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# Reactor Based Mo-99 Supply System Project: F-339X Plans

Washington, D.C., Oct 25, 2016

NON PROPRIETARY PART 1

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# Agenda

- Project Update (Non proprietary)
- Determination of Radioactive Contents and Dose Rates (Proprietary)
- Structural performance (Proprietary)
- Thermal performance (Proprietary)
- Containment analyses and pre-shipment leak testing (Proprietary)
- Other Considerations (Proprietary)
- Summary and Actions (Proprietary)

# Mo-99 Production by Selective Gas Extraction (SGE)

## Leveraging World-Class Capabilities and Existing Nuclear Infrastructure





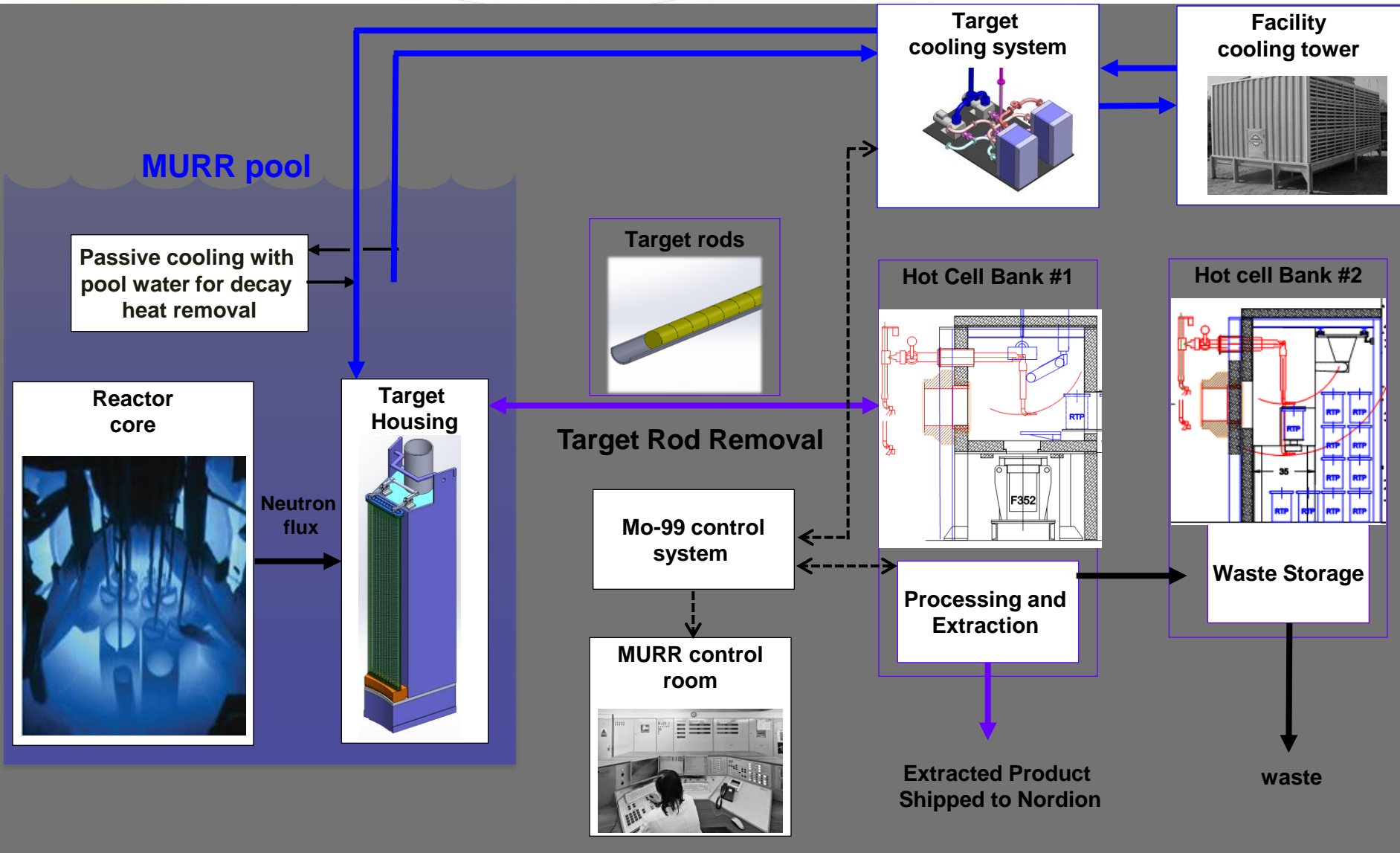
## NNSA Awards Mo-99 Cooperative Agreement to General Atomics

September 30, 2015

WASHINGTON, DC – Today, the Department of Energy's National Nuclear Security Administration (DOE/NNSA) announced that it will award a cooperative agreement to General Atomics (GA) to support its project for domestic production of molybdenum-99 (Mo-99) without highly enriched uranium (HEU).

Mo-99 is the parent isotope of technetium-99m, which is the most widely used radioisotope in medical diagnostic imaging and is used in approximately 80 percent of nuclear diagnostic imaging procedures in the United States, equating to about 50,000 medical procedures every day. The United States currently does not have a domestic production capability for Mo-99 and must import its supply from foreign producers. Under the American Medical Isotopes Production Act of 2012, and through its long-standing nonproliferation mission, NNSA is working to support the establishment of reliable supplies of Mo-99 while minimizing the use of HEU in civilian applications. This project with General Atomics meets both of these important goals.

# Process Overview



# Project Update

- USNRC meeting of June 25, 2016
  - Project Introduction
  - Cask Certification Plans for 3 Packages
  - Pre-submission meeting
- Overall project is in detailed design phase
  - LAR for the installation at MURR in progress
  - Procurement of long lead time items underway
  - Transport package licensing activities underway
- Today's focus is the F-339X package
  - New design based on the existing F339