

**The University of Tennessee
Board of Trustees**

Minutes of the Research, Outreach and Economic Development Committee

**June 20, 2012
Knoxville, Tennessee**

The Research, Outreach and Economic Development Committee of the Board of Trustees of the University of Tennessee met June 20, 2012, in Hollingsworth Auditorium of the Ellington Plant Sciences Building on the UT Institute of Agriculture Campus.

I. Call to Order

Mr. George Cates, Chair, called the meeting to order at 1:15 p.m. Mr. Cates asked Dr. David Millhorn, Executive Vice President, to call the roll.

II. Roll Call

Dr. Millhorn called the roll and the following voting members were present:

Mr. George Cates, Chair
Mr. Charles Anderson
Mr. Brian Ferguson
Ms. Teresa Fowler
Ms. Monice Moore Hagler
Mr. Don Stansberry
Ms. Betty Ann Tanner
Dr. Janet Wilbert

The following non-voting members were present:

Dr. Tim Cross
Dr. Joe DiPietro
Mr. Shalin Shah
Mr. Marty Spears
Dr. David Stern

Commissioner Kevin Huffman, Commissioner Julius Johnson, Dr. Richard Rhoda and Dr. Victoria Steinberg were absent from the meeting.

Dr. Millhorn declared a quorum present for the meeting.

III. Minutes of Last Meeting

A motion was made by Mr. Ferguson to approve the minutes of the February 28, 2012 meeting and Mr. Anderson seconded the motion. Minutes were approved as written.

IV. Opening Remarks by Committee Chair

Mr. Cates noted it has been a good year for UT. Dr. Millhorn, he said, will be bringing members up to date with a UT Research Foundation report; progress and updates of Oak Ridge National Laboratory are always of interest to members and a report will be given on this topic. Mr. Cates turned the meeting over to Dr. Millhorn.

V. News and Highlights

Dr. Millhorn noted exciting UT research activities had taken place over the last year and he gave a presentation of pertinent research news and highlights (Exhibit 1). Research funding trends and indicators were given for the UT System and for each of the UT campuses. Areas of research expenditure growth were noted and Dr. Millhorn commended UT faculty for this progress. Dr. Millhorn gave an update on the Tennessee Solar Institute, a program begun in 2009 with federal stimulus funds channeled through a state energy grant for the purpose of enhancing solar energy usage and technology across Tennessee. This successful project is now in its final completion stage, he said. An update was also provided on the West Tennessee Solar Farm and the educational facility to be constructed by TDOT and put in use in 2013. Dr. Millhorn discussed the National Science Foundation (NSF) Experimental Project to Stimulate Competitive Research (EPSCoR) program (known as TN SCORE within the state of Tennessee), funded to create an environment of research collaboration and infrastructure networking across Tennessee. Dr. Millhorn (EPSCoR Principal Investigator) noted Dr. Stacey Patterson (UT Assistant Vice President and Director of Research Partnerships) was instrumental in obtaining the NSF grant and in implementing the program.

Other topics highlighted in Dr. Millhorn's presentation were the Global Environment for Network Innovations (GENI) initiative at UT Chattanooga, associated with the

White House U.S. *Ignite* program, a national innovation ecosystem for developing and deploying public-sector applications and services on ultra-fast, software-defined networks to enhance the next generation of Internet (Dr. Harry McDonald, founder of the UTC SimCenter, is the Principal Investigator) and the Memphis Research Consortium (MRC), designed to strengthen relations between Memphis research institutions and to facilitate collaboration in research, education and institutional strategy. Dr. Millhorn also discussed TennEra, the company created to handle much of Genera Energy's former duties and which is managing UT's Biomass Innovation Park in Vonore. TennEra has become an incubator for developing and maturing public-private collaborations in the biomass industry.

Dr. Millhorn noted the contract for the first building at Cherokee Farm has been executed at \$36M and the contractor, Blaine Construction, will begin construction within the next few weeks on the Joint Institute for Advanced Materials (JIAM) building. EMJ Construction handled the initial phase of this project in building the infrastructure on the property and this phase will be completed in late 2012.

Dr. Millhorn concluded his presentation with highlights of the UT-Battelle successful 12-year partnership in management of Oak Ridge National Laboratory (ORNL), UT's Governor's Chair program, the development of ultra-scale scientific computing at UT-ORNL, and the Bredesen Center for Interdisciplinary Research and Graduate Education (CIRE).

When asked about the status of additional buildings on Cherokee Farm, Dr. Millhorn noted a full-time developer for the property is being sought; in addition, work with the Chamber of Commerce and other organizations is taking place to recruit businesses to be located on Cherokee Farm. Last week a research park developer from Illinois visited the area to give insight into the project and interest has been shown by businesses in the property. Advanced discussions are also underway with state offices to make private development of the property as user-friendly as possible. Media promotion of the property will increase as the JIAM building goes up.

VI. Annual Overview of Oak Ridge National Laboratory

Dr. Thom Mason, Director of Oak Ridge National Laboratory (ORNL), presented an overview of ORNL (Exhibit 2) noting ORNL is the Department of Energy's largest (among 17 national labs) multi-program science and energy laboratory, with a \$1.65B budget and 4,400 employees. ORNL's mission is to deliver scientific discoveries and technical breakthroughs to accelerate the development and deployment of solutions in

clean energy and global security and, in doing so, to create economic opportunity for the nation. Dr. Mason described the \$500M facility modernization improvements made since the UT-Battelle partnership began in 2000 and other aspects of ORNL's resources and growth. Dr. Mason discussed the importance of the four UT-ORNL Joint Institutes, including the new Joint Institute for Advanced Materials to be built at Cherokee Farm.

Dr. Mason presented information concerning development and application of the world's best tools for neutron scattering, discovering and demonstrating advanced materials for energy and leading the development of ultra-scale scientific computing. Dr. Mason discussed developing and leveraging university partnerships, delivering science-based solutions to solve global security challenges, working with industry to accelerate innovation, and enabling science and technology with 21st century research facilities. A discussion was held regarding ethanol and bioenergy breakthroughs, production and usages. Further discussion also focused on UT and ORNL efforts to enhance and facilitate the STEM program in attracting and preparing science and math teachers via legacy investments and partnering with the community in various initiatives. Dr. Mason outlined activity in the Bredesen Center for Interdisciplinary Research and Graduate Education (CIRE) program and expanded upon the operation format and budget for the program.

Dr. Mason discussed the ORNL FY12 operational focus to enhance functional support for research and development. The UT-Battelle contract with DOE, extended for five years in 2010 after an initial ten-year period, expires in March 2015, he said. It is possible an additional extension or compete decision will be made by DOE in 2013. There is increasing pressure to compete the national laboratory M&O contracts despite demonstration of strong performance, Dr. Mason noted.

Mr. Cates thanked Dr. Mason for his outstanding presentation.

VII. Governor's Chair/National Engineering Research Center

Dr. Millhorn introduced Dr. Yilu Liu, UT-ORNL Governor's Chair for Electrical Engineering and Computer Science, who made a presentation on the National Science Foundation (NSF) Engineering Research Center (ERC)(Exhibit 3). Dr. Liu described the NSF ERC Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks (CURENT) program and noted UT was one of four ERC centers awarded in 2011. UT was the lead university in the proposal partnering with Northeastern University, Rensselaer Polytechnic Institute, Tuskegee University, Tsinghua (China) University, the University of Waterloo (Canada) and the National Technical University of Athens

(Greece). The ERC award was the first time NSF/DOE joint funding was awarded to address power transmission systems. CURENT involves a consortium of academia, industry and national laboratories working to educate people on how industry operates and how research can be directed into a business-product entity to help solve problems related to energy dependence. Dr. Liu discussed the first-year activities of CURENT, its vision, partners (43 industry members along with the 6 proposal partners mentioned earlier), funding (approximately \$4M year for 10 years, some DOE and partner funding), education program pipeline and general operation. CURENT is partially now located in UTK's new Min Kao building.

Mr. Cates thanked Dr. Liu for her excellent presentation.

VIII. Annual Report of UT Research Foundation

Dr. Millhorn presented an overview of the UT Research Foundation (UTRF) enterprise and its activities for the previous year (Exhibit 4). Dr. Millhorn reviewed research funding peer-grouping slides comparing UT and its peers (public institutions with research programs bringing in \$150-500M per year) and noted UT is above average in total research, federal research and industry research categories, indicating UTRF has sufficient research taking place for a successful technology transfer operation. The IP comparisons, however, showed UT lower than its peers in its number of disclosures, patents filed, U.S.-issued patents and legal expenditures, owing, Dr. Millhorn projected, to the fewer number of licensed associates on staff at UTRF generating licensing activity. Dr. Millhorn discussed objectives to improve UTRF's performance as outlined one year ago and noted activities, new hires and partnerships taking place within UTRF that have accomplished or facilitated these objectives. Dr. Millhorn noted UTRF is seeing immediate movement in early indicators comparing invention disclosures, deals and startups from 2011 to 2012. He further noted this is a long process and sustained commitment will be required. When asked whose job it is to assess the technology in which UTRF should invest or pursue and the timeframes for these determinations, Dr. Millhorn noted UTRF staff, which includes technical experts in a variety of areas, and third-party experts in specific technology fields are used to determine IP investment decisions and noted unused technologies are turned back to the inventor as soon as possible.

IX. FY2013 UT Research Foundation Operating Budget

Dr. Millhorn invited Dr. Dick Gourley, Interim President of UTRF, to give a brief snapshot of UTRF's budget for the upcoming year. Dr. Gourley summarized the

proposed UTRF operating budget for FY13 (Exhibit 5). The total UTRF operating funding for FY13 is projected at \$3,591,757 and UTRF revenue at \$1,139,847, making a total projected budget of \$4,731,604, Dr. Gourley said. This amount includes a one-time \$1.3M funding for TennEra that is non-state dollars, giving UTRF an approximate 70 percent ownership of TennEra, he noted. The UT-UTRF 2012-2013 projected budget is \$2,291,757, which with UTRF-generated revenue of \$1,139,847 results in a total UTRF revenue projection of \$3,431,604. Dr. Gourley further elaborated on the thoughtful process involved in IP investment decisions.

Dr. Millhorn recognized Dr. Gourley's diligence in his new role over the past year as Interim President of UTRF and thanked him for his service to the University. A search for a new UTRF president will commence at some time during the coming year, Dr. Millhorn stated.


X. Other Business

There was no other business brought before the Committee.

XI. Adjournment

Mr. Cates thanked members for their participation in the meeting and adjourned the meeting at 3:20 p.m.

Respectfully submitted:


David E. Millhorn, Ph.D.
Executive Vice President