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**Nuclear Scientific User Facility Irradiation Capabilities at the Idaho National
Laboratory**

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ABSTRACT

The Nuclear Scientific User Facility (NSUF) is the U.S. Department of Energy's only designated nuclear energy user facility. NSUF includes the Idaho National Laboratory and twenty partner institutions. External research teams are allowed access, through a peer reviewed process, to numerous reactor, gamma-irradiation, and post-irradiation examination (PIE) facilities. The NSUF allows access at Idaho National Laboratory (INL) to the Advanced Test Reactor (ATR), the ATR Critical Facility (ATRC), Transient Reactor Test Facility (TREAT), and Neutron Radiography Reactor (NRAD), as well as numerous PIE facilities. The irradiation capabilities at INL will be presented as well as additional capabilities that are under development. Of particular interest, the ATR Non-Destructive Exam System (ANDES) under development to support in-canal PIE capabilities will be discussed. The system will have the capabilities to perform gamma measurements, both spectrally and spatially, 3-D laser scanning, video recording, and transmission/emission gamma tomography.