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**USHPRR Fuel Fabrication Pillar
Fabrication Status, Process Optimizations & Future Plans**

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ABSTRACT

The Fuel Fabrication (FF) Pillar, a project within U.S. High Performance Research Reactor Conversion program of the office of NNSA's Material Management and Minimization (M3), is tasked with the scale-up and commercialization of the high-density monolithic U-10Mo fuel for the conversion of appropriate research reactors. The FF Pillar has made significant fabrication demonstration progress in the form of the delivery of the MP-1 Medium Power and Low Power (LEU) irradiation experiment specimens. This was a successful demonstration of the Foil Fabrication Demonstration Line established at BWXT. Recent casting optimizations have been investigated and a process design has been selected for upcoming experiments, fabrication demonstrations, and long term production. Characterization from MP-1, and other optimization studies, along with continued process modeling, has led to significant process improvements including developing methods for assessing process qualification to demonstrate and optimize the baseline co-rolling process using commercial-scale equipment.