From: "Robert Skowronek" <skowronb@michigan.gov>
To: "Leslie Kerr" <LSK@nrc.gov>
Date: 11/18/05 3:17PM
Subject: Comments from Michigan on the Implementation of the Energy Policy Act of 2005

Thank you for the opportunity to participate in the meeting held on November 9, 2005 regarding the implementation of the Energy Policy Act of 2005.

A couple of comments on the meeting:

1. Although the telephone switchboard operator left at 4:00 p.m., those of us listening to the discussions were still on the line until the meeting ended at 5:10 p.m.
2. I would appreciate if I could receive an electronic copy of the handouts distributed at the meeting. The documents could be scanned and sent to all the participants who were listening by telephone.
3. Has the transcript of the meeting been completed and posted on the NRC website? If so, where can it be accessed?

Attached are some comments on issues related to the implementation plan and associated regulations under development at NRC.

If I can be of further assistance, please contact me.

Robert D. Skowronek, Chief
Radioactive Material and Medical Waste Unit
Radiological Protection and Medical Waste Section
Waste and Hazardous Materials Division
Michigan Department of Environmental Quality
Telephone: 517-241-1253

CC: "Kenneth Coble" <COBLEK@michigan.gov>, "Thor Strong" <STRONGT@michigan.gov>, "Theodore Wentworth" <WENTWORT@michigan.gov>

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STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
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November 18, 2005

Ms. Leslie S. Kerr
Mail Stop 8 F3
NMSS/IMNS/RGB/SE
Energy Policy Implementation Task Force
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Ms. Kerr:

Thank you for the opportunity to participate in the meeting held on November 9, 2005 regarding the implications of the Energy Policy Act of 2005.

We offer the following comments for your consideration:

1. We recommend the following definition:

   "A discrete source of radium-226 is any device or component of a device that contains radium-226 deliberately added to the device or component."

2. In consideration of the wording of the Energy Policy Act of 2005, we recommend that the U.S. Nuclear Regulatory Commission (NRC) begin regulatory authority for accelerator produced radioactive material when the activated material is removed from the accelerator and before any additional processing. In some situations, the accelerator may be owned by one corporate entity who sells the radioactive material to another corporate entity for processing.

   We encourage the NRC to seek authority to regulate any material made radioactive in an accelerator including, but not limited to, the activated components in the accelerator, activated beam stops, and air emissions.

3. Aircraft instruments and associated dial faces and pointers containing radium luminous compounds should be considered discrete sources of radium-226. We recommend that radium aircraft instruments be exempted from regulation if:

   a. the only nuclear substance contained in the device is a radium luminous compound;
   b. the device is not disassembled or tampered with; and
   c. a "Caution: Radioactive Material" or a "Caution: Radium" warning sticker is affixed to the outside casing of the device.

   The database at:
   www.abwem.wpafb.af.mil/radiation/index.cfm?id=65&objid=126&cat=Radiation%20Safety
   lists 6,625 radioactive military components of which 2,625 contain radium-226. In the past, these items have been sold as military surplus to the civilian market.

4. The Federal Aviation Administration (FAA) repair stations that disassemble aircraft instruments containing radium should be specifically licensed for that activity. The FAA repair stations that perform electronics repair and certification should survey incoming gauges and affix a warning sticker to those gauges containing radium. In addition, every FAA repair stations that perform electronics repair and certification should be required to survey their parts, cabinets, and work surfaces for loose needles, dial faces, and surface contamination. This could be performed by consultants or by NRC/state radiation control program staff.

   We have a strong concern about radium contamination at the FAA repair stations because, in 1994, a house in Bear Lake, Michigan, was discovered to be heavily contaminated with radium as the result of a home business that repaired and repainted radium aircraft dials. The family was moved out of their home. Their possessions were disposed as radioactive waste. The home, garage, and septic system were demolished and this debris and large volumes of soil from the property were disposed as radioactive waste. We have also surveyed other FAA repair stations and found radium luminous needles, dial faces, and surface contamination at many facilities. Staff at these facilities were generally unaware that these items contained radium and were not using appropriate safety procedures.

5. Distribution of aircraft instruments containing radium luminous compounds should also require a specific license. Every business that distributes aircraft instruments for sale should have a radiation survey of their facility to determine if they have gauges containing radium or if their facility is contaminated due to past practices. In 1994, two warehouses in Michigan were found to be storing radium luminous aircraft instruments. One warehouse was demolished and the other required extensive decontamination. The "Public Health Assessment" by the Agency for Toxic Substances and Disease Registry is available at www.atsdr.cdc.gov/HAC/PHA/michigan/mic_toc.html. Nationally, other warehouses have since been discovered that also required extensive decontamination.

6. Museums that have devices containing radium luminous compounds should be specifically licensed. These museums may have diverse items containing radium luminous paint including gauges, link trainers with gauges containing radium luminous paint, parachute ripcords, sextants, toggle switches, deck markers, complete aircraft, etc. Many museums also perform restoration work that could involve these items. In Michigan, we have found radium contamination at aircraft museums and in a World War II submarine.

7. The NRC could determine that continued use of radium luminous instruments is no longer in the public interest and require that these instruments be removed from service and properly disposed.

8. We recommend that smoke detectors containing more than 0.1 microcuries of radium be generally licensed. In Michigan, Pyrotronics smoke detectors containing up to 40 microcuries Radium-226 and 80 microcuries Americium-241 have been found in construction debris. In response to an alarm trip caused by two Pyrotronics smoke detectors at a scrap yard, staff found a total of 45 Pyrotronics smoke detectors containing radium and 50 Pyrotronics smoke detectors containing americium laying around the yard. After discovery, these items were properly packaged, stored, and disposed.

9. Before PET radionuclides should be authorized on a license, the licensing agency needs to receive and review shielding plans for storage of the source in the hot lab, the room the radiopharmaceutical is injected into the patient, the scanning room, and the room a patient waits in before their scan. With heavy workloads, shielding may need to be added to the ceiling or the floor of these rooms. Often, taking occupancy factors into account, the highest dose to a member of the public is to the person working in the office across the corridor from one of these rooms. In situations where the distance separating the injected patient from a member of the public is small, buildup factors of the shielding will also need to be taken into account.

   We recommend that a specific appendix addressing PET shielding be added to NUREG-1556, Vol. 9, Rev. 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Medical Use Licenses." The appendix should include a diagram of a facility with different types of shielding needs on different walls with an explanation of how to perform the shielding calculations for each wall.

10. We recommend that the NRC evaluate the applicability of the Energy Policy Act of 2005 to the radioactive material produced by neutron generators that electronically accelerate particles.

In addition to these comments, I would like to offer my services as a peer reviewer for this transition process. If you have any questions, please contact me.

Sincerely,

Robert D Skowronek

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RDS:JK