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The Society of Nuclear Medicine and Molecular Imaging (SNMMI) is an international organization that maintains a long-standing commitment to patients and the improvement of human health through medical imaging and therapy. With 18,000 members worldwide, SNMMI is focused on the use of nuclear medicine procedures for the diagnosis and treatment of disease.

The medical isotopes that fuel the nuclear medicine industry are supplied by a small number of research reactors worldwide. These reactors supply Molybdenum-99 (Mo-99), the parent isotope of technetium-99m (Tc-99m). Tc-99m is used in about 80% of all nuclear medicine procedures globally to enable diagnostic treatments and therapies for patients. On average, about half of these nuclear medicine procedures are performed in the United States.¹

We are contacting you based on concerns that the NTP has been off line since November. The NTP currently supplies about 20% of global demand for Mo-99,² aiding in the delivery of more than 40-million medical diagnostic imaging studies performed annually. We have been informed that NTP and NECSA (Nuclear Energy Corporation South Africa) have been working closely with the South African National Nuclear Regulator (NNR), providing the necessary remediation information requested. Still, NTP has yet to receive NNR approval to resume Mo-99 production. The changes need to be reviewed and approved by the NNR, which have yet to occur. SNMMI is concerned that further delay in approval will impact global medical isotope supply, resulting in a significant patient impact.

Given the advanced age of the small group of global reactors that provide medical isotopes and their rigorous maintenance schedules, the community of producers work collaboratively to ensure there is a sufficient supply of Mo-99 available to meet patient needs. To help in these efforts, many of the reactors work to vary schedules. Periodically, there are times, however, when one or more of the reactors

¹ Committee on State of Molybdenum-99 Production and Utilization and Progress Toward Eliminating Use of Highly Enriched Uranium; Nuclear and Radiation Studies Board; Division on Earth and Life Studies; National Academies of Sciences, Engineering, and Medicine. Molybdenum-99 for Medical Imaging. Washington (DC): National Academies Press (US); 2016 Oct 28. 2, Medical Isotope Production and Utilization. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK396163/#>

² Organisation for Economic Co-operation and Development and Nuclear Energy Agency; Nuclear Development NEA/SEN/HLGMR. The Supply of Medical Radioisotopes: Results from the Third Self-assessment of the Global Mo-99/Tc-99m Supply Chain. (2017)5. Available from <http://www.oecd-nea.org/med-radio/docs/sen-hlgmr2017-5.pdf>

experiences an unexpected or prolonged shut down for maintenance that deprives patients from obtaining crucial and often live-saving noninvasive procedures that utilize Tc-99m, which is a daughter product of Mo-99. As such, the unexpected and prolonged shutdown of the NTP creates additional challenges for the nuclear medicine community.

Time is of the essence to avert a significant impact on patients. Reactors in Belgium, Poland, France, and Australia are only able to meet a portion of the worldwide patient need at this time. We ask that you encourage the NNR to expeditiously review and if appropriate approve the re-starting of production on behalf of patients worldwide. Thank you for your continued support.

Sincerely,

Bennett S. Greenspan, MD, M.S.

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