February 19, 2002

Mr. Timothy Daniel, Special Advisor
State of Missouri
Office of Homeland Security
Suite 760
P. O. Box 809
Jefferson City, MO 65102

SUBJECT: UNIVERSITY OF MISSOURI-COLUMBIA RESEARCH REACTOR

Dear Mr. Daniel:

This is in reply to your E-mails of January 2 and 7, 2002, which contained a citizen's concerns expressed to you about the University of Missouri-Columbia Research Reactor (MURR).

We appreciate the opportunity to discuss our nuclear safety requirements and programs. We consider information from the public an important part of our program.

Let me assure you that the provisions that protect the facility and fuel at the facility provide an acceptable level of protection. Research and test reactor licensees have safely maintained fuel at their facilities for many years. However, the NRC is continuing to evaluate safeguards and security requirements considering potential terrorist attacks against radioactive material, including fuel at research reactors such as MURR. We have specifically inspected MURR and found that they have acceptable programs to protect the fuel and facility. The provisions provide a defense in depth approach that has many layers of protection. All the provisions are not obvious from the outside nor from the inside of the facility. We cannot discuss the specific provisions with you, but the following is a brief general discussion of security requirements for such facilities.

Security requirements are based on a graded approach with increasing requirements for material that is more attractive for theft or diversion (i.e., high enriched uranium fuel) and for facilities that have a greater risk of radiological releases due to sabotage (i.e., 2 megawatts thermal power level or greater). NRC-licensed research and test reactors maintain fuel in controlled areas. The licensees regularly inventory the fuel. Other requirements include screening of personnel, lock and key controls, communications systems, and vehicle and package searches. Alarms or other devices to detect unauthorized presence and response procedures are also required. The NRC has a routine inspection program to determine if the requirements are met.

After the September 11 attacks, the NRC sent several advisories to licensees, including research and test reactor sites and those licensed to transport research and test reactor fuel. Licensees have reviewed these advisories and implemented additional provisions applicable to their facility. Further, the NRC is evaluating safeguards and security requirements considering potential terrorist attacks for all classes of licensees. Although the safety programs at these

facilities have proven adequate in the past, we continue to evaluate the programs, and address potential concerns.

Reference is made in the E-mail to you of several design features of power reactors; the ability to store a large amount of spent fuel and the use of zirconium-clad fuel. Neither of these design features is found at the research reactor in Columbia. The MURR does not have a cooling pond or spent fuel pool. The facility has limited ability to store spent fuel. MURR regularly returns spent fuel to the Department of Energy. The fuel used in the MURR is aluminum clad and contains no zirconium, thus, the fuel is not subject to a zirconium fire.

I hope that this addresses the concerns of Mr. Star. You may want to consider contacting the University of Missouri to learn more about the reactor and its safety features. The Director of the facility is Mr. Ralph Butler. Mr. Butler's phone number is 573-882-5271. If you have any additional questions, please contact Alexander Adams at 301-415-1127.

Sincerely,

/RA/

William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No.: 50-186

cc:

University of Missouri
Associate Director
Research Reactor Facility
Columbia, MO 65201

A-95 Coordinator
Division of Planning
Office of Administration
P.O. Box 809, State Capitol Building
Jefferson City, MO 65102

Mr. Ron Kucera, Director
Intergovernmental Cooperation
and Special Projects
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

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cc: Please see next page

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