

Baca, Bernadette

From: Burrows, Ronald
Sent: Monday, May 07, 2018 6:44 AM
To: Baca, Bernadette; Von Till, Bill
Cc: Poston-Brown, Martha; Mandeville, Douglas; Huffert, Anthony; Brown, David
Subject: RE: Historical Decision/Policy (1990's) regarding samples and if considered 11e.(2) material
Attachments: Response: REQUEST assistance regarding: Regulatory documents/references request for 11e.(2) byproduct definition

Just to be clear, I am adding to my Friday comments.

11e.(2) byproduct material is separate and distinct from source material – that was my reference to 10 CFR 40.3. The licensing requirements for source material, including unimportant quantities of source material specified in 10 CFR 40.13(a), do not apply to 11e.(2) byproduct material, as stated in the last sentence. Generally speaking, 11e.(2) byproduct material is the controlling factor when both source material and 11e.(2) byproduct material are being discussed in the same scenario.

See also:

10 CFR 40.21
10 CFR 40.26

From my perspective, a specific license is required for 11e.(2) byproduct material if one wants to possess or transfer such material. The rest of 10 CFR Part 40 is set up to provide the specifics of maintaining control of 11e.(2) byproduct material, including the criteria in Appendix A.

I probably had the 1990 document from URFO, but it is unimportant since our last communication to the Garlings (attached) said the same thing. They should be asking if the 2016 policy is still current. Yes, it is.

Regards,

Ron

All –

See attached for how we answered one aspect of the question two years ago.

We should remind them that we previously answered this question.

See 10 CFR 40.3 regarding byproduct material.

Ron

From: Baca, Bernadette
Sent: Friday, May 04, 2018 5:26 PM
To: Von Till, Bill <Bill.VonTill@nrc.gov>
Cc: Poston-Brown, Martha <Martha.Poston-Brown@nrc.gov>; Burrows, Ronald <Ronald.Burrows@nrc.gov>; Mandeville, Douglas <Douglas.Mandeville@nrc.gov>; Huffert, Anthony <Anthony.Huffert@nrc.gov>; Brown, David

<David.Brown@nrc.gov>

Subject: Historical Decision/Policy (1990's) regarding samples and if considered 11e.(2) material

Bill,

This individual has asked us this question before, in a different form, at least two years ago. The first question focused on the contractor collecting soil and water samples for testing and was hoping the material could be unclassified as 11e.(2) material and the number of samples collected would not matter; i.e. would not need a license. We responded back all products, to include waste products, were 11e.(2) material and they must meet 40.13 in order to not need a license. I emphasized once the ore begins the extraction process, all resulting components become 11e.(2) and there is no way to have unclassified as such unless it meets 40.13.

The company is again asking for clarification with regard to samples taken of groundwater from a uranium mill tailings seep.

I have no references regarding the 1990 discussion. However, here is the "Unimportant quantity of source material" citation.

§ 40.13 Unimportant quantities of source material. (a) Any person is exempt from the regulations in this part and from the requirements for a license set forth in section 62 of the Act to the extent that such person receives, possesses, uses, transfers or delivers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than one-twentieth of 1 percent (0.05 percent) of the mixture, compound, solution or alloy. The exemption contained in this paragraph does not apply to Australian-obligated source material, nor does it include byproduct materials as defined in this part.

Is there anything else I need to be considering in addressing the individual's question regarding the quantity of material not needing a license or modifications to my perspective of 11.e(2) definition? Also, do you have any idea regarding the 1990 documents the individual mentioned? I've cc'd additional folks in hopes of getting an improved perspective of this question.

Thank you for the support!!

Bernadette Baca

Health Physicist
817-200-1235
USNRC Region 4 – DNMS, FCDB

From: Torres, RobertoJ
Sent: Tuesday, May 01, 2018 3:02 PM
To: Baca, Bernadette <Bernadette.Baca@nrc.gov>
Subject: FW: Clarification Request

Bernadette:

Who would be the best person in FCDB to answer these questions about groundwater samples and uranium mill tailings (you, Rob, Rachel, or Linda)? R and D Enterprises is not an NRC Region IV licensee according to WBL.

From: sagarling@rdeinc.biz [mailto:sagarling@rdeinc.biz]
Sent: Tuesday, May 01, 2018 2:12 PM
To: Torres, RobertoJ <RobertoJ.Torres@nrc.gov>

Cc: 'Roger Garling' <ragarling@rdeinc.biz>

Subject: [External_Sender] Clarification Request

Mr. Torres,

Are groundwater samples considered 11e.(2) byproduct material if they originated from a uranium mill tailings seep?

If so, is there a de minimis activity (^{226}Ra , ^{230}Th , etc.) that would reclassify the samples as non 11e.(2), if so, what is that limit?

Many years ago (1990s) NRC-URFO (Denver, CO) identified that there was no de minimis for byproduct (11e.(2)) material. Is this policy current?

Would you provide references?

Thank you,
Sheryl

Sheryl and Roger Garling

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Casper, WY 82602

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sagarling@rdeinc.biz

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Baca, Bernadette

From: Burrows, Ronald
Sent: Friday, April 22, 2016 3:52 PM
To: Baca, Bernadette; Gersey, Linda
Cc: Von Till, Bill; Mandeville, Douglas; Saxton, John
Subject: Response: REQUEST assistance regarding: Regulatory documents/references request for 11e.(2) byproduct definition

Good afternoon.

See our response below. This has been NLO'd by OGC.

Have a great weekend.

Regards,

Ron

Dear Ms. Garling,

Regarding your first question, aqueous solutions from mill tailings seepage were never excluded from the definition of 11e.(2) byproduct material.

The NRC's final regulations implementing the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) were promulgated in 1980 (45 FR 65521). These regulations incorporated the findings of the Final Generic Environmental Impact Statement on Uranium Milling (NUREG-0706) (GEIS). The GEIS considered mill wastes as 50% dry solids (tailings) and 50% liquids (process water), by weight (Section 5.2 of the GEIS). 10 CFR Part 40, Appendix A, Criterion 5 [Criterion 5F in the current regulations, promulgated in 1987 (52 FR 43553)], addresses the seepage of tailings solutions from a tailings impoundment (Section 12.3.5, and response to comments on pp. A-97 and A-99 of the GEIS).

It is not clear what you are referring to as "tailings pump back water". In any case, since the waste entering the tailings impoundment (including aqueous solutions as described in the GEIS) is 11e.(2) byproduct material, any seepage of this waste, whether in the ground or brought to the surface, would continue to be regulated by NRC as 11e.(2) byproduct material regardless of the concentration of the seepage or the distance it travels.

Regarding your second question, the ground water protection standards for mills are specified in 10 CFR Part 40, Appendix A, Criterion 5B. These standards are based on a site-specific point of compliance and hazardous constituents identified as indicated in 10 CFR Part 40, Appendix A, Criterion 5B(2). Additional information on these standards can be found in the comments and their responses on the final rule (52 FR 43557).

From: Baca, Bernadette
Sent: Thursday, April 07, 2016 10:11 AM
To: Burrows, Ronald ; Gersey, Linda
Subject: REQUEST assistance regarding: Regulatory documents/references request for 11e.(2) byproduct definition

Ron and Linda,

I have a project to locate a source for the current definition of 11e.(2) byproduct material such that the definition contains "aqueous solutions". Most of the documents I've searched through do not specifically mention aqueous solutions. Any idea where I might look for a written definition containing aqueous solutions?

Bernadette Baca

Health Physicist
817-200-1235
USNRC Region 4 – DNMS, FCDB

From: Whitten, Jack
Sent: Wednesday, April 06, 2016 1:33 PM
To: Baca, Bernadette <Bernadette.Baca@nrc.gov>
Subject: Fw: RE: Regulatory document reference request for 11e.(2) byproduct definition

Bernadette//

Please run this to ground and let me know what you find out.

Thx//JackW

Jack E. Whitten
"Sent From NRC BlackBerry"

From: Torres, RobertoJ
Sent: Wednesday, April 06, 2016 01:27 PM
To: Sheryl Garling <sagarling@rdeinc.biz>
Cc: 'Roger Garling' <ragarling@rdeinc.biz>; Whitten, Jack
Subject: RE: RE: Regulatory document reference request for 11e.(2) byproduct definition
Ms. Garling:

Mr. Whitten is the branch chief for uranium recovery. I have copied him on this email so he can have his staff answer your question.

From: Sheryl Garling [<mailto:sagarling@rdeinc.biz>]
Sent: Wednesday, April 06, 2016 1:24 PM
To: Torres, RobertoJ <RobertoJ.Torres@nrc.gov>
Cc: 'Roger Garling' <ragarling@rdeinc.biz>
Subject: [External_Sender] RE: Regulatory document reference request for 11e.(2) byproduct definition

Mr. Torres,

Mr. Whitten has not responded to either this email or a follow up that I sent at the end of March.

Is there any others in the NRC that have knowledge of this subject? Or, has that part (11e.(2) associated with mill tailings seepage) of the NRC jurisdiction been rescinded?

Thank you,
Sheryl

Sheryl and Roger Garling
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From: Torres, RobertoJ [<mailto:RobertoJ.Torres@nrc.gov>]
Sent: Saturday, March 19, 2016 6:07 PM
To: Sheryl Garling
Subject: Re: Regulatory document reference request for 11e.(2) byproduct definition

Ms. Garling:

Your email has been forwarded to Jack Whitten, Branch Chief, uranium recovery, decommissioning and independent spent fuel storage installations, for review. Mr. Whitten's email is jack.whitten@nrc.gov. Thank you.

Roberto J. Torres
US NRC Region IV

From: Sheryl Garling <sagarling@rdeinc.biz>
Sent: Saturday, March 19, 2016 1:59 PM
To: Torres, RobertoJ
Cc: 'Sheryl Garling'
Subject: [External_Sender] Regulatory document reference request for 11e.(2) byproduct definition

Mr. Torres,

We work with several licensees associated with uranium mining (conventional and ISR) and its associated byproduct material.

In the past, the USNRC did not include aqueous solutions, from mill tailings seepage in the 11e.(2) definition. In or around 2008, I believe the USNRC incorporated the aqueous solution associated with tailings seepage into the 11e.(2) definition. Would you confirm that tailings pump back water is defined as 11e.(2) and at what point (distance from the tailings pond, concentrations of contaminant, etc.) would the water not be considered 11e.(2)? Does the USNRC have any published documents that specifically defines this gray area?

I look forward to hearing from you or please forward to others in the USNRC that may be able to provide reference for the definitions.

Thank you,
Sheryl

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