



Educational Activities

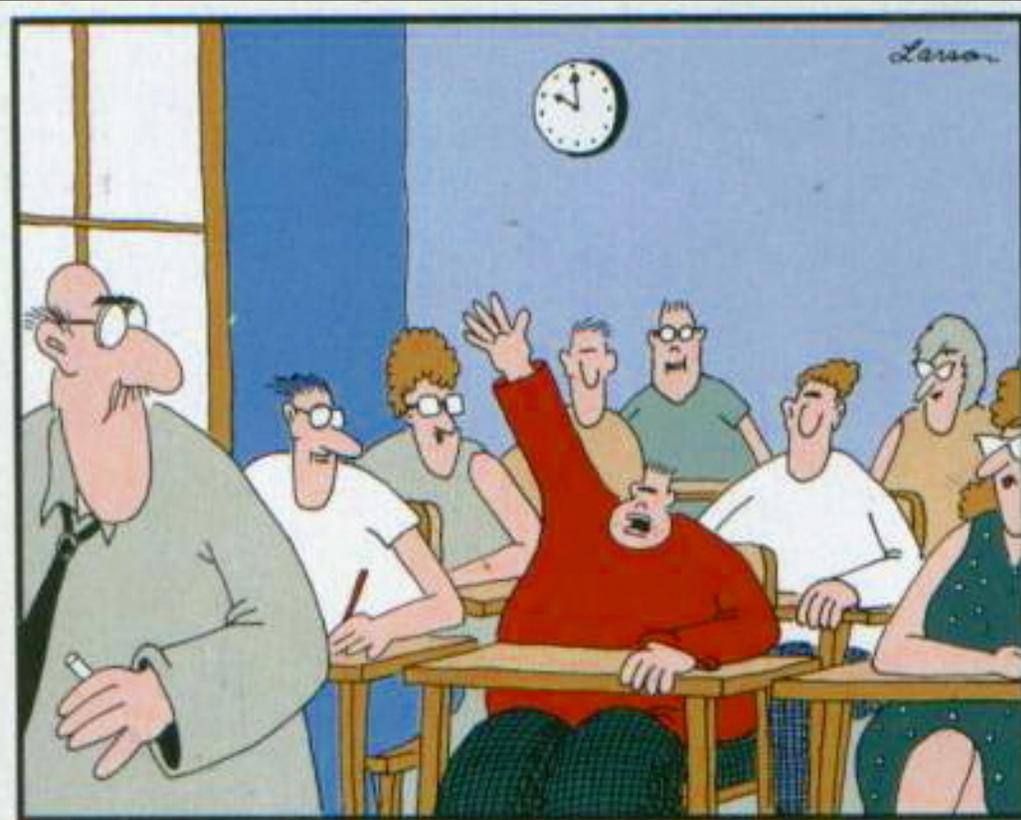
at the

Nuclear Engineering Teaching Laboratory

Tracy N. Tipping

The University of Texas at Austin

Do You Ever Feel This Way?



**"Mr. Osborne, may I be excused?
My brain is full."**

University of Texas Location

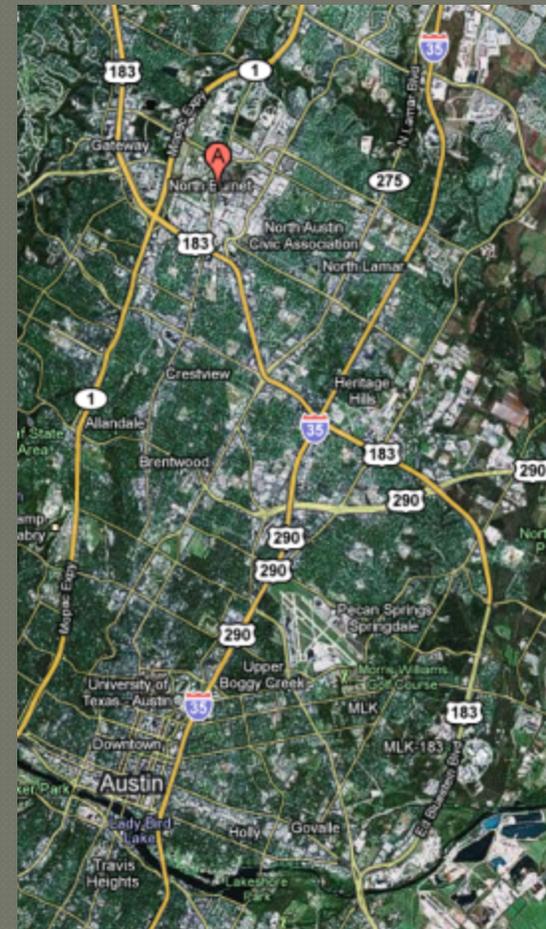


Downtown Austin Texas



UT-Austin
Main Campus

NETL Location



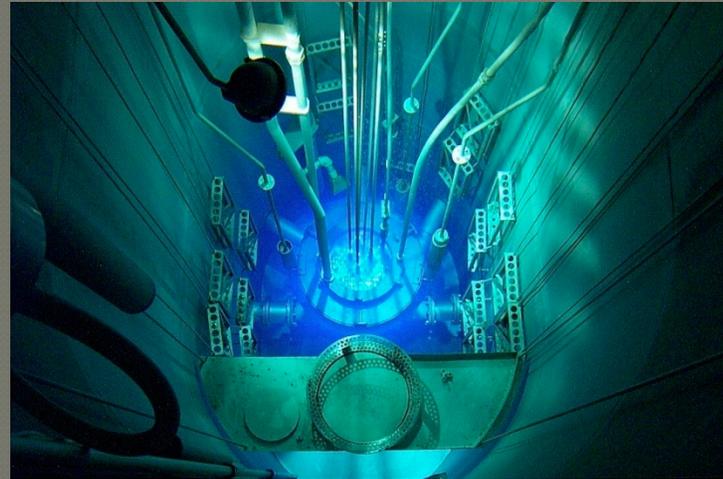
NETL Location



What Does NETL Have?

- TRIGA Mark II Research Reactor (1.1 MW)
- 14 MeV Neutron Generator
- Radiochemistry Lab
- Neutron Activation Analysis Lab
- Gamma Spectroscopy Lab
- Conference room, classroom, offices.
- Other stuff.

A Typical University
Research Facility



Why Do We Do Education?

- It's part of our Mission Statement
 - Educate the next generation of leaders in nuclear science and engineering.
 - Conduct leading research at the forefront of the international nuclear community.
 - Apply nuclear technology for solving multidisciplinary problems.
 - Provide service to the citizens of Texas, the U.S., and the international community.
- It's also part of our name
 - Nuclear Engineering **Teaching** Laboratory



How Do We Accomplish the Education Mission?

- ◉ Hands-on education in reactor physics and nuclear science.
- ◉ Laboratory course work in nuclear science and related fields such as physics, chemistry, and biology.
- ◉ Continuing education for nuclear professionals.
- ◉ Public education.



University Degree Programs

- ◉ The NETL is integrated in the Nuclear and Radiation Engineering program of the Mechanical Engineering Department at the University of Texas at Austin.
- ◉ This program has both undergraduate and graduate programs.



Courses That Use NETL

- *Undergraduate*

- ME 136N: Concepts in Nuclear and Radiological Engineering
- ME 337C: Introduction to Nuclear Power Systems
- ME337F: Nuclear Environmental Protection
- ME 361E: Nuclear Operations and Reactor Engineering
- ME 361F: Radiation and Radiation protection Laboratory

- *Graduate*

- ME 388C: Nuclear Power Engineering
- ME 388N: Design of Nuclear Systems I
- ME 389C: Nuclear Environmental Protection
- ME 390F: Nuclear Analysis Techniques
- ME 390G: Nuclear Engineering Laboratory
- ME390T: Nuclear- and Radiochemistry

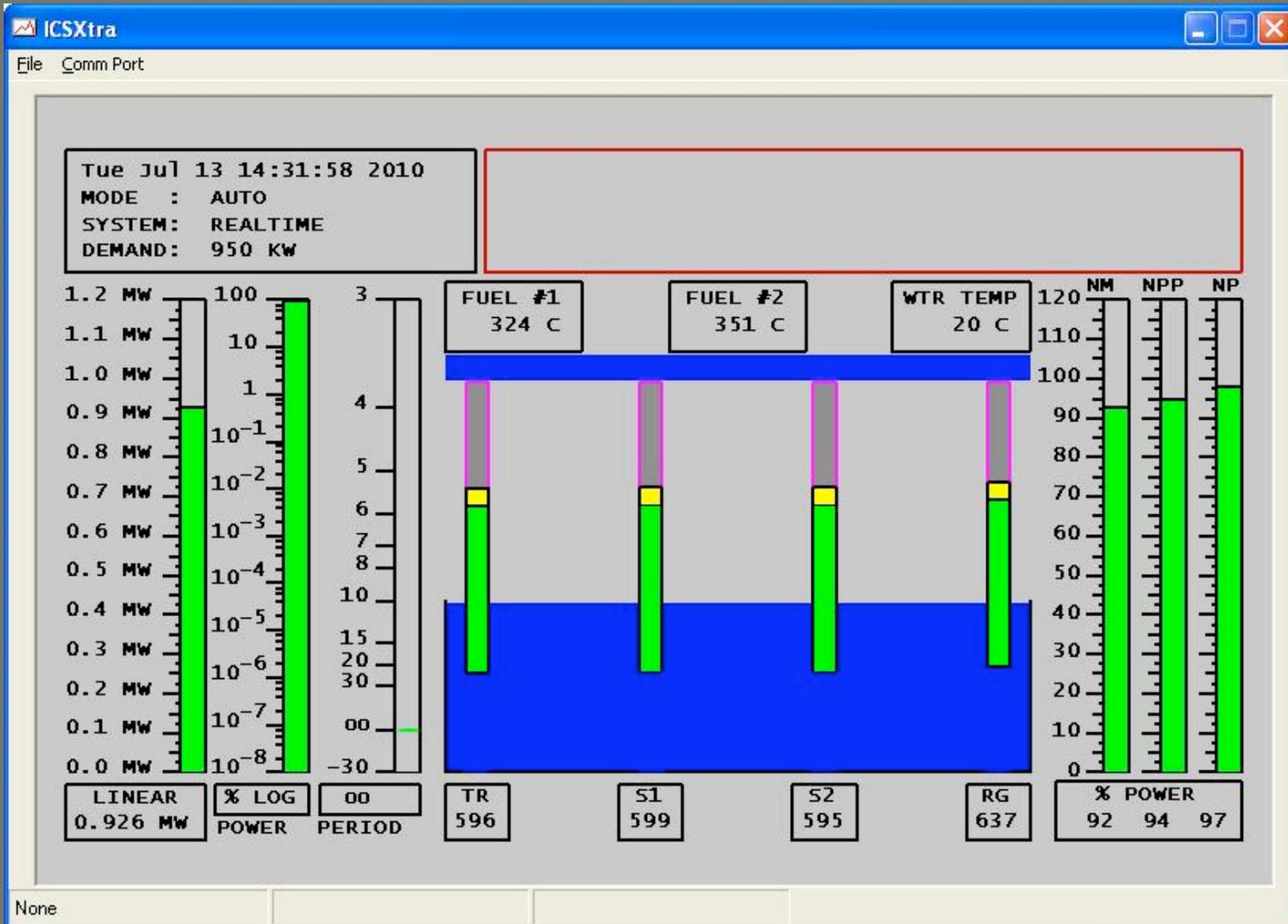
NETL Classes on Main Campus

- NETL is located about 10 miles north of the main campus of UT-Austin.
- How do you get students in a classroom on main campus to NETL?

“Remote Console” allows classes on main campus to participate in reactor experiments at NETL.



Remote Console Screen Shot



Summer Nuclear Engineering Institute



- One month institute for sophomores and juniors majoring in technical fields outside of nuclear engineering.
- Credit hours extended to participants.



Summer Nuclear Engineering Institute



- Students study fundamental nuclear engineering concepts, and gain hands-on experience at the reactor and other experimental facilities.



Professional Development

- ◉ Education program for Nuclear Regulatory Commission personnel.
- ◉ IAEA Fellowship programs.
 - Fellows and Visiting Scientists spend 3-6 months at the NETL.



Public Education

- NETL routinely provides short courses or tours for special interest groups such as the Boy Scouts of America, public schools, emergency responders, and other groups.



Conclusion

- A traditional university research facility can have a significant educational component.

