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SNM Expresses Serious Concerns as Isotope Shortage Looms

Another Worldwide Shutdown is the Latest Hiccup in the Precarious Supply of a Critical Tool

RESTON, Va.—A shutdown announced yesterday at a nuclear reactor facility at Petten in the Netherlands threatens the ability of countries across the globe to access and obtain radioactive isotopes, which are critical for performing many common nuclear medicine procedures in the United States and worldwide. The shutdown at the High Flux Reactor in Petten comes after a similar shutdown last December of the National Research Universal reactor in Chalk River, Canada by the Atomic Energy of Canada Limited.

“SNM has serious concerns about this most recent outage,” said SNM President Robert W. Atcher, Ph.D., M.B.A. “A combination of anticipated outages at other production reactors coupled with unanticipated shutdowns is simply devastating. The impact on the patients who are in need of diagnostic tests using these radioisotopes is very serious. The United States and other countries are not prepared to adequately deal with the current situation—let alone anticipate other situations as they continue to arise. Following the shutdown of Canada’s Chalk River facility late last year, we simply cannot afford to sit and wait as the situation continues to worsen,” added the emerging medical technology team leader at the Los Alamos National Laboratory in New Mexico.

The nuclear facility at Petten produces molybdenum-99 (Mo-99), which is the most widely used isotope in nuclear medicine. Mo-99 is artificially produced through the fission process and has a half-life of 66 hours, meaning that it cannot be produced and stored. Unlike traditional pharmaceuticals, which are dispensed by pharmacists or sold over-the-counter, nuclear reactors produce radioactive isotopes that are processed and provided to hospitals and other nuclear medicine facilities based on demand.

“This could be described as a perfect storm in isotope availability,” said Atcher. “This is a cumulative situation where we cannot maintain a patchwork approach to isotope production and supply. It also highlights the vulnerability of having no domestic source of clinically used isotopes in the United States.”

Mo-99 is essential to performing nuclear medicine and molecular imaging procedures, which allows physicians to identify at a metabolic and cellular level what is going on inside a person’s body. In addition to pinpointing the underlying cause of disease, physicians can actually see how disease is affecting other functions in the body.

SNM is working with partners from other molecular imaging and healthcare organizations to identify and implement potential solutions to this looming crisis. In June, SNM’s Isotope Availability Taskforce published a draft report examining potential solutions for creating a domestic supply of medical isotopes in the United States. Reactor outages, coupled with recent efforts to curtail the use of highly-enriched uranium (HEU) in radioisotope production as a non-proliferation strategy and to deter terrorism, now pose a significant threat to Mo-99 availability within the United States.

“Our highest priority remains the supply of these critical medical isotopes to the nuclear medicine community,” said Steve West, president of MDS Nordion, headquartered in Ottawa, Canada.

The facilities that produce medically essential radioisotopes routinely close for scheduled maintenance, and communicate with each other regularly to ensure that production and supply remain sufficient for needed supplies. However, unexpected disruptions during maintenance, such as what occurred at the Petten facility, when all other facilities are off-line, means that there is a distinct
The possibility that world-wide production of Mo-99 could completely cease for a prolonged period, with devastating results.

“This is a serious problem requiring a quick response and in-depth solution,” said Michael Graham, M.D., Ph.D., SNM President-Elect. “Now, more than ever, it is critical that the United States, along with other countries, take the lead on recommending alternatives to ensure consistent access to mission-critical isotopes, which are essential to hospitals and their ability to provide patient care.”

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**About SNM—Advancing Molecular Imaging and Therapy**

SNM is an international scientific and medical organization dedicated to raising public awareness about what molecular imaging is and how it can help provide patients with the best health care possible. SNM members specialize in molecular imaging, a vital element of today’s medical practice that adds an additional dimension to diagnosis, changing the way common and devastating diseases are understood and treated.

SNM’s more than 17,000 members set the standard for molecular imaging and nuclear medicine practice by creating guidelines, sharing information through journals and meetings and leading advocacy on key issues that affect molecular imaging and therapy research and practice. For more information, visit [www.snm.org](http://www.snm.org).