COMMONWEALTH OF PENNSYLVAINA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF WASTE, AIR, RADIATION AND REMEDIATION
BUREAU OF RADIATION PROTECTION
HARRISBURG, PA 17101

September 24, 2025

BRP INFORMATION NOTICE 2025-02 RECENT REPORTED MEDICAL EVENTS INVOLVING GASTROINTESTINAL DEPOSITION OF YTTRIUM-90 MICROSPHERES

ADDRESSEES

All Pennsylvania Department of Environmental Protection (DEP) Specific Licensees that are licensed to use Yttrium-90 (Y-90) Microspheres in any form.

PURPOSE

The DEP is issuing this Information Notice (IN) in conjunction to an Information Notice issued by the Nuclear Regulatory Commission (NRC). The purpose of the notice is to inform licensees of recent reported medical events that involved gastrointestinal (GI) deposition of Y-90 microspheres. The Department expects that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to minimize the potential for similar medical events. This IN does not impose new requirements, and nothing in this IN should be interpreted to require specific action. The Department is providing this IN to Licensees for their information and for distribution, as appropriate.

DISSCUSSION

This IN is intended to provide licensees with awareness of recent medical events involving GI deposition of Y-90 microspheres. Deposition of Y-90 microspheres in the GI system has been associated with major health complications and poor patient outcomes. The events discussed in the IN highlight that GI deposition events are occurring during Y-90 microsphere procedures and licensees should consider methods to minimize the potential of future events. These events highlight the importance of careful pre-treatment evaluation of patient vascular anatomy. For corrective actions, several licensees emphasized the use of CBCT for vascular imaging and detecting blood flow to extrahepatic tissue, whether performed during pre-treatment mapping procedures or on the day of the procedure. Licensees also draw attention to the limitations of MAA as an analog for microspheres due to differences in size and flow dynamics. It is considered a best practice for licensees to stay abreast of current manufacturer, professional society, and industry recommendations to limit the likelihood of future GI deposition events.

CONTACT

If you have any questions about the information within this notice, please contact the Radiation Control Division at 717-787-3720.

Attachment

NRC INFORMATION NOTICE 2025-05

Issued By:
Dwight Shearer, Director
Bureau or Radiation Protection