

Mendiola, Doris

Subject: FW: Draft NUREG-2126 - Comments on Standard Review Plan for Conventional Uranium Mills and Heap Leach Facilities
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From: STEVEN H BROWN [mailto:shb12@msn.com]
Sent: Tuesday, April 28, 2015 02:17 PM
To: Bladey, Cindy
Cc: Mandeville, Douglas
Subject: Draft NUREG-2126 - Comments on Standard Review Plan for Conventional Uranium Mills and Heap Leach Facilities

Ms Bladey - my comments are attached. Thank you for this opportunity. Steve

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12/18/2014
79 FR 75597

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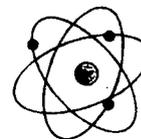
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April 24, 2015

TO: Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC; Cindy.Bladey@nrc.gov

CC: Douglas T. Mandeville, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission; Douglas.Mandeville@nrc.gov.

SUBJECT: Draft NUREG-2126 - Comments on Standard Review Plan for Conventional Uranium Mills and Heap Leach Facilities; originally published on December 18, 2014 (79 FR 75597)

Ms Bladey:

Find below my specific comments for your consideration on this important NUREG document. In general, I found the document to be comprehensive and well written and should provide well needed guidance to industry and NRC staff for preparation and review of license applications for conventional uranium recovery facilities.

Specific Comments on NRC NUREG 2126

1. Section 2.8.1.2 and elsewhere – references to requirements for soil sampling at depth of 5 cm.

Comment: It is recognized that the 5 cm surface sampling depth is a legacy from Regulatory Guide 4.14 (1980). However, this RG predated the establishment of the 15 cm depth surface soil decommissioning criteria in 10 CFR 40 Appendix A, Criteria 6(6) and in similar reclamation / decommissioning criteria elsewhere in Federal and Agreement State regulations and associated guidance. The 5 cm depth samples provide little useful scientific information since the first few cm at the surface are not “permanent” (this is a short term characteristic – rain, wind, erosion, soil creep, other mechanisms will alter or replace the first 5 cm of soil in relatively short periods of time (e.g., weeks / a few months?), Accordingly, over operational times frames of years, it is no longer the “same” soil. This requirement should be removed.

2. Section 2.8.1.3 (1)(a) and elsewhere – reference to “one week” collection period for preoperational radon samples:

Comment: The reference to “one week” is confusing since samples for radon in air are typically collected continuously via Trak Etch type detectors with a quarterly exchange. Additionally, it is noted that a one-week exposure time is probably inadequate to achieve Data Quality Objectives (DQO) and sensitivity requirements. Reference to “one week” should be removed.

3. Section 2.8.1.3 (1)(d) and elsewhere - reference to "12 consecutive months" for collection of vegetation, food, and fish sampling.

Comment: Reference to "12 consecutive months" should be removed since the requirement stated here should be for several campaigns of grab sampling at specific times during the year. For example, see Regulatory Guide 4.14, Section 1.3 discussion: Forage vegetation – three times during grazing season; Food (animals and vegetables) – at time of harvest or slaughter; Fish – semiannually.

4. Section 2.8.1.3 (1)(h) and elsewhere – reference to "12 consecutive months" for radon flux measurements.

Comment: Reference to 12 consecutive months" should be removed since Regulatory Guide 4.14, Section 1.1.6 requirement is for 3 separate campaigns in any of 3 separate months

5. Section 5.3.3- Acceptability of airborne monitoring program; 4th bullet and elsewhere – reference to requirement to validate calculations via airborne effluent monitoring program.

Comment: Considerations of "feasibility", "practicable" and "reasonably achievable" must be considered for requirements to validate calculations via measurement. This is particularly true for environmental measurements of naturally occurring radioactive material (radon and progeny, e.g.) relative to the potentially elevated and variable natural background for these species. This is clearly stated by NRC in, e.g., NUREG/BR-0184 (Page 4.4) and the introduction to 10 CFR 40 Appendix A.

An example is in NUREG/BR-0184, which states (Page 4.4):

*Once a broad and comprehensive list of alternatives has been developed, a preliminary analysis of the feasibility, values, and impacts of each alternative is performed. Some alternatives usually can be eliminated based on clearly exorbitant impacts in relation to values, **technological infeasibility** (emphasis added), severe enforcement or **implementation problems** (emphasis added) or other fairly obvious considerations. Reduction of the list of alternatives at this point in the analysis will reduce the resources needed to perform detailed evaluation of values and impacts.*

This NUREG is a Commission-approved regulatory decision-making guidance document and clearly indicates that technical infeasibility and implementation problems are issues to be considered when developing licensee requirements. Furthermore, 10 CFR 40, Appendix A, Introduction states the following:

*All site specific licensing decisions based on the criteria in this Appendix or alternatives proposed by licensees or applicants will take into account the risk to the public health and safety and the environment with due consideration to the economic costs involved and any other factors the Commission determines to be appropriate. In implementing this Appendix, the Commission **will consider "practicable" and "reasonably achievable"** (emphasis added) as equivalent terms. Decisions involved these terms will take into account **the state of technology** (emphasis added), and the economics of*

improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest.

6. Section 6.4.2, Item (5) and 6.4.3 (5) – reference to use of in-vivo techniques if solubility Classes W or Y forms of uranium are present.

Comment: Note that in general; most uranium recovery products being produced in the US today are solubility Class D although some may have small components of Class W or Y (see e.g., Brown, S and Chambers D. 2014. *Worker Protection Implications of the Solubility and Human Metabolism of Modern Uranium Mill Products*. Health Physics. Volume 107, Number 5). Given that there are only a few in vivo counting facilities in the US, this requirement should be modified to reference the requirements specified in USNRC Regulatory Guide 8.14 (2014) such that the need for in vivo counting is triggered by exceeding the action levels specified in Table A.1 of the Guide.

7. References at end of Section 6.4

Comment: Replace reference to Regulatory Guide 8.22, "Bioassay at Uranium Mills 1988 with the 2014 revision.

8. Section 7.0, Reclamation (ii), first bullet

Comment: 10CFR40, Appendix A, Criterion 6(6) should also be referenced here which discusses the criteria for radium concentration in soil and the Radium Benchmark Dose concept (as described in Appendix C of this SRP).