

DOE Accepting Isotope Production R&D Applications

The U.S. Department of Energy (DOE) announced on March 24 the availability of up to \$16 million in new funding to advance research and development (R&D) for isotope production. In a press release, the DOE said that this effort is aimed at sustaining longstanding U.S. leadership in isotope production, research, and development. “Isotopes are commodities of strategic importance for the nation,” said Under Secretary for Science Paul Dabbar. “This R&D is essential to developing innovative production and processing techniques for scarce isotopes, which will lead to advancements in science, medicine, and industry as well as strengthen our economic and national security.”

The DOE’s National Laboratories, universities, and non-profits are eligible to submit applications for the 2-year award, which will be selected in a peer-reviewed process. The DOE Isotope Program is managed by the Office of Nuclear Physics in the Office of Science, which is funding the effort. The application process is open to both single investigators and small multi-institutional collaborations.

The funding announcement calls for “novel methods to produce or improve production of radioactive or enriched stable isotopes needed for a wide variety of research and applications....The proposed R&D should generate data

relevant to isotope production or lead to new and innovative technologies, or improvements to existing technologies to foster enhanced production of isotopes. Successful applications will clearly describe how the outcome of the proposed work would support and enhance the production of isotopes used for research and applications in medicine, homeland security, the physical sciences, biological and geological sciences, energy, industry, etc.” The announcement also strongly encourages applications that incorporate effective ways to train personnel.

Total funding of up to \$8 million is anticipated for Fiscal Year (FY) 2021, with an additional \$8 million in funding anticipated in FY 2022, for a total of \$16 million over the 2-year grant period. Funding is contingent on congressional appropriations. Individual awards will be funded at a maximum of \$750,000 per year.

Final applications for this funding opportunity are due on June 15 by 5 PM Eastern time. Letters of intent are not required. The full text of the Funding Opportunity Announcement for universities and nonprofits, along with a parallel, companion announcement for DOE National Laboratories, is available at https://science.osti.gov/-/media/grants/pdf/foas/2020/SC_FOA_0002301.pdf.

Monitoring Radioisotope Production and Transport

The COVID-19 pandemic has resulted in delays and interruptions in medical supplies across the world. Early concerns about radioisotope production and delivery have proved to be well founded. Severely curtailed commercial and cargo flights, staffing changes and interruptions across the supply chain, and radically altered demand for routine nuclear medicine tests have challenged efforts to monitor radioisotope availability for near- and long-term planning. On March 30, the Security of Supply Working Group of the Nuclear Medicine Europe Emergency Response Team (ERT) held a teleconference to discuss the effects of the COVID-19 pandemic on ^{99}Mo and other radioisotope production.

NTP Radioisotopes SOC Ltd. (Pretoria, South Africa) informed the ERT that cancellation of most scheduled international flights had interrupted bulk ^{99}Mo shipments from South Africa during the previous week and that options were under investigation to resume these shipments. The Australian Nuclear Science and Technology Organisation (ANSTO) reported that it had received regulatory approval from the Australian nuclear regulator Australian

Radiation Protection and Nuclear Safety Agency to resume ^{99}Mo export production. However, ANSTO noted that a gradual transition from its current 2 production runs per week will be required, in addition to putting in place measures to protect staff and to ensure production during the COVID-19 pandemic. User research programs in association with ANSTO had been canceled or put on hold for the duration of the international emergency. Other radioisotope producers participating in the teleconference reported that they have been able to maintain operations with suitable personnel protection measures for COVID-19.

Nuclear Medicine Europe also advised teleconference participants that $^{99\text{m}}\text{Tc}$ generator shortages may be foreseen in various regions because of transportation challenges for both bulk ^{99}Mo and $^{99\text{m}}\text{Tc}$ generators and urged medical institutions to contact their $^{99\text{m}}\text{Tc}$ generator suppliers or radiopharmacies for updates.

Information associated with radioisotope supply and demand is changing on a daily basis. SNMMI has developed a Coronavirus-19 Response Center at <http://www.snmmi.org/covid-19> and will post updates as these become available.