Medical Xpress

SNM cautions that Canada's Chalk River coming back online will not solve long-term isotope shortage

July 8 2010

SNM is optimistic that the anticipated recommencement of the Atomic Energy of Canada Limited (AECL)-run National Research Universal (NRU) reactor in Chalk River, Canada, will provide short-term relief to the isotope shortage that has been plaguing patients and the nuclear medicine community for more than one year. However, SNM cautions that the restart of this reactor will not solve the ongoing production and supply issues causing the crisis.

"We are cautiously optimistic that NRU going back online will alleviate some of the most pressing concerns facing the nuclear medicine community," said Robert W. Atcher, Ph.D., M.B.A., chair of SNM's Domestic Isotope Availability Work Group and past president of the society. "However, this is not a magic bullet, and NRU coming back online will not solve this crisis. As the Canadian Nuclear Safety Commission (CNSC) staff are reported to have observed, gaps in the assessment of the reactor could have a serious impact on the reliability of the reactor's operation in the future."

In a news conference held last month during SNM's Annual Meeting, Atcher asked Canadian officials to help put an end to this endemic crisis once and for all. "Several years ago, government and industrial parties in Canada assured the nuclear medicine community that Canada's MAPLE reactors could ensure the continued availability of Mo-99 in the U.S.," he said. In 2007, that project was canceled due to cost over-runs and

technical problems.

The NRU reactor at Chalk River was unexpectedly shut down in May 2009 after workers discovered a leak during a routine inspection. The NRU reactor supplied more than 35% of the world's supply of Molybdenum-99 (Mo-99)—a critical medical isotope whose decay product, Technetium-99m (Tc-99m), is used for common imaging procedures to diagnose and detect heart disease, cancer and other conditions. More than 16 million procedures are conducted annually in the U.S. using that isotope.

Over the past year, AECL announced additional repairs and maintenance issues that further delayed the start date of the NRU reactor. Coupled with scheduled outages at the High Flux Reactor (HFR) at Petten in the Netherlands—the world's only other major reactor that produces Mo-99—many hospitals around the world were forced to either delay or cancel patient procedures.

Of major long-term concern is that the Canadian government has announced previously that they intend to shut down isotope production at the NRU reactor permanently in 2016, which will create another, much longer shortage in the worldwide supply of Mo-99.

"Creating and maintaining a sustainable delivery of radioisotopes is one of SNM's most critical priorities," said Dominique Delbeke, M.D., Ph.D., president of SNM. "We continue to work to advocate for a domestic supply of Mo-99 in the U.S. so that nuclear medicine physicians and technologists have a reliable supply of radioisotopes to perform critical imaging tests that patients need for high-quality care."

At a hearing held July 7, the CNSC approved AECL's request to resume production of Mo-99 at its Chalk River facility. According to AECL officials, repairs have been completed and the reactor is ready to resume

production. Production is expected to begin within 10 days of NRU coming back online. The reactor has to be refueled and brought back to power before isotope production can resume.

"In addition to the impact that the shortage has had on the job market for nuclear medicine technologists and the impact on patients, the latest series of setbacks shows that the U.S. needs a reliable domestic isotope supply now more than ever before," added Atcher. The Canadian government's response to the recent expert panel report on what path to take after NRU is shut down has been to retreat to only providing radioisotopes for the Canadian region. This underscores the severity of the problem for the U.S. market, which comprises 50% of the world demand for Mo-99, Atcher noted.

The American Medical Isotopes Production Act of 2009 (H.R. 3276), which would provide funding for the production of a domestic isotope supply, was approved by the U.S. House of Representatives this past fall. The bill is currently in the Senate.

Provided by Society of Nuclear Medicine

Citation: SNM cautions that Canada's Chalk River coming back online will not solve long-term isotope shortage (2010, July 8) retrieved 1 May 2024 from https://medicalxpress.com/news/2010-07-snm-cautions-canada-chalk-river.html