

**2018 Mo-99 TOPICAL MEETING ON  
MOLYBDENUM-99 PRODUCTION TECHNOLOGY DEVELOPMENT**

SEPTEMBER 23-26, 2018  
HILTON KNOXVILLE HOTEL  
KNOXVILLE, TN

**ANSTO Synroc Wasteforms and processing technology  
for the immobilization of Mo-99 production wastes**

Rohan Holmes, Daniel J. Gregg, Eric R. Vance and Gerry Triani  
ANSTO Synroc  
ANSTO, Locked Bag 2001, Kirrawee DC, NSW 2232, Australia

**ABSTRACT**

ANSTO Synroc is collaborating with NECSA (Nuclear Energy Corporation of South Africa) to develop wasteform and processing solutions for the treatment of waste from the production of Mo-99. A range of treatment technologies have been investigated and measured against established performance metrics leading to a down-selection process. The down-selected technologies will be discussed as well as the latest from the NNSA sponsored project as it moves toward waste treatment costings.

ANSTO itself is currently building a first of a kind Synroc Waste treatment Facility (SyMo) to treat its Mo-99 production waste. Construction of this facility commenced in 2018. In the plant design the liquid waste will be mixed with tailored precursor additives before processing through powder production and canister filling systems. The metal canisters will be hot isostatically pressed providing a terminated wasteform solution suitable for final disposal. This paper will discuss the latest developments on the SyMo Waste Treatment facility.