

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

**SEPTEMBER 10-13, 2017
MONTREAL MARRIOTT CHATEAU CHAMPLAIN
MONTREAL, QC CANADA**

**Reactor-Based Mo-99 Supply Using Selective Gas Extraction: Update
2017 Mo-99 Topical Meeting**

Kathy Murray
General Atomics
3550 General Atomics Ct, San Diego, CA 92129- USA

ABSTRACT

The first domestic supply of fission-based Mo-99 utilizing SGE is ever closer to reality. Significant milestones have been accomplished by the GA, MURR® and Nordion team this past year. The NRC docketed a license amendment application submitted by MURR® in May 2017 for the target irradiation system. Work is continuing at MURR® on a second license amendment application for the Selective Gaseous Extraction (SGE) process. Full-scale target assembly testing is underway at GA, as well as high yield, full-scale Mo-99 extraction experiments using SGE technology with doped pellets. Experiments continue at MURR with irradiated targets to optimize extraction parameters and verify extraction efficiency. Irradiation of test capsules, and post-irradiation examination are taking place at Canadian Nuclear Laboratories (CNL). A full scale target rod manufacturing line has been developed and is undergoing commissioning. The design of hot cells for SGE processing is complete and long lead items have been ordered. Mockup hot cells have been built at Nordion to demonstrate operation and handling of the SGE equipment and fixturing. Nordion has fully licensed Mo-99 transportation containers on hand, and the starting material transportation containers are licensed and with DOT for approval. An LEU lease agreement was signed and kilogram quantities were delivered in January 2017 for fabrication of target rods. Current project schedule is 2019 for routine supply.