

**2017 Mo-99 TOPICAL MEETING ON
MOLYBDENUM-99 PRODUCTION TECHNOLOGY DEVELOPMENT**

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**Los Alamos National Laboratory Support for Domestic Mo-99
Production**

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ABSTRACT

Los Alamos National Laboratory (LANL) is supporting the commercial U.S. production of ^{99}Mo as part of the National Nuclear Security Administration (NNSA) office of Materials Minimization and Management (M^3) program to accelerate the establishment of a reliable domestic supply of ^{99}Mo without the use of highly enriched uranium (HEU). In partnership with several other national laboratories, we continue to provide engineering design and support to NorthStar Medical Radioisotopes and SHINE Medical Technologies for domestic ^{99}Mo production. The NorthStar technology uses an electron beam from an electron accelerator incident on enriched ^{100}Mo targets to produce ^{99}Mo through the (γ, n) photonuclear reaction. The SHINE technology uses a subcritical accelerator-driven low enriched uranium solution to produce fission product ^{99}Mo . This presentation will give an overview of the two technologies, our support activities for the two activities in FY17, and recent experimental results.