants who hold contracts for one-half time or more. Such assignments may be revoked as necessary to accommodate regular faculty and staff requirements. Nine-month registration permits will not be issued to staff members holding twelve-month appointments.

1. Non-transferable permits will be issued for reserved spaces. The permit will contain the lot and space number assigned to the registrant. The space is reserved from 7:30a.m. to 5:30p.m., Monday through Friday. Additionally, in certain designated faculty/staff reserved lots, a limited number of parking spaces are reserved after these hours until 11:00p.m. for use by any reserved permit holder.

2. Access to the interior portion of the campus during the hours that parking spaces are reserved is restricted to motor vehicles with reserved space permits and visitors. The interior portion of the campus is that area controlled by entry stations.

3. Certain residence halls staff living in the residence halls may be assigned spaces that are reserved 24 hours daily.

4. If it is necessary to displace the registrant of a reserved space to an area reserved space for a period of two weeks or more, a partial refund may be issued. (The refund will be equal to the difference between a reserved space and an area reserved space for the effected time period.)

B. Reserved area parking spaces are available to qualified faculty and staff in certain designated parking lots. Transferable permits may be issued for all area reserved lots.

C. Renewal notices for persons assigned reserved and area reserved spaces are sent out prior to the end of the Spring Semester. Employees who wish to retain their space for the next year must renew their registration by the date stated in the renewal notice. Most major credit cards (Visa, Mastercard, and Discover) may be used to make this payment, as well as cash, personal checks, and payroll deductions. (Payroll Deductions are not available to Research Assistants/Teaching Assistants due to the way in which they are appointed/semester to semester.)

D. Residence hall lots are reserved for respective residence hall parking permit holders from 7:30a.m. to 5:30p.m., Monday through Friday, unless otherwise posted.

1. Non-transferable permits will be issued for residence halls parking lots.

2. The owner of a residence hall parking permit should use the commuter lots when space is not available in the residence hall parking lot.

3. Motor vehicles which cannot be accommodated in the residence halls lot will be assigned to the commuter lots until the residence hall lot has available space..

4. A student changing residence halls or moving off campus must exchange his permit at the Traffic and Parking Office.

5. Residence hall permits are issued to individuals and OWNERSHIP is not transferable. Use of a residence hall permit by anyone other than the individual to whom it was issued is not permitted. Violation of this regulation may result in ticketing, impoundment, and loss of all vehicle registration privileges on campus, including parking, for the academic year for all parties involved.

E. Commuter permits will be issued for motor vehicles belonging to students residing off campus.

1. Non-transferable permits will be issued to commuters.

2. Commuter permits are issued to individuals and OWNERSHIP is not transferable. Use of a commuter permit by anyone other than the individual to whom it was issued is not permitted. Violation of this regulation may result in ticketing, impoundment, and loss of all vehicle registration privileges on campus, including parking, for the academic year for all parties involved.

3. Parking is available in commuter lots around the periphery of the campus, as well as in certain designated commuter areas at the Health Sciences Center.

4. When not in use for programs and events, the Auditorium/Coliseum lot, which is leased from the City of Lubbock, will also be available, with the exception of the area directly east of the Auditorium which is marked as reserved for the Auditorium/Coliseum.

5. Commuter parking east of Jones Stadium, with the exception of that area marked as reserved, is also available. The use of the 24-hour reserved area requires a valid permit and an "A" permit which can only be authorized by the Athletics Department.

6. On days of home football games, the C1, C2, and R15 parking lots (west and east of Jones Stadium, and west of the Athletic Training Center), are reserved for gameday football parking permit holders. **VEHICLES PARKED IN THESE LOTS NOT DISPLAYING A VALID GAMEDAY FOOTBALL PARKING PERMIT MAY BE TOWED BY THE ATHLETICS DEPARTMENT THROUGH AN INDEPENDENT TOWING SERVICE AT THE VIOLATOR'S EXPENSE.**

7. Parking in the ~~north section of the C1 parking lot, west of aisle "F"~~, commuter lots adjacent to the United Spirit Arena is prohibited on days of home basketball games beginning two hours prior to game time (this includes all lots west of Indiana Avenue). This area is reserved for holders of special Athletics basketball parking permits. **VEHICLES PARKED IN THESE LOTS NOT DISPLAYING A SPECIAL ATHLETICS BASKETBALL PARKING PERMIT MAY BE TOWED BY THE ATHLETICS DEPARTMENT THROUGH AN INDEPENDENT TOWING SERVICE AT THE VIOLATOR'S EXPENSE.**

F. Persons with disabilities may be issued disability access registration permits designed to assist them in campus mobility. Parking in spaces reserved for persons with disabilities requires the

correct registration permit and the appropriate state issued placard or license plate.

G. Motorcycle permits allow parking of motorcycles or mopeds in designated two-wheel areas. Permits must be permanently affixed to the top of the front headlight, front fender, or shock absorbers. Motorcycles are not permitted on the interior of the campus unless registered by a faculty or staff member who parks in a reserved parking space. Mopeds and motorcycles may not park in bicycle racks. All motorcycle permits expire in May.

H. Temporary registration permits will be issued for $2.00 per week for assignment to area parking and $3.00 per week for assignment to reserved parking. Temporary permits are not refundable. Certain temporary permits, which may be purchased in advance, are available for $1.00 per day.

I. Students attending summer school who have a valid summer school registration permit may utilize residence hall and commuter parking lots.

J. Students bringing a new motor vehicle on campus when the Traffic and Parking Office is closed are to report to the Texas Tech Police where a temporary one-day permit may be issued. This permit is intended to allow students sufficient time to register their new motor vehicle in accordance with these regulations.

III. Texas Tech Bookstore

Time limit parking is available for Texas Tech Bookstore patrons. Individuals may enter the campus at University Avenue and 15th Street and proceed directly to the lot west of the Bookstore. Parking is limited to 30 minutes and is restricted for use by Bookstore patrons only.

IV. Visitor and Time Limit

A. Visitors are welcome to the campus and special parking areas are set aside for them. Visitor passes are required throughout the University campus during the hours of 7:30a.m. to 3:00p.m., Monday through Friday, excluding University holidays. Visitor passes may be obtained at any entry station.

1. Visitors' motor vehicles parked in areas not designated for visitor parking are subject to receiving a campus citation and being impounded at the owner's expense.

2. Use of outdated or altered visitor passes is prohibited.

B. Designated time limit parking areas are enforced from 7:30a.m. to 5:30p.m., Monday through Friday, unless otherwise posted.

V. Service and Vendor Vehicle Parking

Service and vendor motor vehicles found to be blocking a street or creating a hazard may be ticketed and impounded.

A. University Service Vehicle Parking: Faculty, staff, and students who operate Texas Tech University service vehicles on campus should become familiar with the contents of *Operating Policy/Procedure 78.18.* University service vehicles may be parked only in the following areas which are listed in priority order:

1. Service area or service drive must be used if the building has one.

2. Time Limit space.

3. Visitor space.

4. On-street parking.

B. Vendor Parking: Vendor vehicles may be parked only in the following areas which are listed in priority order:

1. Service area or service drive MUST be used if the building has one.

2. Time Limit space.

3. Visitor space.

4. On-street parking.

C. Construction Contractor Parking

1. Parking space for construction contractor vehicles will be designated by the Manager of Traffic and Parking Services or by the contracting department (i.e., Building Maintenance, Grounds Maintenance, etc.) on the University campus.

PARKING FEES AND REFUNDS
FY 2000-2001

	Faculty/Staff		Faculty/Staff		Residence				Two-Wheeled	
	Reserved		Area Reserved		Halls		Commuter		Vehicles	
	12 Months		12 Months		9 Months		9 Months		12 Months	
Rates Through	Cost	Refund	Cost	Refund	Cost	Refund	Cost	Refund	Cost	Refund
June 30	[THESE FIGURES WILL BE CALCULATED BASED ON ACTION TAKEN BY THE BOARD OF REGENTS ON THE RECOMMENDATIONS OF THE FACILITIES COMMITTEE.]									
July 31										
Aug. 31										
Sept. 30										
Oct. 31										
Nov. 30										
Dec. 31										
Jan. 31										
Feb. 29										
March 31										
April 30										
May 15										

SUMMER SCHOOL SESSIONS

Permit for First and Second Summer Sessions	Cost	Refund
June 30		
July 31		
Aug. 31		
Permit for First OR Second Session Only		

Refunds are based on the above schedule and cannot be given unless identifiable remnants of the permit(s) are presented at the time of the refund request.

APPENDIX B
TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER
2000-2001

I. The following are the rules and regulations that apply to all of the Health Sciences Center campuses, where applicable, including fee and refund schedules to be effective for the academic year for students and the fiscal year for faculty/staff.

II. Types of Motor Vehicle Registration Permits

A. Reserved parking spaces are assigned to full-time faculty and staff and part-time faculty and staff not enrolled as students as space is available. Any space remaining after the needs of the faculty and staff are met will be available for assignment to part-time instructors, graduate teaching assistants, and graduate research assistants who hold contracts for one-half time or more. Such assignments may be revoked as necessary to accommodate regular faculty and staff requirements.

1. Non-transferable permits will be issued for reserved spaces. The permit will contain the lot and space number assigned to the registrant. The space is reserved from 6:30 a.m. to 5:30 p.m., Monday through Friday, year-round, excluding holidays.

2. Access to the campus during the hours that parking spaces are reserved is restricted to vehicles with valid parking permits, visitors, and patients.

B. Reserved Area parking spaces are available to qualified faculty and staff in certain designated parking lots. Non-transferable permits will be issued for all area reserved lots.

C. Reserved Area parking spaces may be purchased by part-time employees (less than 20 hours a week) at half the specified cost. An approved PAF form must accompany the vehicle registration form.

D. Renewal notices for persons assigned reserved and area reserved spaces are sent out prior to the end of the Spring Semester. Employees must renew their vehicle registration by the date stated in the renewal notice. Payment may be made by credit card (Visa, MasterCard, and Discover), cash, ~~or~~ personal check~~.~~ or payroll deduction. (Payroll deduction is available at the Amarillo, El Paso, and Lubbock campuses.)

At the Lubbock campus, vehicle registration can be made at the "Traffic and Parking On-Line Parking Permits" site at the TTUHSC home page (http://www.ttuhsc.edu/) under Site Directory at Administrative. Credit card information may be entered directly into this site and personal checks can be mailed through campus mail to Room 2C190. This site is "secure" and all data entered will be protected.

E. Commuter permits will be issued for motor vehicles belonging to students.

1. Commuter permits will be of the non-transferable type.

2. Commuter permits are issued to the individual vehicle and ownership is not transferable. Use of a commuter permit by anyone other than the individual to whom it was issued is not permitted. Violation of this regulation may result in ticketing, impoundment, and loss of all parking privileges on campus, including parking for the academic year for all parties involved.

3. Parking is available in certain designated lots.

4. Health Sciences Center commuter permits will be allowed in commuter lots around the periphery of the Tech campus.

5. At the Lubbock campus, students are encouraged to submit their vehicle registration on-line at http://www.ttuhsc.edu/ under Site Directory at Administrative.

F. Persons with disabilities may be issued disability access motor vehicle registration permits designed to assist them in campus mobility.

1. Parking in spaces reserved for persons with disabilities requires the correct motor vehicle registration permit and the appropriate state issued placard or license plate.

2. State placards or license plates must be displayed at all times when a vehicle is parked in these areas.

3. The designated disability parking areas are reserved 24 hours daily.

G. Motorcycle registration permits will allow parking of motorcycles or mopeds in designated two-wheel areas. Motorcycle registration permits must be permanently affixed to the top of the front headlight, front fender or shock absorbers. Mopeds and motorcycles may not park in bicycle racks. All motorcycle registration permits expire in August.

H. Temporary registration permits will be issued for $2.00 per week for assignment to area parking and $3.00 per week for assignment to reserved space parking. Temporary permits are not refundable.

III. General Regulations

A. Persons who hold a Thompson Hall motor vehicle registration permit (R-25 or C-5) may park in the visitors lots at the Health Sciences Center (A1, B1, C1). If the employee will be parking for an extended period of time, they should park in the A3, B3, or C3 parking areas.

B. Persons who hold a Health Sciences Center parking permit (A2, A3, B2, B3, C2, C3 or E1) may park in the R-25 visitor's area at Thompson Hall. If the employee will be parking for an extended period of time, they should park in the C5 parking area.

C. Persons who hold a motor vehicle registration permit for reserved or area reserved parking from any Health Sciences Center campus may park in a designated visitor's area when visiting another campus.

IV. Visitor and Patient Parking
Visitors and patients are welcome on the campus. Special parking areas are designated for patients and visitors. Visitors' motor vehicles parked in areas not designated for visitor parking are subject to receiving a campus citation.

V. Time Limit
Designated time limit parking areas are enforced from 7:30 a.m. to 4:00 p.m., Monday through Friday, unless otherwise posted.

VI. Loading Dock
Parking at the loading dock is enforced 24 hours daily.

VII. Service and Vendor Vehicle Parking
Service and vendor motor vehicles found to be blocking a street or creating a hazard may be ticketed and impounded.

A. University Service Vehicle Parking
Faculty, staff, and students who operate Texas Tech service vehicles on campus should become familiar with the contents of Health Sciences Center Operating Policy/Procedure 76.37. Texas Tech service vehicles may be parked only in the following areas which are listed in priority order:

1. In designated service vehicle parking at the loading dock.

2. Time limit space for specified time.

3. Visitor space.

4. On-street parking.

B. Vendor Parking
Vehicles belonging to vendors may be parked only in the following areas which are listed in priority order:

1. In designated service vehicle parking at the loading dock.

2. Visitor parking.

C. Contractor Parking

1. Contractors may obtain, at no charge, a construction permit for their trucks or cars from the TTUHSC Traffic and Parking Office, Room ~~BAB007~~ 2C190 (located next to the ~~Lockshop in the basement of Pod A).~~ Bursar's Office on the 2nd Floor of Wing C).

2. Contractors must display parking permit on the rear view mirror.

3. Parking for contractors is limited to the following area:

   a. Contractor's parking lots are specifically designated locations on each campus.

   b. Parking outside the designated Contractor's lot is a violation of the parking regulations and does subject the vehicle to a citation and/or impoundment.

VIII. Parking Fees and Refunds - Texas Tech University Health Sciences Center

2000-2001 Rates Through	Faculty/Staff Reserved Space		Faculty/Staff Area Reserved		Faculty/Staff F-3 Area Reserved		Commuter		Commuter		Two-Wheeler	
	12 months		12 months		12 months		12 months		9 months		12 months	
	Cost	Refund	Cost	Refund	Cost	Refund	Cost	Refund	Cost	Refund	Cost	Refund
Sep. 30	$125.00	$109.60	$91.00	$77.35	$65.00	$54.60	$65.00	$54.60	$49.00	$38.55	$20.00	$13.35
Oct. 31	114.60	99.15	83.70	70.40	59.80	49.15	59.80	49.15	43.55	33.10	18.35	11.65
Nov. 30	104.15	88.75	76.40	63.45	54.60	43.70	54.60	43.70	38.10	27.70	16.65	10.00
Dec. 31	93.75	78.30	69.10	56.50	49.40	38.25	49.40	38.25	32.70	22.25	15.00	8.30
Jan. 31	83.30	67.90	61.80	49.55	44.20	32.80	44.20	32.80	27.25	16.80	13.30	6.65
Feb. 28	72.90	57.50	54.50	42.60	39.00	27.35	39.00	27.35	21.80	11.35	11.65	5.00
Mar. 31	62.50	47.05	47.20	35.65	33.80	21.90	33.80	21.90	16.35	5.90	10.00	3.30
Apr. 30	52.05	36.65	39.90	28.70	28.60	16.45	28.60	16.45	10.90	0.00	8.30	1.65
May. 31	41.65	26.20	32.60	21.75	23.40	11.00	23.40	11.00	5.50	0.00	6.65	0.00
Jun. 30	31.20	15.80	25.30	14.80	18.20	5.55	18.20	5.55			4.95	0.00
Jul. 31	20.80	5.40	18.00	7.85	13.00	0.00	13.00	0.00			3.30	0.00
Aug. 31	10.40	0.00	9.70	0.00	7.80	0.00	7.80	0.00			1.65	0.00

Refunds are based on the schedule.
Refunds will not be given unless identifiable remnants of the permit(s) are presented at the time of the refund request.

Additional Permits (after two)	$2.00
Replacement Permits w/identifiable remnants; non-transferable permit	$2.00
Temporary Permits (Non-Refundable)	
Area Parking per Week	$2.00
Reserved Space per Week	$3.00

AMENDED AND RESTATED SEVENTH SUPPLEMENTAL RESOLUTION TO THE MASTER RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM REVENUE FINANCING SYSTEM BONDS, SEVENTH SERIES (2000) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO

AMENDED AND RESTATED SEVENTH SUPPLEMENTAL RESOLUTION TO THE MASTER RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM REVENUE FINANCING SYSTEM BONDS, SEVENTH SERIES (2000), AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO

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AMENDED AND RESTATED SEVENTH SUPPLEMENTAL RESOLUTION TO THE MASTER RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM REVENUE FINANCING SYSTEM BONDS, SEVENTH SERIES (2000) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO

WHEREAS, on October 21, 1993, the Board of Regents of Texas Tech University (now known as the Board of Regents of Texas Tech University System, and herein referred to either as the "Board" or the "Issuer"), acting separately and independently for and on behalf of Texas Tech University ("TTU") and separately and independently for and on behalf of Texas Tech University Health Sciences Center (the "Health Sciences Center"),which resolution, together with the resolutions adopted November 8, 1996 and on August 22, 1997, is referred to herein as the "Master Resolution"; and

WHEREAS, unless otherwise defined herein, terms used herein shall have the meaning given in the Master Resolution; and

WHEREAS, the Master Resolution establishes the Revenue Financing System comprised of TTU and the Health Sciences Center, and pledges the Pledged Revenues to the payment of Parity Obligations to be outstanding under the Master Resolution; and

WHEREAS, the Board heretofore has adopted a "**RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING BONDS, FIRST SERIES (1993) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO**" (defined as the "First Supplement") and pursuant to the First Supplement to the Master Resolution issued its "***BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING BONDS, FIRST SERIES (1993)***" in the aggregate principal amount of $46,420,000 as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, the Board heretofore has adopted a "**RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM BONDS, SECOND SERIES (1995) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO**" (defined as the "Second Supplement") and pursuant to the Second Supplement to the Master Resolution issued its "***BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM BONDS, SECOND SERIES (1995)***" in the

aggregate principal amount of $25,000,000 as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, the Board heretofore has adopted a **"RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING AND IMPROVEMENT BONDS, THIRD SERIES (1996) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO"** (defined as the "Third Supplement") and pursuant to the Third Supplement to the Master Resolution issued its ***"BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING AND IMPROVEMENT BONDS, THIRD SERIES (1996)"*** in the aggregate principal amount of $71,285,000 as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, the Board heretofore has adopted a **"RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM BONDS, FOURTH SERIES (TAXABLE 1996) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO"** (defined as the "Fourth Supplement") and pursuant to the Fourth Supplement to the Master Resolution issued its ***"BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM BONDS, FOURTH SERIES (TAXABLE 1996)"*** in the aggregate principal amount of $7,380,000 as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, the Board heretofore has adopted a **"FIFTH SUPPLEMENTAL RESOLUTION TO THE MASTER RESOLUTION ESTABLISHING THE REVENUE FINANCING SYSTEM COMMERCIAL PAPER PROGRAM AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO"** (defined as the "Fifth Supplement") and pursuant to the Fifth Supplement to the Master Resolution has the authority to issue at any one time outstanding up to $100,000,000 in aggregate principal amount of its ***"BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM COMMERICAL PAPER NOTES, SERIES A"*** as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, on February 12, 1999, the Board adopted an **"AMENDED AND RESTATED SIXTH SUPPLEMENTAL RESOLUTION TO THE MASTER RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING AND IMPROVEMENT BONDS, SIXTH SERIES (1999) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO"** (defined as the "Sixth Supplement") and pursuant to the Sixth Supplement to the Master Resolution issued its ***"BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM REFUNDING***

AND IMPROVEMENT BONDS, SIXTH SERIES (1999)" in the aggregate principal amount of $115,100,000 as Parity Obligations under the terms of the Master Resolution; and

WHEREAS, the Board reserved the right under the terms of the Master Resolution to issue obligations on a parity with the outstanding Parity Obligations; and

WHEREAS, on October 1, 1999, the Board adopted a **"RESOLUTION AUTHORIZING THE ISSUANCE, SALE, AND DELIVERY OF BOARD OF REGENTS OF TEXAS TECH UNIVERSITY REVENUE FINANCING SYSTEM BONDS, SEVENTH SERIES (1999) AND APPROVING AND AUTHORIZING INSTRUMENTS AND PROCEDURES RELATING THERETO"**; and

WHEREAS, the sale of the bonds authorized to be issued by said resolution was not effected by the deadline set forth in said resolution; and

WHEREAS, the bonds authorized to be issued by this Seventh Supplement (the "Bonds") are to be issued and delivered pursuant to Chapter 55, Texas Education Code, Chapter 1371, Texas Government Code, and other applicable laws.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM THAT:

Section 1. **DEFINITIONS**. In addition to the definitions set forth in the preamble of this Seventh Supplement, the terms used in this Seventh Supplement (except in the FORM OF BONDS) and not otherwise defined shall have the meanings given in the Master Resolution or in Exhibit "A" to this Seventh Supplement attached hereto and made a part hereof.

Section 2. **AMOUNT, PURPOSE, AND DESIGNATION OF THE BONDS.** (a) ***Maximum Amount Authorized***. The "***BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM REVENUE FINANCING SYSTEM BONDS, SEVENTH SERIES (2000)***", are hereby authorized to be issued and delivered in the aggregate principal amount not to exceed $21,000,000 ***FOR THE PURPOSE OF (i) ACQUIRING, PURCHASING, CONSTRUCTING, IMPROVING, RENOVATING, ENLARGING OR EQUIPPING PROPERTY, BUILDINGS, STRUCTURES, FACILITIES, ROADS, OR RELATED INFRASTRUCTURE FOR TTU AND THE HEALTH SCIENCES CENTER, AND (ii) PAYING THE COSTS RELATED THERETO***.

(b) ***New Money Authorization***. The Bonds authorized for the purposes described in clause (i) of subsection (a) of this Section are being issued by the Board under authority of Chapter 55, Texas Education Code, particularly Section 55.13 thereof. The Chief Financial Officer shall execute such documentation as

may be required by the Public Finance Division of the Office of the Attorney General to describe the specific projects for which the Bonds authorized for the purposes described in clause (i) of subsection (a) of this Section are being issued.

Section 3. **DATE, DENOMINATIONS, NUMBERS, MATURITIES AND TERMS OF BONDS.** (a) ***Terms of Bonds***. Initially there shall be issued, sold, and delivered hereunder fully registered bonds, without interest coupons, numbered consecutively from R-1 upward, payable to the respective initial registered owners thereof, or to the registered assignee or assignees of said bonds or any portion or portions thereof (in each case, the "Registered Owner"), in the denomination of $5,000 or any integral multiple thereof (an "Authorized Denomination"), maturing not later than February 15, 2030, serially or otherwise on the dates, in the years and in the principal amounts, respectively, and dated, all as determined in the manner provided below. The foregoing notwithstanding, (i) the price to be paid for the Bonds shall not be less than 95% of the aggregate principal amount thereof, (ii) none of the Bonds shall bear interest at a rate greater than 10% per annum, and (iii) the Bonds shall not be delivered unless (A) prior to the execution of the Bond Purchase Contract, the approval of the issuance of the Bonds by the Texas Bond Review Board has been received and (B) the Bonds have been rated by a nationally recognized rating agency for municipal securities in one of the four highest rating categories for long term obligations, as required by Chapter 1371, Texas Government Code. The authority hereby granted by the Board to the Pricing Committee expires at 5:00 p.m., Thursday, May 11, 2000.

(b) ***Method of Sale of the Bonds***. The determination of the method of the sale of the Bonds, whether by negotiated sale, competitive sale or other method, is hereby delegated to the Chief Financial Officer. The actual sale of the Bonds shall be approved by a resolution duly adopted by the Pricing Committee. Should the Chief Financial Officer determine that a negotiated sale with an underwriter or a syndicate of underwriters is in the best interests of the Board, the Pricing Committee, in the resolution approving the sale of the Bonds, that such selection was made in accordance with standing criteria of the Board with respect to making such a selection. The Chief Financial Officer is hereby further authorized, on behalf of the Board, to negotiate with the senior managing underwriter acting on their behalf and on behalf of the other investment banking firms comprising the underwriting syndicate, and as named in the Bond Purchase Contract (such firms, together with the senior managing underwriter, are hereafter collectively referred to as the "Underwriters") to assure that the Bonds are sold on the most advantageous terms to the Board. Should the Chief Financial Officer determine that a competitive sale is in the best interests of the Board, the Pricing Committee, in the resolution awarding the sale of the Bonds, shall find, determine and declare that the Bonds were sold to the highest bidder at terms that were the most advantageous to the Board.

(c) ***Sale of the Bonds.*** As authorized by Chapter 1371, Texas Government Code, the Chief Financial Officer is hereby authorized, appointed, and designated to act on behalf of the Board in the selling and delivering the Bonds and carrying out the other procedures specified in this Seventh Supplement, including determining and fixing the date of the Bonds, any additional designation or title by which the Bonds shall be known, the price at which the Bonds will be sold, the years in which the Bonds will mature, the principal amount to mature in each of such years, and the aggregate principal amount of the Bonds, the rate or rates of interest to be borne by each such maturity, the interest payment periods, the dates, price, and terms upon and at which the Bonds shall be subject to redemption prior to maturity at the option of the Issuer, as well as any mandatory sinking fund redemption provisions, and all other matters relating to the issuance, sale, and delivery of the Bonds, including, without limitation, the use of municipal bond insurance for the Bonds, all of which shall be approved by the Pricing Committee in the resolution approving or awarding the sale of the Bonds. In addition, in such resolution, the Pricing Committee shall have the authority to determine to what extent the Bonds shall be issued as tax-exempt obligations under section 103 of the Code, obligations not to be treated as tax-exempt obligations under section 103 of the Code, or a combination thereof, which determination shall be recited in, and applicable covenants with respect thereto contained in, said resolution. Should the Bonds be sold through a negotiated sale with the Underwriters, upon the approval of a Bond Purchase Contract by the Pricing Committee, the Chief Financial Officer, acting for and on behalf of the Board, is authorized to enter into with the Underwriters and carry out a Bond Purchase Contract for the Bonds, at such price and subject to such terms as are set forth therein.

(d) ***In General.*** The Bonds (i) may and shall be redeemed prior to the respective scheduled maturity dates, (ii) may be assigned and transferred, (iii) may be exchanged for other Bonds, (iv) shall have the characteristics, and (v) shall be signed and sealed, and the principal of and interest on the Bonds shall be payable, all as provided, and in the manner required or indicated, in the FORM OF BONDS set forth in Exhibit B to this Seventh Supplement and as determined by the Chief Financial Officer as provided herein, with such changes and additions as are necessary to conform the FORM OF BONDS to the terms of the sale of the Bonds.

Section 4. **INTEREST**. The Bonds shall bear interest calculated on the basis of a 360-day year composed of twelve 30-day months from the dates specified in the FORM OF BONDS to their respective dates of maturity at the rates approved by the Pricing Committee.

Section 5. **REGISTRATION, TRANSFER, AND EXCHANGE; AUTHENTICATION; BOOK-ENTRY ONLY SYSTEM.** (a) ***Paying Agent/Registrar.*** U.S. Trust Company of Texas, N.A., is hereby appointed to act as the Paying Agent/Registrar for the Bonds. Any Board Representative is

authorized to enter into and carry out a Paying Agent/Registrar Agreement with the Paying Agent/Registrar with respect to the Bonds.

(b) ***Registration Books***. The Issuer shall keep or cause to be kept at the corporate trust office of the Paying Agent/Registrar designated in the Paying Agent/Registrar Agreement (the "Designated Trust Office") books or records for the registration of the transfer, exchange, and replacement of the Bonds (the "Registration Books"), and the Issuer hereby appoints the Paying Agent/Registrar as its registrar and transfer agent to keep such books or records and make such registrations of transfers, exchanges, and replacements under such reasonable regulations as the Issuer and Paying Agent/Registrar may prescribe; and the Paying Agent/Registrar shall make such registrations, transfers, exchanges, and replacements as herein provided. The Paying Agent/Registrar shall obtain and record in the Registration Books the address of the registered owner of each Bond to which payments with respect to the Bonds shall be mailed, as herein provided; but it shall be the duty of each registered owner to notify the Paying Agent/Registrar in writing of the address to which payments shall be mailed, and such interest payments shall not be mailed unless such notice has been given. The Issuer shall have the right to inspect the Registration Books at the Designated Trust Office of the Paying Agent/Registrar during regular business hours, but otherwise the Paying Agent/Registrar shall keep the Registration Books confidential and, unless otherwise required by law, shall not permit their inspection by any other entity.

(c) ***Ownership of Bonds***. The entity in whose name any Bond shall be registered in the Registration Books at any time shall be deemed and treated as the absolute owner thereof for all purposes of this Seventh Supplement, whether or not such Bond shall be overdue, and, to the extent permitted by law, the Issuer and the Paying Agent/Registrar shall not be affected by any notice to the contrary; and payment of, or on account of, the principal of, premium, if any, and interest on any such Bond shall be made only to such registered owner. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid.

(d) ***Payment of Bonds and Interest***. The Paying Agent/Registrar shall further act as the paying agent for paying the principal of, premium, if any, and interest on the Bonds, all as provided in this Seventh Supplement. The Paying Agent/ Registrar shall keep proper records of all payments made by the Issuer and the Paying Agent/Registrar with respect to the Bonds.

(e) ***Authentication***. The Bonds initially issued and delivered pursuant to this Seventh Supplement shall be authenticated by the Paying Agent/Registrar by execution of the Paying Agent/Registrar's Authentication Certificate unless they have been approved by the Attorney General of the State of Texas and registered by the Comptroller of Public Accounts of the State of Texas, and on each substitute Bond issued in exchange for any Bond or Bonds issued under

this Seventh Supplement the Paying Agent/Registrar shall execute the PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE (the "Authentication Certificate"). The Authentication Certificate shall be in the form set forth in the FORM OF BONDS.

(f) ***Transfer, Exchange, or Replacement.*** Each Bond issued and delivered pursuant to this Seventh Supplement, to the extent of the unpaid or unredeemed principal amount thereof, may, upon surrender of such Bond at the Designated Trust Office of the Paying Agent/Registrar, together with a written request therefor duly executed by the registered owner or the assignee or assignees thereof, or its or their duly authorized attorneys or representatives, with guarantee of signatures satisfactory to the Paying Agent/Registrar, may, at the option of the registered owner or such assignee or assignees, as appropriate, be exchanged for fully registered bonds, without interest coupons, in the appropriate form prescribed in the FORM OF BONDS set forth in this Seventh Supplement, in any Authorized Denomination (subject to the requirement hereinafter stated that each substitute Bond shall be of the same series and have a single stated maturity date), as requested in writing by such registered owner or such assignee or assignees, in an aggregate principal amount equal to the unpaid or unredeemed principal amount of any Bond or Bonds so surrendered, and payable to the appropriate registered owner, assignee, or assignees, as the case may be. If a portion of any Bond shall be redeemed prior to its scheduled maturity as provided herein, a substitute Bond or Bonds having the same series designation and maturity date, bearing interest at the same rate, and payable in the same manner, in Authorized Denominations at the request of the registered owner, and in aggregate principal amount equal to the unredeemed portion thereof, will be issued to the registered owner upon surrender thereof for cancellation. If any Bond or portion thereof is assigned and transferred, each Bond issued in exchange therefor shall have the same series designation and maturity date and bear interest at the same rate and payable in the same manner as the Bond for which it is being exchanged. Each substitute Bond shall bear a letter and/or number to distinguish it from each other Bond. The Paying Agent/Registrar shall exchange or replace Bonds as provided herein, and each fully registered bond delivered in exchange for or replacement of any Bond or portion thereof as permitted or required by any provision of this Seventh Supplement shall constitute one of the Bonds for all purposes of this Seventh Supplement, and may again be exchanged or replaced. On each substitute Bond issued in exchange for or replacement of any Bond or Bonds issued under this Seventh Supplement there shall be printed an Authentication Certificate, in the form set forth in Exhibit B to this Seventh Supplement. An authorized representative of the Paying Agent/Registrar shall, before the delivery of any such Bond, date and manually sign the Authentication Certificate, and, except as provided in (e) above, no such Bond shall be deemed to be issued or outstanding unless the Authentication Certificate is so executed. The Paying Agent/Registrar promptly shall cancel all Bonds surrendered for transfer, exchange, or replacement. No additional orders or resolutions need be passed or adopted by

the Issuer or any other body or person so as to accomplish the foregoing transfer, exchange, or replacement of any Bond or portion thereof, and the Paying Agent/Registrar shall provide for the printing, execution, and delivery of the substitute Bonds in the manner prescribed herein, and said Bonds shall be in typed or printed form as determined by a Board Representative. Pursuant to Chapter 1206, Texas Government Code, the duty of transfer, exchange, or replacement of Bonds as aforesaid is hereby imposed upon the Paying Agent/Registrar, and, upon the execution of the Authentication Certificate, the exchanged or replaced Bond shall be valid, incontestable, and enforceable in the same manner and with the same effect as the Bonds which were originally issued pursuant to this Seventh Supplement. The Issuer shall pay the Paying Agent/Registrar's standard or customary fees and charges, if any, for transferring and exchanging any Bond or any portion thereof, but the one requesting any such transfer and exchange shall pay any taxes or governmental charges required to be paid with respect thereto as a condition precedent to the exercise of such privilege. The Paying Agent/Registrar shall not be required to make any such transfer, exchange, or replacement of Bonds or any portion thereof (i) during the period commencing with the close of business on any Record Date and ending with the opening of business on the next following interest payment date, or, (ii) with respect to any Bond or portion thereof called for redemption prior to maturity, within 45 days prior to its redemption date. To the extent possible, any new Bond issued in an exchange, replacement, or transfer of a Bond will be delivered to the registered owner or assignee of the registered owner not more than three business days after the receipt of the Bonds to be cancelled and the written request as described above.

(g) ***Substitute Paying Agent/Registrar***. The Issuer covenants with the registered owners of the Bonds that at all times while the Bonds are outstanding the Issuer will provide a competent and legally qualified bank, trust company, financial institution, or other agency to act as and perform the services of Paying Agent/Registrar for the Bonds under this Seventh Supplement, and that the Paying Agent/Registrar will be one entity. The Issuer reserves the right to, and may, at its option, change the Paying Agent/Registrar upon not less than 120 days written notice to the Paying Agent/Registrar, to be effective not later than 60 days prior to the next principal or interest payment date after such notice. In the event that the entity at any time acting as Paying Agent/Registrar (or its successor by merger, acquisition, or other method) should resign or otherwise cease to act as such, the Issuer covenants that promptly it will appoint a competent and legally qualified bank, trust company, financial institution, or other agency to act as Paying Agent/Registrar under this Seventh Supplement. Upon any change in the Paying Agent/Registrar, the previous Paying Agent/Registrar promptly shall transfer and deliver the Registration Books (or a copy thereof), along with all other pertinent books and records relating to the Bonds, to the new Paying Agent/Registrar designated and appointed by the Issuer. Upon any change in the Paying Agent/Registrar, the Issuer promptly will cause a written notice thereof to be sent by the new Paying Agent/Registrar to each registered

owner of the Bonds, by United States mail, first-class postage prepaid, which notice also shall give the address of the new Paying Agent/Registrar. By accepting the position and performing as such, each Paying Agent/Registrar shall be deemed to have agreed to the provisions of this Seventh Supplement, and a certified copy of this Seventh Supplement shall be delivered to each Paying Agent/Registrar.

(h) ***Book-Entry Only System***. The Bonds issued in exchange for the Bonds initially issued and delivered to the Underwriters shall be issued in the form of a separate single fully registered Bond for each of the maturities thereof registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), and except as provided in subsection (i) hereof, all of the Outstanding Bonds shall be registered in the name of Cede & Co., as nominee of DTC. A "Blanket DTC Letter of Representations" in connection with utilizing the DTC Book-Entry Only System has been executed by a Board Representative.

With respect to Bonds registered in the name of Cede & Co., as nominee of DTC, the Board and the Paying Agent/Registrar shall have no responsibility or obligation to any DTC Participant or to any person on behalf of whom such a DTC Participant holds an interest on the Bonds. Without limiting the immediately preceding sentence, the Board and the Paying Agent/Registrar shall have no responsibility or obligation with respect to (i) the accuracy of the records of DTC, Cede & Co. or any DTC Participant with respect to any ownership interest in the Bonds, (ii) the delivery to any DTC Participant or any other person, other than a Bondholder, as shown on the Registration Books, of any notice with respect to the Bonds, including any notice of redemption, or (iii) the payment to any DTC Participant or any other person, other than a Bondholder, as shown in the Registration Books of any amount with respect to principal of, premium, if any, or interest on the Bonds. Notwithstanding any other provision of this Seventh Supplement to the contrary but to the extent permitted by law, the Board and the Paying Agent/Registrar shall be entitled to treat and consider the person in whose name each Bond is registered in the Registration Books as the absolute owner of such Bond for the purpose of payment of principal, premium, if any, and interest, with respect to such Bond, for the purpose of giving notices of redemption and other matters with respect to such Bond, for the purpose of registering transfers with respect to such Bond, and for all other purposes whatsoever. The Paying Agent/Registrar shall pay all principal of, premium, if any, and interest on the Bonds only to or upon the order of the respective owners, as shown in the Registration Books as provided in this Seventh Supplement, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the Board's obligations with respect to payment of principal of, premium, if any, and interest on the Bonds to the extent of the sum or sums so paid. No person other than an owner, as shown in the Registration Books, shall receive a Bond certificate evidencing the obligation of the Board to make payments of principal, premium, if

any, and interest pursuant to this Seventh Supplement. Upon delivery by DTC to the Paying Agent/Registrar of written notice to the effect that DTC has determined to substitute a new nominee in place of Cede & Co., and subject to the provisions in this Seventh Supplement with respect to interest checks being mailed to the registered owner at the close of business on the Record Date, the word "Cede & Co." in this Seventh Supplement shall refer to such new nominee of DTC.

(i) ***Successor Securities Depository; Transfers Outside Book-Entry Only System.*** In the event that the Board or the Paying Agent/Registrar determines that DTC is incapable of discharging its responsibilities described herein and in the representation letter of the Board to DTC described in subsection (h) of this Section or DTC determines to discontinue providing its services with respect to the Bonds, the Board shall (i) appoint a successor securities depository, qualified to act as such under Section 17(a) of the Securities and Exchange Act of 1934, as amended, notify DTC and DTC Participants of the appointment of such successor securities depository and transfer one or more separate Bonds to such successor securities depository or (ii) notify DTC and DTC Participants of the availability through DTC of Bonds and transfer one or more separate Bonds to DTC Participants having Bonds credited to their DTC accounts. In such event, the Bonds shall no longer be restricted to being registered in the Registration Books in the name of Cede & Co., as nominee of DTC, but may be registered in the name of the successor securities depository, or its nominee, or in whatever name or names Bondholders transferring or exchanging Bonds shall designate, in accordance with the provisions of this Seventh Supplement.

(j) ***Payments to Cede & Co.*** Notwithstanding any other provision of this Seventh Supplement to the contrary, so long as any Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal of, premium, if any, and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, in the manner provided in the representation letter of the Board to DTC.

(k) ***Notice of Redemption.*** In addition to the method of providing a notice of redemption set forth in the FORM OF BONDS, the Paying Agent/Registrar shall give notice of redemption of Bonds by mail, first-class postage prepaid at least thirty (30) days prior to a redemption date to each registered securities depository and to any national information service that disseminates redemption notices. In addition, in the event of a redemption caused by an advance refunding of the Bonds, the Paying Agent/Registrar shall send a second notice of redemption to the persons specified in the immediately preceding sentence at least thirty (30) days but not more than ninety (90) days prior to the actual redemption date. Any notice sent to the registered securities depositories or such national information services shall be sent so that they are received at least two (2) days prior to the general mailing or publication date of such notice. The Paying Agent/Registrar shall also send a notice of prepayment

or redemption to the registered owner of any Bond who has not sent the Bonds in for redemption sixty (60) days after the redemption date.

Each Notice of Redemption, whether required in the FORM OF BONDS or in this Section, shall contain a description of the Bonds to be redeemed including the complete name of the Bonds, the Series, the date of issue, the interest rate, the maturity date, the CUSIP number, the amounts of maturity so called for redemption, the publication and mailing date for the notice, the date of redemption, the redemption price, the name of the Paying Agent/Registrar and the address at which the Bonds may be redeemed, including a contact person and telephone number.

All redemption payments made by the Paying Agent/Registrar to the registered owners of the Bonds shall include a CUSIP number relating to each amount paid to such registered owner.

Section 6. **FORM OF BONDS.** The forms of the Bonds, including the form of the Authentication Certificate, the form of Assignment and the form of Registration Certificate of the Comptroller of Public Accounts of the State of Texas, with respect to the Bonds initially issued and delivered to the Underwriters pursuant to this Seventh Supplement, shall be, respectively, substantially as set forth in Exhibit B, with such appropriate variations, omissions, or insertions as are permitted or required by this Seventh Supplement.

Section 7. **ESTABLISHMENT OF FINANCING SYSTEM AND ISSUANCE OF PARITY OBLIGATIONS.** By adoption of the Master Resolution the Board has established the Revenue Financing System for the purpose of providing a financing structure for revenue supported indebtedness of TTU and the Health Sciences Center. The Master Resolution is intended to establish a master plan under which revenue supported debt of the Financing System can be incurred. This Seventh Supplement provides for the authorization, issuance, sale, delivery, form, characteristics, provisions of payment and redemption, and security of the Bonds which are the seventh series of Parity Obligations issued under the terms of the Master Resolution. The Master Resolution is incorporated herein by reference and as such made a part hereof for all purposes, except to the extent modified and supplemented hereby, and the Bonds are hereby declared to be Parity Obligations under the Master Resolution. As required by Section 5(a) of the Master Resolution, the Board hereby determines, in connection with the issuance of the Bonds, that it will have sufficient funds, including sufficient Pledged Revenues to satisfy the Annual Debt Service Requirements of the Financing System, and to meet all financial obligations of the Board relating to the Financing System. Furthermore, the Board hereby determines that TTU possesses the financial capability to satisfy its Direct Obligation in respect to the payment of the Annual Debt Service Requirements on the Bonds.

Section 8. **SECURITY AND PAYMENTS.** The Bonds are special obligations of the Board payable from and secured solely by the Pledged Revenues pursuant to the Master Resolution and this Seventh Supplement. The Pledged Revenues are hereby pledged, subject to the liens securing the Prior Encumbered Obligations, if any, to the payment of the principal of, premium, if any, and interest on the Bonds as the same shall become due and payable. The Board agrees to pay the principal of, premium, if any, and the interest on the Bonds when due, whether by reason of maturity or redemption. Currently, there are no outstanding Prior Encumbered Obligations.

Section 9. **PAYMENTS.** Semiannually on or before each principal or interest payment date while any of the Bonds are outstanding and unpaid, commencing on the first interest payment date for the Bonds, the Board shall make available to the Paying Agent/Registrar, money sufficient to pay such interest on and such principal of the Bonds as will accrue or mature, or be subject to mandatory redemption prior to maturity, on such principal, redemption, or interest payment date. The Paying Agent/Registrar shall cancel all paid Bonds and shall furnish the Board with an appropriate certificate of cancellation.

Section 10. **DAMAGED, MUTILATED, LOST, STOLEN, OR DESTROYED BONDS.** (a) ***Replacement Bonds***. In the event any outstanding Bond is damaged, mutilated, lost, stolen, or destroyed, the Paying Agent/Registrar shall cause to be printed, executed, and delivered, a new bond of the same Series, principal amount, maturity, and interest rate, and in the same form, as the damaged, mutilated, lost, stolen, or destroyed Bond, in replacement for such Bond in the manner hereinafter provided.

(b) ***Application for Replacement Bonds***. Application for replacement of damaged, mutilated, lost, stolen, or destroyed Bonds shall be made to the Paying Agent/Registrar. In every case of loss, theft, or destruction of a Bond, the applicant for a replacement bond shall furnish to the Issuer and to the Paying Agent/Registrar such security or indemnity as may be required by them to save each of them harmless from any loss or damage with respect thereto. Also, in every case of loss, theft, or destruction of a Bond, the applicant shall furnish to the Issuer and to the Paying Agent/Registrar evidence to their satisfaction of the loss, theft, or destruction of such Bond, as the case may be. In every case of damage or mutilation of a Bond, the applicant shall surrender to the Paying Agent/Registrar for cancellation the Bond so damaged or mutilated.

(c) ***Payment in Lieu of Replacement***. Notwithstanding the foregoing provisions of this Section, in the event any such Bond shall have matured, and no default has occurred which is then continuing in the payment of the principal of, redemption premium, if any, or interest on the Bond, the Issuer may authorize the payment of the same (without surrender thereof except in the case of a damaged or mutilated Bond) instead of issuing a replacement Bond, provided security or indemnity is furnished as above provided in this Section.

(d) ***Charge for Issuing Replacement Bonds***. Prior to the issuance of any replacement bond, the Paying Agent/Registrar shall charge the owner of such Bond with all legal, printing, and other expenses in connection therewith. Every replacement bond issued pursuant to the provisions of this Section by virtue of the fact that any Bond is lost, stolen, or destroyed shall constitute a contractual obligation of the Issuer whether or not the lost, stolen, or destroyed Bond shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Seventh Supplement equally and proportionately with any and all other Bonds duly issued under this Seventh Supplement.

(e) ***Authority for Issuing Replacement Bonds***. In accordance with Chapter 1206, Texas Government Code, this Section shall constitute authority for the issuance of any such replacement bond without the necessity of further action by the Issuer or any other body or person, and the duty of the replacement of such Bonds is hereby authorized and imposed upon the Paying Agent/Registrar, and the Paying Agent/Registrar shall authenticate and deliver such Bonds in the form and manner and with the effect, as provided in Section 5(f) of this Seventh Supplement for Bonds issued in exchange and replacement for other Bonds.

Section 11. **AMENDMENT OF SUPPLEMENT**. (a) ***Amendments Without Consent***. This Seventh Supplement and the rights and obligations of the Board and of the owners of the Bonds may be modified or amended at any time without notice to or the consent of any owner of the Bonds or any other Parity Obligations, solely for any one or more of the following purposes:

(i) To add to the covenants and agreements of the Board contained in this Seventh Supplement, other covenants and agreements thereafter to be observed, or to surrender any right or power reserved to or conferred upon the Board in this Seventh Supplement;

(ii) To cure any ambiguity or inconsistency, or to cure or correct any defective provisions contained in this Seventh Supplement, upon receipt by the Board of an opinion of Bond Counsel, that the same is needed for such purpose, and will more clearly express the intent of this Seventh Supplement;

(iii) To supplement the security for the Bonds, replace or provide additional credit facilities, or change the form of the Bonds or make such other changes in the provisions hereof as the Board may deem necessary or desirable and which shall not, in the judgment of the Board, materially adversely affect the interests of the owners of the Outstanding Bonds;

(iv) To make any changes or amendments requested by any bond rating agency then rating or requested to rate Parity Obligations, as

a condition to the issuance or maintenance of a rating, which changes or amendments do not, in the judgment of the Board, materially adversely affect the interests of the owners of the Outstanding Parity Obligations;

(v) To make such changes, modifications or amendments as may be necessary or desirable, which shall not adversely affect the interests of the owners of the Outstanding Parity Obligations, in order, to the extent permitted by law, to facilitate the economic and practical utilization of Credit Agreements with respect to the Parity Obligations; or

(vi) To make such other changes in the provisions hereof as the Board may deem necessary or desirable and which shall not, in the judgment of the Board, materially adversely affect the interests of the owners of Outstanding Parity Obligations.

Notice of any such amendment may be published by the Board in the manner described in subsection (c) of this Section; provided, however, that the publication of such notice shall not constitute a condition precedent to the adoption of such amendatory resolution and the failure to publish such notice shall not adversely affect the implementation of such amendment as adopted pursuant to such amendatory resolution.

(b) ***Amendments With Consent.*** Subject to the other provisions of this Seventh Supplement, the owners of Outstanding Bonds aggregating a majority in Outstanding Principal Amount shall have the right from time to time to approve any amendment, other than amendments described in subsection (a) of this Section, to this Seventh Supplement which may be deemed necessary or desirable by the Board; provided, however, that nothing herein contained shall permit or be construed to permit, without the approval of the owners of all of the Outstanding Bonds, the amendment of the terms and conditions in this Seventh Supplement or in the Bonds so as to:

(i) Make any change in the maturity of the Outstanding Bonds;

(ii) Reduce the rate of interest borne by Outstanding Bonds;

(iii) Reduce the amount of the principal payable on Outstanding Bonds;

(iv) Modify the terms of payment of principal of or interest on the Outstanding Bonds, or impose any conditions with respect to such payment;

(v) Affect the rights of the owners of less than all Bonds then Outstanding; or

(vi) Change the minimum percentage of the Outstanding Principal Amount of Bonds necessary for consent to such amendment.

(c) ***Notice***. If at any time the Board shall desire to amend this Seventh Supplement other than pursuant to subsection (a) above, the Board shall cause notice of the proposed amendment to be published in a financial newspaper or journal of general circulation in The City of New York, New York once during each calendar week for at least two successive calendar weeks. Such notice shall briefly set forth the nature of the proposed amendment and shall state that a copy thereof is on file at the principal office of the Registrar for inspection by all owners of Bonds. Such publication is not required, however, if the Board gives or causes to be given such notice in writing to each owner of Bonds.

(d) ***Receipt of Consents***. Whenever at any time not less than thirty days, and within one year, from the date of the first publication of said notice or other service of written notice of the proposed amendment the Board shall receive an instrument or instruments executed by all of the owners or the owners of at least a majority in Outstanding Principal Amount of Bonds, as appropriate, which instrument or instruments shall refer to the proposed amendment described in said notice and which specifically consent to and approve such amendment in substantially the form of the copy thereof on file as aforesaid, the Board may adopt the amendatory resolution in substantially the same form.

(e) ***Effect of Amendments***. Upon the adoption by the Board of any resolution to amend this Seventh Supplement pursuant to the provisions of this Section, this Seventh Supplement shall be deemed to be amended in accordance with the amendatory resolution, and the respective rights, duties, and obligations of the Board and all the owners of then Outstanding Bonds and all future Bonds shall thereafter be determined, exercised, and enforced under the Resolution and this Seventh Supplement, as amended.

(f) ***Consent Irrevocable***. Any consent given by any owner of Bonds pursuant to the provisions of this Section shall be irrevocable for a period of six months from the date of the first publication or other service of the notice provided for in this Section, and shall be conclusive and binding upon all future owners of the same Bonds during such period. Such consent may be revoked at any time after six months from the date of the first publication of such notice by the owner who gave such consent, or by a successor in title, by filing notice thereof with the Registrar and the Board, but such revocation shall not be effective if the owners of a majority in Outstanding Principal Amount of Bonds, prior to the attempted revocation, consented to and approved the amendment.

(g) ***Ownership***. For the purpose of this Section, the ownership and other matters relating to all Bonds registered as to ownership shall be determined from the registration books kept by the Registrar therefor. The Registrar may

conclusively assume that such ownership continues until written notice to the contrary is served upon the Registrar.

Section 12. **COVENANTS REGARDING TAX-EXEMPTION.** As stated in Section 3(c) of this Seventh Supplement, the Board has delegated to the Pricing Committee the authority to determine whether and to what extent all or a portion of the Bonds shall be issued as obligations described in section 103 of the Code.

Section 13. **SEVENTH SUPPLEMENT TO CONSTITUTE A CONTRACT; EQUAL SECURITY.** In consideration of the acceptance of the Bonds, the issuance of which is authorized hereunder, by those who shall hold the same from time to time, this Seventh Supplement shall be deemed to be and shall constitute a contract between the Board and the Holders from time to time of the Bonds and the pledge made in this Seventh Supplement by the Board and the covenants and agreements set forth in this Seventh Supplement to be performed by the Board shall be for the equal and proportionate benefit, security, and protection of all Holders, without preference, priority, or distinction as to security or otherwise of any of the Bonds authorized hereunder over any of the others by reason of time of issuance, sale, or maturity thereof or otherwise for any cause whatsoever, except as expressly provided in or permitted by this Seventh Supplement.

Section 14. **SEVERABILITY OF INVALID PROVISIONS.** If any one or more of the covenants, agreements, or provisions herein contained shall be held contrary to any express provisions of law or contrary to the policy of express law, though not expressly prohibited, or against public policy, or shall for any reason whatsoever be held invalid, then such covenants, agreements, or provisions shall be null and void and shall be deemed separable from the remaining covenants, agreements, or provisions and shall in no way affect the validity of any of the other provisions hereof or of the Bonds issued hereunder.

Section 15. **PAYMENT AND PERFORMANCE ON BUSINESS DAYS.** Except as provided to the contrary in the FORM OF BONDS, whenever under the terms of this Seventh Supplement or the Bonds, the performance date of any provision hereof or thereof, including the payment of principal of or interest on the Bonds, shall occur on a day other than a Business Day, then the performance thereof, including the payment of principal of and interest on the Bonds, need not be made on such day but may be performed or paid, as the case may be, on the next succeeding Business Day with the same force and effect as if made on the date of performance or payment.

Section 16. **LIMITATION OF BENEFITS WITH RESPECT TO THE SEVENTH SUPPLEMENT.** With the exception of the rights or benefits herein expressly conferred, nothing expressed or contained herein or implied from the provisions of this Seventh Supplement or the Bonds is intended or should be construed to confer upon or give to any person other than the Board, the

Holders, and the Paying Agent/Registrar, any legal or equitable right, remedy, or claim under or by reason of or in respect to this Seventh Supplement or any covenant, condition, stipulation, promise, agreement, or provision herein contained. This Seventh Supplement and all of the covenants, conditions, stipulations, promises, agreements, and provisions hereof are intended to be and shall be for and inure to the sole and exclusive benefit of the Board, the Holders, and the Paying Agent/Registrar as herein and therein provided.

Section 17. **CUSTODY, APPROVAL, BOND COUNSEL'S OPINION, CUSIP NUMBERS, PREAMBLE AND INSURANCE**. The Chief Financial Officer is hereby authorized to have control of the Bonds issued hereunder and all necessary records and proceedings pertaining to the Bonds pending their delivery and approval by the Attorney General of the State of Texas of the proceedings authorizing the Bonds in accordance with Chapter 1371, Texas Government Code. The Chief Financial Officer is hereby authorized, to the extent deemed necessary or advisable thereby, in the discretion thereof, to request that the Attorney General approve the Bonds in accordance with the provisions of Chapter 1202, Texas Government Code, in which case the Chief Financial Officer also is authorized to request the Comptroller of Public Accounts register the Bonds, and to cause an appropriate legend reflecting such approval and registration to appear on the Bonds and the substitute Bonds. The approving legal opinion of the Issuer's Bond Counsel and the assigned CUSIP numbers may, at the option of the Issuer, be printed on the Bonds and on any Bonds issued and delivered in exchange or replacement of any Bond, but neither shall have any legal effect, and shall be solely for the convenience and information of the registered owners of the Bonds. The preamble to the Seventh Supplement is hereby adopted and made a part of this Seventh Supplement for all purposes. If insurance is obtained on any of the Bonds, the Bonds shall bear, as appropriate and applicable, a legend concerning insurance as provided by the municipal bond insurance company issuing any such insurance.

Section 18. **FURTHER PROCEDURES; OFFICIAL STATEMENT**. Each Board Representative, and all other officers, employees, and agents of the Board, and each of them, shall be and they are hereby expressly authorized, empowered, and directed from time to time and at any time to do and perform all such acts and things and to execute, acknowledge, and deliver in the name and under the corporate seal and on behalf of the Issuer all such instruments, whether or not herein mentioned, as may be necessary or desirable in order to carry out the terms and provisions of this Seventh Supplement, the Bonds, the sale and delivery of the Bonds and fixing all details in connection therewith, and to approve any Official Statement, or supplements thereto, in connection with the Bonds. The form of the Official Statement relating to the Bonds shall be approved by the Pricing Committee at the meeting at which the sale of the Bonds is approved. The Chief Financial Officer is authorized to approve any supplement to the Official Statement incorporating information as deemed material consistent with the requirements of the Rule and to authorize the

distribution of such final Official Statement to the Purchasers or the Underwriters for their use in the sale of the Bonds to members of the general public. The use of such final Official Statement in the offer and sale of the Bonds is hereby approved. Should the Chief Financial Officer be incapable of performing any of the duties and responsibilities set forth in this Seventh Supplement, any Board Representative may perform such duties and responsibilities. In case any officer whose signature shall appear on the Bonds shall cease to be such officer before the delivery of the Bonds, such signature shall nevertheless be valid and sufficient for all purposes the same as if such officer had remained in office until such delivery.

Section 19. **CONTINUING ONGOING DISCLOSURE.** (a) ***Annual Reports.*** (i) The Board shall provide annually to each NRMSIR and any SID, within six months after the end of each fiscal year ending in or after 2000, financial information and operating data with respect to the Board of the general type included in the final Official Statement authorized by Section 18 of this Seventh Supplement, being the information described in Exhibit C hereto. Any financial statements so to be provided shall be prepared in accordance with the accounting principles described in Exhibit C hereto, or such other accounting principles as the Board may be required to employ from time to time pursuant to state law or regulation. If the Board commissions an audit of such statements and the audit is completed within the period during which they must be provided, a copy of such audit also shall be provided in accordance with the Rule. If any such audit of such financial statements, if one is commissioned by the Board, is not complete within such period, then the Board shall provide unaudited financial statements and audited financial statements for the applicable fiscal year to each NRMSIR and any SID, when and if the audit report on such statements become available.

(ii) If the Board changes its fiscal year, it will notify each NRMSIR and any SID of the change (and of the date of the new fiscal year end) prior to the next date by which the Board otherwise would be required to provide financial information and operating data pursuant to this Section. The financial information and operating data to be provided pursuant to this Section may be set forth in full in one or more documents or may be included by specific reference to any document (including an official statement or other offering document, if it is available from the MSRB) that theretofore has been provided to each NRMSIR and any SID or filed with the SEC.

(b) ***Material Event Notices.*** The Board shall notify any SID and either each NRMSIR or the MSRB, in a timely manner, of any of the following events with respect to the Bonds, if such event is material within the meaning of the federal securities laws:

1. Principal and interest payment delinquencies;
2. Non-payment related defaults;

3. Unscheduled draws on debt service reserves reflecting financial difficulties;
4. Unscheduled draws on credit enhancements reflecting financial difficulties;
5. Substitution of credit or liquidity providers, or their failure to perform;
6. Adverse tax opinions or events affecting the tax-exempt status of the Bonds;
7. Modifications to rights of holders of the Bonds;
8. Bond calls;
9. Defeasances;
10. Release, substitution, or sale of property securing repayment of the Bonds; and
11. Rating changes.

The Board shall notify any SID and either each NRMSIR or the MSRB, in a timely manner, of any failure by the Board to provide financial information or operating data in accordance with subsection (a) of this Section by the time required by such subsection.

(c) ***Limitations, Disclaimers, and Amendments.*** (i) The Board shall be obligated to observe and perform the covenants specified in this Section for so long as, but only for so long as, the Board remains an "obligated person" with respect to the Bonds within the meaning of the Rule, except that the Board in any event will give notice of any deposit made in accordance with this Seventh Supplement or applicable law that causes the Bonds no longer to be Outstanding.

(ii) The provisions of this Section are for the sole benefit of the registered owners and beneficial owners of the Bonds, and nothing in this Section, express or implied, shall give any benefit or any legal or equitable right, remedy, or claim hereunder to any other person. The Board undertakes to provide only the financial information, operating data, financial statements, and notices which it has expressly agreed to provide pursuant to this Section and does not hereby undertake to provide any other information that may be relevant or material to a complete presentation of the Board's financial results, condition, or prospects or hereby undertake to update any information provided in accordance with this Section or otherwise, except as expressly provided herein. The Board does not make any representation or warranty concerning such information or its usefulness to a decision to invest in or sell Bonds at any future date.

(iii) UNDER NO CIRCUMSTANCES SHALL THE BOARD BE LIABLE TO THE REGISTERED OWNER OR BENEFICIAL OWNER OF ANY BOND OR ANY OTHER PERSON, IN CONTRACT OR TORT, FOR DAMAGES RESULTING IN WHOLE OR IN PART FROM ANY BREACH BY THE BOARD, WHETHER NEGLIGENT OR WITHOUT FAULT ON ITS PART, OF ANY COVENANT SPECIFIED IN THIS SECTION, BUT EVERY RIGHT AND

REMEDY OF ANY SUCH PERSON, IN CONTRACT OR TORT, FOR OR ON ACCOUNT OF ANY SUCH BREACH SHALL BE LIMITED TO AN ACTION FOR MANDAMUS OR SPECIFIC PERFORMANCE.

(iv) No default by the Board in observing or performing its obligations under this Section shall comprise a breach of or default under the Seventh Supplement for purposes of any other provision of this Seventh Supplement. Nothing in this Section is intended or shall act to disclaim, waive, or otherwise limit the duties of the Board under federal and state securities laws.

(v) The provisions of this Section may be amended by the Board from time to time to adapt to changed circumstances that arise from a change in legal requirements, a change in law, or a change in the identity, nature, status, or type of operations of the Board, but only if (1) the provisions of this Section, as so amended, would have permitted an underwriter to purchase or sell Bonds in the primary offering of the Bonds in compliance with the Rule, taking into account any amendments or interpretations of the Rule since such offering as well as such changed circumstances and (2) either (A) the registered owners of a majority in aggregate principal amount (or any greater amount required by any other provision of this Seventh Supplement that authorizes such an amendment) of the Bonds then outstanding consent to such amendment or (B) a person that is unaffiliated with the Board (such as nationally recognized bond counsel) determined that such amendment will not materially impair the interest of the registered owners and beneficial owners of the Bonds. If the Board so amends the provisions of this Section, it shall include with any amended financial information or operating data next provided in accordance with subsection (a) of this Section an explanation, in narrative form, of the reason for the amendment and of the impact of any change in the type of financial information or operating data so provided. The Board may also amend or repeal the provisions of this continuing disclosure agreement if the SEC amends or repeals the applicable provision of the Rule or a court of final jurisdiction enters judgment that such provisions of the Rule are invalid, but only if and to the extent that the provisions of this sentence would not prevent an underwriter from lawfully purchasing or selling Bonds in the primary offering of the Bonds.

Section 20. **REPEAL OF CONFLICTING RESOLUTIONS.** All resolutions and all parts of any resolutions (other than the Master Resolution) which are in conflict or inconsistent with this Sixth Supplement are hereby repealed and shall be of no further force or effect to the extent of such conflict or inconsistency. This Seventh Supplement amends and restates the resolution adopted by the Board on October 1, 1999, and the resolution adopted by the Board on such date is of no force or effect.

Section 21. **PUBLIC NOTICE.** It is hereby found and determined that each of the officers and members of the Board was duly and sufficiently notified officially and personally, in advance, of the time, place, and purpose of the

Meeting at which this Seventh Supplement was adopted; that this Seventh Supplement would be introduced and considered for adoption at said meeting; and that said meeting was open to the public, and public notice of the time, place, and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code.

EXHIBIT A

DEFINITIONS

As used in this Seventh Supplement the following terms and expressions shall have the meanings set forth below, unless the text hereof specifically indicates otherwise:

The term "*Acts*" shall mean, collectively, Chapter 55, Texas Education Code, as amended, and Chapter 1371, Texas Government Code.

The term "*Authorized Denominations*" shall mean Authorized Denominations as defined in Section 2 of this Seventh Supplement.

The term "*Board Representative*" shall mean the Chancellor of the System, the Chief Financial Officer, the Assistant Vice Chancellor for Investments, the Vice President for Fiscal Affairs of TTU, the Vice President for Fiscal Affairs of the Health Sciences Center, or such other official of the System, TTU or the Health Sciences Center appointed by the Board to carry out the functions of the Board specified herein.

The term "*Bond Purchase Contract*" shall mean the bond purchase agreement, if any, between the Board and the Underwriters pertaining to the purchase of the Seventh Series Bonds by the Underwriters.

The term "*Bonds*" shall mean the Seventh Series Bonds, and all substitute bonds exchanged therefor, and all other substitute and replacement bonds issued pursuant to this Seventh Supplement; and the term "Bond" means any of the Bonds.

The term "*Business Day*" shall mean any day which is not a Saturday, Sunday, legal holiday, or a day on which banking institutions in The City of New York, New York or in the city where the Designated Trust Office of the Paying Agent/Registrar is located are authorized by law or executive order to close.

The term "*Chief Financial Officer*" shall mean the Chief Financial Officer of the System so appointed by the Board or the Chancellor of the System.

The term "*Code*" shall mean the Internal Revenue Code of 1986, as amended.

The term "*Commercial Paper Notes*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Commercial Paper Notes, Series A, issued pursuant to the provisions of the Master Resolution and the Fifth Supplement.

The term "*Designated Trust Office*" shall have the meaning ascribed to said term in Section 5(b) of this Seventh Supplement.

The term "*DTC*" shall mean The Depository Trust Company, New York, New York, or any successor securities depository.

The term "*DTC Participant*" shall mean securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations on whose behalf DTC was created to hold securities to facilitate the clearance and settlement of securities transactions among DTC Participants.

The term "*Fourth Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Bonds, Fourth Series (Taxable 1996) authorized by the Fourth Supplement.

The term "*Fourth Supplement*" shall mean the resolution adopted by the Board on November 8, 1996, authorizing the Fourth Series Bonds.

The term "*Fifth Supplement*" shall mean the resolution adopted by the Board on November 7, 1997, authorizing the Commercial Paper Notes.

The term "*First Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Refunding Bonds, First Series (1993) authorized by the First Supplement.

The term "*First Supplement*" shall mean the resolution adopted by the Board on October 21, 1993, authorizing the First Series Bonds.

The term "*Fourth Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Bonds, Fourth Series (Taxable 1996) authorized by the Fourth Supplement.

The term "*Fourth Supplement*" shall mean the resolution adopted by the Board on November 8, 1996, authorizing the Fourth Series Bonds.

The term "*Issuance Date*" shall mean the date of delivery the Bonds to the Underwriters against payment therefor.

The term "*Master Resolution*" shall mean the Master Resolution Establishing The Revenue Financing System under the Authority and Responsibility of the Board of Regents of Texas Tech University, adopted by the Board on October 21, 1993, as amended on November 8, 1996 and on August 22, 1997.

The term "*Maturity*" shall mean the date on which the principal of a Bond becomes due and payable as therein and herein provided, whether at Stated Maturity, by redemption, declaration of acceleration, or otherwise.

The term "*MSRB*" shall mean the Municipal Securities Rulemaking Board.

The term "*NRMSIR*" shall mean each person whom the SEC or its staff has determined to be a nationally recognized municipal securities information repository within the meaning of the Rule from time to time.

The term "*Parity Obligations*" shall mean, collectively, the First Series Bonds, the Second Series Bonds, the Third Series Bonds, the Fourth Series Bonds, the Commercial Paper Notes, the Sixth Series and, when delivered, the Seventh Series Bonds.

The terms "*Paying Agent/Registrar*," "*Paying Agent*" or "*Registrar*" shall mean the agent appointed pursuant to Section 5 of this Seventh Supplement, or any successor to such agent.

The term "*Pricing Committee*" shall mean the finance committee of the Board of Regents as it exists on the date the award of the sale of the Bonds is approved.

The term "*Purchasers*" shall mean the investment banking firm or syndicate of investment banking firms whose bid to purchase the Bonds through a competitive sale was approved by the Pricing Committee.

The term "*Record Date*" shall mean, with respect to the Bonds, the last business day of each month preceding an interest payment date.

The term "*Registration Books*" shall mean the books or records relating to the registration, payment, and transfer or exchange of the Bonds maintained by the Paying Agent/Registrar pursuant to Section 5 of this Seventh Supplement.

The term "*Regulations*" shall mean all applicable temporary, proposed and final regulations and procedures promulgated under the Code or promulgated under the Internal Revenue Code of 1954, to the extent applicable to the Code.

The term "*Rule*" shall mean SEC Rule 15c2-12, as amended from time to time.

The term "*SEC*" shall mean the United States Securities and Exchange Commission.

The term "*Second Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Bonds, Second Series (1995) authorized by the Second Supplement.

The term "*Second Supplement*" shall mean the Second Supplement adopted by the Board on February 10, 1995, authorizing the sale of the Second Series Bonds.

The term "*Seventh Series Bonds*" shall mean the Bonds as authorized by this Seventh Supplement.

The term "*Seventh Supplement*" shall mean this Seventh Supplemental Resolution adopted by the Board on December 10, 1999, authorizing the sale of the Bonds.

The term "*SID*" shall mean any person designated by the State of Texas or an authorized department, officer, or agency thereof as, and determined by the SEC or its staff to be, a state information depository within the meaning of the Rule from time to time.

The term "*Sixth Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Refunding and Improvement Bonds, Sixth Series (1999) authorized by the Sixth Supplement.

The term "*Sixth Supplement*" shall mean the Second Supplement adopted by the Board on February 12, 1999, authorizing the sale of the Sixth Series Bonds.

The term "*Stated Maturity*" shall mean, when used with respect to the Bonds, the scheduled maturity or mandatory sinking fund redemption of the Bonds.

The term "*System*" shall mean the Texas Tech University System, under the governance of the Board.

The term "*Third Series Bonds*" shall mean the Board of Regents of Texas Tech University Revenue Financing System Refunding and Improvement Bonds, Third Series (1996) authorized by the Third Supplement.

The term "*Third Supplement*" shall mean the Third Supplement adopted by the Board on November 8, 1996, authorizing the sale of the Third Series Bonds.

The term "*Underwriters*" shall mean the investment banking firm or syndicate of investment banking firms selected by the Pricing Committee which contract to purchase the Bonds in accordance with the terms and conditions of the Bond Purchase Contract.
All terms not herein defined shall have the meanings given to said terms by the Master Resolution or as otherwise defined in this Seventh Supplement.

EXHIBIT B

FORM OF BONDS

UNITED STATES OF AMERICA
STATE OF TEXAS
BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM
REVENUE FINANCING SYSTEM BOND,
SEVENTH SERIES (2000)

NO. R-_ PRINCIPAL

AMOUNT
$_____

INTEREST RATE	MATURITY DATE	BOND DATE	CUSIP
		_____, 2000	

REGISTERED OWNER:

PRINCIPAL AMOUNT:
DOLLARS

ON THE MATURITY DATE specified above, the BOARD OF REGENTS OF TEXAS TECH UNIVERSITY SYSTEM (the "Issuer"), being an agency and political subdivision of the State of Texas, hereby promises to pay to the Registered Owner, specified above, or the registered assignee hereof (either being hereinafter called the "registered owner") the principal amount, specified above, and to pay interest thereon, calculated on the basis of a 360-day year composed of twelve 30-day months, from the Bond Date, specified above, to the Maturity Date, specified above, or the date of redemption prior to maturity, at the interest rate per annum, specified above; with interest being payable on _____ 15, 2000, and semiannually on each _____ 15 and _____ 15 thereafter, except that if the date of authentication of this Bond is later than the first Record Date (hereinafter defined), such principal amount shall bear interest from the interest payment date next preceding the date of authentication, unless such date of authentication is after any Record Date but on or before the next following interest payment date, in which case such principal amount shall bear interest from such next following interest payment date.

THE PRINCIPAL OF AND INTEREST ON this Bond are payable in lawful money of the United States of America, without exchange or collection charges,

solely from funds of the Issuer required by the resolution authorizing the issuance of the Bonds to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter provided. The principal of this Bond shall be paid to the registered owner hereof upon presentation and surrender of this Bond at maturity or upon the date fixed for its redemption prior to maturity, at the corporate trust office (the "Designated Trust Office") of U.S. Trust Company of Texas, N.A., which is the "Paying Agent/Registrar" for this Bond. The payment of interest on this Bond shall be made by the Paying Agent/Registrar to the registered owner hereof on each interest payment date by check, dated as of such interest payment date, and such check shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid, on each such interest payment date, to the registered owner hereof, at the address of the registered owner, as it appeared on the last business day of the month next preceding each such date (the "Record Date") on the Registration Books kept by the Paying Agent/Registrar, as hereinafter described; provided, that upon the written request of any owner of not less than $1,000,000 in principal amount of Bonds provided to the Paying Agent/Registrar not later than the Record Date immediately preceding an interest payment date, interest due on such Bonds on such interest payment date shall be made by wire transfer to any designated account within the United States of America. In addition, interest may be paid by such other method, as shall be acceptable to the Paying Agent/Registrar, requested by, and at the risk and expense of, the registered owner hereof. Any accrued interest due upon the redemption of this Bond prior to maturity as provided herein shall be paid to the registered owner upon presentation and surrender of this Bond for redemption and payment at the Designated Trust Office of the Paying Agent/Registrar. The Issuer covenants with the registered owner of this Bond that on or before each principal payment date and interest payment date for this Bond it will make available to the Paying Agent/Registrar, the amounts required to provide for the payment, in immediately available funds, of all principal of and interest on the Bonds, when due. Notwithstanding the foregoing, during any period in which ownership of the Bonds is determined by a book entry at a securities depository for the Bonds, payments made to the securities depository, or its nominee, shall be made in accordance with arrangements between the Issuer and the securities depository. Terms used herein and not otherwise defined have the meaning given in the Bond Resolution (hereinafter defined).

THIS BOND is one of a series of bonds authorized in the aggregate principal amount of $_____ pursuant to a Seventh Supplemental Resolution to the Master Resolution adopted December 10, 1999, and pursuant to the Master Resolution referred therein (collectively, the "Bond Resolution") ***FOR THE PURPOSE OF (i) ACQUIRING, PURCHASING, CONSTRUCTING, IMPROVING, RENOVATING, ENLARGING OR EQUIPPING PROPERTY, BUILDINGS, STRUCTURES, FACILITIES, ROADS, OR RELATED INFRASTRUCTURE FOR TTU AND THE HEALTH SCIENCES CENTER, AND (ii) PAYING THE COSTS RELATED THERETO.***

ON _____ 15, 20__, or on any date thereafter, the Bonds of this series scheduled to mature on and after _____ 15, 20__ may be redeemed prior to

their scheduled maturities, at the option of the Issuer, with funds derived from any available and lawful source, as a whole, or in part, and, if in part, the particular Bonds, or portion thereof, to be redeemed shall be selected and designated by the Issuer (provided that a portion of a Bond may be redeemed only in an integral multiple of $5,000), at a redemption price equal to the par value thereof and accrued interest to the date fixed for redemption; provided that during any period in which ownership of the Bonds is determined by a book entry at a securities depository for the Bonds, if fewer than all of the Bonds of the same maturity and bearing the same interest rate are to be redeemed, the particular Bonds of such maturity and bearing such interest rate shall be selected in accordance with the arrangements between the Issuer and the securities depository.

BONDS MATURING _____ 15, 20__ are "Term Bonds" and are subject to mandatory redemption at a price equal to the principal amount to be so redeemed and accrued and unpaid interest to the date of redemption, to-wit:

Said Bonds shall be redeemed in part by lot prior to maturity annually on _____ 15 in each of the years 20__ through 20__, and in the amounts designated below, to-wit:

Years	Amounts

* Maturity

THE ISSUER shall redeem Term Bonds by lot, or purchase in the open market Bonds of the same maturity. The Board shall effect the retirement of the Term Bonds required to be retired by mandatory redemption, by either redemption in accordance herewith or prior purchase for cancellation in the open market at a price not exceeding the redemption price. To the extent that Term Bonds have been previously purchased for cancellation or redeemed other than pursuant to a sinking fund redemption payment, each sinking fund payment amount for such Term Bonds shall be reduced, to the extent practicable, by the amount obtained by multiplying the principal amount of such Term Bonds so purchased or redeemed by the ratio which each remaining sinking fund payment amount of such maturity bears to the total remaining sinking fund payment amounts of such maturity, and by rounding each such sinking fund payment amount to the nearest $5,000 integral multiple. On the maturity date of any Term Bonds, the Board shall effect the payment of the principal of maturing Term Bonds. The foregoing notwithstanding, during any period in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, the particular Bonds to be so redeemed shall be selected in accordance with the arrangements between the Board and the securities depository.

AT LEAST 30 days prior to the date fixed for any redemption of Bonds or portions thereof prior to maturity a written notice of such redemption shall be

published once in a financial publication, journal, or report of general circulation among securities dealers in The City of New York, New York (including, but not limited to, The Bond Buyer and The Wall Street Journal), or in the State of Texas (including, but not limited to, The Texas Bond Reporter). Such notice also shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid, not less than 30 days prior to the date fixed for any such redemption, to the registered owner of each Bond to be redeemed at its address as it appeared on the 45th day prior to such redemption date; provided, however, that the failure to send, mail, or receive such notice, or any defect therein or in the sending or mailing thereof, shall not affect the validity or effectiveness of the proceedings for the redemption of any Bond, and it is hereby specifically provided that the publication of such notice as required above shall be the only notice actually required in connection with or as a prerequisite to the redemption of any Bonds or portions thereof. By the date fixed for any such redemption due provision shall be made with the Paying Agent/Registrar for the payment of the required redemption price for the Bonds or portions thereof which are to be so redeemed. If such written notice of redemption is published and if due provision for such payment is made, all as provided above, the Bonds or portions thereof which are to be so redeemed thereby automatically shall be treated as redeemed prior to their scheduled maturities, and they shall not bear interest after the date fixed for redemption, and they shall not be regarded as being outstanding except for the right of the registered owner to receive the redemption price from the Paying Agent/Registrar out of the funds provided for such payment. If a portion of any Bond shall be redeemed, a substitute Bond or Bonds having the same maturity date, bearing interest at the same rate, payable in the same manner, in any authorized denomination at the written request of the registered owner, and in aggregate principal amount equal to the unredeemed portion thereof, will be issued to the registered owner upon the surrender thereof for cancellation, at the expense of the Issuer, all as provided in the Bond Resolution.

IF THE DATE for the payment of the principal of or interest on this Bond shall be a Saturday, Sunday, a legal holiday, or a day on which banking institutions in The City of New York, New York, or in the city where the Designated Trust Office of the Paying Agent/Registrar is located are authorized by law or executive order to close, then the date for such payment shall be the next succeeding day which is not such a Saturday, Sunday, legal holiday, or day on which banking institutions are authorized to close; and payment on such date shall have the same force and effect as if made on the original date payment was due.

THIS BOND OR ANY PORTION OR PORTIONS HEREOF IN ANY AUTHORIZED DENOMINATION may be assigned and shall be transferred only in the Registration Books of the Issuer kept by the Paying Agent/Registrar acting in the capacity of registrar for the Bonds, upon the terms and conditions set forth in the Bond Resolution. Among other requirements for such assignment and transfer, this Bond must be presented and surrendered to the Paying Agent/Registrar, together with proper instruments of assignment, in form and with guarantee of

signatures satisfactory to the Paying Agent/Registrar, evidencing assignment of this Bond or any portion or portions hereof in any authorized denomination to the assignee or assignees in whose name or names this Bond or any such portion or portions hereof is or are to be transferred and registered. The form of Assignment printed or endorsed on this Bond shall be executed by the registered owner or its duly authorized attorney or representative, to evidence the assignment hereof. A new Bond or Bonds payable to such assignee or assignees (which then will be the new registered owner or owners of such new Bond or Bonds), or to the previous registered owner in the case of the assignment and transfer of only a portion of this Bond, may be delivered by the Paying Agent/Registrar in exchange for this Bond, all in the form and manner as provided in the next paragraph hereof for the exchange of other Bonds. The Issuer shall pay the Paying Agent/Registrar's fees and charges, if any, for making such transfer or exchange as provided below, but the one requesting such transfer or exchange shall pay any taxes or other governmental charges required to be paid with respect thereto. The Paying Agent/Registrar shall not be required to make transfers of registration or exchange of this Bond or any portion hereof (i) during the period commencing with the close of business on any Record Date and ending with the opening of business on the next following principal or interest payment date, or, (ii) with respect to any Bond or any portion thereof called for redemption prior to maturity, within 45 days prior to its redemption date. The registered owner of this Bond shall be deemed and treated by the Issuer and the Paying Agent/Registrar as the absolute owner hereof for all purposes, including payment and discharge of liability upon this Bond to the extent of such payment, and, to the extent permitted by law, the Issuer and the Paying Agent/Registrar shall not be affected by any notice to the contrary.

ALL BONDS OF THIS SERIES are issuable solely as fully registered bonds, without interest coupons in the denomination of any integral multiple of $5,000. As provided in the Bond Resolution, this Bond, or any unredeemed portion hereof, may, at the request of the registered owner or the assignee or assignees hereof, be exchanged for a like aggregate principal amount of fully registered bonds, without interest coupons, payable to the appropriate registered owner, assignee, or assignees, as the case may be, having the same maturity date, in the same form, and bearing interest at the same rate, in any Authorized Denomination as requested in writing by the appropriate registered owner, assignee, or assignees, as the case may be, upon surrender of this Bond to the Paying Agent/Registrar for cancellation, all in accordance with the form and procedures set forth in the Bond Resolution.

WHENEVER the beneficial ownership of this Bond is determined by a book entry at a securities depository for the Bonds, the foregoing requirements of holding, delivering, or transferring this Bond shall be modified to require the appropriate person or entity to meet the requirements of the securities depository as to registering or transferring the book entry to produce the same effect.

IN THE EVENT any Paying Agent/Registrar for the Bonds is changed by the Issuer, resigns, or otherwise ceases to act as such, the Issuer has covenanted in the Bond Resolution that it promptly will appoint a competent and legally qualified substitute therefor, and promptly will cause written notice thereof to be mailed to the registered owners of the Bonds.

IT IS HEREBY certified, recited, and covenanted that this Bond has been duly and validly authorized, issued, and delivered; that all acts, conditions, and things required or proper to be performed, exist, and be done precedent to or in the authorization, issuance, and delivery of this Bond have been performed, existed, and been done in accordance with law; that the Series of Bonds of which this Bond is one constitute Parity Obligations under the Master Resolution; and that the interest on and principal of this Bond, together with the other Bonds of this Series and the other outstanding Parity Obligations are equally and ratably secured by and payable from a lien on and pledge of the Pledged Revenues, subject only to the provisions of, and the lien on and pledge of certain Pledged Revenues to, the Prior Encumbered Obligations.

THE ISSUER has reserved the right, subject to the restrictions referred to in the Bond Resolution, (i) to issue additional Parity Obligations which also may be secured by and made payable from a lien on and pledge of the aforesaid Pledged Revenues, in the same manner and to the same extent as this Bond, and (ii) to amend the provisions of the Bond Resolution under the conditions provided in the Bond Resolution.

THE REGISTERED OWNER hereof shall never have the right to demand payment of this Bond or the interest hereon out of any funds raised or to be raised by taxation or from any source whatsoever other than specified in the Bond Resolution.

BY BECOMING the registered owner of this Bond, the registered owner thereby acknowledges all of the terms and provisions of the Bond Resolution, agrees to be bound by such terms and provisions, acknowledges that the Bond - Resolution is duly recorded and available for inspection in the official minutes and records of the Issuer, and agrees that the terms and provisions of this Bond and the Bond Resolution constitute a contract between each registered owner hereof and the Issuer.

IN WITNESS WHEREOF, the Issuer has caused this Bond to be signed with the manual or facsimile signature of the Chair or Vice Chair of the Issuer and countersigned with the manual or facsimile signature of the Secretary or Assistant Secretary of the Issuer, and has caused the official seal of the Issuer to be duly impressed, or placed in facsimile, on this Bond.

_____

Assistant Secretary, Board of Regents of Texas Tech University

Chair, Board of Regents of Texas Tech University

(BOARD SEAL)

FORM OF PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

It is hereby certified that this Bond has been issued under the provisions of the Bond Resolution described in this Bond; and that this Bond has been issued in conversion of and exchange for or replacement of a bond, bonds, or a portion of a bond or bonds of an issue which originally was approved by the Attorney General of the State of Texas and registered by the Comptroller of Public Accounts of the State of Texas.

Dated

_____

U.S. Trust Company of Texas, N.A.
Paying Agent/Registrar

[FORM OF REGISTRATION CERTIFICATE OF COMPTROLLER OF PUBLIC ACCOUNTS TO ACCOMPANY THE BONDS UPON INITIAL DELIVERY]

COMPTROLLER'S REGISTRATION CERTIFICATE:

REGISTER NO. _____

I hereby certify that this Bond has been examined, certified as to validity, and approved by the Attorney General of the State of Texas, and that this Bond and the proceedings authorizing its issuance have been registered by the Comptroller of Public Accounts of the State of Texas.

Witness my signature and seal this

_____

Comptroller of Public Accounts
of the State of Texas

(COMPTROLLER'S SEAL)

FORM OF ASSIGNMENT:

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned registered owner of this Bond, or duly authorized representative or attorney thereof, hereby assigns this Bond to

_____
/_____/
(Assignee's Social Security or Taxpayer Identification Number)

_____
(print or typewrite Assignee's name and address, including zip code)

_____
and hereby irrevocably constitutes and appoints

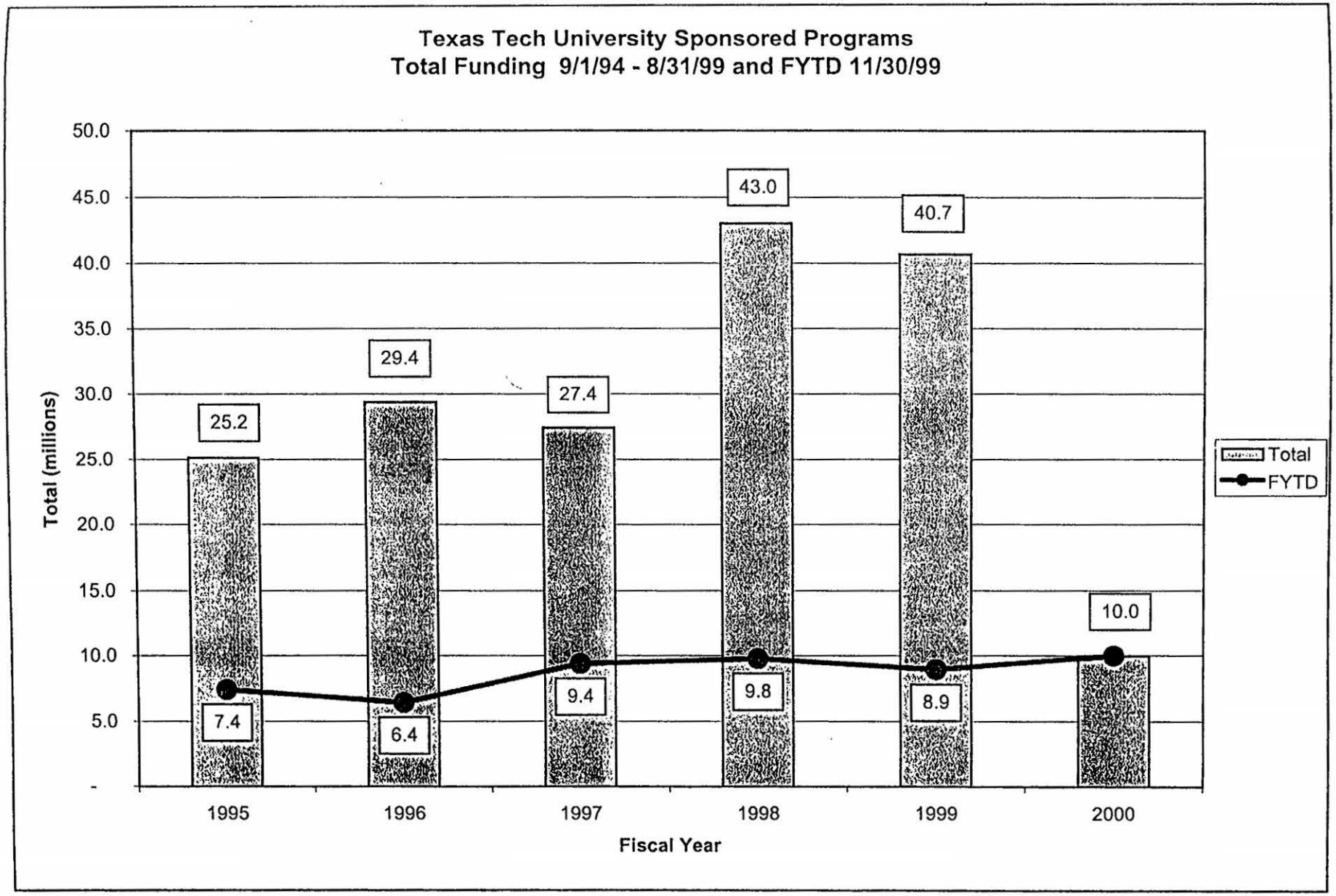
_____
attorney to transfer the registration of this Bond on the Paying Agent/Registrar's Registration Books with full power of substitution in the premises.

Dated: _____

Signature Guaranteed:

_____
NOTICE: This signature must be guaranteed by a member of the New York Stock Exchange or a commercial bank or trust company.

_____
NOTICE: This signature must correspond with the name of the Registered Owner appearing on the face of this Bond.


Texas Tech University Sponsored Programs
Total Funding 9/1/94 - 8/31/99 and FYTD 11/30/99
Total (millions)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
-
25.2
29.4
27.4
43.0
40.7
10.0
7.4
6.4
9.4
9.8
8.9
1995
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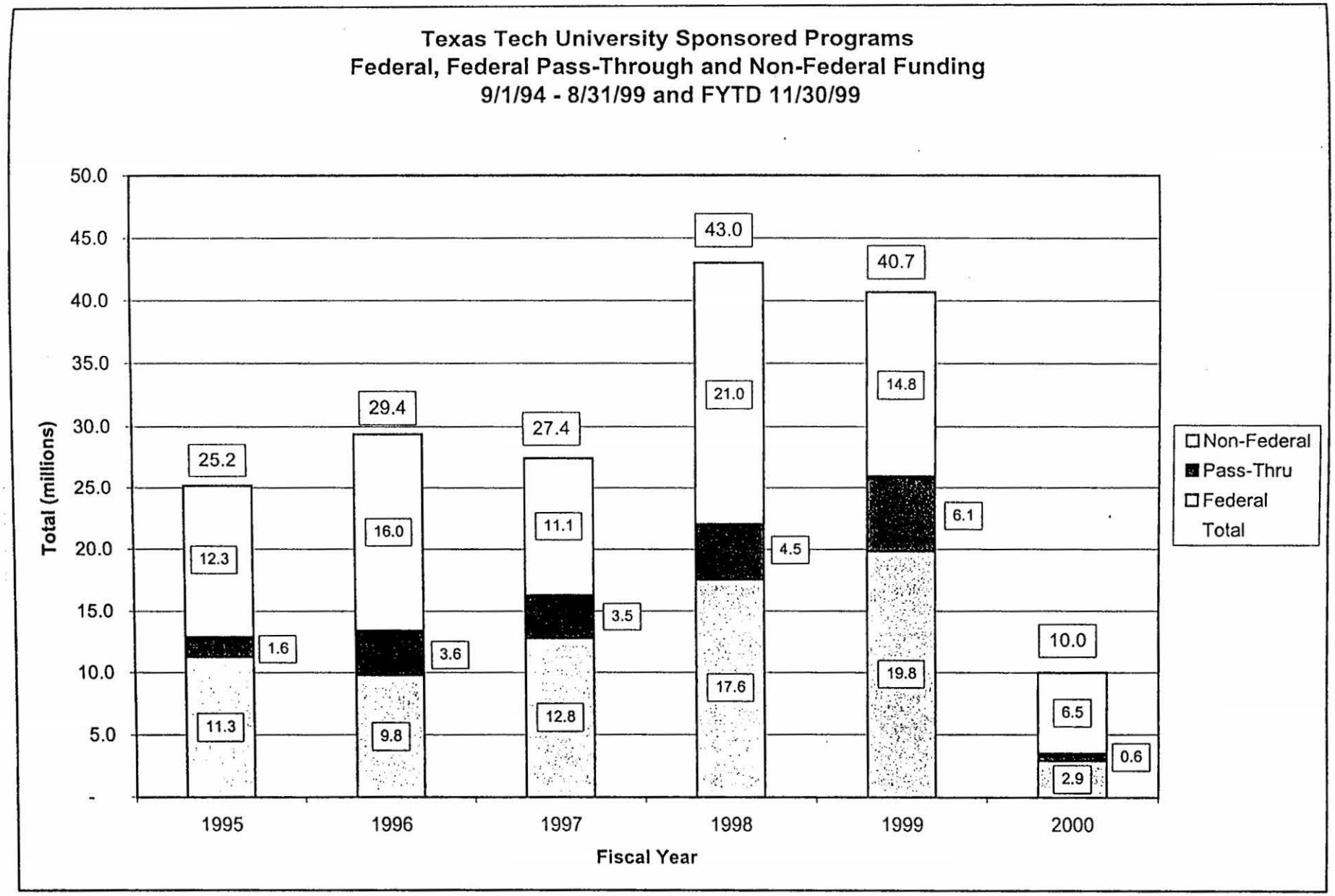
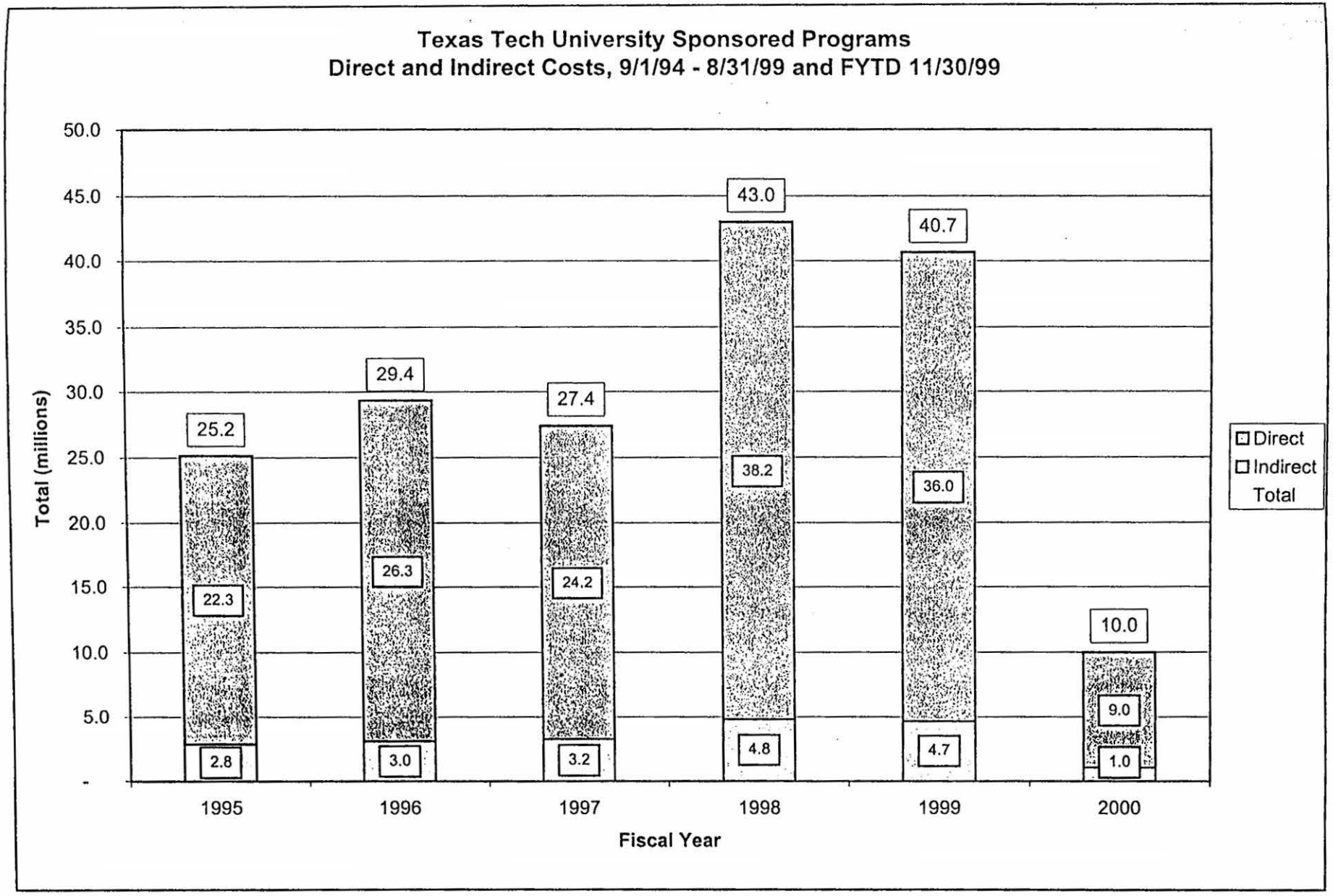
Fiscal Year
Total
FYTD


Texas Tech University Sponsored Programs
Federal, Federal Pass-Through and Non-Federal Funding
9/1/94 - 8/31/99 and FYTD 11/30/99
Total (millions)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
-
25.2
12.3
1.6
11.3
29.4
16.0
3.6
9.8
27.4
11.1
3.5
12.8
43.0
21.0
4.5
17.6
40.7
14.8
6.1
19.8
10.0
6.5
0.6
2.9
1995
1996
1997
1998
1999
2000
Fiscal Year
Non-Federal
Pass-Thru
Federal
Total


Texas Tech University Sponsored Programs
Direct and Indirect Costs, 9/1/94 - 8/31/99 and FYTD 11/30/99
Total (millions)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
-
25.2
22.3
2.8
29.4
26.3
3.0
27.4
24.2
3.2
43.0
38.2
4.8
40.7
36.0
4.7
10.0
9.0
1.0
1995
1996
1997
1998
1999
2000
Fiscal Year
Direct
Indirect
Total

Texas Advanced Research/Technology Awards (ARP/ATP)

TTU	1997	1999
Projects	29	32
Amount	$3.52M	$3.32M

TTU received

6.68% of the projects

5.48% of the funds

Highlights

Received

33% of math awards

44% of earth science awards

33% of microelectronics awards

25 % of ag biotech awards

THECB Formula Recommendation
Base Period SCH - Summer 98, Fall 98, Spring 99

	FY 2000 Appropriated		Annual
	Instruction & Operations	Teaching Supplement	Doctoral SCH Not Funded
UT at Arlington	$62,673,535	$973,925	$1,361,295
UT at Austin	201,861,994	2,755,751	5,321,995
UT at Dallas	38,980,611	306,374	1,334,911
UT at El Paso	39,052,921	921,007	117,206
UT - Pan American (a)	30,942,255	781,168	0
UT at Brownsville	5,599,599	125,413	0
UT of the Permian Basin	5,214,028	135,961	0
UT at San Antonio	42,274,464	732,356	31,503
UT at Tyler	10,939,532	239,192	0
TAMU	157,197,167	2,498,236	4,035,878
TAMU Galveston	3,358,685	81,538	0
Prairie View A&M Univ	18,748,468	379,811	0
Tarleton State Univ	17,101,016	380,026	0
TAMU Commerce	24,403,554	354,514	102,579
TAMU Corpus Christi	18,426,844	469,071	0
TAMU Kingsville	17,523,497	432,368	35,749
Texas A&M International Univ	7,419,673	190,581	0
TAMU Texarkana	2,682,212	64,949	0
West Texas A&M Univ	17,037,075	360,221	0
U of Houston	106,761,900	1,629,543	2,144,563
U of Houston - Clear Lake	21,394,427	218,321	0
U of Houston - Downtown	14,679,188	358,330	0
U of Houston - Victoria	3,884,597	52,732	0
Midwestern State Univ	13,558,266	371,142	0
Univ of North Texas	77,704,482	1,431,887	1,320,790
Stephen F. Austin State Univ	33,084,939	934,032	3,565
Texas Southern Univ	20,611,779	418,680	0
Texas Tech Univ	82,356,213	1,470,385	618,224
Texas Woman's Univ	40,099,461	413,479	270,204
Angelo State Univ	15,493,524	477,716	0
Lamar Univ	21,804,818	614,644	16,309
Sam Houston State Univ	31,079,582	968,793	9,831
Southwest Texas State Univ	56,099,643	1,407,491	0
Sul Ross State Univ	6,338,336	133,549	0
Sul Ross - RGC	2,081,386	43,014	0
TOTAL	$1,268,469,671	$23,126,200	$16,724,602

Teaching Experience only for Tenured & Tenure-Track
(a) Includes SCH for Physician Assistant program from UTMB and OT from UT HSC San Antor

Selected Press Clippings
featuring sponsored research
at
Texas Tech University
September 30 to December 7, 1999

VIRTUAL ARCHITECTURE

A-J Photo/Jim Watkins

Ken Schwarz, left, a technical consultant with Silicon Graphics, and Phil Smith, director of Texas Tech's High Performance Computing Center, demonstrate the capabilities of a new Virtual Reality Center with a Frank Lloyd Wright building.

By KARA ALTENBAUMER
Avalanche-Journal

Lubbockites who attend next week's dedication of the Institute of Environmental and Human Health will have the chance to walk through a building famous for breaking ground architecturally.

A Frank Lloyd Wright building constructed in a railyard, famous for windows that didn't open, will be one of the models used to demonstrate the newly operational $3 million Virtual Reality Center.

What is particularly intriguing about this model, says Phil Smith, director of the High Performance Computing Center, is that the building has been torn down. A virtual walk-through is the only way to tour the building.

A look at the Virtual Reality Center, along with tours of the institute, will be part of dedication ceremonies, which begin at 3 p.m. Monday. The tours and demonstrations start at 3:30 p.m. and last until 6 p.m. The institute is located at Reese Center.

The super computer that powers the Virtual Reality Center has about 560 times more power than a new desktop computer and has the speed of between 100 and 500 desktop machines, Smith said. The comparison is only a loose one because of the difference in the way the computers operate, he explained.

Glenn Hill, an architecture professor whose students worked on the Wright building, said the capability of Tech's new center is hard to explain to someone who hasn't seen virtual reality in action.

"I think virtual reality is going to give us a leg up on visualization more than a few pieces of paper can," said Hill, whose students are also designing a virtual high-rise building that will be used in the first problem attempted by the computer.

The first project will involve adding people to that building and then infecting it with a virtual biological or chemical agent, he said.

"We'll be able to walk through that building," he said. "We'll know where the air ducts are. Then we're going to release a contaminant and see how many people die and how many people reach toxic levels."

Such a problem involves experts from art to science to engineering. The beauty of the super computer, he said, is that not only can it analyze large amounts of data, it can link data from several disciplines.

"You have to break it out into component parts," Smith said. "Scientists understand how air flows and those calculations. Similarly, scientists who study toxicology know about doses."

The computer can solve problems too large for the human mind to work. Its strength – that desktop computers can't mimic – is its ability to swap information around between its 56 processors, Smith said. In addition, each of those processors is able to utilize the memory of all of the other processors if necessary.

Kara Altenbaumer can be contacted at 766-8742 or kaltenbaumer@lubbockonline.com

THE WALL STREET JOURNAL
TEXAS JOURNAL

Drug Deal: *The attorney general is asked to decide whether a prescription-delivery machine is legal,* *Page T4.*

Plaintiff Judges: *Unhappy with the way the press covers them, state judges are starting to file libel suits,* *Page T4.*

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ECONOMIC FOCUS

Board Minutes
December 9-10, 1999
Attachment 9, page 8

Cattle May Still Be King, But Here Come the Hogs

By ESTHER M. BAUER
Special to THE WALL STREET JOURNAL

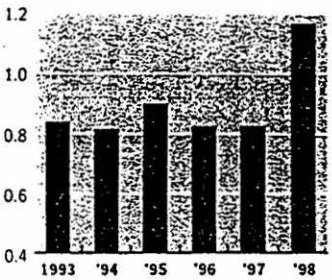
LUBBOCK—Proponents of a new hog-raising system say it can deliver tastier pork with less risk of damage to the environment—and its creator says it can turn Texas into America's hog headquarters.

Developed at Texas Tech University, the Sustainable Pork program is being promoted as an alternative to high-density indoor hog-raising operations, which have drawn opposition from neighbors and environmentalists for smelling foul and menacing water supplies.

For a new system, it's strikingly similar to those of bygone days. Hogs are raised in low-density houses or on grassy pastures; sows nurse piglets in pens. The pasture is rotated every two years or so and planted to grains or hay, fertilized by the manure the hogs leave behind.

High on the Hog

Total annual hog production in Texas, in millions



Source: National Agricultural Statistics Service

By contrast, the most-modern hog operations raise the animals in huge numbers indoors, on slatted metal or concrete floors that allow waste to drop through and be flushed into open-air lagoons. It's a good method, argues the Des Moines, Iowa-based National Pork Producers Council.

"The concept of raising hogs for specific consumer groups is promising, but there's nothing inferior about modern hog production," says spokesman Steven Cohen. "We think the typical production systems' designs and operations are very animal-friendly." And size alone is not an environmental concern, he adds.

If Sustainable Pork is a return to old-style farming, it's with modern marketing twists. The label tells consumers the hogs did not get subtherapeutic doses of antibiotics—commonly given to healthy hogs to speed weight gain and prevent disease—and were raised in a way described as friendly to them, the environment, workers and the community.

As envisioned, the Sustainable Pork infrastructure will include a nonprofit certifying agency—to check producers for compliance with the 32-page guidelines—and a for-profit marketing company, which will contract with or even operate a processing plant; both are still in the planning stage. A certified producer will send his hogs to the chosen processing plant; the marketing company will sell the meat to upscale outlets and split the profit with the producer.

Meat from the first large-scale test of the system—about 2,500 hogs—is scheduled to be tested starting Dec. 9. Previous tests found Sustainable Pork more tender, juicy and flavorful than standard confinement pork, Texas Tech researchers say.

Trial marketing will begin early next year. Since Sustainable Pork will be higher-priced, initially only specialty stores and restaurants are likely to carry it. John James McGlone, professor of animal science and food technology at Texas Tech, head of its Pork Industry Institute, and creator of the system, says his conservative estimate is that 5% of today's pork-buying public—a niche worth $700 million wholesale last year—would be willing to pay more for meat that tasted better and promised environmental benefits. But in time, he adds, the better pork will win outright.

"In 20 years, half of all pigs will be raised this way; 50 years from now, this is the only way pork will be produced," he says. "Consumers will demand it." The system's supporters see potential in export markets as well as in the U.S.

Texas produced nearly 1.2 million hogs in 1998, not so much by national standards—the state ranks 20th in the U.S.—but quite a few considering it had hit 900,000 only once in the previous five years. Mr. McGlone predicts that within 20 years the state's hogs will outnumber the cattle in its feedyards, though even some of his fellow hog enthusiasts call that a little too enthusiastic. Texas feedyards process six million cattle a year.

But Mr. McGlone sees the Southern Great Plains as the nation's future center of hog production, for the same reasons cattle feedlots are here: arid climate, availability of grain and water, easy transportation and not many people. Given current laws, though, it won't be a future of huge confinement operations. Colorado, Kansas and Oklahoma—as well as Nebraska and Iowa—have limited corporate hog farming, either to preserve family farms or protect the environment.

And even in Texas, where towns in thinly populated areas of the Panhandle and western part of the state—looking for some desperately needed economic development—are inviting the big hog-raising operations, organized opposition has arisen. It happened in Perryton after Japanese pork producer Nippon Meat Co. built a complex of 1,000-hog barns and waste lagoons on 26 square miles outside the Panhandle town of 7,600.

The Perryton officials who invited the Japanese say the smell isn't any worse than that of the region's cattle feedyards. But neighboring farmers sued the Texas Natural Resource Conservation Commission, which licenses hog farms, contending regulations are too lax and the stench is driving them indoors. They won one suit on a technicality that voided a permit—but only momentarily: The TNRCC amended its regulations to correct the problem and then granted the permit.

If Mr. McGlone's vision of a Southern Plains-centered hog industry comes true, it would be at the expense of North Carolina, which in 15 years has come from nowhere to become the nation's No. 2 hog producer, thanks to huge confinement operations. As Mr. McGlone is wont to note, the hazards became apparent earlier this year, when Hurricane Floyd sent lagoons spilling into area rivers.

Raising hogs in low-lying coastal areas is "not good for the animals, it's not good for agriculture and it's not good for the environment," Mr. McGlone says. As a hog-production center, he says, North Carolina is "doomed."

North Carolina hog experts say they're not too concerned about higher-cost, old-fashioned competition. But researchers there are accelerating studies of alternative production methods.

"If the political pressure continues as it has," says Steve Washburn, extension leader at the Department of Animal Science at North Carolina State University, "then there's going to have to be some changes."

— Karen Lundegaard contributed to this article.

Houston Chronicle

Wednesday, Oct. 13, 1999

Tech center funding vote on tap today

Research would target bioweapons terrorism

By PATTY REINERT
Houston Chronicle

The U.S. House today is expected to approve $15 million to create a national research center at Texas Tech University that would study how to counteract potential biological attacks by terrorists targeting U.S. cities.

The center, which would be housed at the former Reese Air Force Base near Texas Tech's campus in Lubbock, would study how to deal with chemical and biological agents such as anthrax, smallpox and Ebola, which could be used in making biological weapons.

The research also will involve partners at the University of Texas in Austin, UT Medical Branch in Galveston and UT Southwestern Medical Center in Dallas, as well as the University of South Florida.

The researchers will study how to train military, public safety and medical personnel to quickly diagnose victims of a biological attack, set up quarantines, predict where the winds will carry the deadly agents and how to treat those who are exposed.

"It's a good day for Texas Tech," David Schmidley, vice president for research and graduate studies at Texas Tech, said Tuesday after learning of the announcement from the office of U.S. Rep. Larry Combest, R-Lubbock.

He said if the House and Senate give the expected final approval to the funding,

See CENTER on Page 26A.

Center

Continued from Page 25A.

which is part of a Department of Defense budget bill, the National Center for Countermeasures to Biological and Chemical Threats could begin work as early as next year.

"There's a lot of very serious concern about the potential for a terrorist attack," Schmidley said. "A lot of people believe it's a very real threat. It's not a matter of if. It's a matter of when, so we need to be prepared. In the event that it does happen, we want to have done the research to help us cope with it."

Of the total $15 million, Texas Tech will keep $7 million and will distribute $5 million to the UT System and $3 million to the University of South Florida in Tampa.

Schmidley said the presence of Texas Tech's Institute for Environmental and Human Health, which is already studying the environmental effects of pesticides and of chemicals found at Superfund sites, makes the university an ideal home for the new center.

"We will just extend that capability into the bio-terrorism arena," he said.

The university already has invested $2.5 million on a high-performance computer system that will use three-dimensional visualization technology to create simulations of terrorist attacks. Up to 40 people at a time will be able to enter a holographic computer simulation to work out different potential attack scenarios.

"We could create a scenario where a vial of anthrax is released somewhere in a city under certain wind conditions," Schmidley said. "Where is it going to spread? Where do you send your people? Or we could do a diagnostic simulation, where we present some unusual biological agent and we try to find out what it is."

Meanwhile, researchers at Southwestern's Center for Biomedical Inventions will be working on a fast diagnostic system — some type of *Star Trek*-like "tricorder" that would scan potential victims to see whether they were exposed during an attack.

Stephen Albert Johnston, who directs that center, said he expects to receive about $300,000 of the funding to focus on new inventions.

"One of the things we would need to do is to quickly separate the people who've been exposed from the people who haven't been," Johnston said. "You remember that tricorder, right? We think there might be a grain of possibility in that device — some way to quickly tell, a readout from the body within hours of being exposed."

Schmidley said that once a proper facility is constructed, the center at Texas Tech could eventually house a small amount of biological and chemical agents. None is currently housed at the university.

UTMB's Biosafety Level 4 lab, intended for the study of viruses from the southern U.S., Mexico, Central and South America, would also be used in the center's biological research, he said.

"There's no threat if you have the right facility," he said, "and we wouldn't be handling any agents in large enough quantities that it would pose a threat to the community."

Houston Chronicle

Friday, Oct. 15, 1999

First funds OK'd to study bioweapons at Texas Tech

By PATTY REINERT
Houston Chronicle

The U.S. House has approved the first phase of funding for a research center at Texas Tech University to study how to counteract a potential terrorist strike against U.S. cities using biological or chemical weapons.

The $15 million was approved with the House's passage Wednesday of a $267.7 billion defense appropriations bill. The measure now goes to the Senate floor.

Texas Tech's National Center for Countermeasures to Biological and Chemical Threats, to be housed at the former Reese Air Force Base near the university's Lubbock campus, would study how to deal with chemical and biological agents such as anthrax, smallpox and Ebola, which could be used in making biological weapons.

Texas Tech will keep $7 million of the funding and distribute $5 million to the University of Texas system and $3 million to the University of South Florida in Tampa.

Researchers at the three universities, plus the UT Medical Branch in Galveston and UT Southwestern Medical Center in Dallas, will study how to train military, public safety and medical personnel to quickly diagnose and treat victims of a biological attack.

David Schmidley, vice president for research and graduate studies at Texas Tech, said that if the Senate approves the funding, work could begin early next year.

Texas Tech already has invested $2.5 million on a high-performance computer system that will use three dimensional visualization technology to create simulations of terrorist attacks. Up to 40 people at a time will be able to enter a holographic computer simulation to work out different potential attack scenarios.

Schmidley said that once a proper facility is constructed, the center at Texas Tech could eventually house a small amount of biological and chemical agents. None are currently housed at the university.

The Dallas Morning News

Dallas, Texas, Sunday, October 3, 1999

As 'factory' hog farms grow, so do health worries

Concerns about booming industry overblown, officials say

By Steven H. Lee
Staff Writer of The Dallas Morning News

PERRYTON, Texas — Marjory Hardy was planting petunias and periwinkles by her driveway one breezy day in June when a powerful stench singed her nose and throat. After 10 minutes, she quit. She tried again in an hour and a half, but "the air was just thick," she says.

A week later, Ms. Hardy went to her doctor with a persistent sore throat and a tightening in her chest.

■ The fight for regulations. 1H

The verdict: Airborne fumes from a quarter-million hogs confined in metal barns five miles away may be aggravating her condition and she should stay indoors.

Rural Texas is fast becoming America's new frontier for giant "factory" hog farms, designed to cash in on the booming world demand for pork.

And as Ms. Hardy discovered, an array of troublesome risks and problems are rolling into the state right along with them.

At a time when other regions are restricting or banning the sprawling high-tech enterprises because of rising health and environmental concerns, Texas is offering unflagging support in a quest for jobs and economic development.

Over the last five years — during which Texas relaxed its permitting rules — five major hog companies with a capacity of 1.78 million hogs have started up. About $400 million has been invested in the facilities, and projects costing another $1.2 billion are planned, which would triple the state's pig population.

The operations are highly effi-

Please see LARGE on Page 22A.

Large hog farms spur economy, stir complaints

Continued from Page 1A.

cient. Genetically superior hogs are housed in indoor pens, up to 1,000 per building, with computers controlling everything from the flow of food to the removal of waste. The production-line techniques ultimately reduce the cost of producing pork, compared with old open-air family-farming methods.

The farms are paying off for the state, too, economists say. In oil-bust Perryton, a Panhandle town of 7,000 people, one corporate hog farm has become the largest employer with 350 workers — 80 percent recruited locally.

And state and industry officials say that most concerns about the facilities are overblown. Texas regulations are as tough as any, they say, and so far no serious violations have been recorded.

"It's inevitable that ... [the farms] are going to come here," says Dr. John McGlone, director of Texas Tech's Pork Industry Institute, citing the availability of land and the dry climate. "It's the best place to raise pigs at the moment."

Communities divided

Still, not everyone sees that as an honor.

In the upper Panhandle, debate over the newly arrived farms has split communities and even families. While jobs have been created and some businesses have prospered, other residents say their ability to use and enjoy nearby homes and land has been damaged.

"It's a fundamental property-rights issue. If this occurred in an urban area, it would not be tolerated," says Stuart Henry, an attorney who represents Accord Agriculture Inc., a citizens' group that has taken the state to court over its hog-farm regulations.

Some neighbors, like Ms. Hardy, complain of ailments ranging from itchy throats and burning eyes to flu-like symptoms and nausea. The fumes can cut short farm work and can invade homes. A few residents have even fled, selling farms that were in their families for generations.

"Of all the things in my life, drought and everything else, nothing has worried me as much as this pig deal," says Byrl Hardy, Marjory's husband and a respected longtime grain farmer in Perryton.

The large confined-hog farm concept was developed in the early 1980s by North Carolina feed mill owner Wendell Murphy. And it worked. Murphy Family Farms quickly grew into the nation's largest hog company.

When pork demand surged worldwide in the 1990s, the mass-production techniques Mr. Murphy pioneered overtook traditional outdoor pig farming. Now, just 40 companies produce one-third of the nation's hogs.

But from the start, the obvious problem was managing the manure generated by hundreds of hogs housed under a single roof — waste legendary in the farm world for its prodigious volume, intense odor and caustic gases.

The answer was barns with slatted floors, which allow waste to drop below. It is then flushed into open earthen lagoons that can cover several acres

In most cases, the sewage isn't treated but is left in the lagoons to be broken down naturally by bacteria. The liquid can be sprayed onto adjacent fields as fertilizer or allowed to evaporate. In some operations, it is recycled and used to flush the barns.

Coming to Texas

Since 1994, Texas has been rolling out the welcome mat for factory farms.

Premium Standard Farms of Missouri was first to arrive with a mammoth facility outside Dalhart that now has a capacity of more than 1.1 million animals. Texas Farm Inc., owned by Nippon Meat Packers of Japan, has permits issued for more than 350,000 hogs near Perryton. It plans to expand to more than 1 million hogs.

A Texas economic development official stationed in Tokyo "openly recruited" Nippon Meat Packers, recalls Don Clift, the Texas Farm general affairs manager. "She was continually commenting that we should evaluate Texas" and meet agriculture and environmental officials in Austin.

Ultimately, the state helped finance road improvements around Texas Farm and granted the company tax exemptions of the type previously given mostly to oil refineries and chemical companies.

Former Texas Agriculture Commissioner Rick Perry, now lieutenant governor, has also hailed the farms. "Frankly," he said in a 1995 interview, "nobody has shown me a compelling reason not to be for it."

Current commissioner Susan Combs is more restrained. "I'm reluctant to say whether one thing is all good or all bad. The question is whether we have the right regulations in place. And I think we do."

Rules rewritten

Others aren't so sure.

In 1995, as Texas Farm and other pig producers were scouting locations in the Panhandle, the Texas Natural Resource Conservation Commission, the state environmental agency, rewrote the rules for large animal feeding operations, including big hog farms.

The new version did away with public hearings where residents could fight requests for permits but raised some design criteria.

Executives of Texas Farm and other hog companies say the relaxed permitting process didn't influence their decision to locate in Texas.

Accord, the citizens' group, sued over the changes and won some interim decisions. But in June, the resource commission posted revised rules that still deny hearings. Neighbors can comment, but facilities need only meet technical guidelines to register for permits.

"That industry is important to Texas," says John Baker, a member of the resource commission. "We cannot get completely out of whack in relation to other states or they'll go to other states — or even to other countries."

Critics remain disdainful. "The word's gotten around the country that if you want to create a nuisance and get away with it, come to Texas," says Mr. Henry, the Accord lawyer.

The Dallas Morning News

Cracking down

At least nine states have halted further growth or beefed up regulations in the last few years, says John Crabtree at the Center for Rural Affairs in Walthill, Neb.

"That has made the Texas Panhandle look more attractive," he says.

In one bitter battle, Oklahoma placed a moratorium on large hog farms after a task force voiced concerns about odors and water pollution. The state then followed with some of the strictest rules in the nation.

Colorado now requires covers on waste lagoons. About two dozen Kansas counties have banned the farms outright.

Even North Carolina, the second-largest hog-producing state and the birthplace of the factory farm concept, has temporarily frozen expansion of its biggest agricultural industry. Disastrous flooding from Hurricane Floyd, which sent thousands of bloated pig carcasses and rivers of raw waste flowing across the countryside, will increase demands for regulation there, environmental authorities predict.

Recent research there and in other states has tied hog waste to high nitrate levels in groundwater. Nitrates in drinking water have been linked to cancer and "blue baby syndrome," in which infants suffocate.

Airborne fumes are also under scrutiny. University of Iowa researchers found increased respiratory problems in residents living within two miles of a big hog farm. In May, a University of North Carolina study found elevated levels of lung and stomach disorders among people living near large hog facilities.

"We can tell folks that they aren't crazy. They aren't imagining these symptoms. They are real," said Dr. Dennis McBride, North Carolina's state health director.

Life downwind

Byrl Hardy grows grain sorghum in a field next to Texas Farm No. 3 — the largest of the company's five complexes with an allowed capacity of nearly 250,000 hogs.

Across a fence and not more than a football-field's distance away are some of the 204 shiny barns and 50 waste lagoons that stretch east and west toward the horizon. In full operation, the site could produce as much waste as a city the size of Albuquerque.

Coming to a stop at his field, Mr. Hardy crawls out of his truck and puts his nose to the air. "Smell that?" he asks. A distinct ammonia and manure odor has enveloped the truck.

"They say, 'Well, that ain't bad.' But you come out here and work," he says. "When you're smelling odor, you're smelling gas. I bet if you stay here an hour, your nose will start burning and running, and your eyes will start watering."

Marjory Hardy says it galls her to be housebound when odors arrive. And when her grandchildren visit, she says, they sometimes don't want to play outside. The Hardy home is also just a mile from another complex with a capacity of nearly 58,000 animals.

Ms. Hardy's physician, Dr. Rick Siewert, acknowledges that tying illness to hog odors is a "ticklish" issue around Perryton. He's president of the local school board and counts himself among civic leaders who support Texas Farm.

"The Hardys are really in a jam because of where they are," Dr. Siewert says. "You almost get chased off your own homestead, and that's unfortunate. But I guess that's progress."

Mr. Clift, the Texas Farm manager, says he's done all he can to assuage neighbors like the Hardys and to contain odors. He also correctly notes that the resource commission has yet to cite any nuisance odor violations from his farms.

No fines

Overall, the commission to date has logged about 200 complaints against hog farms, mostly for odors. Of the handful of violations issued, none have been for odors, and no fines have been assessed.

Odors that are "injurious" or that "adversely affect human health or welfare or interfere with the normal use and enjoyment of property" violate state rules. But to determine a violation, state inspectors must rely on decidedly low-tech devices: their noses.

Essentially, they have to get sick themselves, says Brad Jones, the resource commission's Amarillo regional director.

"I don't think there is a single inspector who wouldn't like to have a meter, a mechanical nose," Mr. Jones says. "Something that would give us a number."

Some states have just that. Minnesota uses a "Jerome hydrogen sulfide analyzer" to test for the most toxic gas in swine manure that's characterized by a "rotten egg" odor.

There, large-scale swine farms can't exceed an average reading of 30 parts per billion for 30 minutes twice within five days. One company has been fined $37,500, and another 24 farms are being watched closely for possible violations.

A one-time monitoring of several Texas sites by the resource commission last year found the highest 30-minute average reading for hydrogen sulfide at 43 parts per billion on the edge of one Texas Farm facility. That was well under Texas' allowable 80 parts per billion from other sources — but it would have drawn a red flag in Minnesota.

Nausea and headaches can occur at half that level, says Kathy Norlien, a Minnesota Department of Health scientist. Other symptoms can occur at 10 parts per billion.

Regulatory tightrope

At Texas Farm, Mr. Clift says he was surprised by the readings. "I don't deny that there's something to evaluate," he says, though he says he believes his farms are located far enough away from neighbors.

The resource commission last year increased the required distance between large animal-feeding operations and residences to a half-mile from a quarter-mile — although farms can get around that by filing "odor abatement plans."

By contrast, Oklahoma now requires that new hog farms be at least two miles away from a residence and three miles from a recreational area.

Mr. Clift ticks off a list of steps Texas Farm has taken to stay ahead of odor and environmental issues: It doesn't spray effluent onto adjacent fields like most companies. Waste is processed through two lagoons rather than one. The earthen pits are larger than normal. Liquid that doesn't evaporate is recycled to flush more waste.

At some point, he says, enough is enough. Regulation needs to be balanced, he says. But others in the industry say there's room to improve.

"I don't think a farm should have a smell beyond the border of the farm," says Texas Tech's Dr. McGlone.

He says some farms may have to cover their lagoons, a step that operators say could cost $2 million to $3 million each. Or instead of lagoons, Dr. McGlone suggests, some may have to copy Premium Standard Farms near Dalhart, which uses covered wastewater treatment tanks that resemble a municipal sewage plant. No complaints have been lodged against Premium Standard, but its neighbors are fewer and farther away.

Although the hog industry says there's little chance of polluting the deep Ogallala Aquifer under the Texas and Oklahoma panhandles, some people worry that waste could reach the water table through abandoned wells that perforate the plains.

Recent U.S. Geological Survey tests showed that surface water has made it to the aquifer over a period of decades. And at least one known industrial chemical, carbon tetrachloride, a suspected carcinogen, has polluted a city water well underneath Perryton.

That's enough to make Mayor David Hale want monitoring wells around hog lagoons to check for leakage. Such wells are now required in Oklahoma.

"If our water goes bad," says Mayor Hale, "we'll be turning back to desert."

For now, however, the hog farms have bolstered the rural economy around Perryton. Retail sales, sales tax receipts, auto sales and bank deposits have increased since 1995. Some old Main Street buildings have been fixed up. Also, "Texas Farm has been a good corporate citizen," says Mayor Hale, contributing to charity and supporting the Chamber of Commerce and Little League baseball.

But he acknowledges the community is also split these days because of hogs.

Mr. Hardy, the unhappy sorghum farmer, knows all about that. His niece is the town's foremost Texas Farm supporter as head of the local development corporation; his nephew, also a supporter, is a county commissioner.

"It's tough," he says, "because everyone will tell you that the Hardys are like a knit shirt."

The Boston Globe boston.com

Nation | World

Pigging, out in Texas

Farms raise some eyebrows in cattle land

By Esther M. Bauer, Globe Correspondent, 11/14/99

PERRYTON, Texas - For Texans, livestock has always meant cattle. But out in the plains of the Panhandle, pigs are challenging cattle as king - and could surpass them in less than two decades.

That notion brings guffaws from cattlemen and grimaces from hog farmers, who generally try to avoid publicity, especially with their industry facing environmental protests in other states and organized opposition in Perryton.

Already, pigs outnumber beef cattle held in livestock-feeding yards in Southern Great Plains of the Texas and Oklahoma panhandles, southwest Kansas, and eastern Colorado, says John James McGlone, a professor of animal science and food technology at Texas Tech University in Lubbock.

"Pigs are going to be bigger than cattle in Texas, and it could happen within the next 10 to 20 years," McGlone said with a seriousness that only someone known as "The Pig Man of Texas Tech" could muster in a state famous for its cattle.

The significance of cattle in Texas culture is apparent everywhere. It is no accident that the Dallas professional football franchise is called the Cowboys, or that the mascot of the University of Texas at Austin is a real longhorn.

Cowboy hats and boots are the dress code in the Panhandle and the rest of rural Texas, while urban cowboys with razor-sharp creases in their jeans compete every Saturday night from Houston to El Paso for who can look more Texan.

"The day I see a cowboy walk into a honky-tonk wearing a pig farmer's cap and rubber galoshes, then I'll know that hogs have taken over the hearts and minds of Texans," said Burt Rutherford, communications director of the Texas Cattle Feeders Association. "And I would wager that's a long way off."

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The cattlemen retain that bravado, even though McGlone's work over the past 10 years is largely responsible for drawing corporate hog farms and 1 million pigs a year to the Texas Panhandle. The region is arid, sparsely populated and home to the state's cattle feedyards, which annually fatten more than 6 million cattle, supplying a quarter of the nation's beef.

McGlone, who has introduced pork producers to rural Texas communities hungry for economic development, insists the potential is tremendous because more pork is eaten worldwide than any other meat, and pork consumption is poised to surge.

"We'll soon have 8 billion people in the world, more affluence, and we'll need a billion more pigs to feed them. ... Texas is a perfect place to raise pigs, and wouldn't we like the economic development here?" said McGlone, adding: "That's what I call my 'pigs can save the world' speech."

Pigs are waddling into Texas at a time when the major pork-producing states are limiting corporate hog farming in an effort to preserve family farms and protect the environment. Lagoons holding pig waste can be a foul-smelling nuisance or a pollution hazard, as when Hurricane Floyd recently ravaged North Carolina, a major pork-producing state.

But while neighboring Southern Plains states are legislating against corporate hog farms, Texas Panhandle towns are inviting the conglomerates, citing the same benefits that drew cattle feedyards 35 years ago: arid climate, availability of grain and water, major transportation access, and not many humans.

Although pork producers from Spain and Nippon Meat Co. of Japan have already located in the Panhandle, gambling that state regulations will remain attractive to corporate livestock farms, an economist scoffs at the idea of raising pigs in Texas.

"The only reason hog farms might come to Texas is if they can't locate anywhere else, but Texas will never become a dumping state for pigs," said Earnest Davis, an economist on livestock marketing at Texas A&M University. A&M is in the southeastern corner of the state, where cattle research dominates the animal sciences and the only pigs are for veterinary research.

But Matt Brockman of the Texas Department of Agriculture said the presence of foreign companies may portend a significant economic boost for Texas. "Don't discount the commitment and know-how of Nippon Meat," said Brockman. "They sell everywhere and are one of the biggest players in global pork production, but there's no doubt they're taking a risk."

Communities such as Perryton have hitched their wagon to hogs since 1995, when Nippon Meat began building barns just outside of town -

raising about 600,000 pigs for market annually.

Hundreds of massive steel hog barns gleam in the sun and jut out of a prairie so flat that the earth curves into the distance. One barn can house 1,000 pigs, whose liquid and solid wastes are washed into dozens of pond-type lagoons, each covering many acres.

The barns are not visible from town, and the squeals of tens of thousands of pigs are barely audible from the farm's gated entrance. But when temperature changes stir the ponds every spring and fall, and the wind is blowing just right, the odor of the manure can permeate everything downwind for 15 miles. Even hog advocates say they keep their windows closed, while neighboring farmers say the fumes are so bad that it's making them sick.

Texas Farm Inc., a Nippon Meat subsidiary, operates the farms and pays $1 million in annual property taxes, which county leaders say is essential for operating local schools. The county's property tax base lost half its value with the collapse of oil prices in the 1980s, taking with it 25 percent of the population, now stabilized at 7,600 residents.

Still, an organized group of farmers opposes the pigs. They have filed multiple lawsuits against the state's hog-farm licensing agency, contending that regulations are too lax and results in a stench that is driving them from their properties. They plan to keep suing until the pigs stop smelling.

"Hog operations are ridiculous; they use water to wash out the waste, then it sits in these open cesspools and stinks," said Jeanne Gramstorff, secretary of the group Active Citizens Concerned Over Resource Development.

In response, Myron McCartor, a former county commissioner and economic development chairman, says manure is manure.

"When Nippon said they wanted to locate here, I said, 'Great! That's what this area is about. We raise stuff,'" said McCartor, who sought McGlone's help in attracting hog farms. "Never in my wildest dreams did I think a bunch of farmers would raise hell over another farm."

Bob Lemon, a local attorney who has practiced law in Perryton for most of his 70 years, said it's a simple case of resistance to change. "Their ancestors fought the sod-buster plow and barbed-wire fences with the same tenacity that they now fight hogs and any other change," said Lemon. "We would be in bad shape without Texas Farm."

In late October, Texas Farm opened an $11 million feed mill and plans to buy grain from local farmers, including the anti-hog faction. "We wouldn't be here if we didn't believe we have a good future in Texas," said general manager Don Clift, who used to work for the cattle feeders association.

He declined to talk about odors except to say that cattle-feeding operations encountered the same complaints from farmers in the 1960s.

This story ran on page A04 of the Boston Globe on 11/14/99.
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Resource

PUBLISHED BY ASAE – THE SOCIETY FOR ENGINEERING IN AGRICULTURAL, FOOD, AND BIOLOGICAL SYSTEMS

NOVEMBER 1999

Seaweed may be the best beef solution

Research projects conducted by Mississippi State University, Virginia Tech and Texas Tech, show that seaweed fed to cattle and swine has positive effects on immune function, weight gain, carcass quality and finished meat shelf-life.

Lead researchers for the project from Texas Tech are Vivien G. Allen, a professor in the Department of Plant and Soil Science, and Kevin Pond, chairman of the Department of Animal Science and Food Technology.

"We found that by applying a specific seaweed, *Ascophyllum nodosum*, in an extract to the pasture or forage animals would be grazing on — or by directly feeding the extract or the seaweed meal to animals — that their immune system . . . is enhanced," Pond says. "The effects of seaweed seen in the finished beef product also include a more desirable color, improved uniformity, decreased browning and less discoloration of the meat."

Allen says a problem with cattle occurs when they ingest fungus-infected grass.

"Tall fescue is the most important perennial cool-season grass grown in the United States, occupying more than 35 million acres (14 million hectares)," Allen says. "The fescue provides the fungus with a home and food, and the fungus provides the plant with stress tolerance and insect resistance . . . Fescue toxicity results in lowered animal performance, poor hair coats, elevated temperature and lowered immune function."

Estimated losses to the beef industry due to fescue toxicity exceed $600 million annually. Pond says economics of the seaweed treatment is encouraging.

"It's exciting that we're only feeding this material to cattle once . . . and they don't get it again in their life."

The seaweed research also could prove lucrative for Texas Tech. Pond says the university has applied for a patent on the seaweed treatment.

Heidi Brady, assistant professor and director of Texas Tech's Ranch Horse program, is studying the seaweed treatment to improve weaning stress and immune system function in horses.

Allen and Pond hope their research will someday benefit humans.

For more information, contact Kevin Pond at 806-742-2513, kpond@asft.ttu.edu or Vivien G. Allen, 806-742-1625, felician@ttu.edu.

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Updated: Sunday, Oct. 3, 1999 at 23:04 CDT

Researchers race to discover secrets of Alzheimer's disease

By Charlotte Huff
Star-Telegram Staff Writer

FORT WORTH -- Ann McKay tries not to panic when she loses her keys.

Her grandmother had Alzheimer's disease. So did her mother.

She would like to know if she also is fated to develop the disease.

"Then I would go to whomever I thought was doing the most notable research and say, 'Here I am,'" she explained, with a wry laugh.

Earlier this year, McKay, 61, of Cleburne rolled up her sleeve to donate blood for research at the University of North Texas Health Science Center in Fort Worth. Hidden in McKay's blood, and in everyone's, lies the answer to who will one day develop the memory difficulties, the loss of personality -- all the things that people most fear about Alzheimer's.

UNT researchers are among a phalanx worldwide who are racing to unlock those secrets.

The potential for breakthroughs, in early diagnosis and better treatment, has never been better,researchers here and elsewhere say. They point to advances in genetics, strides in possible prevention measures and the recent news of a potential vaccine -- albeit in mice.

"Our knowledge doubles every year," said Dr. Eugene Lai, a Houston-based Alzheimer's specialist who predicts that the exact cause of the neurological disease will be isolated within five years.

And once Alzheimer's is better understood, targeted drugs can be developed, said Shirley Poduslo, Alzheimer's researcher and director of the DNA Bank at Texas Tech University Health Science Center in Lubbock.

Ideally, Poduslo said, "down the road, the doctor would draw the blood and see which genes are affected and then know what medications the patients will do best on. Right now, it's all hit in

the dark."

Four million Americans are believed to have the disease, which breaks down the brain cells crucial to thought and memory.

And the risk rises sharply with age. Nationally, one in 10 people over 65 have the disease; nearly half the population will have it by age 85.

"It's essentially a continuous deterioration of certain parts of the brain," said Lai, associate professor of neurology in the Alzheimer's Research Center at Houston's Baylor College of Medicine.

Dr. Janice Knebl, chief of geriatrics at UNT Health Science Center, said,"People are very afraid of it, the fact that it takes away who you are, the fact that it makes you very dependent, the fact that it takes many years to die."

In addition to the human toll, the disease costs the United States roughly $100 billion annually in medical bills and lost productivity, according to the Alzheimer's Association.

Today's Alzheimer's patients are still diagnosed through a series of physical and mental tests. That diagnosis is about 90 percent accurate, the Alzheimer's Association says.

Conclusive diagnosis requires an autopsy. Warning signs include difficulties with language, poor judgment and significant memory problems.

At first, Fort Worth resident Bobbie Fields, 64, wasn't sure whether her mother's mental stumbles were more than occasional. Then she and her mother, Cleadith McCarty, traveled to Austin for Christmas of 1993 to visit McCarty's granddaughter.

"When we got back, she couldn't remember going," Fields said.

McCarty, a bright-eyed 81- year-old with an easy laugh, is considered to be in the early stages of Alzheimer's.

Her conversation goes in circles, one story repeated as many as 10 times in two hours. But she is cognizant enough to understand that she has the disease.

"I wouldn't wish it on my worst enemy, if I had one," she said.

Early treatment with one of the current drugs has helped slow her mother's memory loss, Fields believes.

Since 1993, two medications have been approved.

In some patients, they may help reduce the severity of symptoms. But they can do nothing to thwart the progression of the disease. Nineteen more medications are now in

development, according to a July report from the Pharmaceutical Research and Manufacturers of America, based in Washington, D.C.

More effective drugs that halt the disease will remain elusive until Alzheimer's is better understood, researchers say.

Much of the current research focuses on the formation of sticky plaque deposits in the brain. They are believed to be associated with the death of the brain cells.

The hallmark plaques have given researchers one way to assess the relative effectiveness of experimental treatments.

They were central, for example, to the highly publicized recent research on an Alzheimer's vaccine in mice.

The mice had been genetically altered to develop Alzheimer's-like brain changes. Researchers immunized the mice with a protein believed to be instrumental to the plaque's formation. After 13 months, they found virtually no evidence of the plaque formations in the immunized mice, according to the findings published in July in the journal `Nature.'

Advances in mice don't necessarily translate to the human brain, researchers are quick to caution. Yet, those interviewed were intrigued.

"If I were a betting man, I would say that I would explore this aggressively and thoroughly," said Dr. Roger N. Rosenberg, director of the Alzheimer's Disease Center at the University of Texas Southwestern Medical Center at Dallas.

Meanwhile, the race is on to identify genetic markers. Together, markers would sketch a portrait of someone's relative risk for the disease, said Robert Gracy, dean for research and biotechnology at UNT Health Science Center.

"It's somewhat like we do risk profiles for heart disease and things like that now. You look at a whole variety of parameters," he said.

But an individual's underlying risk is only part of the equation, Gracy argues.

His research team is trying to identify protein markers -- uniquely damaged in Alzheimer's patients -- that could be tracked to understand how quickly the disease is progressing. Once the markers are identified, physicians could monitor them and determine whether a particular treatment is working, Gracy said.

So what can people with a family history of Alzheimer's do now?

Research indicates that vitamin E, as well as estrogen, may

help slow the onset of the disease. Other research is looking at the role of anti-inflammatory medications, such as ibuprofen.

Recent studies also indicate that people who keep mentally active, such as pursuing higher educational levels, appear less likely to develop the disease, Lai said.

Fields has donated vials of her blood for Alzheimer's research. She already takes Vitamin E and estrogen.

And she tries, without much success, not to worry.

"Every time I have one of those `senior moments,' I panic," she admitted. "I think, `Oh, my God. I have it.' "

Charlotte Huff, (817) 390-7689

Send comments to huff@star-telegram.com

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The Times

SHREVEPORT ■ BOSSIER CITY ■ ARK-LA-TEX

OCTOBER 19, 1999

Residential areas get involved in recreation

■ Improving youth leagues and facilities are a major concern.

By Melody Brumble
The Times

MINDEN — When it comes to recreation in the region, new and improved is taking top billing over tried and true.

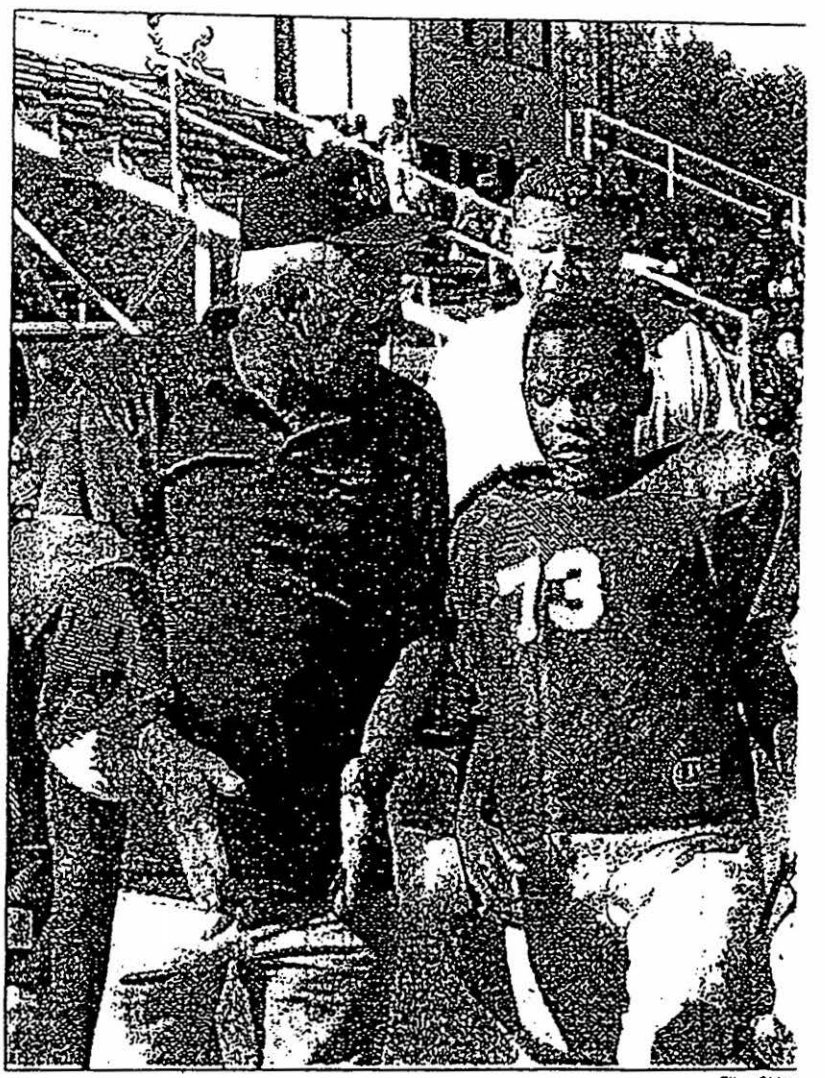
LaCharleston White likes the long-time youth football program in which his son, JaQuario McGlothern, participates. However, White hopes the city will include a little league football field if it builds a recreation center and complex.

"Right now, they practice just anywhere they can find a place. They play at the junior high school. They need a field of their own," White said.

The city already owns parks and recreation areas developed piecemeal since the 1940s and renovated only in the past three years. A citizen committee appointed this year is exploring the feasibility of a recreation center or complex that may include sports fields.

The committee is a sign of resident-based planning communities are choosing in an effort to offer recreation facilities and programs that improve a community's quality of life and make it more attractive to newcomers as well as long-time residents.

"We've all evolved, and it's time for us to do some serious thinking about what we have," said Jay Ellington, Ruston Parks and Recreation director. "I want to compete with major cities (for residents) We figure in the future a lot of people will be able to live just about anywhere they want to."



Elisa Older

Ellington is in the midst of drafting a master plan based on a survey of 400 registered voters in Ruston. The proposal includes several ambitious projects, like a regional soccer complex on which the city broke ground Monday, J.C. Love Sports Complex, a park dedicated primarily to softball and baseball, and improvements at Lincoln Parish Park north of Ruston.

Besides offering residents recreation opportunities, sports centers and parks are a tourist draw. The Xterra

■ See RECREATION 2A

Recreation budgets

Recreation budgets vary widely in Northwest Louisiana communities. Some departments depend on volunteers, while others have enough funding for full-time employees.

Homer: $50,000.

Minden: $755,413

Ruston: $538,522.

Recreation: Tax to support facilities could help Homer

Continued from 1A

mountain bike races draw participants from across the nation to Lincoln Parish Park each year and give Ruston valuable television exposure.

Ellington expects Ruston and Lincoln Parish to capitalize on its new sports centers under construction in a similar way, marketing them for regional, state and national tournaments.

North of Ruston, Homer officials are trying to figure out how to publicize the town's best-kept secret — a nine-hole public golf course that hasn't received much recognition in the past. Their focus is part of an effort to promote tourism and retirement living in the historic community and at nearby Lake Claiborne.

Mayor David Aubrey swiftly cleared up a misperception that the course was private by posting a sign that invites anyone to play. The misperception arose because a private organization manages the course.

Volunteer recreation director Fred Young is proud of the course, but brags as much about the town's other facilities: two swimming pools, two major parks with baseball and softball fields and a smaller park with playground equipment for toddlers and children.

In the works are walking trails at the parks, a soccer league and expanded recreation programs for adults — but Young wants even more, like a fitness center open to the community.

"I would like to see a recreation tax passed where there is a real, paid recreation staff," he said. "We've all stepped up to our various corners, pulled financing from churches and parents, for recreation. There's not just a possibility, there's a probability people would support a tax."

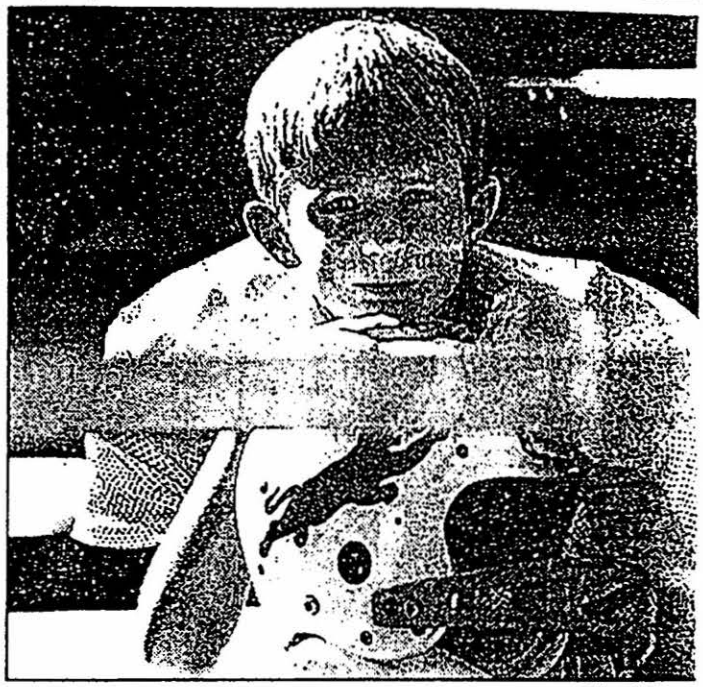
Concern about juvenile crime also may encourage residents to support increased recreation opportunities.

"There are several studies in sports sociology literature that have shown when individuals are involved in structured after-school programs, they are far less likely to be engaged in criminal activity, including drug use and alcohol consumption," said Mark Anshel, a Texas Tech University professor who teaches sports psychology.

Or, as Aubrey puts it, "An investment in recreation would be a savings in juvenile delinquency."

Minden's youth football program, affordable for almost anyone at only $10 a year, keeps JaQuario busy.

"I started playing last year. I



Elisa Olderma

Adam Everding, with the Minden Jaycees youth football team. his game in the Minden youth football program.

joined because I didn't have anything to do at home. I like it. I like being the quarterback," he said.

Keeping kids out of trouble is one reason Al Hortman coaches JaQuario's youth football team in Minden. Hortman believes the city's sports programs teach teamwork and discipline in an increasingly undisciplined, selfish world.

Those can be difficult lessons.

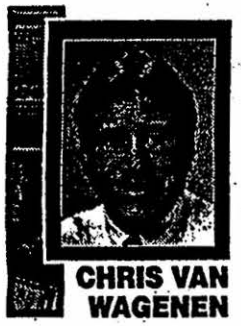
"Last year, he wanted to quit, and I wouldn't let him," said Cherry White, JaQuario's mother. "Sometimes, he doesn't want to go to practice, like last night. We told him, 'You have to go. You're the quarterback.' They only practice two days a week. I don't th too much."

The Whites also expect to maintain his B-honor r In return for his hard w shout encouragement sidelines at all his games. other parents have pror boys a pizza party if the mains undefeated this sea

That's the kind of c spirit Minden recreatio Winky Newer promotes.

"We try to get all the c and parental involvemen he said. "If you give peo thing nice, they're going ter about where they're a

Texas Tech takes the lead position on development



CHRIS VAN WAGENEN

Chris Van Wagenen is business editor of The Lubbock Avalanche-Journal.

Texas Tech Chancellor John T. Montford last week met with faculty associated with the Center for the Study of Regional Economic and Industrial Development.

The organization, which is now made up of more than 100 research associates, got its start 18 months ago when Montford challenged the then-smaller group to come up with a plan aimed at creating new industry and jobs for Lubbock and the surrounding area.

The response to that challenge, according to economics professor Lewis Hill, has been nothing short of astounding.

"In all the years I've been involved in education I have never seen anything like this. We're involved in something here that can make a substantial impact on this city," said Hill, who along with professor Robert McComb were called on by Montford to lead the effort.

According to Hill, the center has turned over a number of proposals to Montford who in turn will present them to Texas Tech's Board of Regents for consideration.

Hill said Montford has expressed a desire to pursue some initial projects that can deliver results within a five-year time frame.

High on the list

Agriculture and software development apparently lead the lengthy list of proposals that Montford was given prior to his dinner with the faculty now involved in the center.

Hill said some of the agriculture proposals he's seen make a lot of sense, particularly on the High Plains where cotton and other products can be produced and then "forward integrated" into value-added industries.

One project that reportedly will be pursued is an environmentally friendly pig farm that can produce 5 million pigs a year "integrated with a packing house designed to produce pork for export.

The farm, according to the proposal, could be built into a $3 billion industry that would bring with it as many as 3,000 jobs, according to Tech's Pork Industry Institute.

In their report to Montford, the College of Agricultural Sciences & Natural Resources said forward integration could be expanded into other areas beyond just pigs, including the production of other cash crops such as vegetables, canola and castor beans.

Their forward integration theory also makes sense for the South Plains' biggest crop, namely cotton.

Hill said a new spinning technique called "open end" or "roto spinning" is well suited for the South Plains short staple commodity, which is quite profitable based on two examples – American Cotton Growers denim mill in Littlefield and the Lortex Spinning Mill in Snyder, which is now being expanded to include a weaving mill.

"We believe there are a lot of things like this that we can repeat over and over again," Hill said.

The high tech end

Research proposals turned over to Montford were classified into 10 initiatives, including one involving software engineering that Hill said has the potential to produce some immediate results.

Hill said faculty in that area have proposed starting up a small software business incubator that would be located at Reese Center.

"One of our greatest opportunities is in software," Hill said.

Tech software initiative members are interested in starting the incubator small – with one company, and then adding others as the project proceeds.

The incubator would provide startup companies with 2,500-square-feet of space in addition providing Tech faculty in some consulting role.

Also proposed is a self-sustaining "telecommuting" center at Reese that would give employees not interested in relocating to a different city the opportunity to stay in Lubbock.

In exchange for access to video conferencing capabilities, networked computers, space and utilities, telecommuters who are generally highly compensated would pay for the overhead of the center.

Of course, there are dozens upon dozens of proposals from electronics and alternative energy resources to health care delivery and biotechnology that have been turned over the chancellor.

The good news is the formation of the Center for Regional Economic and Industrial Development didn't stop 18 months ago when Montford first made his challenge.

"I've never seen so much enthusiasm (on the part of faculty)," Lewis said. "But we need some early successes to establish our credibility."

I guess we'll know the answer to that five years from now.

Chris Van Wagenen can be reached at 766-8744 or at cvwagenen@windmill.net

11-99

Virtual reality center takes off

By KARA ALTENBAUMER
Avalanche-Journal

Members of the citizen's advisory committee for Texas Tech's Institute for Environmental and Human Health took a dizzying ride through cyberspace Wednesday, jetting across the globe from the tip of Africa through Italy and to the snow covered peaks of Europe during the first trip of a new virtual reality center.

Center operators took the multi-million dollar equipment on an inaugural test drive that included a model of a sports car as they worked the bugs out on the system that should help answer some of environmental science's toughest and most dangerous questions.

"This is a very powerful tool," said Ron Kendall, institute director. "There will literally be thousands of pieces of information" involved in the problems the machine will tackle.

The virtual reality center is run by the only supercomputer in West Texas – a machine that comes close to ranking in the top 200 computing sites in the world, Kendall said. The panoramic technology in the center is the biggest in Texas and is believed to the biggest in any university setting in the United States, he said.

The system "is highly accomplished and world renowned in graphics and visualization," Kendall said.

One committee member described the computer as a library.

"That's exactly right," Kendall said. "With the massiveness of data storage on this computer, we will create libraries of information. As we address new questions, we will go back and mine our libraries."

Bioterrorism research lab in the works

Continued from 1B

Housed at Reese along with the institute will be the National Center for Countermeasures to Chemical and Biological Threats, which will be a major user of the virtual reality center and supercomputer.

The technology can be used to answer questions about how to address a terrorist attack without using dangerous agents or humans for testing, Tech scientists have said.

The threat of a chemical or biological attack has become a central focus from meetings of the nation's top scientists to the Pentagon.

Plans for a high-level laboratory that can handle bioterrorism agents are also in the works at Reese.

Tech agriculture professor encourages safety in secondary school laboratories

By WAYNE BOARD
A-J Farm Editor

10-24-99, AJ

Secondary educators should be more aware of and better trained in laboratory safety issues, said David Lawver, who bases his recommendations on a number of studies he's run across Texas.

Lawver, an associate professor in agricultural education and communications at Texas Tech, is now working with other professors at Tech to reverse the trend and make secondary agricultural science programs safer for students.

One of his earlier studies collected data on the frequency and type of accidents in 239 agricultural science and mechanics labs in Texas.

Other objectives of the study were to describe teachers' attitudes and perceptions toward safety practices, laboratory safety and safety knowledge, as well as to measure students' personal attitudes and perceptions toward safety.

The study showed that accident rates are excessive and that safety should be a concern in Texas agricultural science laboratories, he says.

"By examining the relationships between accidents, safety attitudes and perceptions of students, we could target intervention efforts more effectively," Lawver says.

As a continuation of his research, Lawver performed another study in 1996 to assess in-service needs of agricultural science teachers in regard to safety. The survey was sent to a random sampling of agricultural science instructors in the western portions of the state, where Tech's agricultural education and communications department delivers most of its in-service training.

> *"By examining the relationships between accidents, safety attitudes and perceptions of students, we could target intervention efforts more effectively."*
>
> **David Lawver**
> **Tech associate professor**

The survey posed three main questions to teacher respondents.

The first was what safety subjects to ag science teachers perceive to be the most important, followed by what safety subjects to those educators perceive they are capable of adequately teaching.

The third question was in what areas of safety to the teachers feel they require further in-service education.

"Findings of the survey were very specific," he says. "For instance, the teachers we surveyed believe eye protection is among the most important safety competencies."

Three of the top five competencies indicated were "explain use for and need for welding helmet," "explain use for and need of chipping goggles" and "explain use for and need of welding goggles," he says.

Another conclusion Lawver drew from the study showed that the seven safety competencies that teachers rated themselves as having the least ability to teach were also rated as the lowest in importance by the teachers.

Some of the subjects identified as having the highest need for in-service instruction included teaching electrical safety, explaining proper handling of hazardous materials, administering artificial respiration/CPR and motivating students to be safe.

"We also looked at the teachers preference for delivery of in-service training," he says. "In order of highest preference, those methods included workshops, video tapes, community college classes, graduate courses and distance education."

The conclusions reached by the research have helped Tech professors adjust their own curriculum to better educate those who will become teachers.

The department has also begun implementing a series of in-service seminars for first-year teachers, which they are trying to make available across the state via distance education methods.

Lawver has written two textbooks and produced 15 videotapes for high school and university students.

LUBBOCK AVALANCHE JOURNAL
Monday, October 25, 1999

Russian mathematician makes a science of solving problems

By KARA ALTENBAUMER
Avalanche-Journal

Mariana Shubov finds math "beautiful" – a synthesis of art and science.

Shubov, who is in her 10th year in Texas Tech's math department, is currently the recipient of one of only nine National Science Foundation grants nationwide for interdisciplinary math. She is using her $100,000 a year to help NASA solve the problem of wing flutter in its aircraft.

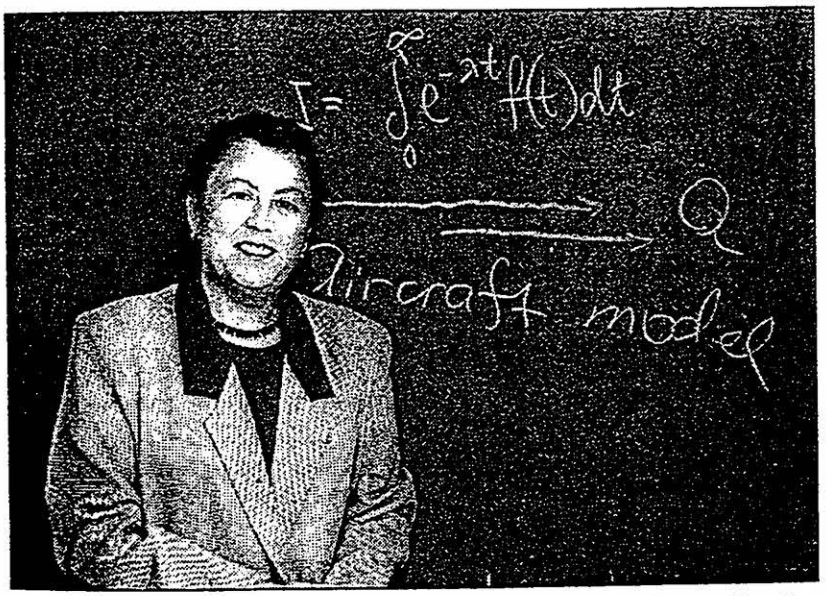
"Mathematics works in a very interesting way; it needs a trigger," she said of the questions mathematicians work to solve. "I could not have imagined having such an elegant problem. (Wing flutter) had been known about for 12 years, but no one knew where to start."

Shubov left Russia in the final days of communism seeking an academic haven. Because of her expertise and her doctorate in mathematical physics from St. Petersburg University, Russian government officials had wanted Shubov to work in the military industry.

She and her husband, Victor, both found positions within Tech's math department, where she has received eight major grants and been invited to attend conferences and present papers throughout the world, including Canada, Britain, Mexico and Germany.

"What is good about America is that if you want to do deep, theoretical research, you have all the resources," Shubov said. "That is the striking difference between here and Russia. There it's like being a medieval mathematician working on this paper and that one."

When Shubov was first approached about the wing flutter project, she didn't think a foreigner, barely known in America's math community, had a chance for such a prestigious national grant. But, she said, "I decided I will work in this area even without support because it's such a beautiful problem."



A-J Special Contributor/Chase Perry

Mariana Shubov works on the problem of wing flutter in aircraft. She has one of only nine national grants for interdisciplinary mathematics from the National Science Foundation.

Kara Altenbaumer can be contacted at 766-8742 or kaltenbaumer@lubbockonline.com

Friday, October 15, 1999

U.S. House approves $1.7 million for Tech space research, city museums

By KARA ALTENBAUMER
Avalanche-Journal

Funding approved by the U.S. House on Thursday includes $1.7 million for a space research initiative at Texas Tech as well as Lubbock's Silent Wings Museum and American Wind Power Center.

The funding was included in a conference report of the Veteran's Administration and Housing and Urban Development spending bill.

Tech's space research – a NASA project – will receive the bulk of the money at $1 million in funding, according to a release issued by U.S. Rep. Larry Combest, R-Lubbock.

The program will work on plant biochemistry and genomics to apply research done for NASA's Mars mission project to agriculture in the Southwestern United States, the release indicated.

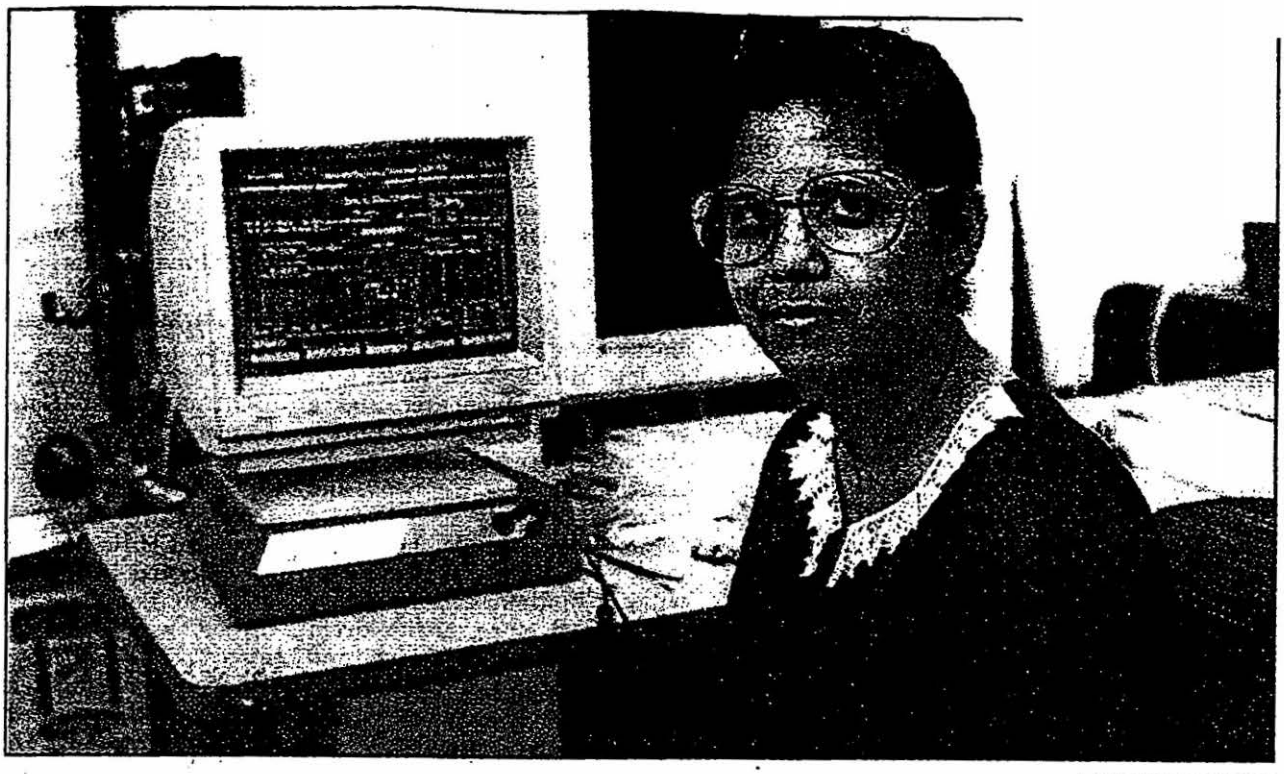
"The Space Research Initiative is yet another example of the outstanding research initiatives that have become the lifeblood of economic development for the Lubbock area," Combest said. "This project and the USDA-ARS Plant Stress Laboratory will have a complementary relationship; the cutting-edge research conducted here will be instrumental for future long-endurance space flights, the Mars mission and future projects like the space station."

The Silent Wings Museum, which showcases World War II military gliders, would receive $350,000. The museum is currently located in Terrell but is slated to move soon to the former South Plains Army Air Field, which is now a part of the Lubbock International Airport.

The same allotment is scheduled for the American Wind Power Center, a nonprofit museum dedicated to windmill design and its cultural heritage.

"These funds will help fuel Lubbock's momentum in building two historically important attractions," said Lubbock Mayor Windy Sitton. "The (two) are one-of-a-kind museums that will be available to both residents and visitors."

The conference report must now be approved by the Senate and signed by President Clinton.



A-J Photo/Joe Don Buckner

Texas Tech physics professor Shubra Gangopadhyay is working with engineers to develop faster and higher-density computer chips.

A-J 10/27

SPEEDING UP THE FUTURE

Tech physics professor spends her time creating a faster computer

By KARA ALTENBAUMER
Avalanche-Journal

Shubra Gangopadhyay is trying to solve a problem that everyone wants an answer to: how to make computers faster, handle more information and use less power.

A Texas Tech physics professor for 14 years, Gangopadhyay focuses her work on two areas of technology – field programmable gate arrays, which enable users to program a computer chip very quickly, and the development of new materials for interconnecting parts within the circuits of computer chips.

Although her research may sound lofty, the problems it addresses are very real and very much in demand by industry, Gangopadhyay said.

"Industry has helped me to see what is needed in the future," she said. "That has helped me pursue my goals in the right direction. The work is very fulfilling because you know it's going to go to the market."

Within her field of programmable gate array research, Gangopadhyay is working specifically on something called an antifuse which is an electronically programmable switch within a computer chip. It is the fuse which she is trying to make faster, more efficient and higher-density.

Within her other research focus, Gangopadhyay is trying to create smaller integrated circuits, which are already sub-micron size. To do this, she has to figure out a new dielectric material for the interconnections with the circuits and a new metal to use.

"It will be in the market by 2007, but we need to do the research now," she said.

Gangopadhyay's research may sound a bit odd for a physicist, but although she studied physics at the Indian Institute of Technology in Kharadpur, Gangopadhyay said she always wanted to be an engineer. Circumstances, however, pushed her into physics instead.

"In this country it's not required to be a physicist to do physics or an engineer to do engineering," she said, explaining her engineering bent. "You can cross the boundaries."

In addition to the challenge of crossing from physics to engineer-

See HURDLES 4B

Hurdles strengthened professor

Continued from 1B

ing, Gangopadhyay has faced the pressures of being a woman scientist both in the United States and in India.

She was the first woman to obtain a doctorate at her graduate school and the first woman granted a tenure-track position in Tech's physics department.

"You can see my struggle," she said. "Although I struggled, I see it not as a hurdle, but as a challenge. There were hurdles, but they made me stronger."

Now, Gangopadhyay said she tries to encourage women to pursue physics and engineering. She also visits her son's grade school class most years and conducts a physics demonstration.

"It's interesting in these classes to see those girls talk to," she said.

"I think I'm a good role model that women can do science."

A-J Photo/Jim Watkins

Texas Tech biology professor Candace Haigler shows the results of some of her research into the molecular makeup of cotton plants. She is working on fiber wall breakdown caused by cool evening temperatures on the South Plains.

Haigler 'cottons' to scientific research

By KARA ALTENBAUMER
Avalanche-Journal

Although Candace Haigler is one of only four women professors in Texas Tech's biology department, she wants to be recognized as a good scientist and not as a woman who has excelled in the world of science and technology.

"I really want to make significant contributions to knowledge – finding out things that no one has known before," she said recently. "I want to continue to make pivotal scientific discoveries."

She made one of her most significant discoveries while still a doctoral student when her research revealed a fundamental mechanism about how cellulose is made. She now works to solve the breakdown of cotton's fiber wall due to cool night temperatures in West Texas.

Unlike much cotton research that focuses on cold shock syndrome in cotton, Haigler's research looks more at typical regional nights of 60 degrees to 70 degrees. She began the problem 12 years ago with the idea that "it's a fixable problem because these are not extreme temperatures."

As the night temperature falls, the cotton fiber wall slows down on building itself, Haigler said. She first tackled the problem by researching the biochemistry of the plant and then moved on to transforming the cotton genes.

Cotton genetics research is particularly difficult, she said, because researchers have to start with an older, unimproved line. Once they can improve that line, they can then introduce the research into newer engineered lines.

"That's something that people don't understand about scientific research," Haigler said. "The easy problems have been solved. A lot of discoveries that have an eventual impact on people have years of basis."

Deciding where researchers "could hope to make a difference" in the night-temperature problem was difficult, Haigler said, because biochemi-

See HAIGLER 3B

Haigler says she 'had no role models'

Continued from 1B

cal pathways are very complex.

Haigler said the seeds from the plants she's been working on are probably about five years away from the marketplace.

"It's very satisfying as a scientist that what you know could make a difference to people – their livelihood, their health," she said.

While growing up, Haigler said she "never felt overt discrimination because I was a woman ... but I took home economics, typing, the works – all the female things."

"I think that you read that it's still going on. There's societal pressure that discourages women from showing they're smart."

Her fourth grade teacher wrote on her report card that Haigler had "no talent for science."

"I had no role models for science," Haigler said. "I didn't know what a scientist was."

Even today, despite the fact that biology students are split evenly down the gender line, only one in 10 biology professors at Tech is female. "That is disproportionately low," Haigler said.

Kara Altenbaumer can be contacted at 766-8742 or
kaltenbaumer@lubbockonline.com

LUBBOCK AVALANCHE JOURNAL, October 28, 1999

Agricultural scientist Vivien Allen is at the top of her field – literally

By KARA ALTENBAUMER
Avalanche-Journal

Vivien Allen has risen to the top in a gritty, dirty man's world.

Allen holds an endowed professorship in Texas Tech's plant and soil science department and recently made international news by helping discover that adding seaweed to the diets of cattle helps improve their immune systems, weight gain and meat quality.

Allen, the first woman to earn an agriculture degree at the University of Tennessee at Martin, can plow, plant and teach with the best of them.

"She's one of our most distinguished faculty, not only for our department but also for Texas Tech," said Dick Auld, plant and soil science chairman. "She publishes a lot and does creative research. She's active in her professional association. She carries a certain prestige for Texas Tech."

Allen focuses her research in the area of forage and crosses the lines between soil, plant and animal science on issues ranging from water quality to animal nutrition to soil conservation.

"I get to play in a lot of different fields," she said. "It's almost anything you can dream of. That's part of the challenge because it's broad. By the nature of the beast (forage), it's interdisciplinary."

When working with a certain feed, for instance, a researcher must know about the soil growing the feed as well as the animal eating it, Allen explained. "You've got to know something about each."

During her doctoral studies in plant and mineral nutrition, Allen researched the problem of grass tetany, a plant condition that causes a magnesium deficiency in the animals that eat the affected grass. After graduate school, she went to Virginia Tech, where she studied forage-livestock systems.

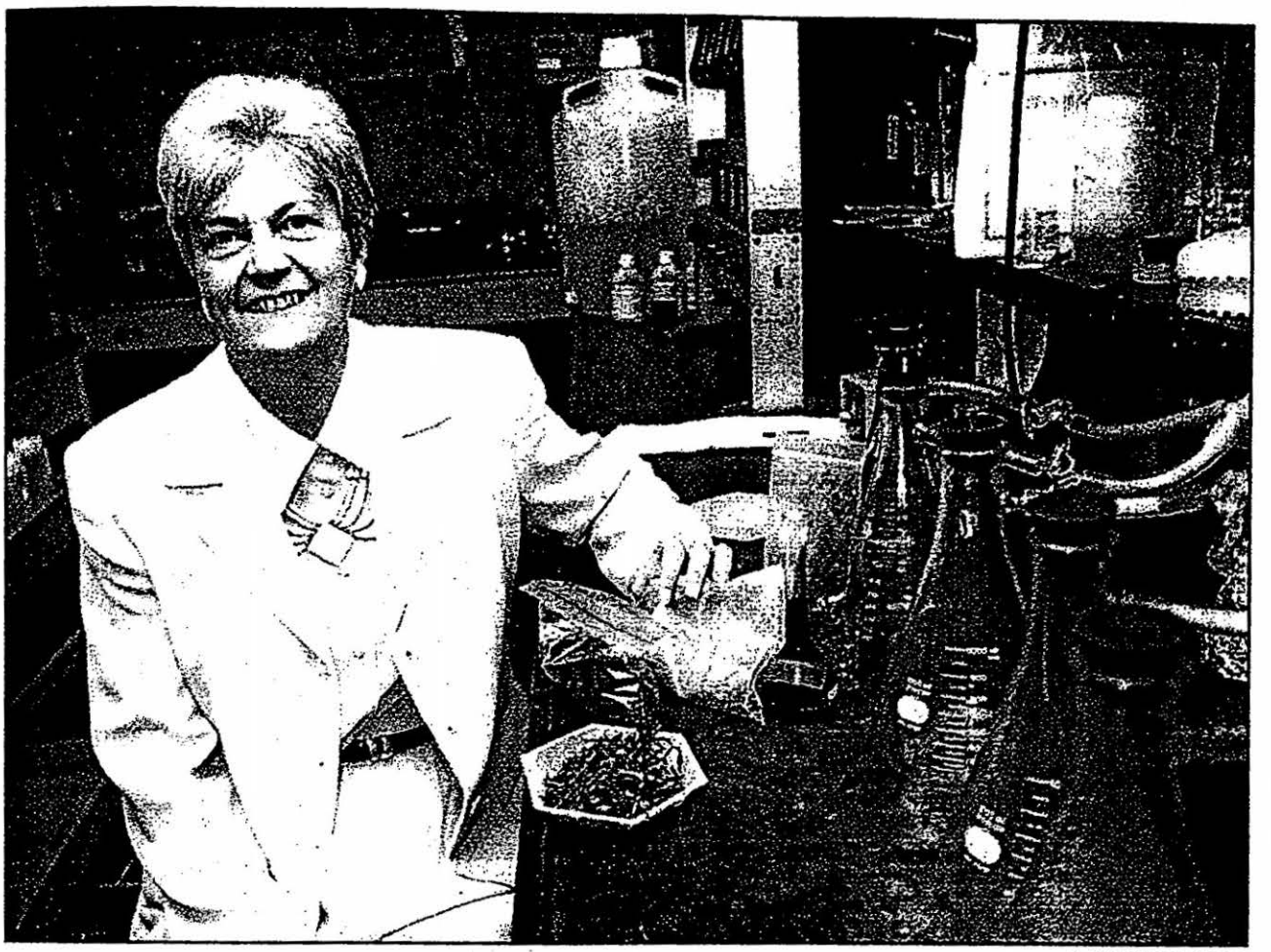
"You have to put the pieces of the puzzle together," she said of the many factors involving animals and what they eat. "You change a piece and everything shifts. You have to integrate plant and soil science, marketing factors, the life goals of the people running the (agriculture) operation like when they want to take a vacation."

At Tech, Allen has continued to research the issue, focusing on how to create livestock-forage systems that are sustainable agriculturally, environmentally and economically.

"Water is the key component here, and I think we're managing that," she said.

She's working with a field near New Deal in which a traditional

See ALLEN 3B



A-J Photo/James Granger

Texas Tech plant and soil science professor Vivien Allen displays seaweed that helps produce healthier cattle with better meat.

Allen downplays her role as pioneer in a field long dominated by men

Continued from 1B

continuous cotton operation is compared with a system that integrates crops, forage and livestock. The patchwork-quilt field rotates cotton, hay and grass seeds and cattle throughout the year and has turned a bigger profit than traditional cotton operations.

Researchers have even managed to remove a step in cotton production by not shredding stalks after harvest. It not only saves time and money, but may also help the fields retain moisture, Allen said.

The idea of integrating the different production methods is that "if you miss out on one, you've still got three left to go," Allen said.

Allen is was the first woman to receive a doctorate in agriculture from her school in Tennessee and one of only four women in her department at Tech. Still, she doesn't believe her work in a discipline dominated by men has presented her with any special challenges because she hasn't gone looking for them, she said.

"I was the youngest of three girls," she said. "By the time (my father) got to me, he knew he wasn't going to have a son, so he'd better do the best he can (with a daughter). My father had a belief that women should stand on their own two feet. That was coming out of an era when that wasn't popular.

"Have there been challenges because I'm a woman? There have been more opportunities because part of any career is getting attention. The best way to get attention is to be unique."

Kara Altenbaumer can be contacted at 766-8742 or kaltenbaumer@lubbockonline.com

The New York Times NATIONAL, Friday, October 8, 1999, p. 1A

Across the U.S., Universities Are Fueling High-Tech Booms

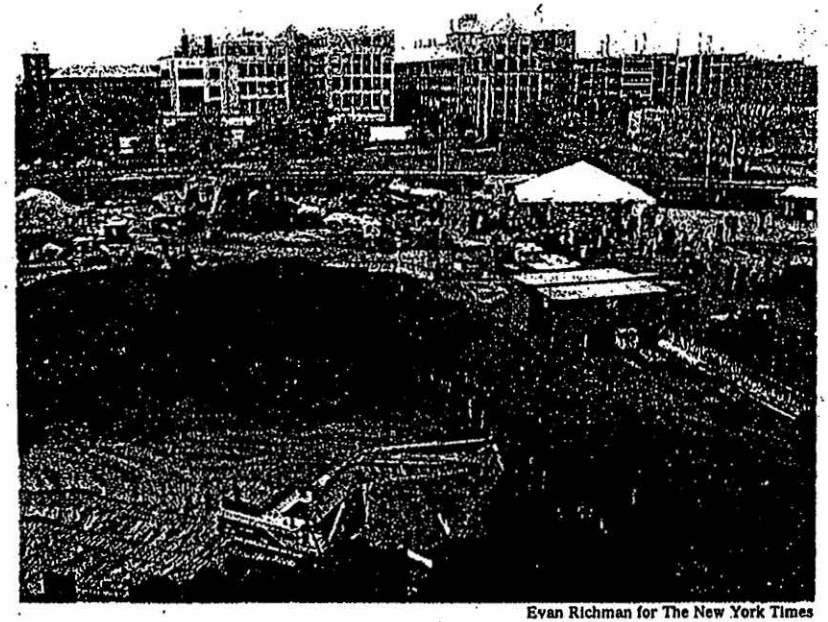
By CAREY GOLDBERG

CAMBRIDGE, Mass., Oct. 7 — Behold Kendall Square: 50-odd Cambridge acres long a fallow welter of former factories, now the flourishing center of what experts call the most concentrated single cluster of biotechnology in the world.

Behold it from, say, the muddy lot where Biogen Inc. broke ground this week on a new six-story laboratory. Within view lie the butterscotch-beige Genzyme building, the construction site of the coming Amgen building and a new complex housing smaller companies with typically futuristic names like Mitotix and Dyax and Variagenics, all new in the last few years, most connected in some way to two neighbors: the Massachusetts Institute of Technology and Harvard.

"Biotech as far as the eye can see," Janice Bourque, executive director of the industry's Massachusetts Biotechnology Council, proclaimed with a bit of broad-brush artistic license.

The much-trumpeted "knowledge" (or information, or innovation) economy has its own geography, and it consists of much more than Silicon Valley. Across America, high technology is creating localized boomlets like the one in Kendall Square, which is home to companies not only in the biotech sector ' it also in software and related field



Evan Richman for The New York Times

The groundbreaking for yet another biotech center in Cambridge, Mass.

And if there is one never-absent factor at work on these silicon corners, experts say, it is the proximity of a research university shifting from ivory tower to revving economic engine. Indeed, the university is an increasingly powerful force in the knowledge economy, both because its brains are greater assets than ever before and because of a growing trend in which institutions of higher education see themselves as generators of business, whether professors' start-ups or technology licensing deals.

"There's a great awakening that we're sitting on top of a gunpowder keg" of growth, said David Lampe, author of two books on high-tech locales and associate vice president of Boston University, which is building a major biotechnology center of its own in Boston's South End.

A gunpowder keg in more ways than one. As universities and their communities, from Washington State to Georgia, strive for economic horsepower, a host of fresh questions are being raised about what a university's role should be, and what happens if the pursuit of money competes with the pursuit of knowledge. Other concerns arise as well, from congestion around the campus to the high potential that high-tech booms like Boston's first one, on Route 128 a quarter-century ago, can always fizzle.

But to many, such concerns pale beside the possible benefits shown in research like the comparative study issued this summer by the independent Milken Institute, in Santa Monica, Calif.

That study found that the fast-growing high-tech sector was increasingly "determining which metropolitan areas are succeeding or failing." In Milken's analysis, high-tech activity could explain 65 percent of the difference in economic growth among various metropolitan regions

Continued on Page A20

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THE NEW YORK TIMES **NATIONAL** FRIDAY, OCTOBER 8, 1999 A20 YNE

Across the Country, Universities Are Fueling High-Tech Economic Booms

Continued From Page A1

during the 1990's. And, it found, "research centers and institutions are undisputedly the most important factor in incubating high-tech industries." The institutions, experts say, provide nearby companies streams of cutting-edge knowledge as well as streams of smart labor.

Of course, universities have long churned out graduates and ideas that have turned into companies, and have created jobs simply by being huge institutional consumers. But in the knowledge economy, where ideas and information become lucrative products, these cultivators of knowledge are becoming more important than ever, some experts say, not only because of the new economic logic but also because of changes in academia itself.

The incentives for universities to think commercially are manifold, from their share of licensing payments, to the jobs created for graduates, to industry grants for research and even the ability to recruit professors who want a chance to get rich outside the classroom.

Some universities have for years been emphasizing the economic energy they provide and promoting a commercial orientation. In 1997, M.I.T. issued a report, "The Impact of Innovation," describing the impressive economic benefits flowing from the university, including the creation of 14,000 jobs in Cambridge alone at companies founded by its faculty and graduates.

Similarly, in 1995, the University of California distributed a report called "U.C. Means Business," which pointed out that, among other things, some 80 companies had been spun out of the university's San Diego campus, providing more than 7,000 jobs to the region, largely in biotech and biomedical companies.

Every one of the nine University of California campuses has a high-technology cluster near it, said Robert N. Shelton, the system's vice provost for research. And it is Silicon Valley's tale of genesis that it all began with garage-based start-ups and vision that came out of Stanford.

Other universities are just now joining in this promotion of a commercial emphasis. Last week Harvard, not exactly known as a dirty-fingernails kind of place, detailed for the first time the overall lift it gives the local economy. Neil L. Rudenstine, the university's president, underscored in a speech to the Boston Chamber of Commerce "the dynamic connections between Harvard, higher education and the rest of the economy — the new knowledge economy we are building together."

With that interconnection in mind, said Paul Grogan, the university's vice president for community relations, Harvard is seeking new economic roles, even contemplating "research parks and business incubators that would be very closely tied to parts of the university."

Such roles, Mr. Grogan noted, raise "all sorts of new questions: where the lines are on this stuff, who owns what, how you use students — it's a million things, but these questions are part of something that is exciting and breaking molds."

> Questions, to be sure, but undisputed benefits.

Molds can be messy to break, however. Experts say many universities balk at commercialization of their long-sacrosanct intellectual pursuits. Serious issues can arise: everything from, say, the tension between a money-making engineering department and a poor English department to worries that "pure" basic research, with no business potential, will suffer.

Ed Lazowska, chairman of the computer science and engineering department at the University of Washington, is a great enthusiast about the university-fueled high-tech economy, having watched it transform the Seattle area with a lot of help from the Microsoft Corporation. But at the same time, "the goal of universities is education and research," he said. "We're not in the business of business, and we're not in the business of creating businesses. For example, university research ought to be looking out 10 and 15 years, because if we don't do it, companies don't do it for sure. You don't want an environment in which universities are so fixated on commercialization they start taking a short-term focus."

Mary S. Spaeth, an expert in the field for Angle Technology, of London, said that in the transition from tower to marketplace, it had often been very difficult "for a university to reconcile those things and not feel it's compromising its integrity."

Reviews are mixed, too, on the impact that the high-technology boomlets spun out of universities have on local communities. Kendall Square, with its brick high-rises and cleverly rehabilitated factory buildings, may look palatial compared with its sludgy former self. But neighbors complain about the congestion it creates on some of the city's narrow streets, and that it is more of a Wall Street-style business center than a lively neighborhood mix.

Complaints often arise in such growing areas, said Annalee Saxenian, an associate professor of planning at the University of California at Berkeley who has written about Route 128 in the Boston area and about Silicon Valley.

"There have been cases," Dr. Saxenian said, "where growth that has been generated by the university spinoffs has displaced lower-income communities, so there are new tensions that emerge in some cases."

On the other hand, university officials say, town-gown relations tend to improve noticeably when a university becomes more market-oriented.

A generation ago, said Lita Nelsen, M.I.T.'s director of technology licensing, the university was seen in Cambridge as "this monster using up space and not paying taxes and scattering unwashed undergrads all over."

"Now," she said, "M.I.T. is seen as a partner in Cambridge in developing real estate and providing high-paying jobs in high-tech industry, and I think that relations have been enormously affected by it."

Around the country, there is a visible groundswell of high-technology clusters, often growing with the active involvement of universities that reach out through new "business incubators" that house and help start-up companies, as well as through research parks and technology licensing programs. A single recent Internet query about universities as economic engines brought a deluge of responses from around the country. Among them:

¶From the University of Texas at Dallas: Called by some "the university the corridor built," it feeds graduates and research to the 600-plus high-technology companies in the area's Telecom Corridor, and local officials expect an additional 40,000 jobs there — beyond the 70,000 current ones — by 2010.

¶From the University of Pittsburgh: "The greater Pittsburgh area has tied its economic renaissance on high-tech start-ups that have grown from local universities."

¶From the University of Alabama at Birmingham: The university holds stock in 21 companies it has spawned, has begun building a research park and has a commercialization office that has brought in more than $10 million in royalties and licensing fees from faculty discoveries (which pales a bit next to the nearly $96 million that Columbia says it earned in technology licensing income in the last fiscal year — the most in the nation, Columbia says).

¶From Tampa, Fla.: "We are building a high-tech corridor stretching from the Gulf Coast to the Atlantic" and anchored by the University of South Florida and the University of Central Florida. Two new information technology companies are born each business day along the corridor, local officials say.

¶From the University of Washington: A total of 140 spinoff companies, most created in the last decade, are worth more than $10 billion and employ more then 6,500 people. Thirty were founded by graduate students or medical residents.

In one Cambridge locale, 'biotech as far as the eye can see.'

Dozens of university-linked research parks are already built or under construction around the country, so many that there is an Association of University-Related Research Parks, based in Washington, with nearly 200 member parks. Many of them are modeled on their granddaddies, North Carolina's Research Triangle Park and the Stanford Research Park, which continue to thrive.

In other areas, university-side boomlets grow more spontaneously, as is the case with Kendall Square.

Biotechnology has a particular tendency to want to cluster near a university, several experts said, because it tends to have such a long research phase before coming up with marketable products. Further, it needs to be close to universities as the source of many of its employees, and near the affiliated hospitals where clinical trials can be run.

Henri A. Termeer, president of Genzyme, which employs nearly 4,000 people, said the company had been so intimately connected with M.I.T., from the postdoctoral students who did its early experiments to the professors who advise it and the graduates it now hires, that it most likely could not have got going elsewhere.

"If you had the same ideas but you were away from these kinds of skills, this very advanced leading-edge level, you could not carry it out," Mr. Termeer said. "You wouldn't get there. You would just stay with the idea."

Kendall Square is far from the only home to Boston-area biotech, and over all, California, with its Biotech Coast, has more such companies than Massachusetts. But Ms. Bourque, of the Massachusetts Biotechnology Council, said that within a radius of five miles or so of the square, there were some 70 biotech companies, making this the most concentrated cluster anywhere. And almost everyone, she said, has a sense that this is only the beginning, that "we're not even in the golden years yet."

Kendall Square has seen something a lot like this before. In the industrial era, it was the odoriferous home to everything from a soap factory to meat-renderers. Then it hit a period of decline. It did not help that under President John F. Kennedy, the Federal Government cleared whole swaths of it, planning to erect here the space center that, under President Lyndon B. Johnson, went to Houston instead.

The square's current dense amalgam of laboratories, offices and hotels began taking shape in the 1980's, but lately, said James C. Mullen, president and chief operating officer of Biogen, "it is an explosion."

M.I.T. has done this before, too. It was seen as the primary academic engine behind the high-technology cluster on Route 128; but then that area fell from grace, as the industry shifted from its mini-computers to personal computers. In her book "Regional Advantage," (Harvard University Press, 1994), Dr. Saxenian, of Berkeley, posited that Route 128 suffered, while Silicon Valley bounced back, in large part because of differences in business culture: the more hidebound and high-walled Eastern companies outdone by smaller and more cooperative Western ones.

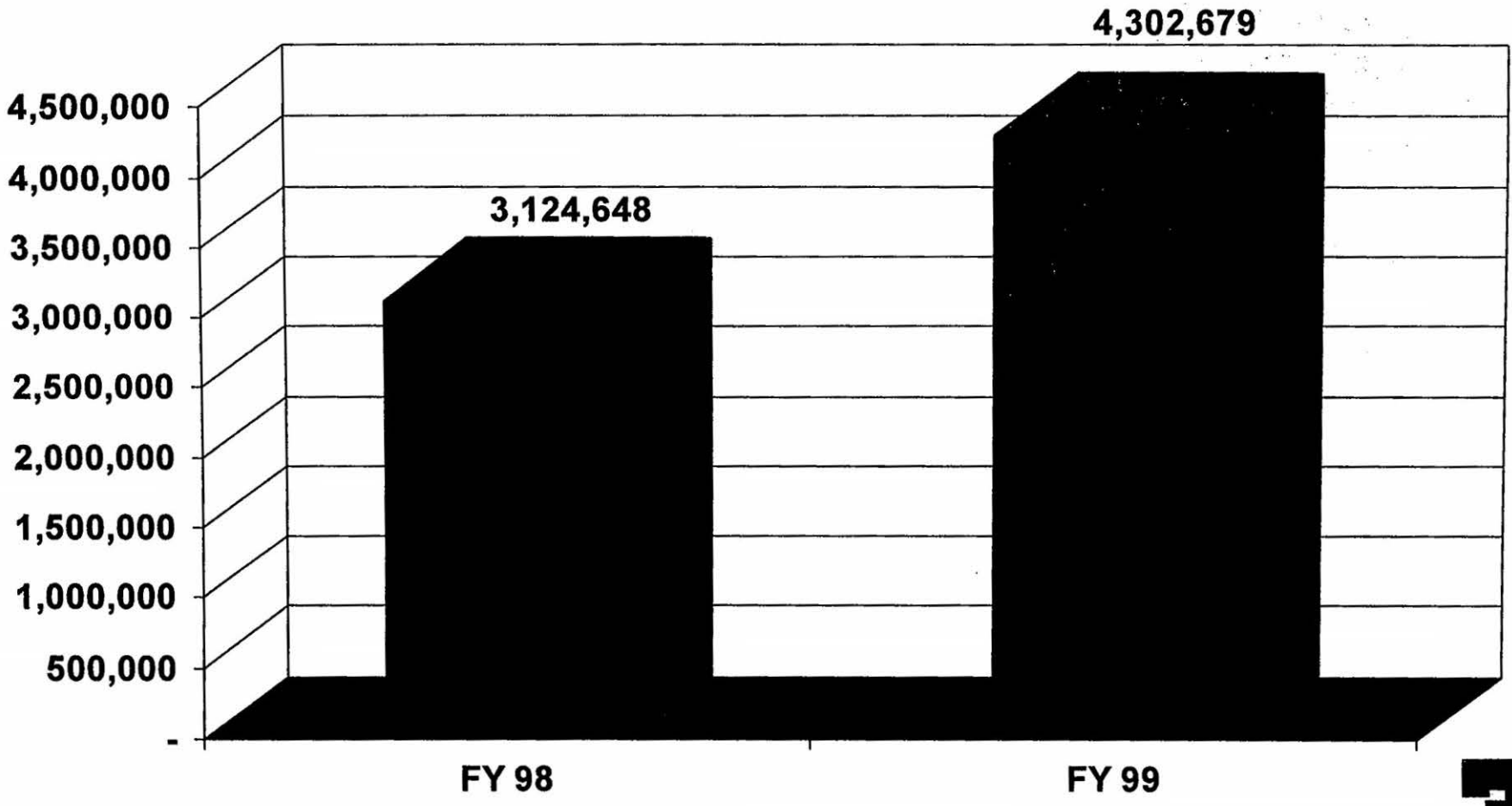
But Kendall Square, with its fluent flow among companies and academia, seems to be avoiding the mistakes of Route 128, she said.

"We have a joke here that the only place that isn't trying to replicate Silicon Valley is Silicon Valley," she said. In a small way, she said, "I think Kendall Square has achieved it."

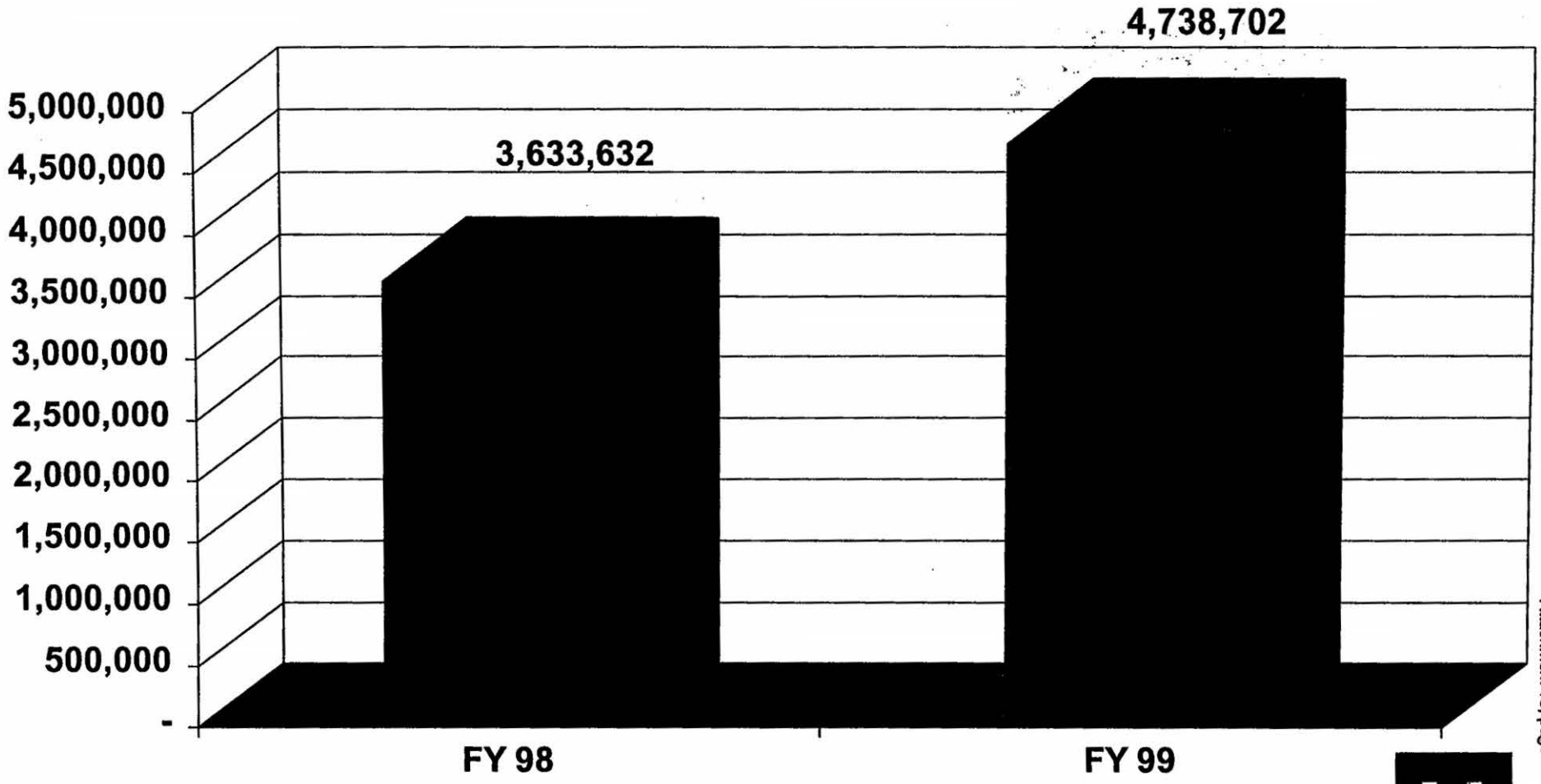
TTUHSC Research

TTUHSC Research Numbers

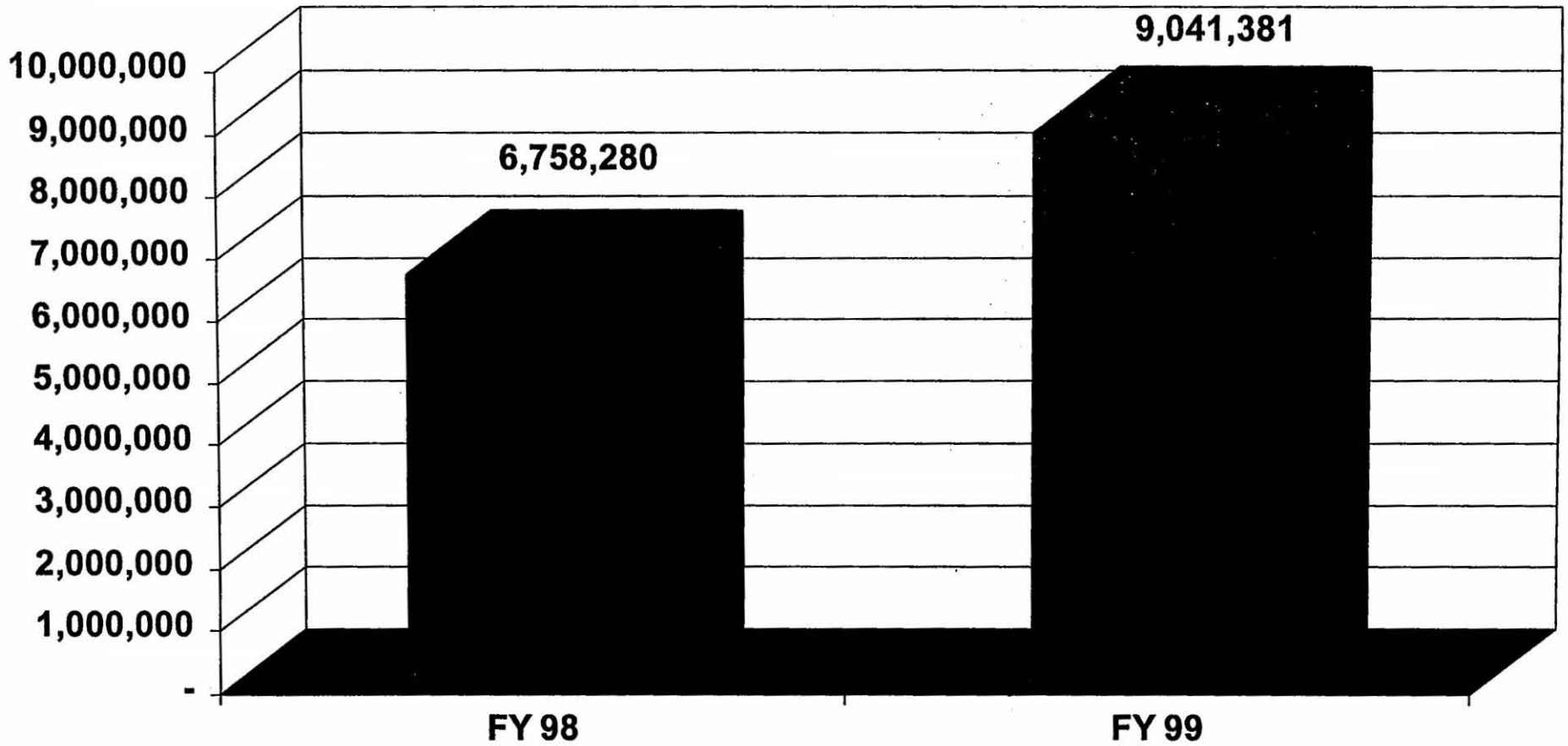
TTUHSC Federal Research Awards



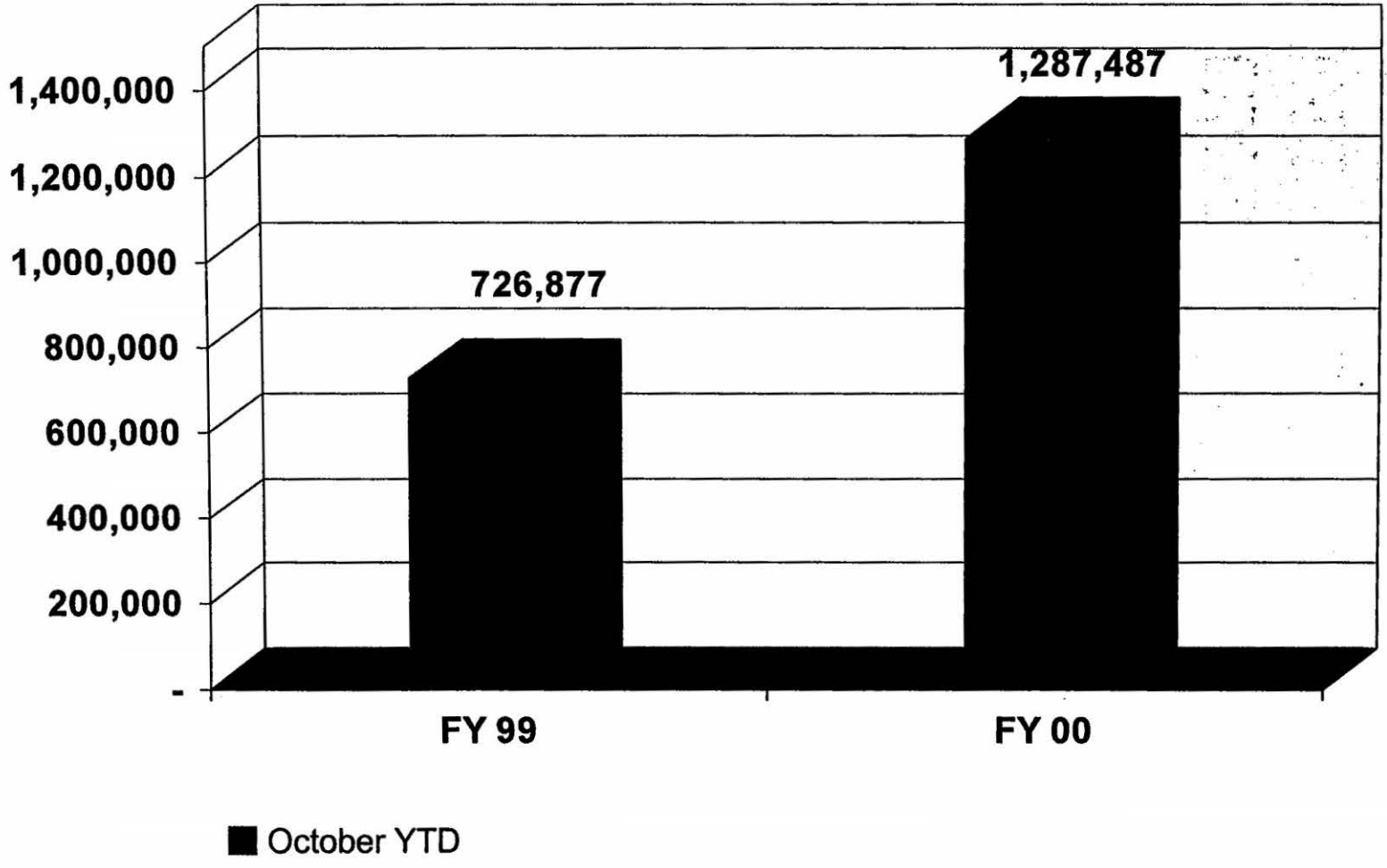
TTUHSC Non Federal Research



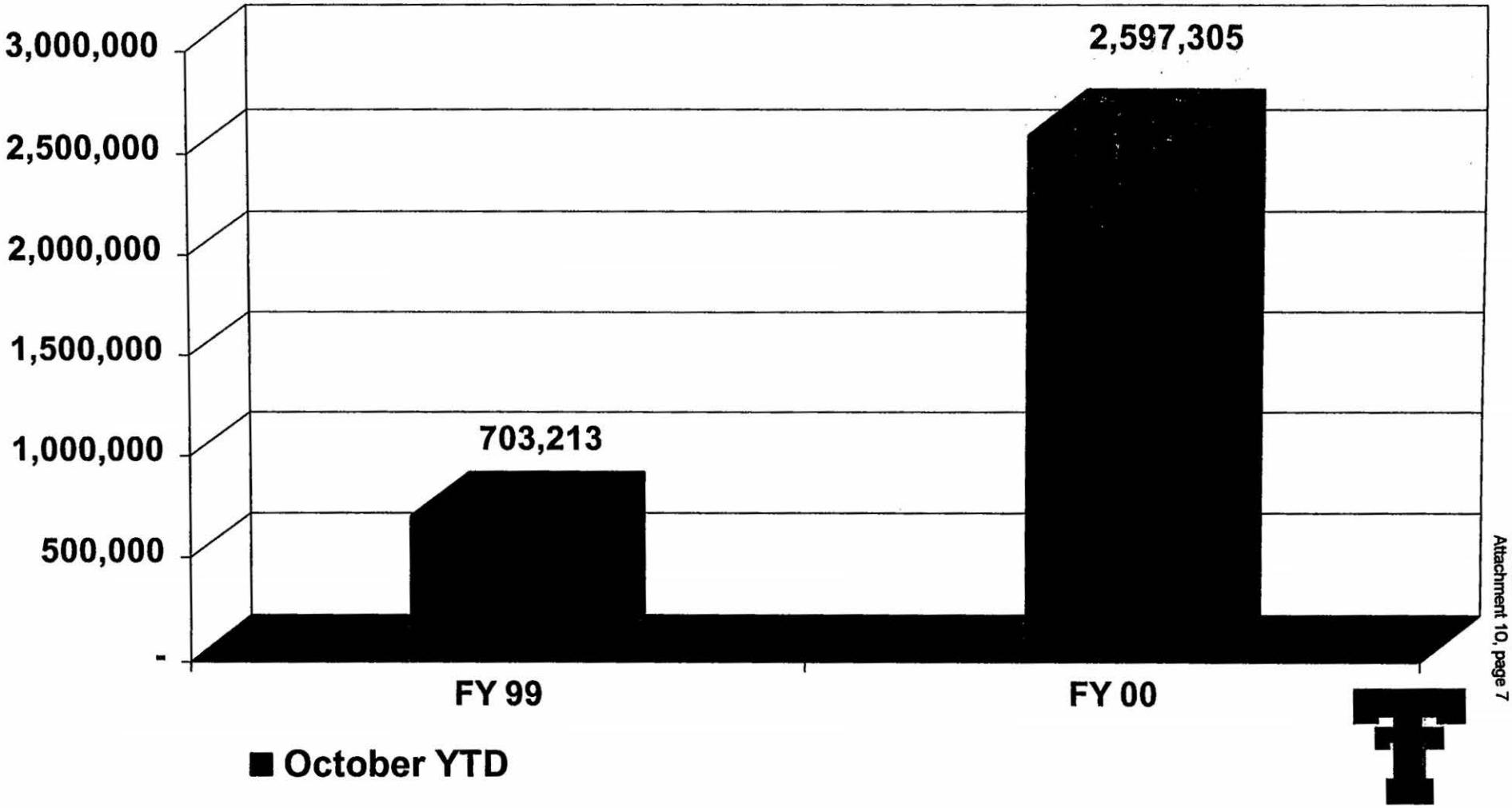
Total TTUHSC Research Awards



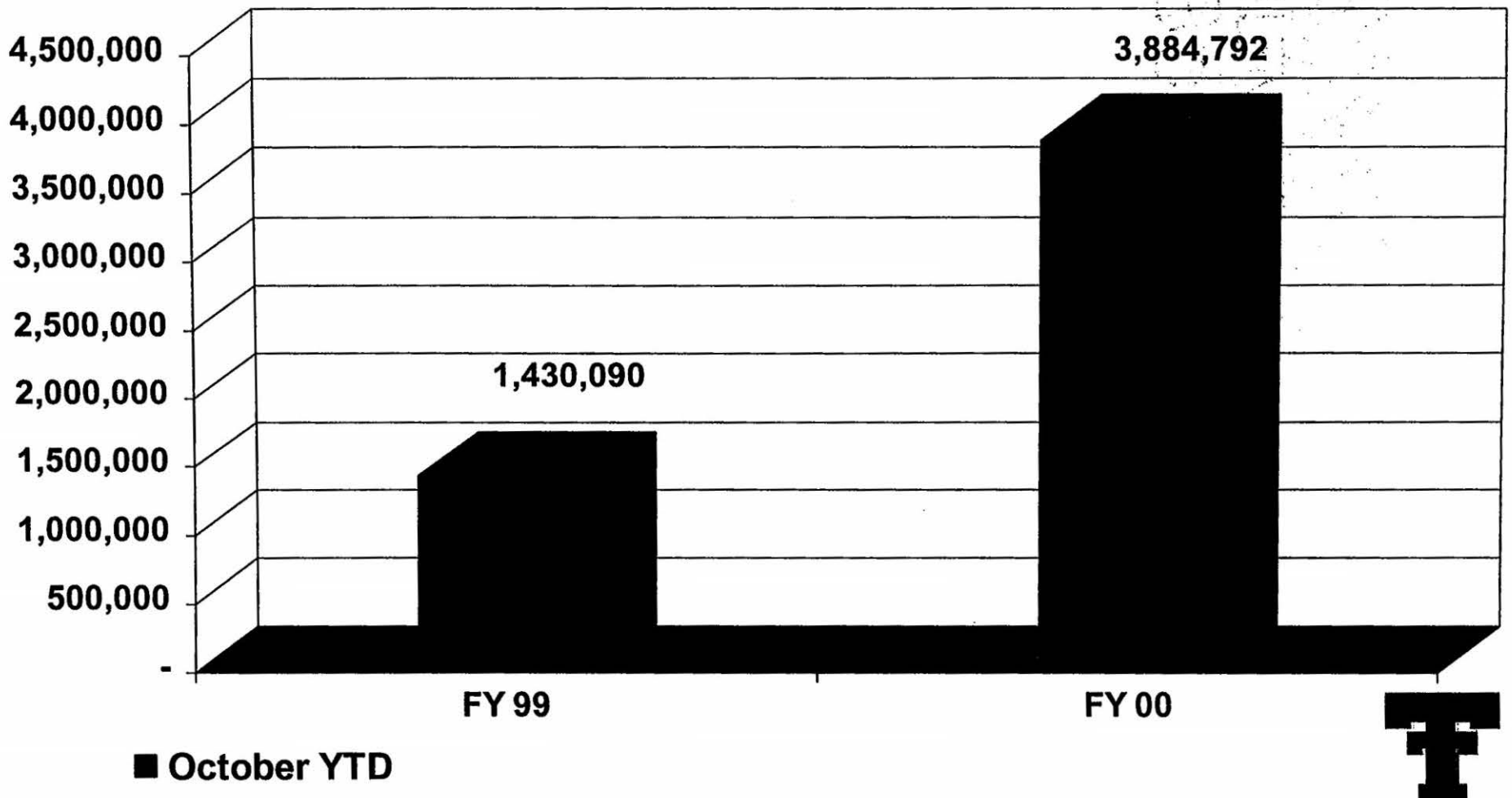
TTUHSC Federal Research Awards



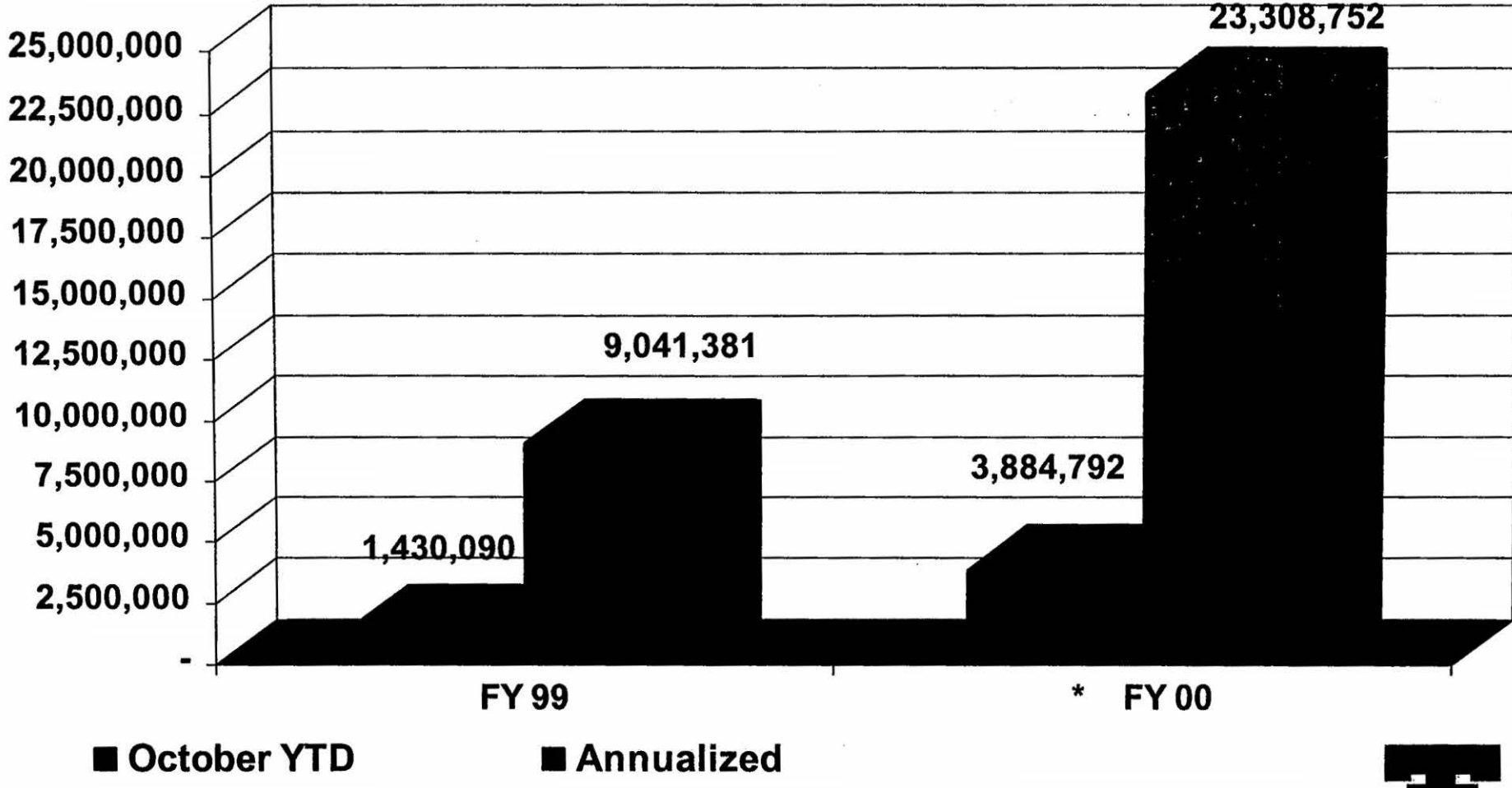
TTUHSC Non Federal Research



Total TTUHSC Research Awards



Total TTUHSC Research Awards



Conclusions

- There are substantial increases in both Federal and Nonfederal research funding in FY 1999

Implementing the TTUHSC Research Strategic Plan

TTUHSC Research Strategic Plan

Early Goals

Strategic Plan First Steps Accomplished in FY 1999

Planned	Accomplished
Increase external funding	Up 34% overall, 37% for federal
Create atmosphere for research	Research now a priority
Initiate Annual Review process	Process in gear
Clinical Research Org. Clinical Research Center	Funded and staffed
Clinical Research Council	Established
Research Grant Facilitator	Hired

Strategic Plan First Steps Accomplished in FY 1999

Planned	Accomplished
Grant Writing Workshops	All Schools, All Campuses
Initiate Website for Research	Website Established
Intellectual Property Office	Established with TTU
Cancer Center Upgrade	Joint with UMC

Other Accomplishments FY 1999

Planned	Accomplished
Health Services Research	Department Established
Clinical Department Chairs	Six New Research Oriented Chairs
Microbiology, pharmacology and Radiology Recruitment	Ongoing
Research Compliance Program	Established
Increase Size of Graduate School	GSBS students increased from 35 to 60

TTUHSC Research Strategic Plan

- First steps and more were accomplished in FY 1999

TTUHSC Research Strategic Plan

Long Term Goals 5-10 Years

Long Term Research Goals

- 5-10 Years
- $35 million in annual federal funding
- Annual averages
  - $100,000 per basic science faculty
  - $55,000 per clinical faculty
  - $20,000 per SON faculty
  - $50,000 per SOP research faculty
  - $20,000 per SAH faculty

Long Term Plan Infrastructure Requirements

- Faculty
  - 25% ↑ in Clinical Faculty
- Recruiting Packages
- Facilities
  - Buildings, Equipment
- Basic Science Research Infrastructure
  - ↑ Laboratory Staff, Research Services

Long Term Plan Infrastructure Requirements

- Clinical Research Infrastructure
  - ↑ Research Coordinators, Data Managers, Computers
- General Institutional Research Support
  - ↑ Research Office, ↑ Seed Grants

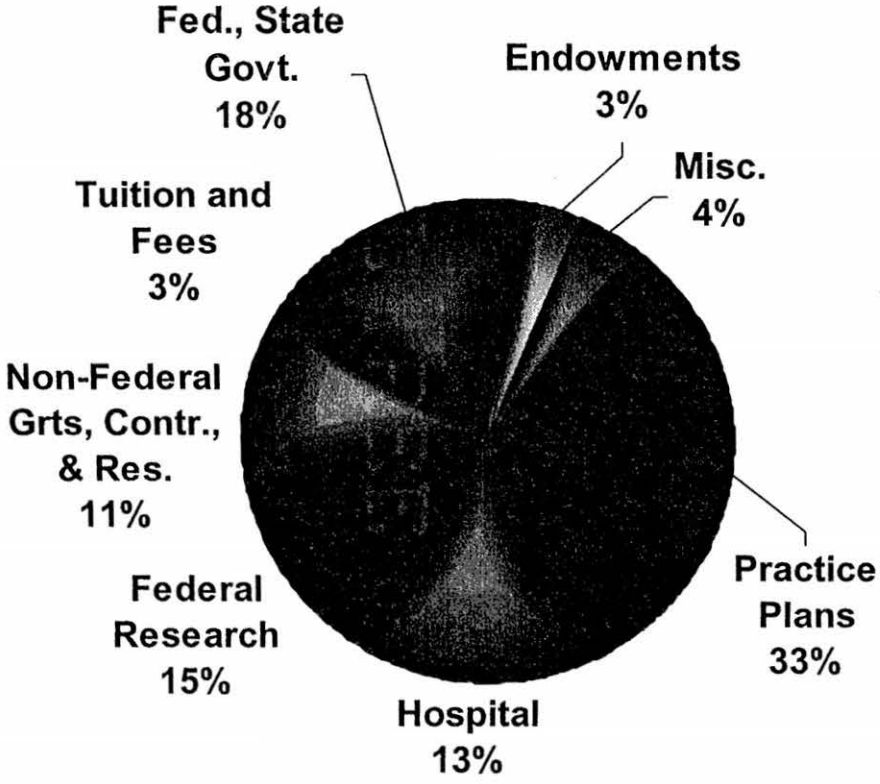
Issues in Building Research At TTUHSC

Issues in Building Research At TTUHSC

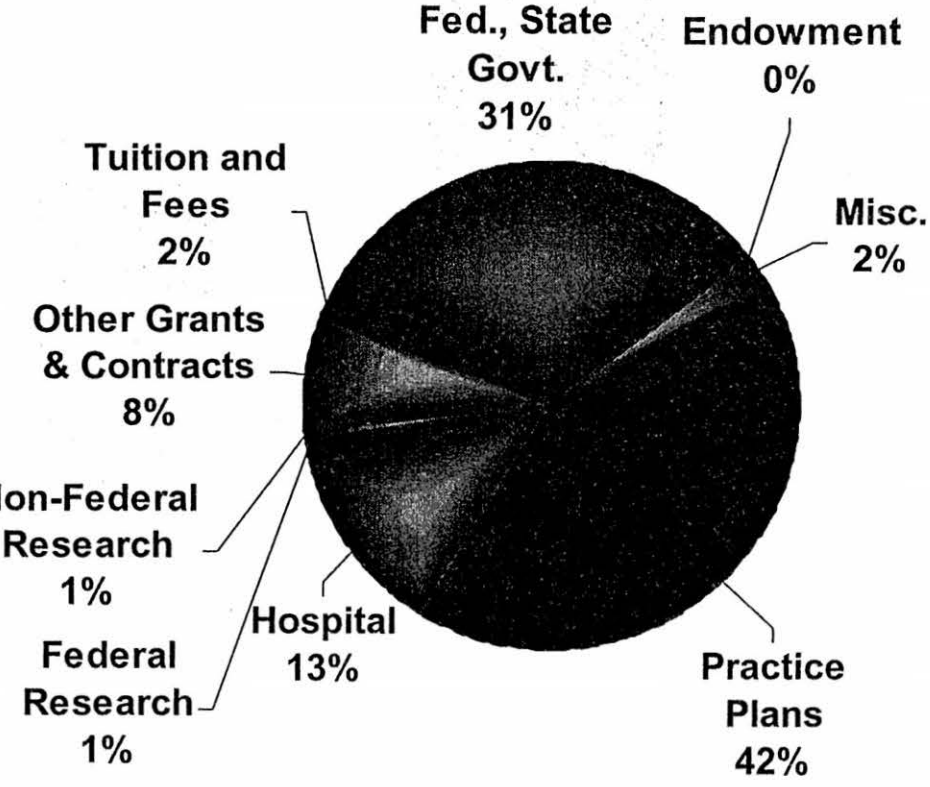
- Protected time for clinical faculty
- Infrastructure
  - Facilities
  - Institutional research support
    - Seed grants, research staff personnel, etc,
  - Graduate school

Faculty Protected Time

Medical School Funding
1997

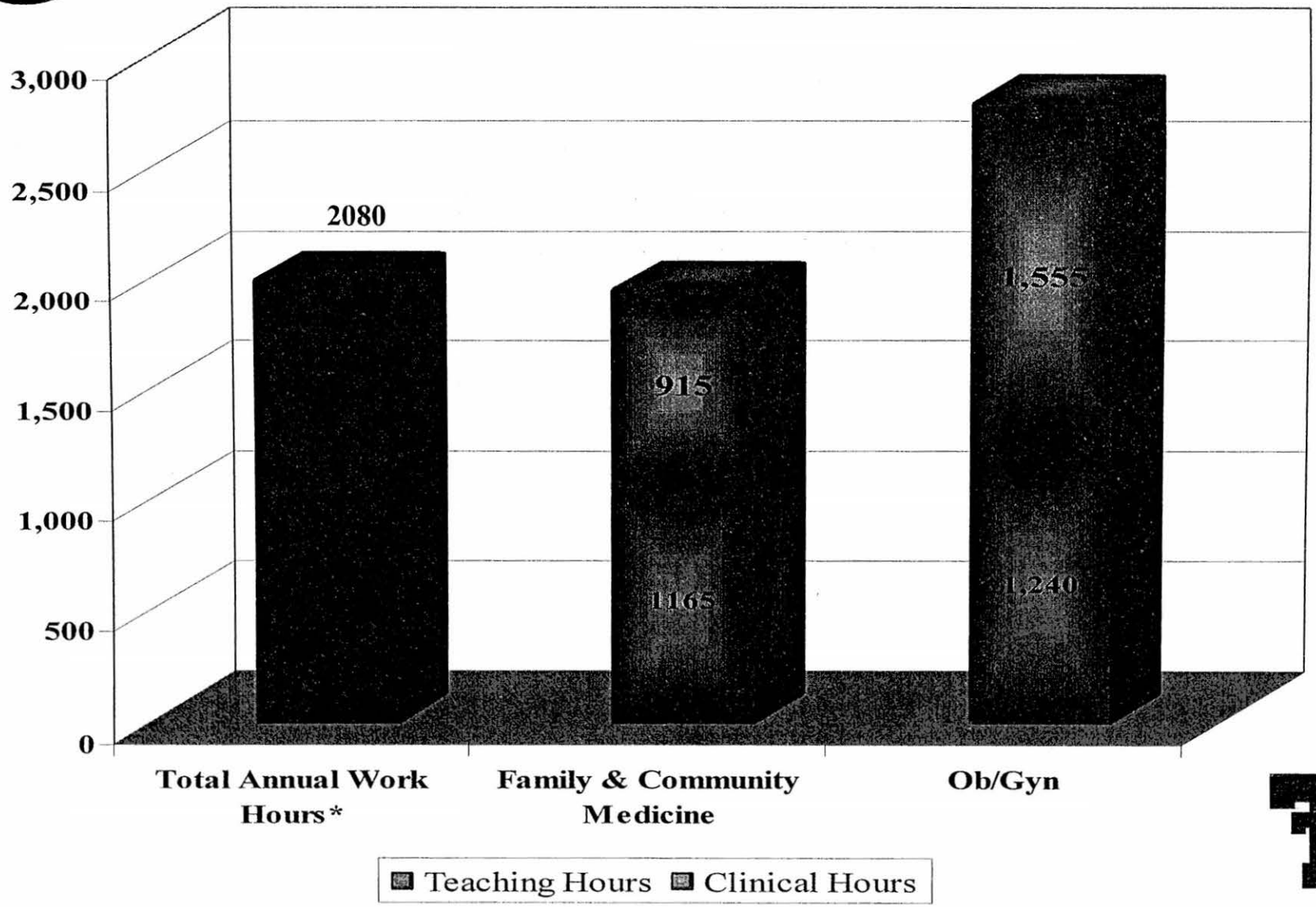


US Public Medical Schools



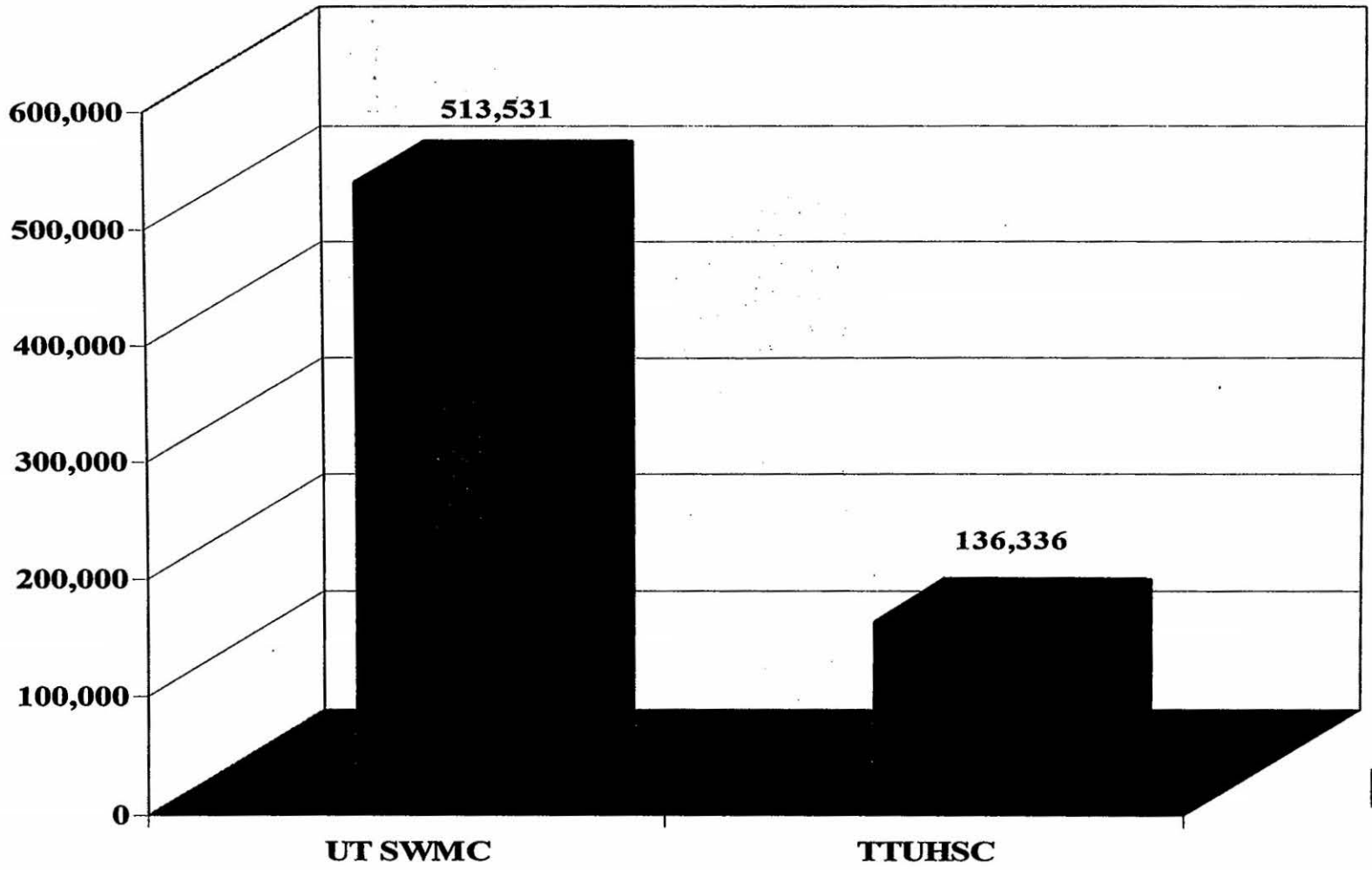
TTUHSC SOM

Faculty Hours 1996-1997



TTUHSC Infrastructure

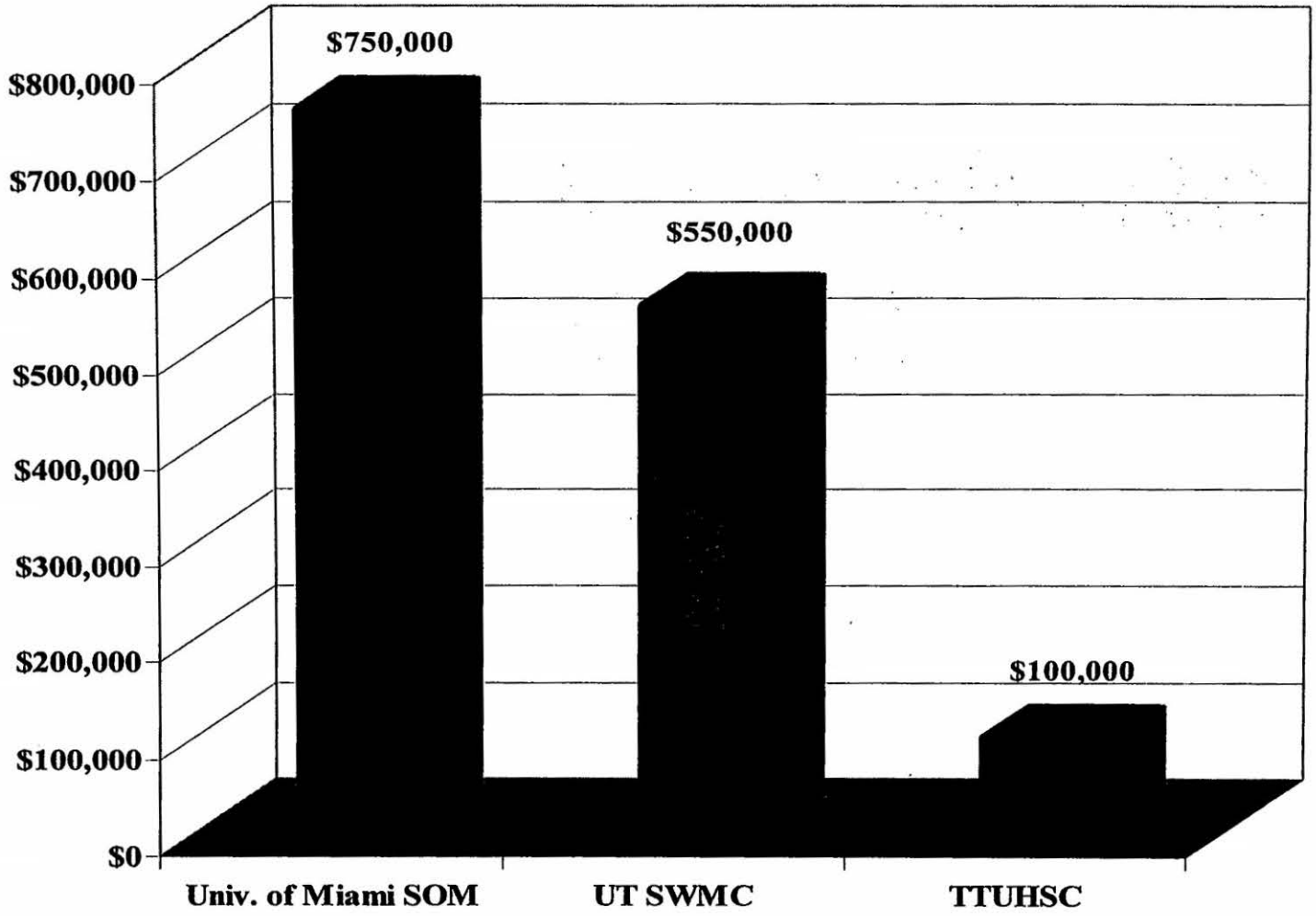
Research Space (Sq. ft.)



1996-1997

Seed Grant Program

Annual Awards



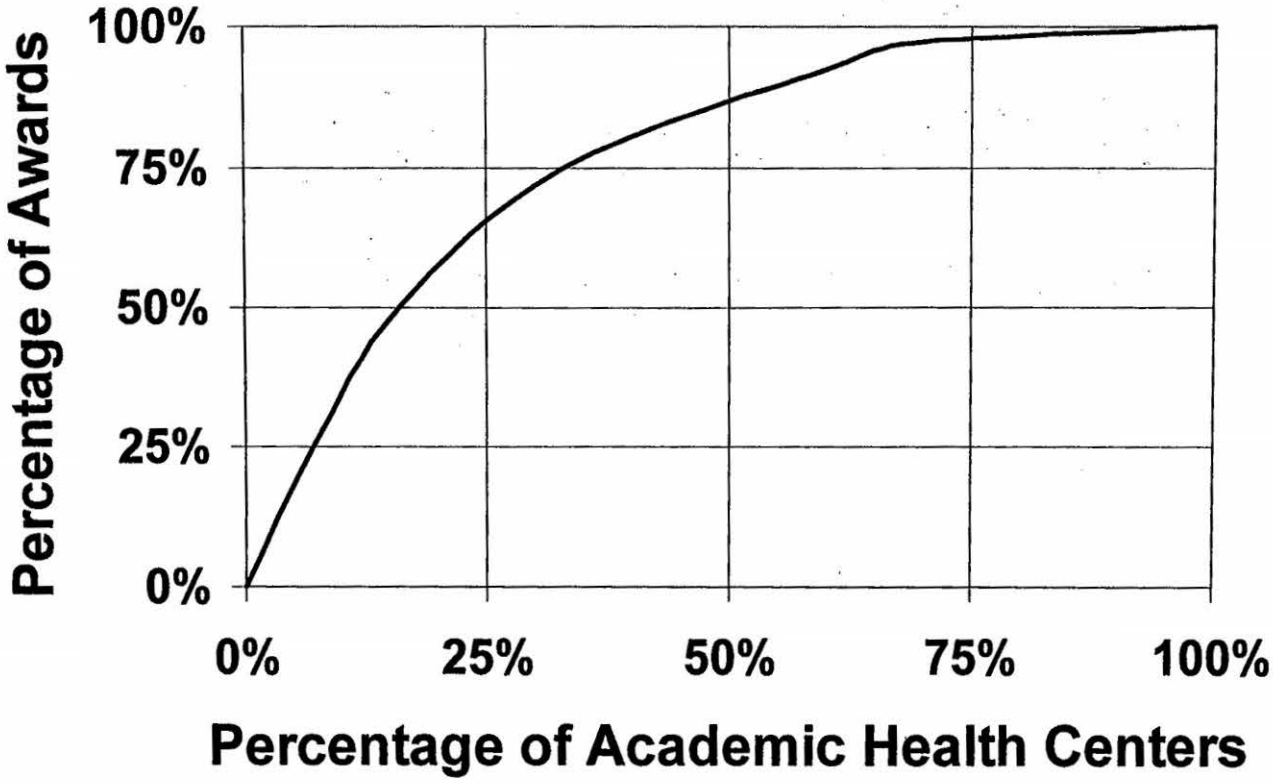
TTUHSC Graduate School

Number of Graduate Students

National Rank	School	Graduate Students
44	UTSWMC	263
45	UTMB	262
48	UTSA	240
70	UT H	139
109	**Texas A&M**	**59**
113	East Tennessee	37
114	Morehouse	37
115	**Texas Tech**	**35**
116	South Dakota	28
117	Marshall	20

AAMC 1997-98

NIH Awards to Academic Health Centers



TTUHSC Participation in 1999 ARP/ATP Competition

Basics of ARP/ATP Grant Competition

- Advanced Research Program/ Advanced Technology Program
- ARP Vs ATP
  - Research/Technology
  - Research proposals were more competitive

Basics of ARP/ATP Grant Competition

- Award criteria
  - Scientific importance
  - Originality
  - Research plan and budget
  - Staff qualifications
  - Educational impact (support)
  - Institutional infrastructure/support

TTUHSC Submissions

- Life Science proposals underwent a pre-review process
  - Complex system
- Final review
  - 17 proposals in ARP
  - 11 proposals in ATP
- Awards
  - 0 in ARP
  - 2 in ATP

AWARDS

Program/Area	Award Rate	TTUHSC Proposals	Predicted Awards	Actual Awards
ARP/BIO SCI	7.1%	35	2.5	0
ARP/All	11.4%	35	4.0	0
ATP/BIOMED	12.6%	15	1.9	0
ATP/ALL	16.7%	5	4.2	2
ALL/ALL	13.9%	60	8.3	2

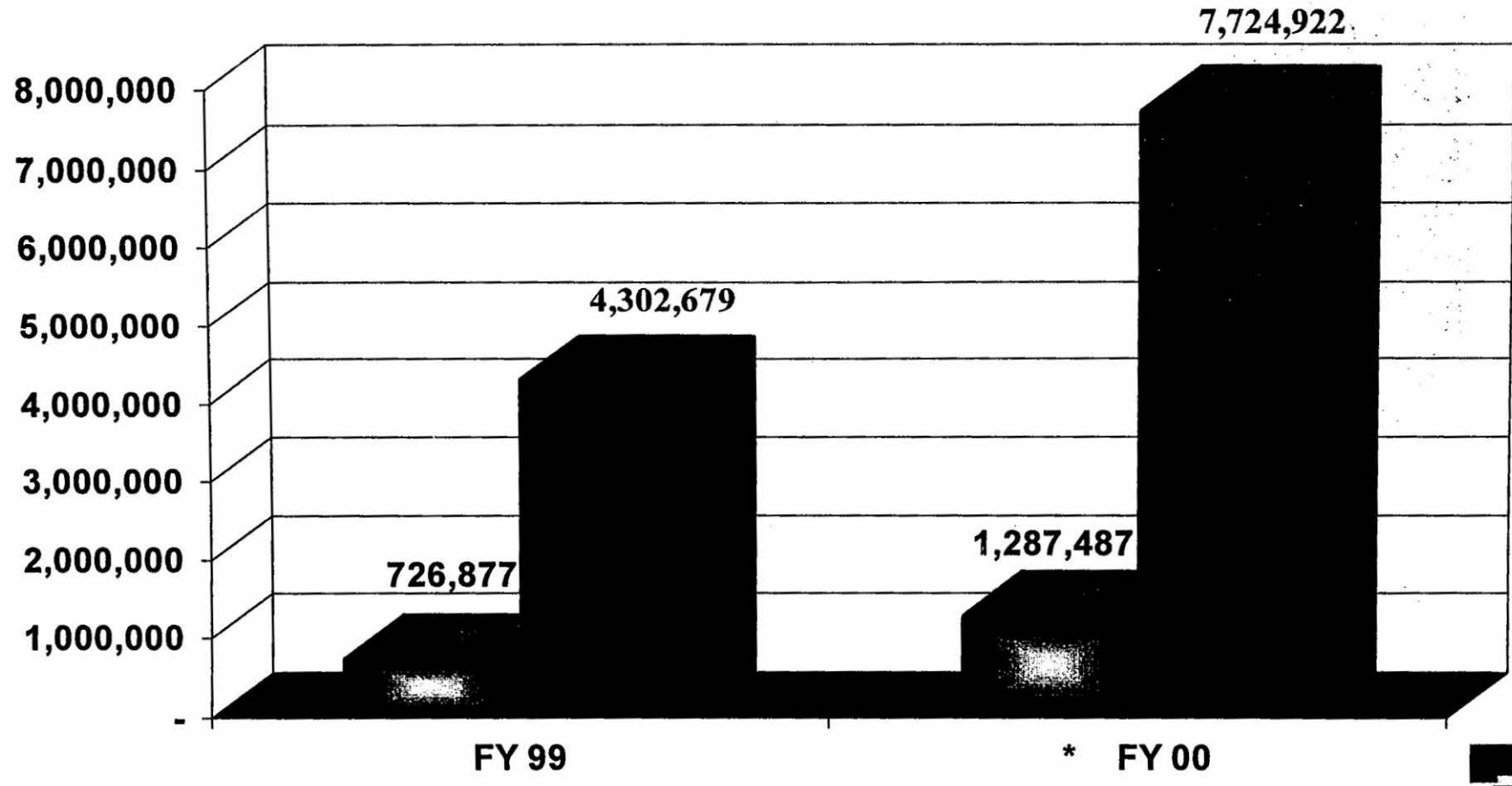
Analysis

- Majority of TTUHSC proposals in the more competitive ARP
- TTUHSC fared as well as other HSCs in the pre-review stage
- Although TTUHSC proposals were not highly rated by reviewers, more than half are NIH-supported
- TTUHSC proposals received low marks for Institutional Infrastructure/Support

Improving TTUHSC Success in ARP/ATP

- More grant applications
  - Especially with senior faculty
- Seek better balance between basic ARP and applied ATP grants
- Apply better understanding of review criteria in building proposals
- TTUHSC infrastructure is a problem

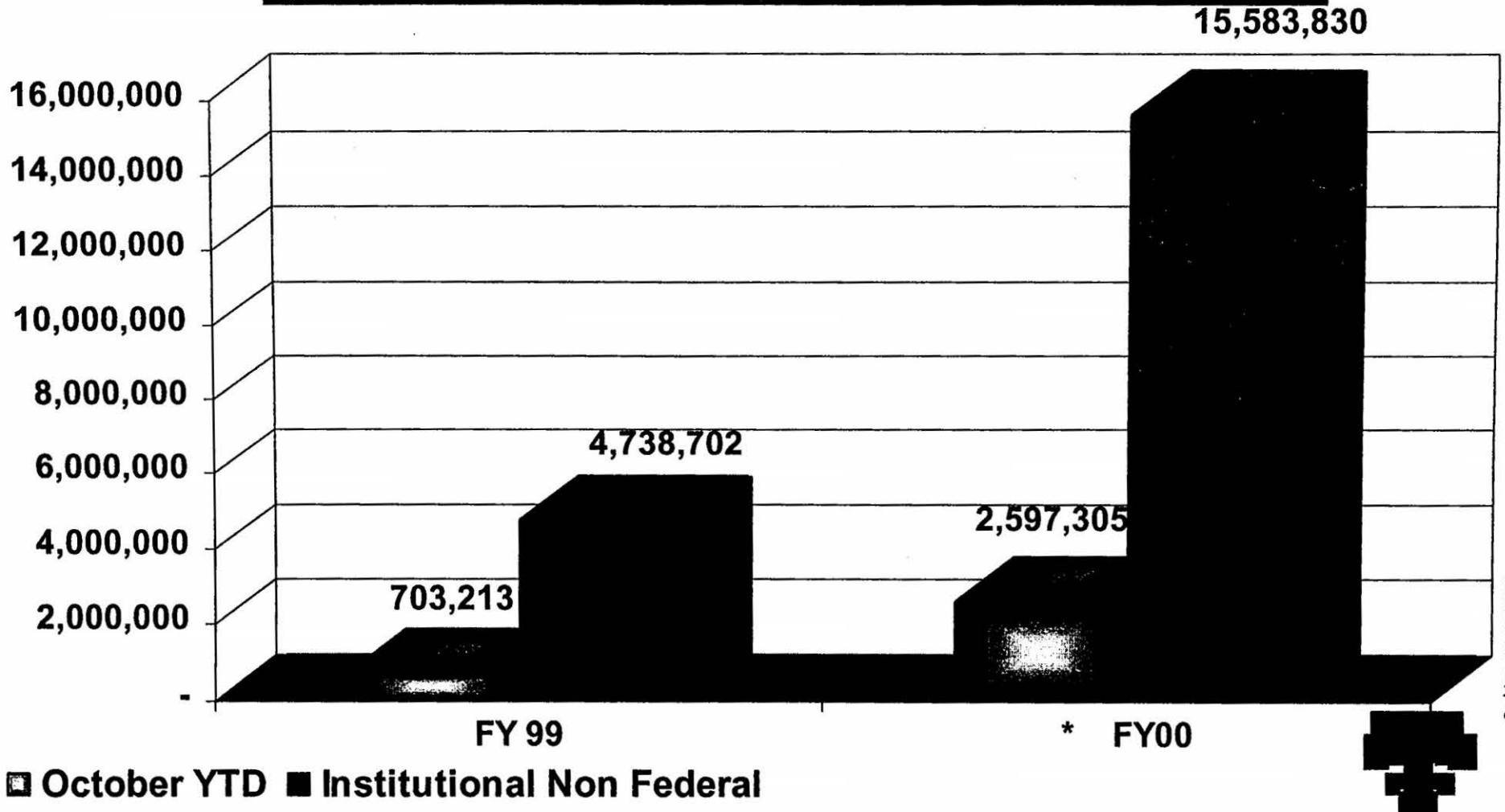
TTUHSC Federal Research Awards



October YTD ■ Institution Federal Research

* projected federal awards

TTUHSC Non Federal Research



* projected non federal awards

TEXAS TECH UNIVERSITY - BOARD RATIFICATION ITEMS (September 1, 1999 - October 31, 1999)

NO.	ACTIVITY	SOURCE OF FUNDS OTHER	INCOME	EXPENSE	REMARKS
BOARD RATIFICATION					
YQ00051	Office of Research Services		$200,000	$200,000	Transfer for the High Performance computing Center
RR09199	TTU Band and Orchestra Camp		130,000	130,000	Budget fee income for TTU Band and Orchestra Camp
RR09301	TTU Band and Orchestra Camp	132,330		132,330	Transfer funds from fund balance to cover additional expenses
SM04650	Internal Audit Support	200,000		200,000	Transfer funding from the General Clearing account to pay professional services from Deloitte & Touche LLP
SM04664	Men's Basketball	200,000		200,000	Transfer to replace options revenue
	Ex Student Association		120,814	120,814	Transfer funds from the Texas Techsan Magazine-Joint with Ex-Students Association to the Ex-Students Assoc- iation for the Texas Techsan Magazine issues winter, spring and summer.
	Honors Scholarships		100,000	100,000	Transfer funds from fund 4205 for scholarships
SM00816	Chancellor's Residence Reserve		100,000	100,000	Funding for the purchase of a new residence
RR01914	Asbestos Contracting Allowances		100,000	100,000	Establish FY 2000 account for Asbestos contracting
RR01755	Assessment Program-Community Outreach		100,000	100,000	Budget revenue and expenses assoc- iated with the Community Outreach Program
RR02548	Coaches' Video Stations		146,585	146,585	Commercial Paper Program

TEXAS TECH UNIVERSITY - BOARD APPROVAL ITEMS (September 1, 1999 - October 31, 1999)

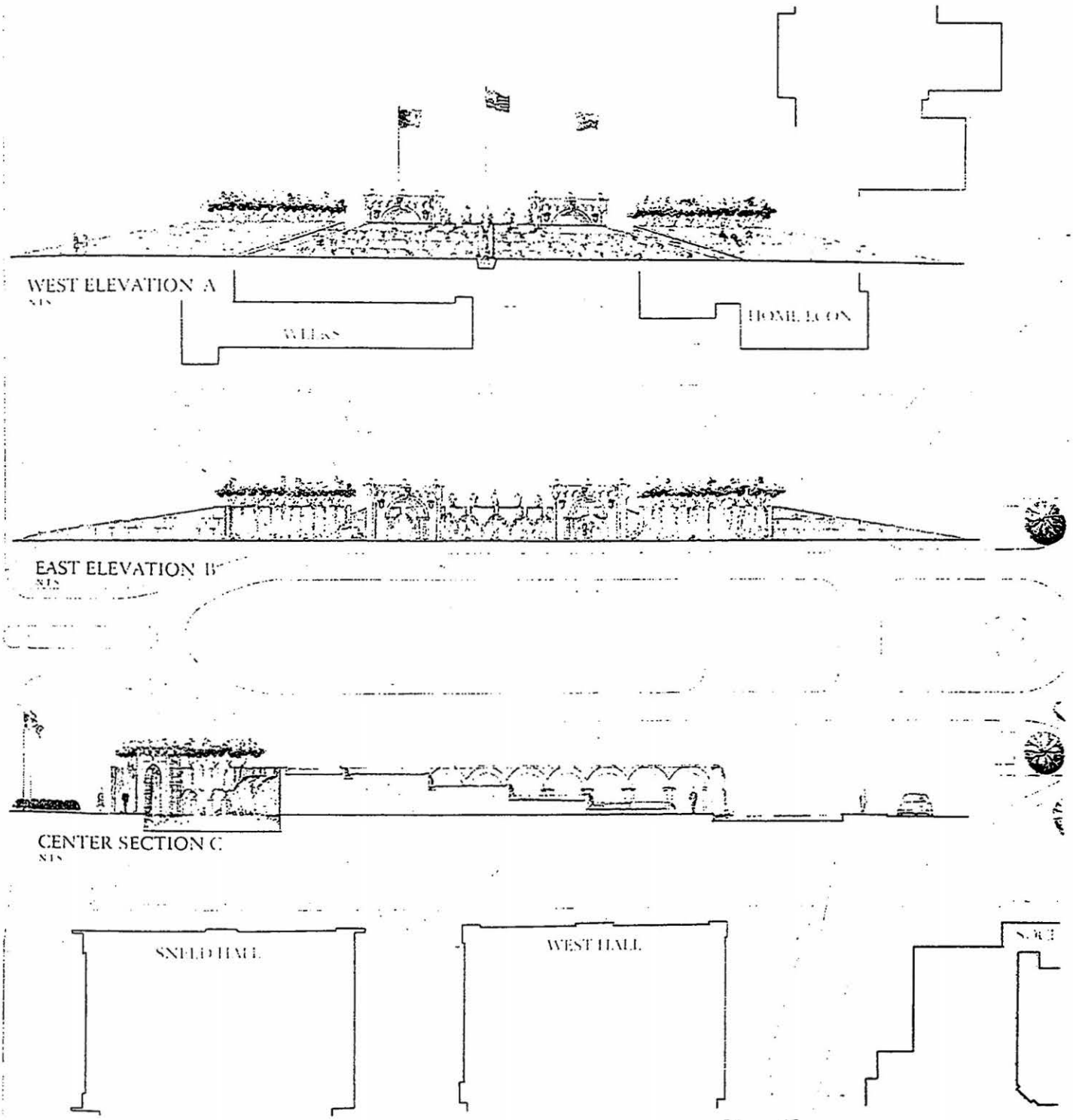
NO.	ACTIVITY	SOURCE OF FUNDS OTHER	INCOME	EXPENSE	REMARKS
BOARD	APPROVAL:				
YQ00052	Reserve for Adjustments		$325,000	$325,000	Return of funds for Structural Biology
SM04644	Computer Resources	252,903		252,903	Close fund 0646 and transfer remaining balance to 0587
SM04645	Vice Chancellor for FP&C	340,000		340,000	Increase deficit cap from $1,500,000 to $1,840,000
RR00435	Arena Signage		250,000	250,000	Sales revenue from signage at the United Spirit Arena will be used for arena debt service, arena operations, and athletic operations
RR03895	Copyright, Royalty and Patent Income		450,000	450,000	Budget additional revenue received
RR02547	Weight Room Equipment		249,000	249,000	Budget additional revenue received

TEXAS TECH UNIVERSITY - BOARD RATIFICATION ITEMS (September 1, 1999 - October 31, 1999)

NO.	ACTIVITY	SOURCE OF FUNDS OTHER INCOME EXPENSE			REMARKS
Salary Increases of 10% or more:					
	Per Annum	CURRENT SALARY	NEW SALARY	% INCREASE	
	Jerrery Paul Ledbetter	$20,424	$29,067	42%	Promotion from Drafting Technician III to GIS Operation Supervisor
	Lenice Markham	21,322	24,396	14%	Promotion from Clerical Specialist IV to Training Specialist
	Marsha Callendar	22,968	25,644	12%	Salary exception
	Laura Heinz	23,093	30,000	30%	Promotion from Senior Library Specialist to Assistant Librarian
	Judith Climer	21,540	29,729	38%	Promotion from Secretary III to Business Development Specialist

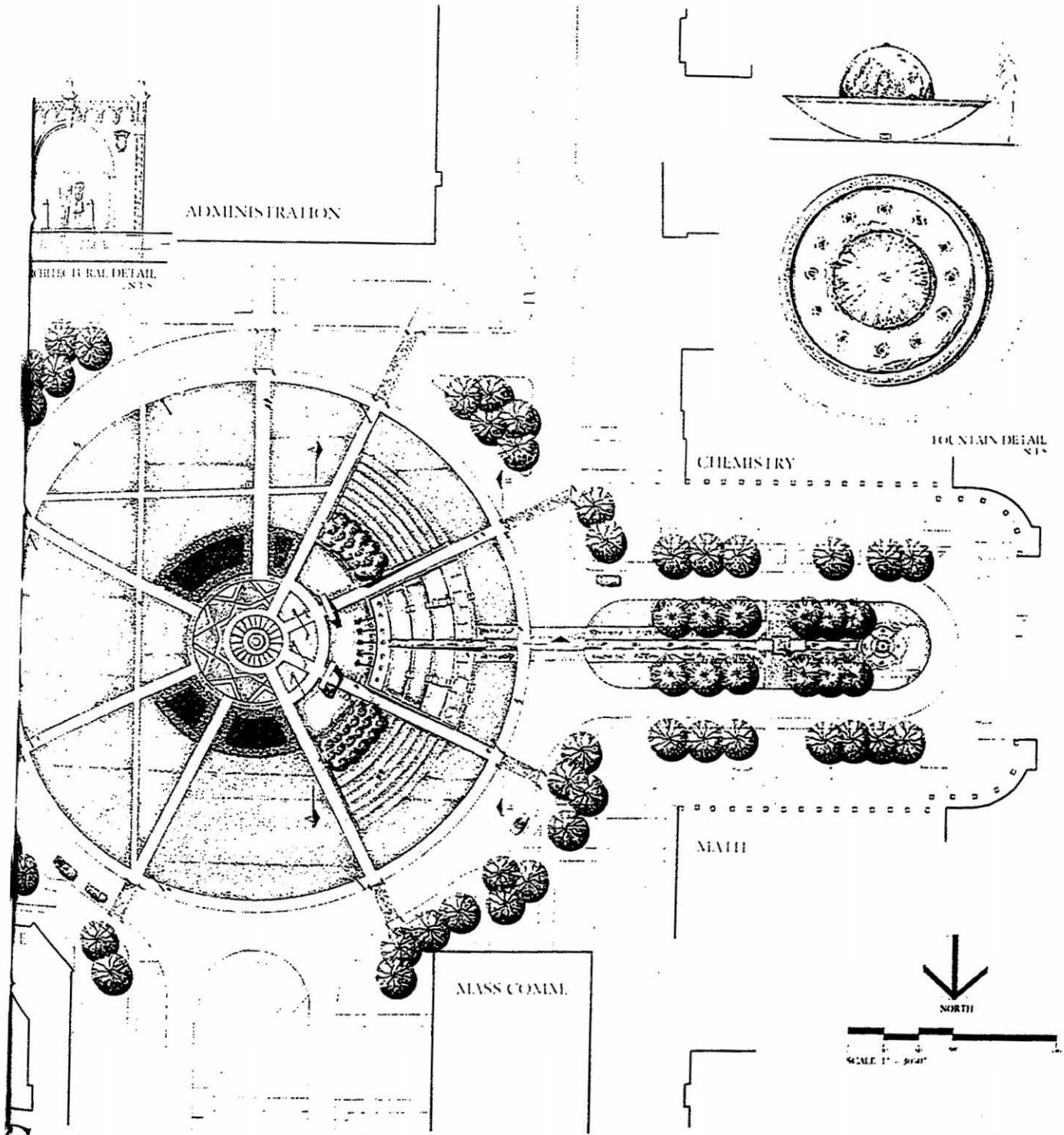
Texas Tech University Health Sciences Center (September 1, 1999 - October 31, 1999)

Activity	Source of Funds Other	Source of Funds Income	Expense	Remarks
BOARD APPROVAL				
Designated Funds - Service Departments				
Physical Plant	500,000		500,000	Budget of fund balance to perform modernization and rehabilitation of elevators.
BOARD RATIFICATION				
SALARY INCREASES	CURRENT SALARY	NEW SALARY	% INCREASE	
FACULTY				
Narine Sarvazyan - Microbiology	54,091	61,000	12.8%	Equity Adjustment



PFLUGER FOUNTAIN AT MEMORIAL

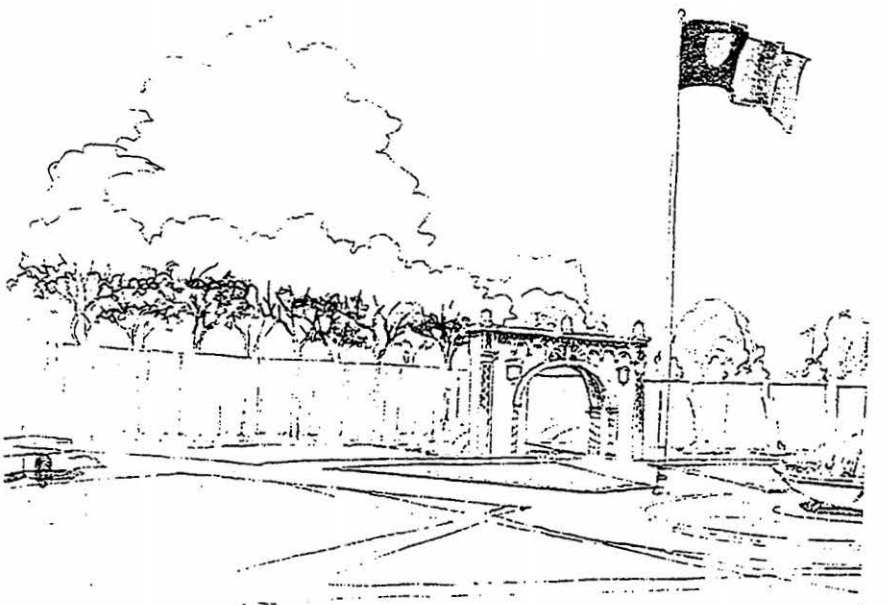
LUBBOCK, TEXAS

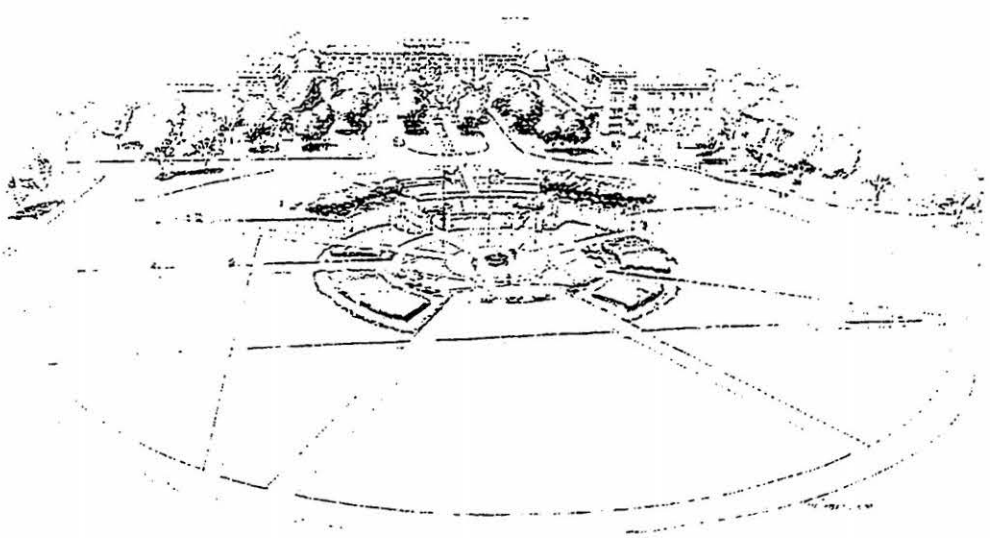


CIRCLE CONCEPTUAL MASTER PLAN

for TEXAS TECH UNIVERSITY · prepared by MESA DESIGN GROUP

DECEMBER 9, 1999





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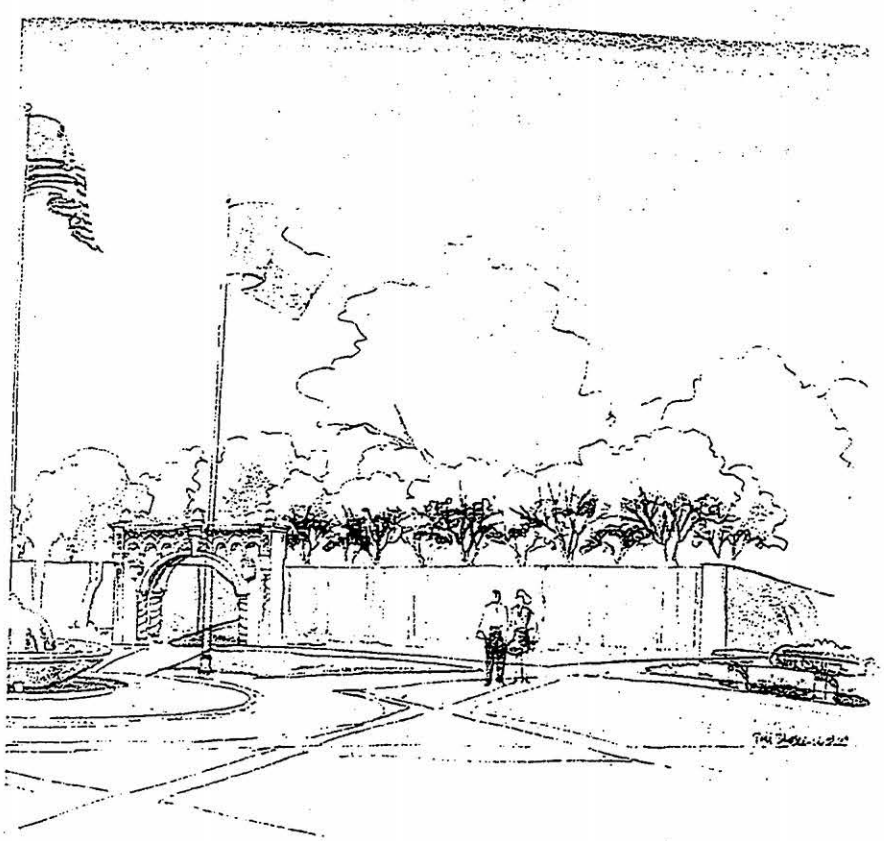
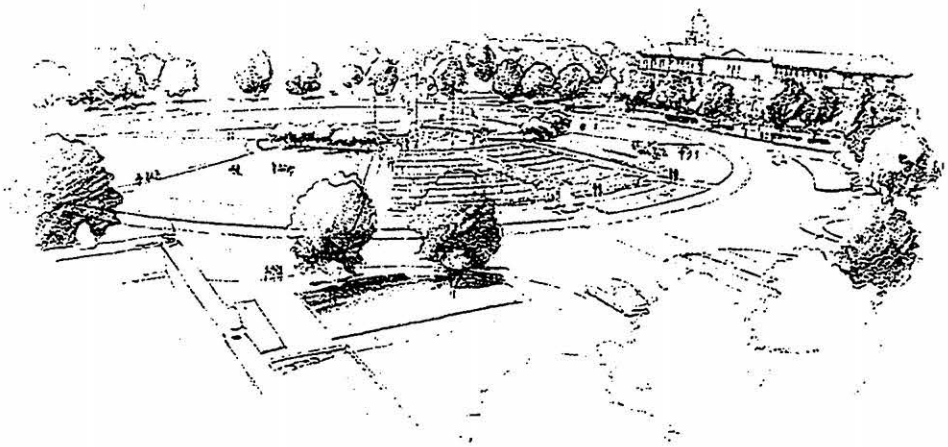
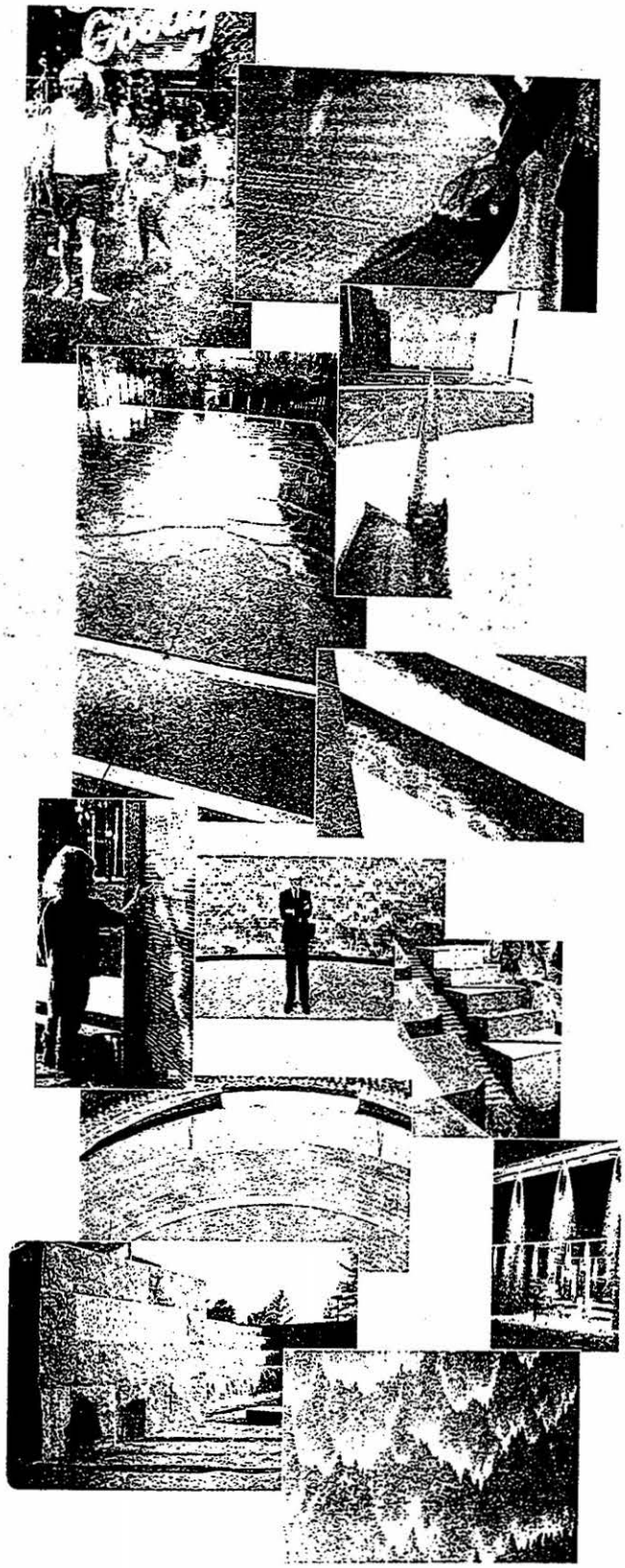
LUBBOCK, TEXAS







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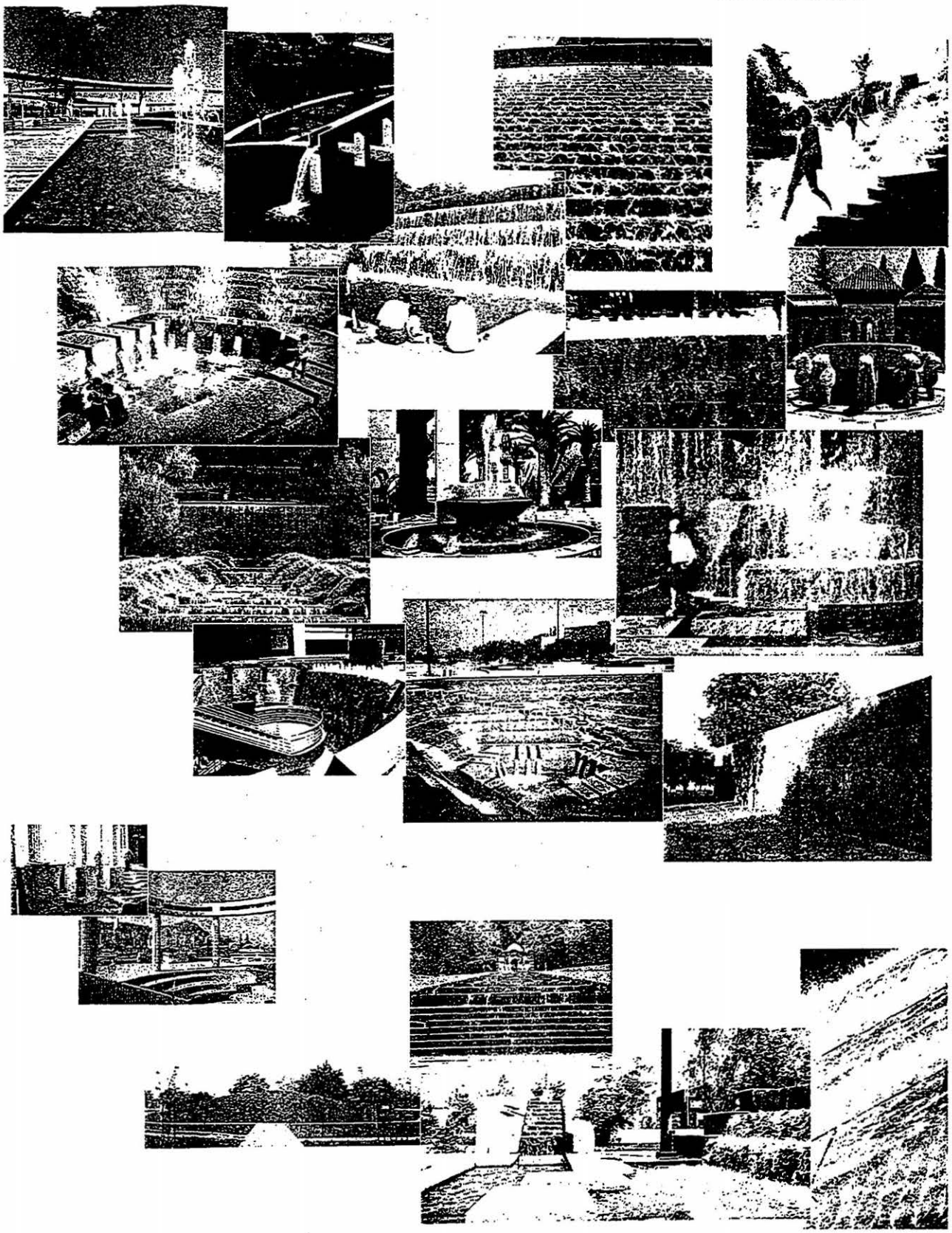
LUBBOCK, TEXAS



MEMORIAL CIRCLE

RECOMMENDED MATERIALS PALETTE

for TEXAS TECH UNIVERSITY - *prepared by* MESA DESIGN GROUP

December 9, 1999

Report of the Investment Advisory Committee

The Investment Advisory Committee met in Dallas on November 17, 1999.

David Stein of Fund Evaluation Group (our investment consultants) presented a summary recapping the performance of the Long-Term Investment Fund (LTIF). Through August 31, 1999, the composite portfolio's quarterly return was 0.0%, slightly underperforming the balance index of 1.1%. For the One Year period, the LTIF's return was 22.3%. The balance index return for the same period was 24.2%.

Mr. Stein indicated that during this quarter, the dominance of large cap growth stocks, specifically technology stocks, dominated the market. The broadening of the stock market that occurred during the previous quarter came to an abrupt halt. Value oriented stocks that exhibited strong gains for the quarter ended May 31 lost ground to the large-cap growth stocks.

The portfolio's large cap growth manager, Davis, Hamilton and Jackson posted a 2.1% quarterly return, outperforming its benchmark index of 1.0% by 1.1%. Since August, Davis, Hamilton has continued to exceed the performance of the balance index (3.8% versus 2.5%). INVESCO, the large cap investment manager, underperformed its quarterly benchmark index by 9.0% (-7.3% vs 1.7%). Its one year return of 18.8%, is significantly under the S&P 500 index of 39.8%. Mr. Stein indicated that INVESCO's performance was hampered by its overweighting in the basic material and energy sectors. In addition, its performance has been affected by some poor stock selections.

A discussion concerning INVESCO was held. It was observed that the firm is struggling more than other value oriented managers. The Committee indicated that it is committed to the value orientation but is concerned with this particular manager's performance. The concept of implementing a more passive investment strategy utilizing the investment in the S&P 500 Index was discussed. The Committee instructed Mr. Stein to prepare an asset allocation study that incorporates proposed changes in the current value/growth asset allocation targets. The study is also to include the possibility of the implementation of the use of market index funds and the implementation of alternative investments. The results of this study will be reviewed at the next meeting.

Mr. Stein indicated that all the investment managers are Year 2000 compliant.

The Committee instructed that a joint meeting be held with the Investment Committee of the Texas Tech Foundation, Inc. tentatively scheduled for February 3, 2000.

The plans for the remaining redeployment of the $50 million tobacco endowments were held. In addition, the planned redeployment into the Long-Term Investment Fund of endowments currently invested in the Short-Intermediate Term Investment Fund was discussed. The redeployment scheduled for December is to be allocated to existing investment managers in accordance with the current asset allocation targets. However, the amount to be allocated to the large-cap sector, managed by INVESCO, is to be "parked" in a Vanguard Total Stock Market Index Fund. Following the review of FEG's asset allocation study in February, these parked funds will be reallocated.

As requested by the Investment Committee of the Texas Tech Foundation, Inc., the Investment Advisory Committee reviewed the Foundation's policy of the sale of gifted securities. A recommendation that the Foundation consider implementing a policy to review with current investment managers gifted securities of $1,000,000 or more before any sale. Such a review, when conducted in a timely manner, might reduce the amount of sale commissions should one of our managers be in the process of purchasing the same security as the one being donated.

GENERAL SCHOLARSHIP GROWTH

AT

TEXAS TECH UNIVERSITY

GROWTH IN GENERAL SCHOLARSHIP ENDOWMENT FUNDS

FISCAL YEAR ENDING	TTU ENDOWMENT FUNDS AVAILABLE FOR GENERAL SCHOLARSHIP	TTF ENDOWMENT FUNDS AVAILABLE FOR GENERAL SCHOLARSHIP	TOTAL ENDOWMENT FUNDS AVAILABLE FOR GENERAL SCHOLARSHIP
1993	$ 1,464,863	$ 2,478,738	**$ 3,943,601**
1994	$ 1,554,170	$ 2,911,265	**$ 4,465,435**
1995	$ 9,377,555	$ 3,226,931	**$ 12,604,486**
1996	$ 10,442,771	$ 3,539,426	**$ 13,982,198**
1997	$ 11,497,538	$ 3,938,307	**$ 15,435,845**
1998	$ 12,222,687	$ 5,687,128	**$ 17,909,815**
1999	$ 13,811,653	$ 8,766,928	**$ 22,578,581**
2000			**$ 24,836,440**
2001			**$ 27,320,083**
2002			**$ 30,052,092**
2003			**$ 33,057,301**
2004			**$ 36,363,031**

GROWTH FACTORS IN GENERAL SCHOLARSHIP ENDOWMENT FUNDS

FISCAL YEAR ENDING	CONTRIBUTIONS TO THE GENERAL SCHOLARSHIP FUNDS	EARNINGS OF THE GENERAL SCHOLARSHIP FUNDS	TRANSFERS TO THE SCHOLARSHIP SPENDING FUNDS	ANNUAL INCREASE OF THE GENERAL SCHOLARSHIP FUNDS
1994	$ 263,394	$ 635,726	$ (377,286)	**$ 521,834**
1995	$ 7,863,145	$ 668,694	$ (392,788)	**$ 8,139,051**
1996	$ 620,888	$ 1,591,709	$ (834,885)	**$ 1,377,712**
1997	$ 611,905	$ 1,766,144	$ (924,401)	**$ 1,453,648**
1998	$ 1,541,707	$ 1,952,415	$ (1,020,152)	**$ 2,473,970**
1999	$ 3,831,052	$ 1,759,477	$ (921,763)	**$ 4,668,766**
2000	$ 1,128,929	$ 2,424,965	$ (1,296,036)	**$ 2,257,858**
2001	$ 1,241,822	$ 2,639,462	$ (1,397,640)	**$ 2,483,644**
2002	$ 1,366,004	$ 2,875,408	$ (1,509,404)	**$ 2,732,008**
2003	$ 1,502,605	$ 3,134,949	$ (1,632,344)	**$ 3,005,209**
2004	$ 1,652,865	$ 3,420,444	$ (1,767,579)	**$ 3,305,730**

LEVELS OF
GENERAL SCHOLARSHIP

LEVELS	SAT RANGE	FY 2000 Amount
PRESIDENT'S PLUS	NMF+1350+	$ 4,000
PRESIDENTIAL	1400+	$ 4,000
HONORS	1300-1399	$ 2,500
TTU SCHOLARS	1250-1299	$ 1,500
SUPERIOR	1200-1249	$ 1,000
OUTSTANDING	1100-1199	$ 500
TECH SELECT		$ 1,000

GROWTH IN GENERAL SCHOLARSHIP PARTICIPANTS

FISCAL YEAR ENDING	PRESIDENT'S PLUS	PRESIDENTIAL	HONORS	TTU SCHOLARS	SUPERIOR OUTSTANDING	TECH SELECT	TOTAL
1994	-	97					**97**
1995	-	122					**122**
1996	-	145					**145**
1997	-	186			325		**511**
1998	15	213	129		435	9	**801**
1999	32	218	233		633	10	**1,126**
2000	40	260	342	61	883	13	**1,599**
2001	50	311	450	100	1,122	20	**2,053**
2002	60	378	550	100	1,267	20	**2,375**
2003	60	378	550	100	1,300	20	**2,408**
2004	60	378	550	100	1,300	20	**2,408**

GENERAL SCHOLARSHIP
ANNUAL COST

FISCAL YEAR ENDING	PRESIDENT'S PLUS	PRESIDENTIAL	HONORS	TTU SCHOLARS	SUPERIOR OUTSTANDING	TECH SELECT	TOTAL
1994		194,000					**194,000**
1995		244,000					**244,000**
1996		290,000					**290,000**
1997		445,000			203,750		**648,750**
1998	45,000	639,000	253,000		325,741	20,000	**1,282,741**
1999	96,000	654,000	452,000		466,837	17,500	**1,686,337**
2000	120,000	1,040,000	855,000	96,000	653,500	13,000	**2,777,500**
2001	166,000	1,244,000	1,125,000	195,000	826,000	20,000	**3,576,000**
2002	210,000	1,512,000	1,375,000	301,500	1,053,500	20,000	**4,472,000**
2003	255,000	1,676,000	1,622,500	403,500	1,278,500	20,000	**5,255,500**
2004	260,000	1,676,000	1,622,500	403,500	1,278,500	20,000	**5,260,500**

SOURCE OF FUNDS
FOR GENERAL SCHOLARSHIPS

FISCAL YEAR ENDING	TRANSFERS FROM FUNDS AVAILABLE FOR GENERAL SCHOLARSHIP	REDUCTION IN EXISTING SCHOLARSHIP SPENDING ACCOUNTS	EXPENDITURES FROM GENERAL UNIVERSITY FUNDS	TOTAL EXPENDITURES FOR GENERAL SCHOLARSHIP
1994	$ 194,000			**$ 194,000**
1995	$ 244,000			**$ 244,000**
1996	$ 290,000			**$ 290,000**
1997	$ 208,750		$ 440,000	**$ 648,750**
1998	$ 514,036		$ 768,705	**$ 1,282,741**
1999	$ 803,495		$ 882,842	**$ 1,686,337**
2000	$ 1,296,036	$ 535,301	$ 946,163	**$ 2,777,500**
2001	$ 1,397,640	$ 1,183,763	$ 994,597	**$ 3,576,000**
2002	$ 1,509,404	$ 1,007,824	$ 1,954,772	**$ 4,472,000**
2003	$ 1,632,344		$ 3,623,156	**$ 5,255,500**
2004	$ 1,767,579		$ 3,492,921	**$ 5,260,500**

Office of Cultural Diversity Report
Board of Regents Meeting
Midland, Texas
December 10, 1999

I. Greetings

II. Review Selected Items – Partnership Newsletter

III. Update/Status of Partnerships

IV. Closing

Texas Tech University System

Partnerships

Building the Texas Tech Community

Fall 1999

Highlights in this issue:

- **Visit our web site at:** www.texastech.edu/~cultural
- **Building the Campus Community Diversity Conference/Retreat**
- **Preparing for College Workshops** ***Spring 2000***
- **Future Red Raider Families Tailgate brings parents and children to campus**
- **Chancellor's Community Minority Advisory Council Expanded**
- **Tech Partners with YWCA "Week without Violence"**
- **Minority Pre-Law Society Assists Undergraduates**
- **Models of Excellence: A Mentoring Organization visits campus**
- **From the desk of** ***Cathy Allen***
- **Grantwriting partnerships create opportunities for underrepresented groups**
- **Minority Faculty & Staff Association unveils Millennium Calendar**

Distributed by:
Office of Cultural Diversity
Box 45045
Lubbock, TX 79409-5045
(806) 742 8671
Fax (806) 742 8674

Faculty, Staff, & Students Attend Conference

The first annual "Building the Campus Community" diversity conference retreat was held on September 24th - 25th in Slaton, Texas at the Mercy Retreat Center with over fifty faculty, staff, and students participating from both the university and the health sciences center. It gave participants a unique opportunity to share and discuss ideas. The conference was sponsored by the Chancellor's Office of Cultural Diversity, the Chancellor's Office, the Office of the Vice President for Student Affairs, the Office of the Presidents of Texas Tech University and Texas Tech University Health Sciences Center, the Office of Equal Employment Opportunity, and the Student Government Association. The conference facilitator was Rick Miller of Texas A&M Commerce. Mr. Miller has facilitated conferences throughout the country with his unique style of interactive activities designed to "involve, encourage, and include." A major key to his effectiveness is how he works directly with participants in developing the end use product. The main objective of the conference was to equip participants with skills to nurture inter-relational opportunities in a rapidly growing diverse community. After the conference, participants were given an opportunity to volunteer to serve on a task force to address specific diversity issues on campus. The sponsors plan to host a similar event annually. (Below: Participants take part in group activities)

"Preparing For College" Workshops

The schedule for the Spring 2000 workshops is being developed. The third annual workshop series will be offered to the campus and surrounding communities during January and February 2000 . The Office of Cultural Diversity will be partnering with the Office of Financial Aid, the Office of Admissions and School Relations, Texas Tech Health Sciences Center, TexPREP, Upward Bound, Texas Tech Employment Recruitment Office, College of Engineering, College of Arts & Sciences, Honors College, and LEARN, Inc. The workshops are for elementary, junior high and high school students and their families, especially 7th to 12th grade, as well as for students already in college. Workshops will focus on financial aid processing, scholarship opportunities available from Texas Tech and private sources, the college admissions process, summer enrichment programs, internships, employment opportunities, college work study, etc. The schedule may be accessed via our web site. For information or a copy of the schedule, please call 806 742 8671.

Chancellor's Office of Cultural Diversity Partnerships with K-12

Title of Program: Chancellor's Junior Ambassadors

Contact Person: Janie Landin Ramirez 806 742 8672

Summary of Program: Students representing area high schools within a radius of one hundred miles from the Lubbock, Texas campus now have an opportunity to serve as junior ambassadors in their high schools. Students become eligible to apply in their junior year and serve as ambassadors through their senior year. They are selected through an application process which includes an essay and an interview by a selection committee comprised of university and community members. The title of junior ambassador carries a scholarship award of $5000 to attend Texas Tech University when the students graduate from high school. Students must remain eligible for the scholarship each semester they attend Texas Tech. Financial need, academic achievements, participation in extracurricular activities including the need to work while in high school are among some of the primary factors driving the selection criteria. Chancellor's Junior Ambassadors attend campus events, participate in roundtable discussions with administrators, serve as liaisons and peer recruiters for the university on their high school campuses, serve as ambassadors for the university at special community events, and set up recruitment opportunities at their schools.

Funding Source: Chancellor's Office

Number of Students: 10 new ones added each year, 20 total (students serve two years) Up to 15 high schools per year (some schools may have two students)

Title of Program:	Latin American Iberian Studies & Foreign Language Scholarship
Contact Person:	Janie Landin Ramirez 806 742 8672
Summary of Program:	This is a program in partnership with the LAIS & Foreign Language Program which provides partial tuition scholarships for students from Lubbock High School. Students meeting standards set by the school district are recruited by the professors teaching the courses. The students attend classes for college credit on the Tech campus while enrolled in high school. Students are responsible for their own transportation to the campus. Typically, the foreign language course is offered in the fall and the LAIS course in the spring.
Funding Source:	Office of Cultural Diversity
Number of Students:	Maximum of 10 scholarships per semester

Title of Program: Preparing for College Workshops

Contact Person: Doris Henderson 806 742 8671

Summary of Program: The Spring 2000 workshop series will be offered to the campus and surrounding communities during January and February 2000 . The Office of Cultural Diversity will be partners with the Office of Financial Aid, the Office of Admissions and School Relations, Texas Tech Health Sciences Center, TexPREP, Upward Bound, Texas Tech Employment Recruitment Office, College of Engineering, College of Arts & Sciences, Honors College, and LEARN, Inc. The workshops are for elementary, junior high and high school students and their families, especially 7th to 12th grade, as well as for students already in college. Workshops will focus on financial aid processing, scholarship opportunities available from Texas Tech and private sources, the college admissions process, summer enrichment programs, internships, employment opportunities, college work study, etc. This is the third year for the program. Community participation has increased each year. Workshops have been held in churches, community centers, and libraries.

Funding Source: Office of Cultural Diversity

Number of Students: Approximately 200 families were served last year.

Title of Program: South Plains Area Community Leadership Training Series

Contact Person: Janie Landin Ramirez 806 742 8672

Summary of Program: This is a partnership with the National Hispanic Institute (NHI) which is a non profit mentoring organization for Hispanic youth from high school. The program targets ninth graders and works with them through their college experience. NHI coordinators work closely with the school counselors to identify the students. Second and third year students act as workshop facilitators. Each fall the university hosts the orientation seminars. This fall, three orientation seminars were held on campus. Over one hundred parents attended. Each spring the university hosts the three day training workshops for parents and students. Both the parents and students are housed on campus. For most participants, this represents their first experience on a college campus. NHI students are highly recruited by most colleges because their SAT and GPA scores consistently rank them in the top 10% of their schools. This partnership with NHI is in its third year.

Funding Source: National Hispanic Institute/Parents/Private Funds/Office of Cultural Diversity

Number of Students: 100 students representing over twenty area high schools.

Title of Program: Future Red Raider Families Tailgate

Contact Person: Cathy Allen 806 742 8671

Summary of Program: The Texas Tech Dad's & Mom's Association, partnered with the Committee for Champions, Chancellor's Office of Cultural Diversity, Texas Tech Athletics Office, Catholic Family Services, Knights of Columbus, FMX/Gulfstar, Wal-Mart, Lubbock Independent School District, and student organizations to bring area fourth, fifth, and sixth grade students and their families to the campus for a family day tailgate party, campus tour, and the football game against Iowa State. The students earned the privilege to attend the event by participating in life skills programs. For many of the participants, this was their first visit to Tech as well as their first Tech football game. The tailgate party included a magic show, lunch, and an opportunity to visit with Tech staff about college opportunities and programs. Approximately one thousand participants were served by this partnership. Transportation was also provided for the families. Partners plan to sponsor this event annually.

Funding Source: Various as noted above.

Number of participants: One thousand

Title of Program: Grant Writing Partnerships

Contact Person: Janie Landin Ramirez 806 742 8672

Summary of Program: The office has participated as a partner in two grant writing proposals. One was the GEAR UP grant offered by the U.S. Department of Education. The office partnered with the Lubbock Housing Authority, Lubbock Independent School District, Texas Tech's College of Engineering and College of Education, TexPREP, Upward Bound, LEARN, Inc., and SBC C.L.E.A.R Project (Community Learners Educators and Researchers) to address the needs of children in the housing projects, especially targeting 4th, 5th and 6th graders.

The other grant proposal was submitted to the W.K. Kellogg Foundation under the ENLACE initiative. It was named the UNIDOS Coalition. Unidos is the Spanish word for united and represents the acronym **U**Nited **I**nitiative to **D**evelop **O**pportunities for **S**uccess. The grant writing coalition included members from our office and various faculty and staff as well as members from Lubbock Independent School District, Region 17 and 18 Educational Service Centers, South Plains College, Odessa College, Howard College, Sul Ross State University, Southwest Texas Junior College, Lubbock Area Coalition for Literacy, Community Organizations, LEARN, Inc. and the Catholic Diocese. The proposal is targeting the educational needs of Hispanic students in K-16.

The Office of Cultural Diversity intends to investigate and pursue other grant opportunities.

Title of Program: GEAR UP Math Academy

Contact Person: Janie Landin Ramirez 806 742 8672

Summary of Program: The office partnered with the Chancellor's Office, College of Engineering, TexPREP, SBC C.L.E.A.R Project (Community Learners, Educators, and Researchers), Lubbock Housing Authority, and Durham Transportation to bring 4th, 5th and 6th graders from low income housing to the campus for a summer math enrichment program. The students were exposed to math and engineering principles in a fun and interactive way. It also provided the students with an opportunity to tour the campus, dine in the residence halls, and explore new possibilities. At the beginning of the camp one child named Clavio was asked, "Clavio, what do you want to do when you grow up?" His response was, "I want to play football." By the end of the camp, his response was, "I want to build bridges so I need to learn more math."

Funding Source: Various as noted in summary

Number of Students: 60 students

Title of Program:	TexPREP Summer Enrichment Program
Contact Person:	Cathy Allen 806 742 8671
Summary of Program:	The office partners with TexPREP, a summer math enrichment program for 7th to 11th graders. The office assists the program director with recruitment opportunities via workshops in the community as well as serves on the advisory board. The office also provides direct funding for the program.
Funding Source:	Provide funding for program instructor/benefits
Number of Students:	100 students each summer

Title of Program: Communities in Schools on the South Plains, Inc. (CIS)

Contact Person: Cathy Allen 806 742 8671

Summary of Program: The Office of Cultural Diversity has partnered with CIS to promote educational attainment for students in low income schools K-12 by improving academics, marketable skills, attendance and behavior. The mission of CIS is to meet the needs of students in at-risk situations. Currently the program is in two elementary schools, one junior high school and one high school in Lubbock. A representative from the program also sits on the Chancellor's Community Minority Advisory Council. Students have already taken part in Tech summer enrichment programs, campus tours, and mentoring programs.

Funding Source: CIS

Number of Students: 300 students

Title of Program: AVID (Advancement Via Individual Determination)

Contact Person: Cathy Allen 806 742 8671

Summary of Program: The Quadrant IV secondary schools in Lubbock have implemented this nationally recognized research driven program which targets capable students typically under represented in the university setting and supports these students in a course of rigorous study to prepare for successful completion of a bachelor's degree. Texas Tech is partnering with AVID to explore ways to reward students with scholarships and incentives. This support is based on performance and reinforces merit, accomplishment, and longevity in the AVID program.

Funding Source: AVID Grant/Office of the Chancellor

Number of Students: 58 high school students annually

Title of Program:	"Teach the Teacher" Workshop
Contact Person:	Janie Landin Ramirez 806 742 8672
Summary of Program:	The Office of Cultural Diversity partnered with the Lubbock Area Association for Bilingual Education (LAABE) and the Bilingual Education Student Organization in the first of a series of workshops designed to assist teachers in the K-12 environment with their computer literacy skills. Teachers attended a full day workshop that included demonstrations, a tour of the library, lunch and classes in: **Introduction to Windows, Word, Word II and Web Design.** The next workshop will focus on an "International Roundtable." Teachers will have an opportunity to explore international cultures and take the experience back to their classrooms.
Funding Source:	LAABE, Office of Cultural Diversity, Private Donations
Number of Students:	60 teachers attended the first workshop

Title of Program:	Models of Excellence, Inc.
Contact Person:	Cathy Allen 806 742 8671
Summary of Program:	The Fort Worth mentoring organization works with African American girls ages eight to eighteen. The organization's motto is "We Strive for Excellence in Everything!" Approximately forty girls visited the campus along with founders, Jacquetta Chambers and Angela Ferguson. The Office of Cultural Diversity organized a tour and an informational session as well as sponsored a luncheon in the Red Raider Lounge. The office will be sponsoring the organization to the campus on an annual basis.
Funding Source:	Office of Cultural Diversity and Private Donations
Number of Students:	40 students

TEXAS TECH UNIVERSITY™

Vice President for Enrollment Management

Box 42010
Lubbock, TX 79409-2010
(806) 742-7025

December 10, 1999

Quarterly Report to the Board of Regents

Chairman Sowell, Members of the Board, Chancellor Montford, and President Haragan,

Thank you for the opportunity to present my quarterly report to the Board. Below is a brief summary of the activities that have been carried out in our division since I last spoke to you in September.

Admissions and School Relations

- **Fall 1999 Admission Report.** This year's freshman and transfer admissions report is located in your folder.

- **Recruitment Travel.** All College Day/Night programs in Texas, Oklahoma and New Mexico will be completed by December 11 for the fall 1999 season. The new viewbook has been extremely well received and many students also comment on the post cards and Birthday cards they have received.

- **Office Activity.**

  - The new Student Activities brochure is being mailed to all admitted students.
  - An international student recruitment brochure is being created.
  - Governor George Bush sent a letter with a 'request for information card', to the top 10% seniors from every high school in Texas. To date our admissions office has received approximately 30 cards.
  - The first ever fall University Day was a tremendous success with over 1,000 prospective students in attendance.
  - The statewide meeting of the Texas Association of Collegiate Registrars and Admissions Counselors (TACRAO) held in

Lubbock was a tremendous success. Karen Hamel, the local arrangements chair, was given special recognition for her efforts.

- Marlene Hernandez serves as TACRAO chair of the High School College Relations Committee which is responsible for planning the statewide 2000-2001 travel schedule.
- Orientation for new Spring 2000 students is scheduled for January 9 and 10.
- Marty Grassel now serves on the Coordinating Board's Advisory Committee for the Common Application and the Residency Advisory Committee.

Financial Aid

- **Spring 2000 Aid Disbursement.** The planning for disbursing funds to students for Spring 2000 has begun. Electronic Funds Transfer (EFT) will again be a major part of that disbursement process. We have been asked by Texas Guaranteed Student Loan Corp. to postpone the first delivery of funds in January from the 5th to the 6th. This will give TGSLC additional time to complete some of their "new" year processes before disbursement to our students. We are able to accommodate their request, with no loss of service to students. We will be able to have funds to students prior to the first class day to allow for purchase of books and other related expenses.

- **Employee/Employee-Dependant Scholarships.** The fall awards in Employee/Employee Dependant scholarships went well. Awards were given to 178 employees for a total of $53,400 and to 233 employee dependants for $139,800. The employees were divided with 58 in undergraduate courses and 120 in graduate courses. The dependants were divided with 201 in undergraduate courses and 32 in graduate courses. The total awarded for the fall 1999 semester is $193,200.

- **TechSIS Web Pages for Financial Information.** The financial aid web pages for TechSIS is in the test system. We are finishing the review and approval process and anticipate this will be operational in production by the end of the fall term.

- **Document Imaging.** The work on document imaging has begun. The space requirements are being calculated and our document names are being added to the system. We anticipate implementation at beginning of the new financial aid cycle beginning in January 2000, for the fall semester of 2000.

- **Cinphony Phone System.** The installation of the new automated telephone system is complete. The Cinphony system provides automatic call routing and a

number of reports that allow us to gage call volume and timing of that volume. We are in the process of analyzing the reports to determine best allocation of resources to provide the best service. The Quality Service Office is providing a great deal of technical assistance so our staff will derive the maximum benefit from the system. Between October 1st and November 12th, we averaged 535 calls per day.

Office of the Registrar

- Western Association of Veterans Educational Specialists. The past several months our staff has attended state and regional meetings. Debbie Crosby, Veterans Coordinator, attended the Western Association of Veterans Educational Specialists in Arlington, Texas.

- Texas Association of Registrars and Admissions Officers. TACRAO held its annual meeting this year in Lubbock. Some of our staff helped with local arrangements and attended the professional meetings. The staff that participated included Kathy Hicks, Ike Ledesma, Bobbie Latham, Grace Mendoza, and Don Wickard. The professional presentations were enlightening and the staff was presented with challenges for the future in record keeping.

- Information Associates Meeting. Ike Ledesma and Kathy Hicks attended the Information Associates of Texas Users Conference to better understand and maintain our new student information system. Several institutions offered presentations as examples of how to utilize the student information system.

- Web Pregreistration. For the first time, all our students were able to use the web system for preregistration. Student's registered for spring 2000 via web and computers. As of November 22, 1999, 7,215 had registered via department terminals, while 12,841 used the web registration system. Student acceptance of the new system has been very encouraging.

- To speed up the evaluation of transfer credits, the Office of the Registrar has added a new clerical position in the transfer evaluation office.

- Temporary Quarters. The renovation in West Hall has begun and a portion of our records staff has moved into temporary office space, behind West Hall. This staff provides verification of enrollments, dropping courses, withdrawing, name changes, grade replacement, grade maintenance, and other student records maintenance as needed. The move was smooth and thanks to Kay Dowdy we experienced few problems in directing students to the temporary locations.

- Electronic Transcripts. We continue testing with other institutions to expand the electronic transcript process. Using the SPEEDE format as the electronic transcript vehicle, colleges are able to send and receive transcripts electronically. The goal is to have all Texas institutions on SPEEDE and then expand to out-of-state institutions.

- The athletic certification area has installed the new NCAA Compliance Assistant Software. The implementation and use will begin with student-athletes enrolling in 2000-2001. This software will make it easier for our staff to evaluate the initial and continuing eligibility of our student-athletes. This office has done an outstanding job in assuring compliance with NCAA regulations—a fact that has been confirmed in several audits by Texas Tech Internal Auditors, Athletics Student Services and the Athletics Compliance Office.

University Transition Advisement Center

- A new Director for UTAC and McNair has been named. Dr. Elizabeth Teagan has accepted the position and joined our EM team on December 1, 1999. Dr. Teagan has had a distinguished career in fields of student counseling and assessment and is eager to begin her work here.

- We have completed advanced registration for Spring 2000. As of November 11, 1999, 799 (58%) of 1368 undeclared students are registered for Spring 2000. We are still advising those students who have not already registered or responded to our calls. After purging our files, we will have a better idea of how many students declared majors and how many declared ASUD during 991. Thus, our percentages will change accordingly.

- We are also making plans to advise new students for Spring 2000 orientation. At present, we are revising the Advisement Guidebook and Provisional Advisement Guidebook to reflect current information.

- On September 30th the McNair Scholars Program held a recognition reception for their new and continuing McNair Scholars. Our guest speaker was Mr. Eric Strong, Director of TTU Upward Bound.

- The McNair Scholars Program Staff are participating in the planning of the 2nd Annual McNair Scholars Research Symposium to be held in Arlington, Texas on January 28-30, 2000. Last year's conference was attended by 75 participants and we are looking forward to another successful year.

- The McNair Scholars Program plans to nominate Texas Tech McNair Alumnus, Juan Ernesto Zalapa, for the Outstanding McNair Alumni Award for the state of Texas. Juan graduated from Texas Tech with a B.S. degree in horticulture and is

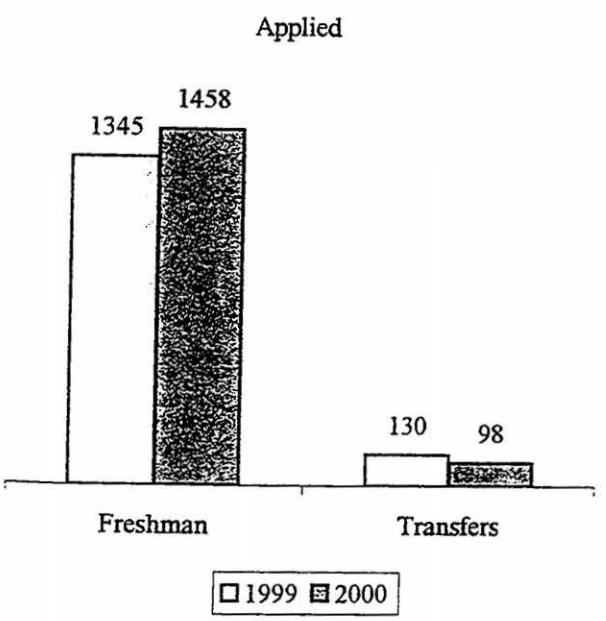
now in completing his doctorate in plant genetics at the University of Wisconsin - Madison. If chosen, Juan would be the guest speaker at the McNair Scholars Research Symposium in January in Arlington.

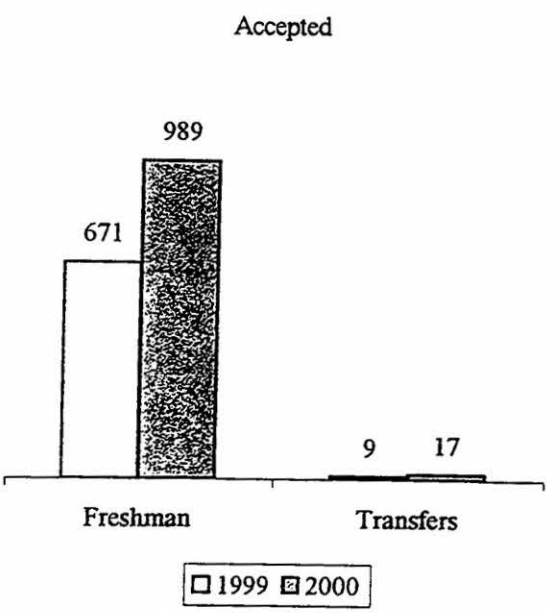
Michael R. Heintze
Vice President for Enrollment Management

TEXAS TECH UNIVERSITY

Undergraduate Admissions Report
December 3, 1999

	1999	2000	% Change
Freshman:			
Applied	1345	1458	8.40%
Accepted	671	989	47.39%
Canceled		1	
Denied			
Transfers:			
Applied	130	98	-24.62%
Accepted	9	17	88.89%
Canceled			
Denied			





Office of Admissions and School Relations
154 West Hall Box 45005 Lubbock, TX 79409-5005
806-742-1480 FAX 806-742-0980

Freshman Applications by College

	1999	2000	% Change
Agriculture			
Ag. Economics	8	9	13%
Ag. Education	2	6	200%
Ag. Undecided	5	5	0%
Animal Science	21	18	-14%
Landscape Architecture	6	9	50%
Horticulture	1	2	100%
Range/Wildlife Management	6	5	-17%
College Total	***49***	***54***	10%
Architecture			
Architecture	45	56	24%
College Total	***45***	***56***	24%
Arts and Sceinces			
Art	11	22	100%
Arts and Sciences Undecided	132	114	-14%
Biology	47	41	-13%
Chemistry	6	13	117%
Communication Studies	14	12	-14%
Economics/Geography	3	8	167%
English	4	3	-25%
Foreign Language	3	0	-100%
General Studies	8	3	-63%
Geosciences	4	8	100%
History	5	10	100%
HPER	14	22	57%
Pre-Professional Health	194	173	-11%
Pre-Law	32	29	-9%
Mathematics	13	13	0%
Mass Communications	79	85	8%
Music	36	24	-33%
Philosophy	0	1	0%
Physics	6	2	-67%
Political Science	16	5	-69%
Psychology	56	57	2%
Anthropology	9	7	-22%
Theatre and Dance	10	10	0%
College Total	***702***	***662***	-6%

Freshman Applications Cont.

Business			
Accounting	40	11	-73%
General Business	41	26	-37%
Business Undecided	88	271	208%
Finance	25	7	-72%
Management Information Systems	6	9	50%
Management	17	10	-41%
Marketing	32	8	-75%
Petroleum Land Management	0	0	
College Total	***249***	***342***	37%
Education			
Multidisciplinary Studies	49	74	51%
College Total	***49***	***74***	51%
Engineering			
Civil Engineering	25	28	12%
Computer Science	48	61	27%
Chemical Engineering	17	21	24%
Electrical Engineering	26	33	27%
Engineering Physics	1	3	200%
Engineering Undecided	36	16	-56%
Industrial Engineering	5	4	-20%
Mechanical Engineering	29	36	24%
Petroleum Engineering	6	4	-33%
Engineering Technology	7	6	-14%
College Total	***200***	***212***	6%
Human Sciences			
ENRHM	16	13	-19%
Human Sciences Undecided	3	1	-67%
Human Development/Family Studies	13	22	69%
MEDC	19	22	16%
College Total	***51***	***58***	14%
University Total	***1345***	***1458***	8%

Freshman Acceptances by College

	1999	2000	% Change
Agriculture			
Ag. Economics	1	7	600%
Ag. Education	1	6	500%
Ag. Undecided	3	3	0%
Animal Science	9	14	56%
Landscape Architecture	3	6	100%
Horticulture	0	2	0%
Range/Wildlife Management	1	3	200%
College Total	***18***	***41***	128%
Architecture			
Architecture	18	37	106%
College Total	***18***	***37***	106%
Arts and Sceinces			
Art	6	13	117%
Arts and Sciences Undecided	68	73	7%
Biology	27	28	4%
Chemistry	4	9	125%
Communication Studies	6	7	17%
Economics/Geography	1	8	700%
English	1	2	100%
Foreign Language	0	0	0%
General Studies	4	2	-50%
Geosciences	3	6	100%
History	1	9	800%
HPER	6	11	83%
Pre-Professional Health	107	119	11%
Pre-Law	10	19	90%
Mathematics	9	10	11%
Mass Communications	41	59	44%
Music	21	13	-38%
Philosophy	0	0	0%
Physics	4	2	-50%
Political Science	6	4	-33%
Psychology	22	38	73%
Anthropology	8	4	-50%
Theatre and Dance	5	5	0%
College Total	***360***	***441***	23%

Freshman Acceptances Cont.

Business			
Accounting	27	8	-70%
General Business	21	13	-38%
Business Undecided	53	198	274%
Finance	13	5	-62%
Management Information Systems	2	5	150%
Management	8	8	0%
Marketing	16	5	-69%
Petroleum Land Management	0	0	0%
College Total	***140***	***242***	73%
Education			
Multidisciplinary Studies	20	44	120%
College Total	***20***	***44***	120%
Engineering			
Civil Engineering	12	21	75%
Computer Science	24	38	58%
Chemical Engineering	9	15	67%
Electrical Engineering	10	21	110%
Engineering Physics	0	0	0%
Engineering Undecided	16	13	-19%
Industrial Engineering	1	4	300%
Mechanical Engineering	19	25	32%
Petroleum Engineering	3	3	0%
Engineering Technology	1	5	400%
College Total	***95***	***145***	53%
Human Sciences			
ENRHM	8	10	25%
Human Sciences Undecided	1	1	0%
Human Development/Family Studies	2	12	500%
MEDC	9	16	78%
College Total	***20***	***39***	95%
University Total	***671***	***989***	47%

Transfer Applications by College

	1999	2000	% Change
Agriculture			
Ag. Economics	0	0	0%
Ag. Education	0	0	0%
Ag. Undecided	0	0	0%
Animal Science	4	1	-75%
Landscape Architecture	0	0	0%
Horticulture	0	0	0%
Range/Wildlife Management	0	1	0%
College Total	***4***	***2***	-50%
Architecture			
Architecture	3	2	-33%
College Total	***3***	***2***	-33%
Arts and Sceinces			
Art	1	2	0%
Arts and Sciences Undecided	12	6	-50%
Biology	5	3	-40%
Chemistry	1	2	100%
Communication Studies	0	0	0%
Economics/Geography	0	1	0%
English	2	1	-50%
Foreign Language	1	2	0%
General Studies	1	0	100%
Geosciences	1	1	0%
History	1	3	0%
HPER	4	2	-50%
Pre-Professional Health	18	7	-61%
Pre-Law	0	3	0%
Mathematics	1	1	0%
Mass Communications	4	4	0%
Music	3	5	0%
Philosophy	0	0	0%
Physics	0	0	0%
Political Science	3	1	-67%
Psychology	3	2	-33%
Anthropology	2	1	-50%
Theatre and Dance	1	0	-100%
College Total	***64***	***47***	-27%

Transfer Application Cont.

Business			
Accounting	1	4	300%
General Business	3	3	0%
Business Undecided	5	14	180%
Finance	0	3	#DIV/0!
Management Information Systems	6	3	0%
Management	1	1	200%
Marketing	4	2	0%
Petroleum Land Management	2	0	0%
College Total	***22***	***30***	#REF!
Education			
Multidisciplinary Studies	4	7	#DIV/0!
College Total	***4***	***7***	#DIV/0!
Engineering			
Civil Engineering	1	0	#DIV/0!
Computer Science	6	3	200%
Chemical Engineering	1	1	-83%
Electrical Engineering	4	0	-100%
Engineering Physics	1	0	100%
Engineering Undecided	4	0	-100%
Industrial Engineering	1	0	0%
Mechanical Engineering	3	3	200%
Petroleum Engineering	2	0	-100%
Engineering Technology	2	0	-100%
College Total	***25***	***7***	#DIV/0!
Human Sciences			
ENRHM	1	1	#DIV/0!
Human Sciences Undecided	1	0	0%
Human Development/Family Studies	5	2	100%
MEDC	1	0	0%
College Total	***8***	***3***	#DIV/0!
University Total	***130***	***98***	#DIV/0!

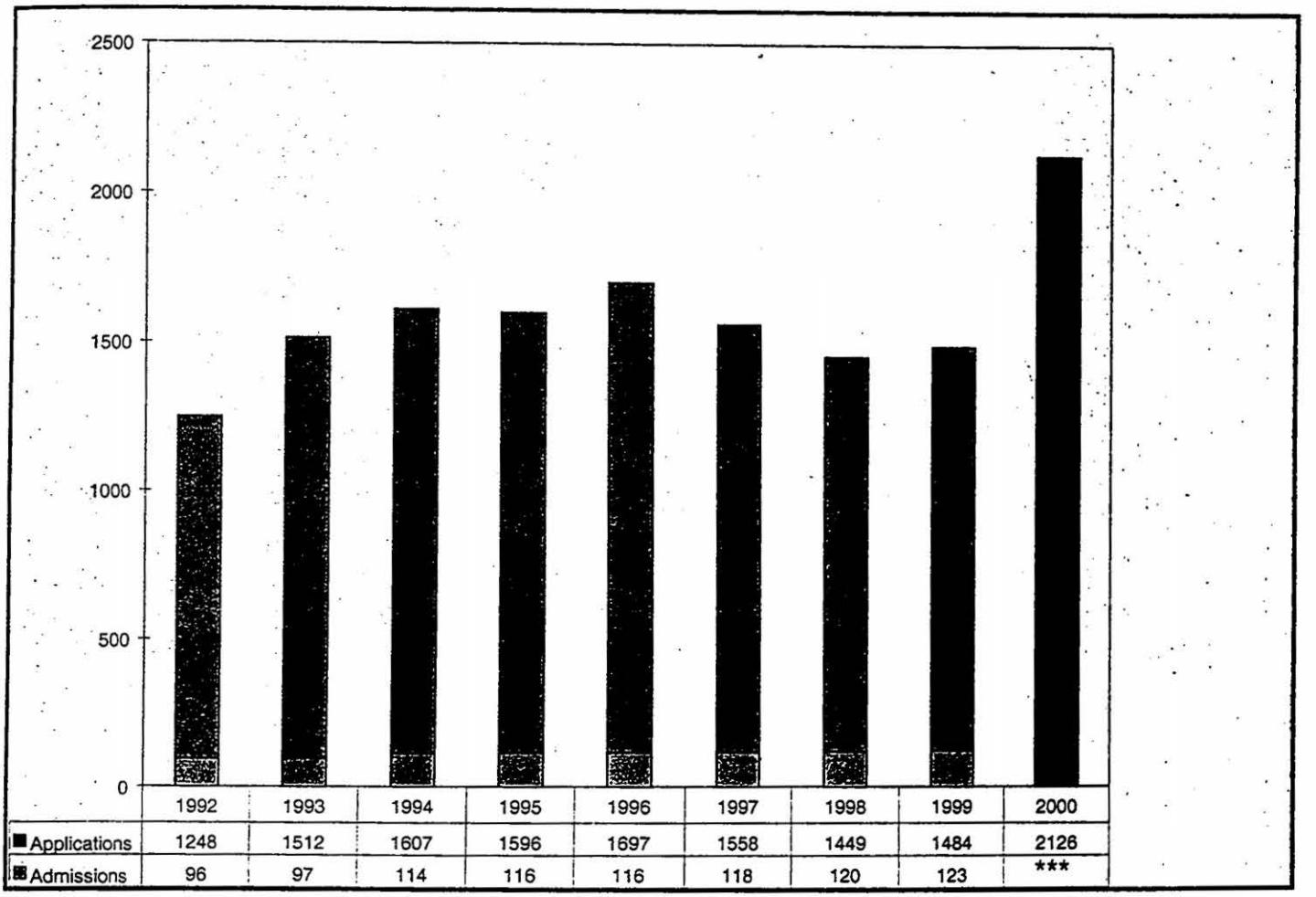
Transfer Acceptances by College

	1999	2000	% Change
Agriculture			
Ag. Economics	0	0	0%
Ag. Education	0	0	0%
Ag. Undecided	0	0	0%
Animal Science	0	0	0%
Landscape Architecture	0	0	0%
Horticulture	0	0	0%
Range/Wildlife Management	0	0	0%
College Total	***0***	***0***	0%
Architecture			
Architecture	0	0	0%
College Total	***0***	***0***	0%
Arts and Sceinces			
Art	0	0	0%
Arts and Sciences Undecided	1	3	200%
Biology	0	0	0%
Chemistry	1	2	100%
Communication Studies	0	0	0%
Economics/Geography	0	0	0%
English	0	0	0%
Foreign Language	0	0	0%
General Studies	0	0	0%
Geosciences	0	0	0%
History	0	1	0%
HPER	1	0	0%
Pre-Professional Health	0	2	0%
Pre-Law	0	0	0%
Mathematics	0	0	0%
Mass Communications	0	1	0%
Music	1	0	0%
Philosophy	0	0	0%
Physics	0	0	0%
Political Science	0	0	0%
Psychology	0	0	0%
Anthropology	0	0	0%
Theatre and Dance	0	0	0%
College Total	***4***	***9***	125%

Transfer Acceptances Cont.

Business			
Accounting	0	0	0%
General Business	0	1	0%
Business Undecided	1	3	200%
Finance	0	1	0%
Management Information Systems	0	1	0%
Management	0	0	0%
Marketing	0	0	0%
Petroleum Land Management	0	0	0%
College Total	***1***	***6***	#REF!
Education			
Multidisciplinary Studies	0	1	0%
College Total	***0***	***1***	0%
Engineering			
Civil Engineering	0	0	0%
Computer Science	0	0	0%
Chemical Engineering	0	0	0%
Electrical Engineering	1	0	100%
Engineering Physics	0	0	0%
Engineering Undecided	2	0	0%
Industrial Engineering	0	0	0%
Mechanical Engineering	0	0	0%
Petroleum Engineering	0	0	0%
Engineering Technology	0	0	0%
College Total	***3***	***0***	#DIV/0!
Human Sciences			
ENRHM	0	0	0%
Human Sciences Undecided	1	0	0%
Human Development/Family Studies	0	1	0%
MEDC	0	0	0%
College Total	***1***	***1***	0%
University Total	***9***	***17***	#DIV/0!

Texas Tech University
Health Sciences Center
Applications vs Admissions Statistics
School of Medicine

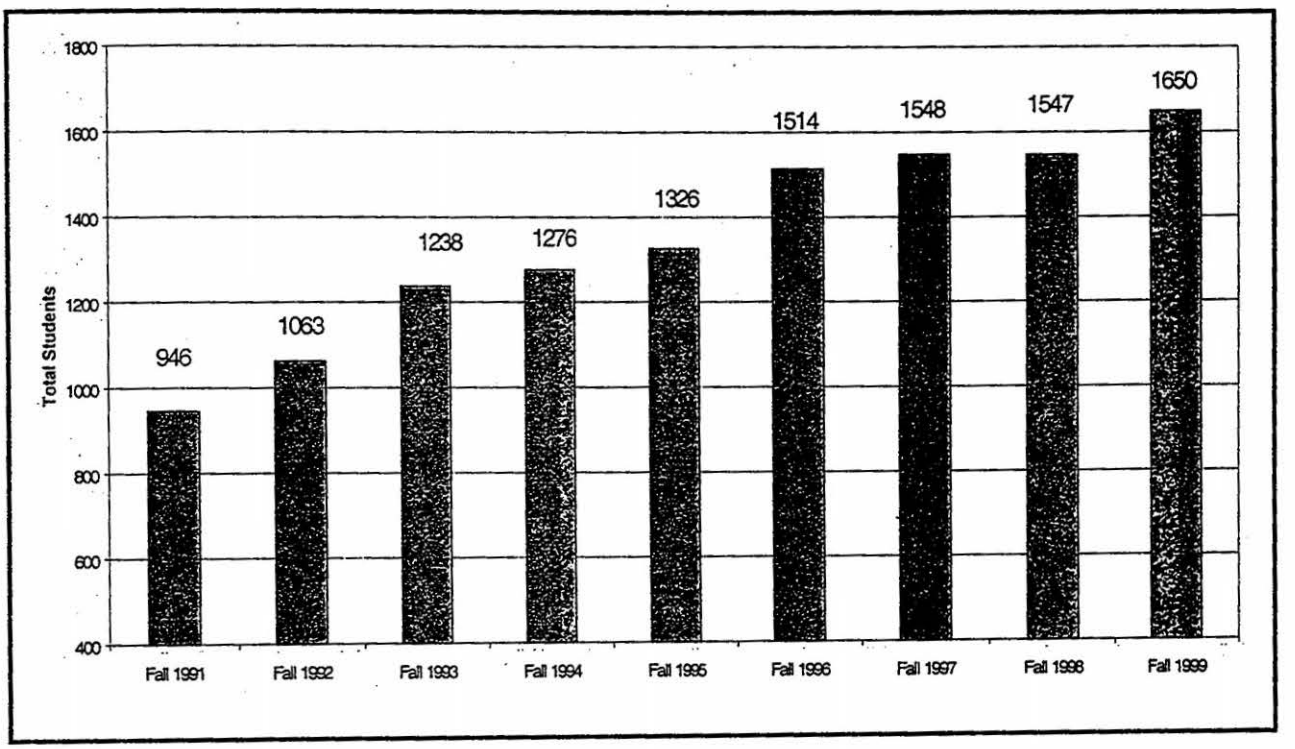


	1992	1993	1994	1995	1996	1997	1998	1999	2000
Applications	1248	1512	1607	1596	1697	1558	1449	1484	2126
Admissions	96	97	114	116	116	118	120	123	***

- Our goal is not to admit as many students as possible from the applicant pool, rather it is to accept the best possible candidates to fill the available slots
- Our growth is dependent upon changes in programs and not on the size of the applicant pool

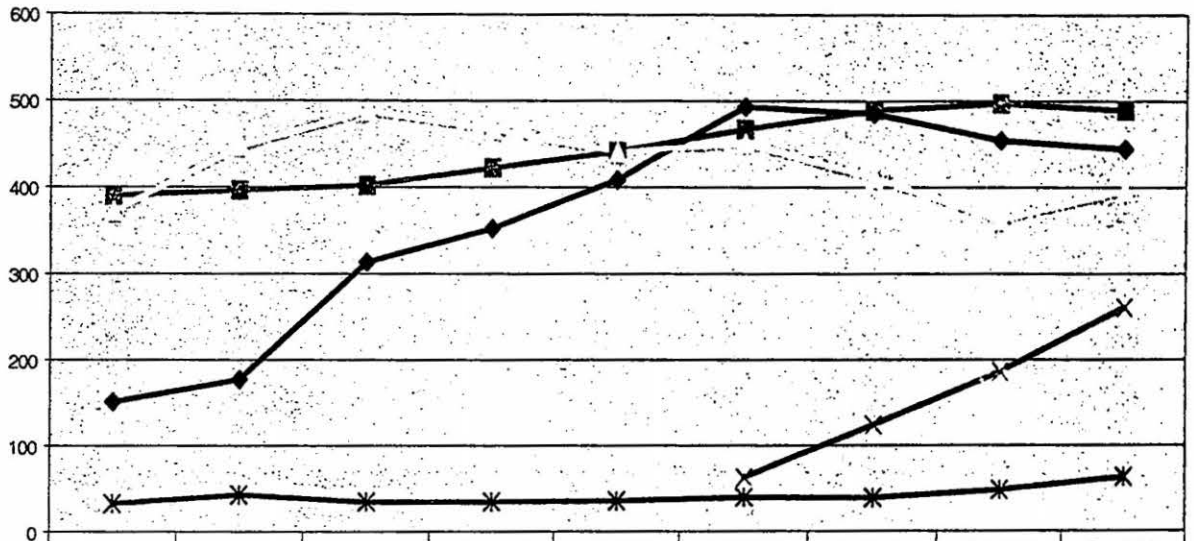
*** The sharp rise in applications over 1999, is attributable to our participation in the uniform application service, administered for Texas Medical Schools by the Texas Medical and Dental Schools Application Service. The School of Medicine has received 2126 applications as of December 7, 1999, for the Fall 2000, term. This application process will continue into the Spring Semester and the number will increase accordingly. Admissions will be processed beginning January 17, 2000, and will continue until the 120 spaces have been filled

Texas Tech University
Health Sciences Center
Enrollment Comparison



- Increase in 1993, resulted from Communication Disorders moving to the HSC from TTU
- The School of Medicine increased the entering class size from 100 to 120, in 1994
- The School of Pharmacy began enrolling students in Fall 1996
- In 1999, the School of Pharmacy enrolled fourth year students and will graduate their first class in May 2000
- Allied Health began a Physician Assistant Program in Midland Fall 1999

Texas Tech University
Health Sciences Center
Enrollment Comparison by School



	Fall 1991	Fall 1992	Fall 1993	Fall 1994	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999
School of Medicine	390	396	402	422	441	467	489	497	489
School of Allied Health	151	177	313	352	408	493	485	454	444
School of Nursing	372	447	488	467	441	451	411	362	396
School of Pharmacy						63	124	186	260
Grad School of Biomedical Sci.	33	43	35	35	36	40	39	48	63

ENROLLMENTS VARY by SCHOOL

- Allied Health
  - In 1994 began Occupational Therapy and Physical Therapy programs in Amarillo and Odessa
  - Recent decreases resulting from temporary softening job markets and increased supply of for-profit schools
  - Long-term outlook positive due to aging population and increased shift to cronic disease care
- Medicine
  - Stable enrollment
- Nursing
  - Enrollments vary depending on the ever changing landscape of the health care environment. Market demands and economics also play a role in enrollment levels
  - Declines due in-part to the reduction of clinical sites (Covenant merger), more opportunities for professional study in other areas and overall market demands
- Pharmacy

BULLETS
HSC President's Report to the Board of Regents

PatientFirst - Customer service and performance improvement program established for the purpose of providing a systematic, data-driven, organization-wide approach to continuously measure, evaluate and improve the quality of care and service to all TTUHSC customers including patients and families, referring physicians, students, communities, contracting agencies, payers, and TTUHSC faculty and staff. Current activities include:

- Establishing a program governance committee composed of key leaders with education for leaders provided by Vanderbilt University Academic Medical Center;
- Implementing a customer service training program entitled "Excellence in Action;"
- Initiating improvement projects focused on immediate needs (TeamChoice transition for UMC employees, relationships with referring physicians); and
- Implementing a new patient survey system across all campuses.

Texas Tech Medical Center Southwest

- Construction of the four operating room building at the Texas Tech Medical Center Southwest is on track and under budget.
- Medical Office Building includes OB/GYN, Pediatrics, Family Practice and Fast Track Clinics which are now open
- Averitt Building construction started November 15, 1999 and is expected to open in April 2000.
- New fast Track & Occupational Medicine clinic in the old ER is ready to bid and expected to open in April 2000.
- Eye laser center is now open.

Federal Appropriations

- With the help of Congressman Larry Combest, Congressman Henry Bonilla, and Senator Kay Bailey Hutchison, the HSC received a $2 million earmark in the FY 2000 Federal appropriations bill for aging research. This funding is included in the budget of the Federal Administration on Aging.
- In addition, $250,000 has been included for the HSC and UTEP to study health issues related to migrant workers.
- We are particularly happy with these appropriations because they are directed at two of our highest priorities – aging and border health

Carillon Research Grant – TTUHSC has been awarded $400,000 from Carillon Retirement Center to support research on aging.

Increased Residency Support - The Balanced Budget Refinement Act of 1999 changed the methodology for Medicare's payments to teaching hospitals. Specifically, formulas on per resident Medicare amounts were amended to provide equity and reflect the following:

Hospital	FY 2000	FY 2001
R.E. Thomason Hospital (El Paso, TX)	$29,020	$45,600
University Medical Center (Lubbock, TX)	$21,207	$45,600
Medical Center Hospital (Odessa, TX)	$36,572	$45,600
Northwest Texas (Amarillo, TX)	$45,069	$45,600

	FY 2001 Estimates
Scott & White (TAMUHSC – Temple, TX)	$116,000
Dallas County Hospital (UTSW – Dallas, TX)	$48,000
Zale Lipshy Hospital (UTSW – Dallas, TX)	$57,000

Creutzfeldt-Jakob Disease (CJD) - Autopsy results on 49 year old woman who died at UMC on November 24th will determine whether she suffered from Creutzfeldt-Jakob Disease (CJD), a rare degenerative brain disease. Although press reports have linked CJD to animal diseases such as Mad Cow Disease, no link has been documented between CJD and any similar disease in animals.

Early Acceptance – High School

- School of Medicine and TTU have finalized guidelines for qualification and application to the program.
- TTU is in the process of developing a brochure concerning the program to be sent to high schools and potential applicants. TTU recruiting office has been notified and will include information concerning the program as they visit schools throughout the state.
- Formal agreement creating the program as has been done with other early acceptance program remains to be done.

Nightline – Jim Lehrer Stories – In the past four months, HealthNet production staff, studios and uplink facilities have been used to produce live programs for the following nationally recognizable clients:

- Two programs for Ted Koppel's program "Nightline"
- One program for Jim Lehrer's program "The News Hour"
- A program for the Discovery Channel

Sick Building Syndrome – Dr. David Strauss and his research on sick building syndrome were featured in the USA Today Weekend Edition this past weekend.

Increase in Medical School Applicants - As of the November 1, 1999 deadline, applications to the medical school have totaled 2,126; approximately a 40% increase from the 1,484 applications received the previous year. Final applicant pool figures will soon be available. The increase is due, in part, to a new application process across the state.

Scholarships

Third Center of Excellence Grant

Formula Funding

Chancellor's Report
Board of Regents Meeting
December 10, 1999

Mr. Chairman and members of the Board, I would like to discuss several items. We have handouts regarding two of these.

I think Nancy Jones and her committee have done an exceptionally good job on the presidential search. It is still in its infancy, but I wanted to give you all of the all correspondence as well as the posting and advertising that has gone out in the *Chronicle of Higher Education* and other publications pertaining to that search.

The other thing is a credit card policy change as well as mobile phone policy with more "teeth" in it. We have so many of those things now that I became concerned about the issues like personal use. Jim Brunjes and Ben and others put together an administrative directive tightening up those procedures. We are distributing those for your information.

I hope that we can generate as much excitement and press in the presidential search as we have done with that of the head coach. There is not nearly as short a timeframe, but certainly it is one of the most important decisions that we will make for years to come.

Let us not forget some of the things Ed Whitacre has done for us. In October, we announced the $20 million lead gift from Southwestern Bell for the Jones Stadium renovation. I would appreciate it if you would drop him a note and thank him for his continuing support of Texas Tech. That was a huge lead gift for us. In fact, I think with the interest I have already seen with regard to the purchase of stadium boxes, we will put that one to bed pretty quickly in terms of having sufficient revenues for that phase of the project. I'm very excited about being able to get that fundraising brought to a conclusion in short order.

One observation I don't think we should forget. I think his company was very careful to give the scholarship endowments, the fellowships and all the academic money up front before they engaged in discussions about the stadium. As I said, they had the horse before the cart, and I particularly appreciated that. As you know, the Southwestern Bell contributions were significant donations in energizing 100 new graduate fellowships as well as multiple scholarship opportunities. So I think they are very well intentioned.

A lot of people are glad about the United Spirit Arena as a facility for basketball and volleyball and I am, too. It has invigorated the campus. But I'm even more excited that now we are going to have a decent place for graduation exercises. If you will recall, we had a packed house at the coliseum twice a day on commencement day, and I think the arena is a great facility for us. Remember it has more than an athletic function and stands for more than athletic competitions. It will bring families and graduates together

on our campus in a very good setting to send these graduates on their way to become productive and useful citizens.

Lastly, I wanted to commend you on one vote you made. I think if we are going to step up and become one of the top 100 research universities in the country, we are going to have to make some gutsy decisions. We are going to have to play with the big schools all across the country. This P-4 thing is not a small item. We, after multiple visits with the Defense Department, Admiral Zumwalt and other entities, made a decision academically that we wanted to be a player in the very necessary research for national security. I think that is a big step. I think the yield will be enormous. I hope we can keep that procedure and that addition on track. There will be controversy. There will be discussion, but when you think about it, most hospitals with illnesses and other bugs and germs, these things frequent the environment there. This structure is actually the safest place you can possibly handle controversial items. It will, in my opinion, leverage research more than any other single thing we have done for Texas Tech University and the Health Sciences Center in the quest to become a factor nationally in making a difference in national security. So, I particularly appreciate your initiative in letting us go forward with that study.

I'm having a good time. I'm losing my voice. As you can see, there are a whole lot of things going on at Texas Tech. There are so many it is hard to keep up with them, but I think we need to continue this focus. I particularly appreciate the Campus Caregivers. One thing I have learned is that kids do decide, I don't know what percentage of the decision it is, where they want to go to college based on the appearance of a campus. You probably wouldn't think very much, but I tend to second guess that now. I think if you have solid academic programs in place, a faculty that is visionary, and you couple that with a campus that is one of the more attractive campuses in the country, you are going to get the students if we can get them out there. I appreciate the work, not just because my spouse is on that committee, but these are volunteers, and I think they do a good job.

So, with that Mr, Chairman, if there are any questions, I would be glad to answer them. Otherwise, thank you for attending this meeting.

TEXAS TECH UNIVERSITY SYSTEM
Lubbock, Texas

FOR BOARD INFORMATION

TEXAS TECH UNIVERSITY

1. Summary of Revenues by Budget Category – Fiscal Year 1999
2. Travel Report for Quarter IV, 1999
3. Report of Award of Contracts to Minority-owned and Women-owned Businesses for the Cost of Issuance of Bonds and the Items to be Financed by Such Bonds

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

1. Summary of Revenues by Budget Category – Fiscal Year 1999
2. Travel Report for Quarter IV, 1999
3. School of Medicine Faculty Employment Contracts
4. Report of Award of Contracts to Minority-owned and Women-owned Businesses for the Cost of Issuance of Bonds and the Items to be Financed by Such Bonds
5. Contract renewed per *Board Policy 04.05.5*, August 1, 1999 to September 30, 1999
6. Energy Conservation II – Lighting Retrofit, HSC Building – El Paso
7. Exterior North Stair Renovation Phase I
8. Exterior North Stair Renovation Phase II

[The above referenced information items are on file in the Board of Regents office.]