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**Continuing LEU Conversion Activities
at the High Flux Isotope Reactor**

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ABSTRACT

ORNL has collaborated with the US reactor conversion program since 2005 to convert HFIR to LEU fuel. During 2017, a UMo monolithic LEU fuel design optimization study was performed using state-of-the-art neutronics codes and models and a legacy thermal-hydraulics code tailored for LEU fuel safety analysis to evaluate key performance metrics and thermal safety margins pre- and post-conversion to ensure that HFIR's world-class performance will be preserved for neutron scattering, isotope production, and materials irradiation. A state-of-the-art multi-physics model was completed to further ensure that adequate safety margins can be maintained. A short-term feasibility study of converting HFIR with a U₃Si₂ LEU dispersion fuel in a longer fuel zone was recently completed. ORNL continued to coordinate with the reactor conversion program in fuel testing, qualification, and fabrication to ensure that a converted HFIR is safe, reliable, cost-effective, and meets regulatory requirements. Plans for 2018 and beyond will be discussed and key issues will be highlighted.