Nuclear Reactor Teaching Laboratory Upgrades for the Colorado School of Mines

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Program: Minor Reactor Infrastructure

ABSTRACT:

The proposed minor reactor upgrade will enhance the quality of the Reactor Laboratory course taught by the Colorado School Mines (CSM) at the U.S. Geological Survey TRIGA Reactor (GSTR). The class is part of the core curriculum for all of the Nuclear Engineering degrees offered at CSM. Currently, class participation is significantly limited by the layout of the control room, which only allows, at most, three to four students to directly view the reactor console. The proposed project will reconfigure the control room to allow better student access to the reactor console, and provide a two-way audio/video link between the reactor control room, the course classroom, and the counting room. Console displays from the control room and counting room will be mirrored to the classroom, allowing students not physically in either room a full view of the activities in each of these locations. The proposed upgrades will increase the maximum class size for the reactor laboratory course and will improve the educational experience for all of the students pursuing Nuclear Engineering degrees at CSM.

CSM is a public institution of the State of Colorado with statutory missions in “resources, materials, energy, and the environment”. The CSM Board of Trustees approved the creation of a new Nuclear Science and Engineering Program at CSM in May of 2007, establishing the only Nuclear Engineering degree program in the State of Colorado. The GSTR is a 1 MW TRIGA reactor owned and operated by the US Geological Survey at the Denver Federal Center in Lakewood, CO (<8 miles from campus) and is available to CSM for research and education activities under a long-term Facility Use and Technical Assistance Agreement. As the only operating nuclear reactor in the state of Colorado, the GSTR is a key part of CSM's new Nuclear Science and Engineering education and research program.

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