

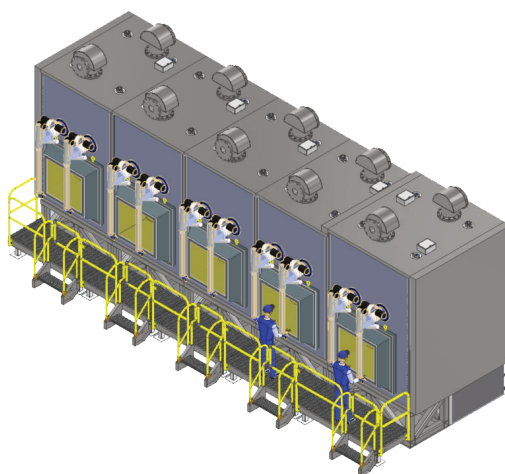
Radioisotope Processing Facility



Oak Ridge National Laboratory (ORNL) has a legacy in isotope production and innovation. The lab produces, purifies and ships more isotopes than any other place in the world—more than 300 isotopes for medical, industrial, research and national security.

ORNL is building the Radioisotope Processing Facility (RPF) to address the growing demand for radioisotopes. The number of radioisotopes considered for long-term production by the Department of Energy's Isotope Program has nearly doubled in three years. Yet ORNL and US isotope production infrastructure is already at full capacity, unable to meet the isotope needs of research institutions and government agencies. The limitations on aging facilities complicate the issue.

To address this, DOE Office of Science has approved the mission need for the RPF to be built at ORNL. A new Hazard Category 2 nuclear facility will deploy modular hot cells. The modular design can be configured to meet isotope processing needs of today and the future. The RPF facility is planned to be fully operational by 2032.



By building the RPF at ORNL, the nation will further utilize the High Flux Isotope Reactor (HFIR) capabilities along with ORNL's extensive radioisotope expertise and existing radioisotope transportation infrastructure to meet the increasing need for radioisotopes.



Mission Need isotopes planned to be processed at RPF

Iridium-192

Gadolinium-153

Thorium-229

Strontium-90

Actinium-227

Promethium-147

Lutetium-177 (cGMP)

Carbon-14

Phosphorus-33

Specifications



32 modular hot cells in 8 separate processing bays with dedicated laboratory spaces



48 gloveboxes and 16 fume hoods



Current Good Manufacturing Practice (cGMP) capable



On-site manipulator staging



Crane for moving transportation casks



Dedicated bay for full-length HFIR target rod transloading and processing



Hazard Category 2 nuclear facility



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