

# Session II

## Facility/Agency Status

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### **The USDOE and TRTR**

**Terry Lash, Office of Nuclear Energy, USDOE**

#### UNIVERSITY NUCLEAR SCIENCE AND REACTOR SUPPORT PROGRAM

President Clinton has challenged America to renew its schools for the next century. The U.S. Department of Energy is responding to this need to improve our students' skill in math and science - skills they will need to keep America competitive in the global marketplace. In keeping with its role as a leader among federal agencies in technology research and development, the Department of Energy promotes education in science and mathematics in a variety of ways, including encouraging and training new nuclear scientists and engineers who will be needed to design and operate nuclear facilities, conduct research in medicine, support national security missions, and participate in international nuclear programs.

To meet the commitment to help U.S. universities and colleges stay at the forefront of science education and research, the Department of Energy conducts the University Nuclear Science and Reactor Support program. This program assists universities in the operation of research reactors and in the performance of other educational activities. Direct support is provided to 47 educational institutions in 28 states. The program includes the following elements:

#### REACTOR FUEL ASSISTANCE

The Department provides fresh fuel to, and takes back spent fuel from, university research reactors. There are 32 university research reactors at 30 institutions in the United States. These reactors are one of our greatest resources in the effort to improve technical education, and are used for a variety of research, educational and training purposes. For example, these reactors are used for practical training in radiological sciences, as well as research in biology, geology, environmental remediation, pollution control, nuclear medicine, and for the training of nuclear power plant operators. The Department also funds the conversion of university reactors that use highly enriched uranium fuel to the use of low-enriched uranium, to help meet the Nation's nuclear nonproliferation goals. Eleven reactors have been converted from highly enriched uranium to low enriched uranium. Plans call for six additional conversions over the next seven to ten years.

#### DOE/INDUSTRY MATCHING GRANTS

The Department of Energy and participating companies provide matching funds, up to \$50,000 each, to universities for use in funding scholarships, improving nuclear engineering and science curricula, and modernizing experimental and instructional facilities. Currently, 15 universities receive support from 12 electric utilities and the Department.

#### NUCLEAR ENGINEERING/HEALTH PHYSICS FELLOWSHIPS

The Department provides tuition and stipends to outstanding graduate students studying nuclear engineering and health physics. Currently, 12 students participate in the program.

#### REACTOR SHARING

Through this assistance effort, the Department enables universities with reactors to "share" their reactors with students and faculty at other institutions who lack such a facility. The reactors are made available for use in experiments, training, and for facility tours and other educational activities. Twenty-eight universities participate in the program, which reaches tens of thousands of students each year at all educational levels.

#### SUPPORTING SCIENCE EDUCATION AT MINORITY INSTITUTIONS

The Department sponsors fellowships, cooperative education programs, and research support at minority institutions throughout the United States. As part of this effort, the Department sponsors the Dr. Ernest J. Wilkins Jr., Chair of Excellence professorship at Morgan State University. The professor will also instruct students at Bowie State University and Coppin State University.

FOR FISCAL YEAR 1998, THE DEPARTMENT HAS PROPOSED ADDING TWO NEW ELEMENTS TO THE PROGRAM:

#### REACTOR UPGRADES

The Department plans to provide assistance to universities to improve the operational and experimental capabilities of their research reactors. Grants would be provided to the universities to purchase equipment and services necessary to upgrade the reactor facilities, such as reactor instrumentation and controls, data recording devices, and radiation monitoring equipment.

#### NUCLEAR ENGINEERING RESEARCH GRANTS

As recommended by the FY 1997 House/Senate Appropriations Conference Committee, the Department plans to re-establish a competitive, peer-reviewed program to provide grants to fund research in nuclear engineering and related areas.

#### UNIVERSITY NUCLEAR SCIENCE AND REACTOR SUPPORT - UNIVERSITY PARTICIPANTS

Cornell University*
Georgia Institute of Technology
Howard University
Idaho State University*
Iowa State University
Jackson State University
Kansas State University*
Lincoln University
Manhattan College*
Massachusetts Institute of Technology*

Morgan State University
Morris College
North Carolina State University*
North Carolina A&T State University
North Carolina Central University
Ohio State University*
Oregon State University*
Pennsylvania State University*
Prairie View A&M University
Purdue University*
Read College*
Rensselaer Polytechnic Institute*
Rhode Island Nuclear Science Center*
Tennessee State University
Texas A&M University*
University of Arizona*
University of California-Berkeley
University of California-Irvine*
University of California-Los Angeles
University of Cincinnati
University of Florida*
University of Illinois*
University of Maryland*
University of Massachusetts-Lowell*
University of Michigan*
University of Missouri-Columbia*
University of Missouri-Rolla*
University of New Mexico*
University of Tennessee
University of Texas*
University of Utah*
University of Virginia*
University of Wisconsin*
Virginia State University
Washington State University*
Worcester Polytechnic Institute*
Xavier University of Louisiana
*Universities with reactors

UNIVERSITY NUCLEAR SCIENCE AND REACTOR SUPPORT - PARTICIPATING COMPANIES

- *American Electric Power*
- *Boston Edison*
- *Centerior Energy*

- *Commonwealth Edison*
- *Duke Power*
- *General Public Utilities*
- *Northeast Utilities*
- *Pacific Gas & Electric*
- *Pennsylvania Power & Light*
- *Southern California Edison*
- *Union Electric*
- *Yankee Atomic Electric*

## **The University of Missouri - Rolla Reactor Facility Status**

**David Freeman, University of Missouri - Rolla**

### *Abstract*

The UMR Reactor facility continues to operate safely and efficiently in a positive academic climate. Reactor utilization by on-campus students and area high school students remains high. Over the past year, 892 UMR students participated in classes at the reactor for a total of 2260 student-hours. We had 2901 visitors through the facility including 759 pre-college students that participated in the reactor sharing program.

Current enrollment in the Nuclear Engineering Department is down. Presently 30 undergraduate and 16 graduate students are enrolled in NE. In addition, 11 freshmen have indicated an NE preference. These numbers are down from previous years by about 25 students. In response, we are redoubling our efforts on recruiting. In particular we plan to start a high school teacher's program in radiation science at the reactor. It is no secret that the majority of information disseminated to the public school systems is negative with regard to nuclear. We hope to expose the teachers to positive aspects of nuclear sciences and to provide them with information that can be shared with their students. We plan to target teachers that have regularly participated in our reactor sharing program with the goal of generating some enthusiasm for nuclear sciences. Hopefully, this enthusiasm will be communicated with their students for years to come.

Facility upgrades continue. We have recently installed a new Log N and period drawer, an Eberline radiation area monitoring system, constant air monitor display and a new computer controller for the rabbit system. Additionally, we are near completion on the renovation of our basement experimental area which involves the setup of two spectrometers (NE-213 and time-of-flight) and a prompt gamma detector. We are building a locking high radiation cage around the beamport area to control the area while allowing students access to computers interfaced with the detectors.

We are in the process of finalizing a detailed "Strategic Plan" for the reactor facility that establishes strategic goals and specific action items necessary to accomplish those goals. The process of developing the strategic plan has been very fruitful. One of the action items is to annually assess how we stand with respect to our peers. As such, we would like to establish a forum with the TRTR community whereby we could exchange information on items such as enrollment, student and faculty usage of the facilities, external funding, student support provided by the facility, recruiting and retention data, etc.

Future plans include license renewal and increased recruiting efforts. Our licence expires in November, 1999. We are now starting preparations for the license renewal process. We hope to work closely with other facilities that are also undergoing license renewal. We plan to make recruiting a top priority this year. We have high hopes that our teacher's program will be a very productive long term recruiting tool.

## **Georgia Tech Research Reactor: An Early Shutdown and D & D Case**

**Nolan E. Hertel, Peter Newby, Georgia Tech and Francisco Trejo NES**

### *Abstract*

This presentation will describe an overview of the GTRR status from the '96 Olympic games to the current safe shutdown condition. The decision process followed by Georgia Tech and its early shutdown end result, along with the present decommissioning actions will be discussed.

A summary of steps taken within the GTRR structure and organization to facilitate its decommissioning will also be presented along with an expected schedule for the decommissioning process.

## **MURR Heading to 2001 and Beyond**

**Charlie McKibben, University of Missouri - Columbia**

### *Abstract*

The University of Missouri-Columbia (MU) is taking a new look at their Research Reactor (MURR). This is driven by a director search, planning for the relicensing in 2001, and a campus desiring to build on unique strengths to attract additional funding. The successes of radiopharmaceutical research and development such as Quadramet, Sm-153 EDTMP, has attracted the attention of the Medical School and Veterinary Medicine School as they identify unique strengths on which they want to build. The talk will also discuss MURR efforts to deal with funding concerns, reactor operations and maintenance issues, and how we are focusing on relicensing in 2001 and our mission in the 21<sup>st</sup> century.