

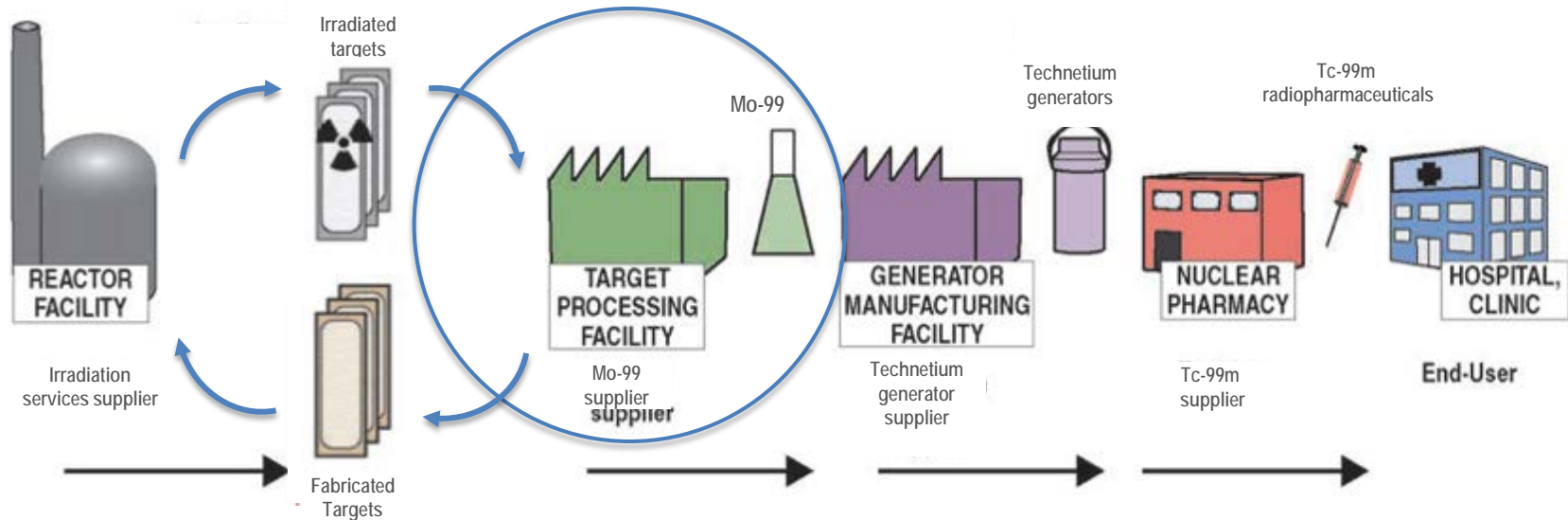
# Northwest Medical Isotopes, LLC Overview



## Opportunities and Approaches for Supplying Molybdenum-99 and Associated Medical Isotopes to Global Markets

June 2017

# NWMI Business Model



➤ Captive Network of University Research Reactors

- Reliability/assurance of supply
- Multiple shipments/week

➤ Radioisotope Production Facility (RPF)

- Fabrication of LEU targets
- Mo-99 production
- Uranium recycle and recovery

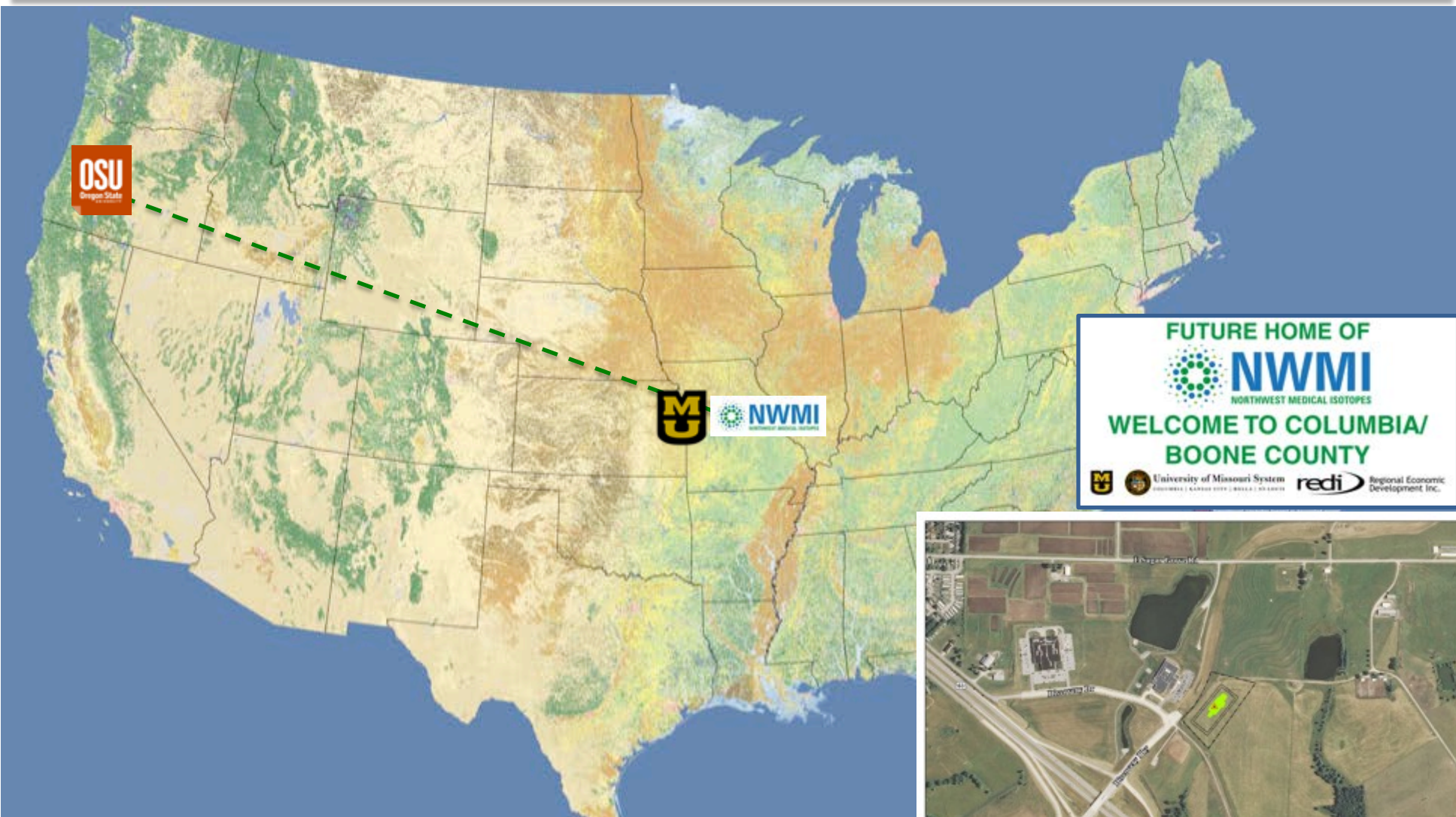
➤ Domestic Mo-99 Generator Distributors

- Hold FDA Drug Master File
- No changes to generators
- No changes to supply chain



*Technetium Generator Suppliers*

# University Reactor Network and RPF Location



*Third reactor selection complete; not yet socialized*

# Facility Siting – Discovery Ridge Research Park

- University system-owned 550-acre research park
- NWMI “anchor” for radioisotope ecosystem; two existing companies
- RPF would be located in Lot 15 of the Discover Ridge Phase II section (54.9 acres)
- Lot 15 is 7.4 acres and contains no existing structures

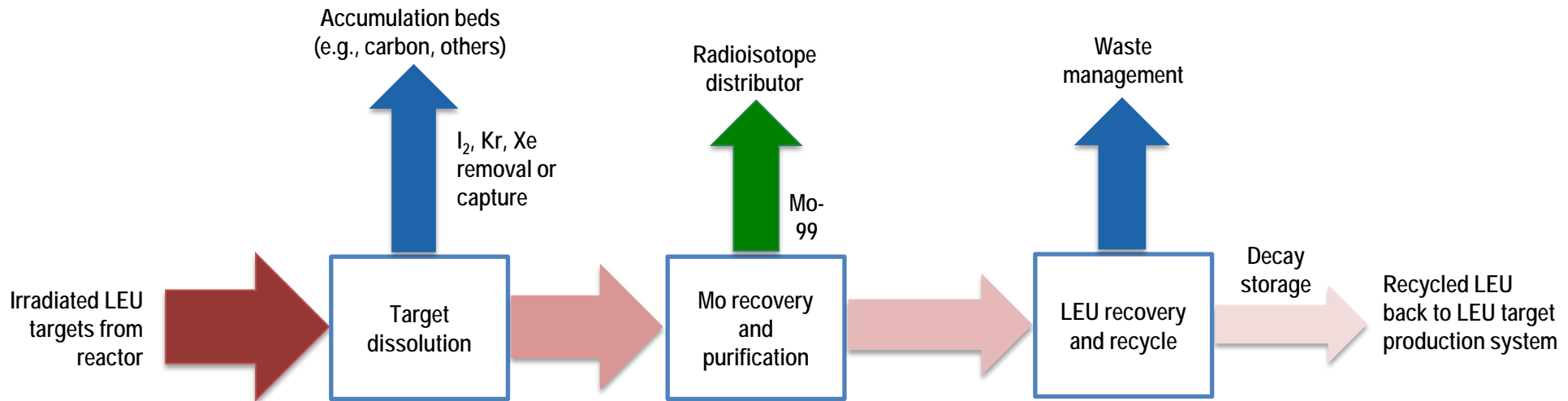


*Facility Site Layout – Lot 15*

Source: MU, 2011, “Phasing Overview,” Maps and Roads, Research Parks & Incubators, Discovery Ridge, [www.umsystem.edu/umrpi/discoveryridge/maps](http://www.umsystem.edu/umrpi/discoveryridge/maps), University of Missouri, Columbia, Missouri, accessed July 2013.

# Primary Assumptions

- Single radioisotope production facility (RPF)
  - RPF includes target fabrication, Mo-99 production, and uranium recycle & recovery
    - Simple/straightforward chemistry processes
  - Mo-99 produced using a fission-based method – “Gold Standard” using LEU
  - Nominal capacity 3,500 6-day Ci; surge capacity of 1,500 6-day Ci
- Use network of university reactors
  - Use same target design for all reactors
  - Intellectual Property obtained
    - U.S., Australia, Russia, South Africa, Korea → Allowed
    - India, Europe, China → Pending



# Project Status

- Extensive testing (cold and hot chemistry) complete; optimization continues
- Continuing additional full-scale commercial generator testing in-progress
- NRC Construction Permit (CP) Application submitted
  - Final Environmental Impact Statement (EIS) published by NRC → May 2017
  - Full Advisory Committee on Reactor Safeguards (ACRS) → May 2017
  - ACRS subcommittee meetings in June/July → ACRS Recommendation end of September
  - CP Approval expected in early 4<sup>th</sup> Q 2017
- RPF preliminary design completed; Initiated final design and NRC Operating License Application
- Preconstruction activities initiated

