

Comments of Philip Egidi: Requirements for Expanded Definition of Byproduct Material

I apologize for these not coming in under the deadline. These were to be incorporated as part of the Colorado comments, but Colorado did not get comments transmitted yet, so I am sending them under my own signature.

1. I concur with the Organization of Agreement States comments with respect to use of existing definitions and compatibility classifications.

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2. NRC asks about the requirements for decommissioning funding for accelerator facilities to account for activation products. It should be considered since some activation products have half-lives longer than 120 days, and could pose a disposal issue. One example is rebar and building structural components made of steel. Gamma exposure rates could be increased, which could be an issue with meeting public dose limits in certain scenarios. If a licensee were to abandon its facility, the potential certainly exists for new legacy sites that NRC is trying to avoid. See SECY-03-069.

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3. Definition of discrete source. Does this account for sources that are electroplated? That is, the radioactivity is on the surface of the source, not encapsulated. The radioactivity is therefore not separate from nature. Some sources (e.g., radium needles) may not be completely encapsulated, and as such, the radioactivity would not be separate from nature. This could cause there to be two paths for discrete sources, those that are captured by the regulation and those that are not. A workable definition is crucial to keep unintended materials from being captured (e.g., resins in treatment columns). Perhaps "a radioactive source with physical boundaries, which is separate and distinct from the radioactivity in nature, or where the radioactivity is purposely and permanently affixed to the physical surface of the source, and in which the radionuclide concentration has been increased by human processes with the intent that the concentrated radioactive material will be used for its radiological properties."
4. Manufacturing of sealed sources. While it is assumed manufacture of radium sources would be under a specific license, it is not spelled out. This practice should be specifically licensed, even though the radium may not yet meet the definition of discrete source. There should also be surety requirements for decommissioning of facilities used to manufacture these sources.
5. While I concur with the approach towards waste disposal to change Part 20 that would redefine the definition of Waste to allow disposal of the newly added byproduct material in the NRC-regulated disposal facilities or in a disposal facility permitted under Federal or State solid or hazardous waste laws, it is not clear to me that this is not arbitrary or capricious, since other low-level wastes of similar pedigree may still fall under Compact jurisdiction (i.e., 11e.(1) byproduct material). This could be avoided by managing the radium as radioactive material instead of byproduct material, as proposed by OAS.

- a. This must have appropriate considerations of transfer of liability. Will waste disposed in a CERCLA site incur potential PRP status should the solid or hazardous waste facility fail?
 - b. Any disposals in solid or hazardous waste facilities must take into account potential release of radium from the discrete source, and therefore radon. Discrete sources can be further encapsulated prior to burial as a treatment to reduce the potential for radium leakage and mitigate the potential for radon.
6. NRC is proposing a graded approach for different levels of Ra-226 sources. NRC asks whether taking a GL approach or exemption approach will be better for some of these devices. NRC notes on p 42953 that registration is used sometimes for registration of devices, or facilities, some for identification for inspection and to identify facilities for security purposes. Exemption would gather no data, and therefore not be the desired path, but for the smallest amounts (e.g., 1 uCi). Therefore, an exemption concentration level of 1 uCi (and an appropriate corresponding exempt quantity limit) could be considered with the specific/GL approach for materials above that de minimis amount, with sufficient data gathered under registering for the GL that adequate documentation of the type and location of those sources can be gleaned.
7. The EP Act and NRC states that the new byproduct material is not LLW such that “the newly added byproduct material is not to be impacted by the compact process of the LLRRWPAA.” This seems backward, as the Rocky Mountain Compact specifically captures radium in its definitions, and traditionally has treated discrete radium as LLW (management of diffuse TENORM has not been consistent). I concur with the desire to have multiple options for disposal of these materials at uranium mills and other permitted facilities, but am not sure that this is consistent with some Compact’s definitions.

Thank you,
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Date: Fri, Sep 15, 2006 4:32 PM
Subject: Comments of Philip Egidi: Requirements for Expanded Definition of Byproduct Material

Please find attached some comments on the NARM rule.
I apologize that they were not transmitted prior to the deadline.

Thank you,
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