

**Mo-99 2016 TOPICAL MEETING ON
MOLYBDENUM-99 TECHNOLOGICAL DEVELOPMENT**

SEPTEMBER 11-14, 2016

**THE RITZ-CARLTON
ST. LOUIS, MISSOURI**

**Recent Activities at Los Alamos National Laboratory
Supporting Domestic Production of Mo-99**

Gregory E. Dale, Scott A. Baily, Kip A. Bishofberger, Cynthia E. Buechler, Lisa M. Colletti, Dale A. Dalmas, David Dogruel, Katherine Garduno, William K. Hollis, Michael A. Holloway, Charles T. Kelsey IV, Robert H. Kimpland, Steven K. Klein, Elmer J.W. Lujan, Ava K. Mauser, Iain May, Michael Mocko, Angela C. Naranjo, Arthur Nobile, Brett S. Okhuysen, Eric R. Olivas, Eric B. Rauch, Heidi Reichert, Sean D. Reilly, Frank P. Romero, E. John Rowley, Rene G. Sanchez, Craig M. Taylor, Robert M. Wheat, and Keith A. Woloshun

Los Alamos National Laboratory, P.O. Box 1663, Mail Stop H851, Los Alamos, NM 87545

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. 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 FY16, and recent experimental results.