

From: John Hayes
To: "Donna Gaffigan" <Donna.Gaffigan@dep.state.nj.us>
Date: 2/26/2008 9:15:36 AM
Subject: Re: Bridgeline for 2/26 11AM - 1PM Call on Shieldalloy RAIs
cc: "Jenny Goodman" <Jenny.Goodman@dep.state.nj.us>

Donna,

Please see attached. These were included in my Feb 21st email.

Jack

>>> "Donna Gaffigan" <Donna.Gaffigan@dep.state.nj.us> 02/26/2008 9:04 AM >>>

Jack,

Can you please provide me with a list of the RAIs that will be discussed on today's conference call?

Thank you,

-D

>>> "John Hayes" <JJH@nrc.gov> 02/25/08 1:08 PM >>>
888 790-3527

Passcode 34387

Thanks,

Jack

Hearing Identifier: Shieldalloy_DP_Public
Email Number: 43

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Subject: Re: Bridgeline for 2/26 11AM - 1PM Call on Shieldalloy RAIs
Creation Date: 2/26/2008 9:15:36 AM
From: John Hayes
Created By: JJH@nrc.gov

Recipients

"Jenny Goodman" <Jenny.Goodman@dep.state.nj.us>
"Donna Gaffigan" <Donna.Gaffigan@dep.state.nj.us>

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Schedule for RAI Discussion with SMC & NJDEP.wpd		14706
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Options

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None

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Schedule for RAI Discussion with SMC & NJDEP
RPDC Meeting Rooms

Date	Time		Subject	Reviewer(s)
Mon 2/25	1:30 -3:30	T8C5c	Project Team Meeting	Project Team
Tue 2/26	11 - 1	T8C5c	RAI 1a, 4a, 11	Peckenpaugh
Wed 2/27	10 -12	T8C5	RAI 11- 16	Gross/Walker
Thur 2/28	9-11	T8C5c	RAI 61, 66,67, 69, 70a-70c, 71, 73	Johnson
	1:30 - 3:30	T8C5	RAI 17 - 18	Bradbury
Fri 2/29	8 - 9:30	T8C5c	RAI 11-16	Gross/Walker
	10 - 11:30	T8C5c	RAI 61, 66,67, 69, 70a-70c, 71, 73	Johnson
Mon 3/3	9 -11	T8C5c	RAI 17 - 18	Bradbury
	1:30 - 3:30	T8C5c		
Tue 3/4	10 -12	T8C5	Engineered Barrier RAI 21,22,25	Gillen
	2 - 4	T8C5c	To be provided	Schmidt
Wed 3/5	10:30 - 12:30	T8C5c		
Thur 3/6	1:30 - 3:30	T8C5	To be provided	Schmidt
Fri 3/7	8 - 9:30	T8C5c		
	10 - 11:30	T8C5c		
Mon 3/10	9 -11	T8C5c		
	1:30 - 3:30	T8C5		
Tue 3/11	10 - 11:30	T8C5		
	1:30 - 3:30	T8C5c		
Wed 3/12	10:30 - 1	T8C5		
Thur 3/13	9 -11	T8C5c		
	1:30 - 3:30	T8C5		
Fri 3/14	8 - 9:30	T8C5c		
	10 - 11:30	T8C5c		

[illegible]

RAI No.	Issue	Reviewers	Discussion Topics/Issues	Specifics
1a	Update surface water flow data for Hudson Branch & tabulation of surface water withdrawals	Peckenpaugh	Representativeness of 1993-1995 flow data for the present	SMC indicated in their November 9, 2007 response that the studies conducted from October/November 1993 through April through June of 1995 was representative of the overall surface flow since the studies were performed. SMC indicated that there were no significant impacts on the overall flow regime since the studies. SMC also indicated that onsite activities which might have had an impact were minimal. The staff believes that any demonstration that the flow data from 1993-1995 is representative of the flow from 1995 till the present must consider the the potential impacts of post studies differences. These would include (1) new upstream & downstream sources including residential, commercial and industrial developments; (2) agricultural land use changes from 1993-1995 period to the present; (3) elimination of sources present during the studies including residential, commercial and industrial developments upstream and downstream; (3) the onsite pumping program for Cr mitigation; (4) onsite activity or lack thereof, and (5) the climatology of the period versus the climatology during the period of the studies.

4a	<p>Soil/sediment sampling listed in Attachment 5 of Response fo RAIs.</p> <p>NPDES discharges to Hudson Branch.</p>	<p>Peckenpaugh</p> <p>Peckenpaugh</p>	<p>Sample type (S) in the table of Attachment 5</p> <p>Annual discharges for NPDES location onsite for the period of record & relevant issues pertaining to the discharge, including reason for significant variations over the period of record.</p>	<p>Whether it is soil or sediment.</p> <p>A table listing the annual discharges for NPDES location onsite for the period of record & a discussion of relevant issues pertaining to the discharge, including reason for significant variations over the period of record would be useful.</p>
11	Additional input for the responses to the Environmental RAIs (Numbers 7 through 14) that were submitted on March 19, 2007. (Section 5)	Walker/Gross	Various	SMC committed to revise Chapter 5 of DP. As noted below staff has questions regarding the SMC responses to the Environmental RAIs.
	Environmental RAI No. 7 - RESRAD & Microshield Dose Models and suburban resident scenario	Walker/Gross	None	<p>SMC has indicated that when the groundwater model is included the relevant tables in Chapter 17 of DP will be revised. In addition, SMC will confirm consistency between dose models and a cross-walk will be prepared.</p> <p>There are no issues at this time. Pending review of Rev. 1b.</p>

	Environmental RAI No. 8 - Source term for restricted release of the site	Walker/Gross	None	<p>SMC indicated that the Microshield analyses will be revised and photon emitting progeny of uranium and thorium will be included in the re-analysis.</p> <p>There are no issues this time. Pending review of Rev. 1b.</p>
	Environmental RAI No. 9 - Key parameters in doses assessment and basis for values	Walker/Gross	Identification of sensitive parameters and parameter discrepancies.	<p>SMC has only committed to providing additional discussion on the basis for exposure times.</p> <p>The basis for assuming an indoor industrial worker versus selection of an outdoor industrial worker needs to be provided or an assumption of an outdoor industrial worker should be made for conservatism. The approach used to identify sensitive parameters needs to be described and discrepancies between parameters listed as sensitive and those not used in the analysis clarified. A basis for the assumed fraction of the dose that an industrial worker in the planned unrestricted area will receive from the pile needs to be provided. Specifically, NRC staff needs to know the dose received from the slag pile and how that dose value was determined.</p>

	Environmental RAI No. 10 - Issues with parameter uncertainty in dose analyses. Areas include area of contamination, contamination zone thickness & meat transfer factor for the recreational hunter.	Walker/Gross	Parameter correlations	<p>SMC committed to modifying RESRAD to include the groundwater pathway but did not mention whether parameter correlations will be addressed.</p> <p>In relation to response RAI 10e, parameter correlations should be addressed as part of the May 2008 revision.</p>
	Environmental RAI No. 11 - Exclusion of Groundwater as an exposure pathway	Peckenpaugh/ Walker/Gross		There are no issues at this time. Pending review of Rev. 1b.
	Environmental RAI No. 12 - K_d	Bradbury/ Walker/Gross		There are no issues at this time. Pending review of Rev. 1b.
	Environmental RAI No. 13 -Assumptions regarding the Maintenance Worker Scenario	Gross/Walker/ Johnson	Incorporation of RAI response into DP	SMC provided the basis for their assumptions about the maintenance worker scenario but did not commit to providing this information in the Rev 1b submittal. The basis for the assumptions about the maintenance worker scenario needs to be provided in the Rev 1b submittal.

	Environmental RAI No. 14 - Excavation into the engineered barrier and placement of materials within it	Gross/Walker	Mechanical excavation into the barrier Placement of material within the barrier	<p>SMC indicated it will provide an excavation scenario in Rev 1b of the DP that includes mechanized removal of material from the engineered barrier. A stronger justification for the assumption of a 1 cubic meter excavation under a mechanized removal scenario needs to be provided or this assumption should be changed.</p> <p>SMC indicated decisions regarding the placement of the various materials within the engineered barrier will be made by their contractor based upon field conditions and final design. Placement of material within the barrier needs to be known prior to construction for dose assessment purposes. Rev 1b to the DP should include the manner in which materials will be placed.</p>
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12	(Section 5) Identity of the category for each type of scenario analyzed.	Walker/Gross	<p>Occasional trespasser scenari</p> <p>Identification of reasonably foreseeable scenarios under controls fail</p> <p>Discrepancies with the trespasser scenario under controls fail</p> <p>Receptor location</p>	<p>SMC provided a table listing each scenario, the scenario location, controls, type of scenario, evaluation purpose of each scenario and comments.</p> <p>For the occasional trespasser, staff is unclear why the scenario was determined to be “less likely but plausible.” Typically, an occasional trespasser scenario is a reasonably foreseeable scenario because a person is likely to traverse any property unless the property has significant controls to limit access to a trespasser. Justification should be provided for identifying the occasional trespasser scenario as “less likely but plausible or this scenario should be identified as “reasonably foreseeable.”</p> <p>SMC identified a recreational hunter scenario for the restricted area. Because this scenario is analyzed for the restricted area, NRC staff questions the need for a recreational hunter scenario in the unrestricted area. A justification for not analyzing a recreational hunter for the unrestricted area needs to be provided or this scenario should be included as part of the dose analysis.</p> <p>Controls fail scenarios:</p> <p>For the scenarios under controls fail, SMC has not identified any reasonably foreseeable scenarios. Reasonably foreseeable scenarios under controls fail need to be identified</p> <p>SMC states that the trespasser scenario is used to demonstrate compliance but then states that it “less likely but plausible.” Any scenario that is used to demonstrate compliance should be identified as a “reasonably foreseeable” scenario. In addition, for the trespasser scenario, SMC has provided comments related to a suburban resident scenario. A correction is necessary to address the inconsistency of the trespasser scenario related to its type of scenario evaluation purpose and comments.</p>
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13	(Section 5.3) Assumptions regarding the receptor location.	Walker/Gross	<p>Location of the resident and industrial worker under the controls fail scenario.</p> <p>Maps of the CERCLA well restriction area (soil restriction area) and the current nearest resident.</p>	<p>In their response SMC cites CERCLA restrictions related to soil contamination and the New Jersey requirements for institutional controls under NJAC 7:26E-8 as justification for preventing residential use of the site in the future. They indicate future dose modeling scenarios will reduce the nearest distance of an “off-site” resident to the Storage Yard from 1000 feet to 550-600 feet. SMC needs to re-evaluate the assumed location of the resident and industrial worker, and the potential doses for these scenarios when controls fail (including the failure of CERCLA soil restrictions). In addition, justification needs to be provided as to why the resident receptor would not be located within the unrestricted area or on the portion of the restricted area not covered by the footprint of the engineered barrier when controls fail. An alternative would be to revise the dose modeling to include the residence in these two locations. Also justification needs to be provided why the industrial worker would not be located within the restricted area when controls fail.</p> <p>If SMC intends to use CERCLA soil restrictions for justifying the location of a residential receptor when controls are in place, NRC staff needs to know the area in which such soil restrictions apply. SMC provided a map identifying soil sample locations. However, this map does not provide a clear picture of how much of the site will be soil restricted. A map identifying the footprint of the entire soil restricted area similar to Figure F-2 of the ER of the Vineland well restriction area needs to be provided. Also the sampling data that shows how these soils were identified and an explanation of the symbols on the map (i.e. RA-20, SS-19 etc.) needs to be provided. Documentation is also required which supports that the given area has been approved for these restrictions.</p> <p>If SMC can properly demonstrate that a residential receptor cannot be located within the unrestricted area when controls are in place, SMC needs to provide a basis for the receptor being located 550 to 600 feet away from the storage yard. The distance of a resident within 100 years is uncertain because another home could be built within that time-frame. Justification should be provided as to why a receptor could not be located at a closer distance to the unrestricted area or storage yard. An alternative would be to evaluate the resident at a closer distance for conservatism.</p>
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14	Agricultural uses in the area.(Section 5.3)	Walker/Gross	Exclusion of the resident farmer scenario	<p>In this RAI response SMC describes a visual survey of current farming practices in the surrounding area. SMC states that in the future farmland is likely to fall victim to development pressure, citing that farm land acreage decreased by 5% from 1982 to 2002. The staff does not believe a 5% decrease over a 20 year time period represents a significant decrease. Furthermore, in Section 3.1 of the ER, SMC mentions that, although the area directly to the southwest of the site in Cumberland County is designated as a Suburban Planning Area by the State of New Jersey and likely to experience growth, the remaining areas of the site are designated as Rural and Environmentally Sensitive Areas and likely to experience limited growth or conservation. SMC also mentions the Smart Growth initiative of Franklin Township which would also limit growth in the area and allow agricultural use to be a more likely scenario than SMC indicated in their response to this RAI. Based upon the above, additional justification needs to be provided for excluding the resident farmer scenario. An alternative would be to include a resident farmer scenario in the dose analysis. The development pressure in the counties surrounding the Newfield site compare to other New Jersey counties, local zoning practices, and the amount of land placed under agricultural easement programs in these areas might also be indicative of assessing the future of agricultural uses in the area.</p>
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15	Cover erosion rate under the controls-fail scenario. (Section 5.3.3.1)	Walker/Gross	Cover erosion rate under controls fail.	<p>SMC indicated the features and characteristics of the cover will be provided, including the <u>anticipated</u> rate of erosion over a 1,000 year period.</p> <p>Staff needs to understand what SMC anticipates for the rate of erosion considering the revised robust erosion control that will be designed to prevent erosion for 1000 years without maintenance.</p>
16	Exclusion of the ingestion and inhalation pathways for the excavation scenario. (Section 5.3.3.3)	Walker/Gross	None	<p>SMC will include the direct exposure inhalation and ingestion pathways for all excavation scenarios in Rev 1b</p> <p>There are no issues at this time. Pending review of Rev. 1b.</p>
17	Characterization of the source term	Bradbury	<p>Representativeness of samples for constraining source term</p> <p>Characterization of soil</p> <p>Representativeness of baghouse & slag samples</p>	<p>Attachment B lists only three samples of slag and two samples of baghouse dust. There is no indication that soil has been characterized as a source term. SMC response to the RAI suggests licensee plans no more experimental characterization of source term materials. The representativeness of the limited number of samples as a source term has not been demonstrated. Representativeness of the existing samples or a plan to adequately characterize the contaminated materials should be described.</p>

			<p>Application of standardized methods to exotic slag material</p> <p>Validity of ASTM D4319 testing of slag</p> <p>Performance of TCLP on baghouse dust & slag samples</p> <p>Applicability of TCLP results relative to Performance Assessment</p>	<p>Staff is uncertain of the validity of using results of ASTM D4319 testing on slag in performance assessments. This standardized approach involves interacting contaminated groundwater with uncontaminated soil. The licensee has interacted contaminated slag with uncontaminated groundwater. Details of the modified approach and its validity should be provided.</p> <p>TCLP (EPA Method 1311) was performed on one slag sample and two baghouse dust samples. How these tests were performed and how the results are applied in the performance assessment should be provided. The details of the approach and how the results were used in the Performance Assessment should be provided.</p>
			<p>Assumption of secular equilibrium</p>	<p>Attachment B of SMC's response provides evidence suggesting the assumption of secular equilibrium may be invalid. If disequilibrium is present, this may be an indication of incongruent dissolution of slag. For example, Sample 2-9-05-002 has gross activities for Th-232, Th-228, and Ra-228 of 254, 226, and 91.3 pCi/g, respectively. Likewise, sample 2-9-05-003 has gross activities for Th-232, Th-228, and Ra-228 of 307, 317, and 122 pCi/g, respectively. Since Ra-228 is the daughter of Th-232 and the parent of Th-228, comparing these activities might suggest the preferential leaching of Ra-228. However, comparing Th-230 and Ra-226 in Samples 2-9-05-001, 002, and 003 suggests thorium is preferentially leached. These apparent discrepancies should be addressed.</p>

18	Characterization of sorption parameters for use in Performance Assessment	Bradbury	Sources of sorption parameters for use in Performance Assessment	<p>RAI noted that K_d value for U, Th, and Ra from Table 17.5 were independent of the three flow path locations in RESRAD. These are the Contaminated Zone, the Unsaturated Zone, and the Saturated Zone. The K_d values came from site-specific measurements on slag. Assigning elevated K_d values to soil in the Unsaturated and Saturated Zones could result in an underestimation of doses. SMC responded to the RAI by proposing that K_d values for the Unsaturated and Saturated zones come from literature values, default distributions in DandD code or RESRAD. K_d values for the contaminated zone would come from the samples already measured.</p> <p>The staff has noted that the measured K_d for Ra of slag is less than the literature values. This raises questions about the measured K_d or the appropriateness of literature values. These anomalies should be addressed .</p>
			Use of measured sorption parameter for radium in the Performance Assessment	<p>In Appendix D, the measured K_d for Ra-226 leads to a concentration greater than 2500 pCi/L. Additionally, the Ra-226 peak is just beginning at 1000 years when the simulation is terminated. The risk significance of these results should be explained. The calculation should be carried out to peak dose due to Ra-226.</p>
20	Statements related to the use of a geomembrane in the engineered barrier. (Sections 5.2.2.2.1, 5.3.3, and 5.4.3.2)	Gillen	None	<p>SMC has indicated they will remove all references to the geomembrane in Rev. 1b of the DP to be submitted by May 16, 2008.</p> <p>Approach appears acceptable. Verification in review of Rev. 1b.</p>

21	Engineered barrier and its relation to the groundwater pathway. (Section 5.3)	Gillen Peckenpaugh	Infiltration control features & engineered barrier degradation analysis	<p>The degradation analysis of the engineered barrier should ensure that it covers degradation of the infiltration control feature.</p> <p>SMC has indicated Rev. 1b will reflect elimination of the geomembrane, discussion of the infiltration control features of the engineered barrier, and inclusion of the groundwater pathway in the dose assessment.</p> <p>Approach appears acceptable. Verification in actual review of the Rev. 1b final barrier design and resulting dose assessment assumptions. review of Rev. 1b.</p>
22	Engineered barrier design and degradation analysis. (Sections 5.4.3.2 and 8.3):	Gillen	Recent cover degradation studies (University of Wisconsin and Army Corps of Engineers)	<p>The recent studies (University of Wisconsin and Army Corps of Engineers) that have indicated vegetation, wetting/drying, and freeze/thaw can have significant negative impact on the hydraulic conductivity of soil covers needs to be considered.</p> <p>DP Rev. 1b to include an analysis of the engineered barrier disruption/degradation mechanisms.</p> <p>Verification that DP Rev. 1b includes the barrier design, a degradation analysis, and resulting dose assessment remains.</p>
24	Inconsistencies in assumptions for material properties. (Sections 5.4.3.2 and 5.4.3.3)	Gillen	None	<p>DP Rev. 1b to include consistent information on the characteristics of site subsurface soils and off-site materials to be used in the engineered barrier. Approach appears acceptable. Verification in review of Rev. 1b.</p>

25	Final design, construction, monitoring, and maintenance of the engineered barrier. (Section 8.3)	Gillen	<p>Barrier construction sequence and quality control plans.</p> <p>Consistency with responses to RAIs 69 and 70, the degradation analysis required by RAI 22, and Table 17.14 on surveillance and monitoring cost information.</p>	<p>DP Rev. 1b to include additional information on the engineered barrier design, including design details, cross sections, construction specifications, and need for monitoring and maintenance.</p> <p>Rev. 1b needs to include information on the barrier construction sequence and quality control plans and on monitoring and maintenance. In addition, the response to this RAI should be linked and consistent with responses to RAIs 69 and 70; should support the degradation analysis required by RAI 22, and should be consistent with the information in Table 17.14 regarding surveillance and monitoring costs.</p> <p>Approach appears acceptable. Verification in review of Rev. 1b.</p>
61	Status of State government role (Section 16.3.1)	Johnson	NJ response on its role & the requirements of 1403(a)	<p>SMC indicated it will update the NJ response in the DP Rev 1b. This is acceptable. However, SMC did not clarify that the NJ role response is <u>not</u> part of the LTR eligibility requirement under 1403(a). Rather, it is needed for consideration/selection of the possession-only license for long-term control under NRC guidance.</p> <p>NRC will review the update provided in DP Rev. 1b and the text that clarifies that the NJ response is not required by 1403(a).</p>
62	Basis for not selecting a local government role (Section 16.3.1)	Johnson	None	<p>SMC understands the issue and provided revised text that was acceptable and will be included in the DP Rev 1b.</p> <p>NRC will confirm that the revised text has been included in the DP Rev. 1b.</p>

63	When the possession-only license for long-term control can be issued (Section 16.3.1)	Johnson	None	<p>SMC understands the issue and provided revised text that was acceptable and will be included in the DP Rev. 1b.</p> <p>NRC will confirm that the revised text has been included in the DP Rev. 1b</p>
64	Correct statement that NRC could terminate the license in the event SMC defaults in terms/conditions of license (Section 16.3.1)	Johnson	None	<p>SMC understands the issue and provided revised text that was acceptable and will be included in the DP Rev. 1b.</p> <p>NRC will confirm that the revised text has been included in the DP Rev. 1b</p>
65	Clarify purpose of deed notice (Section 16.3.1)	Johnson	None	<p>SMC understands the issue and provided revised text that was acceptable and will be included in the DP Rev. 1b.</p> <p>NRC will confirm that the revised text has been included in the DP Rev. 1b</p>
66	Clarify other non-NRC institutional controls and role in compliance (associated with RAI 13) (Section 16.3.1)	Johnson	Update of the CERCLA soil remediation decision and a map of the institutional controls restricted areas.	<p>SMC understands the issued and provided acceptable revised text describing the institutional controls for natural resources areas and anticipated institutional controls under CERCLA soil remediation that will be included in the DP Rev. 1b. However, a map showing the potential CERCLA institutional controls areas for soil remediation is needed. The map SMC provided to the staff in late January only showed locations of soil samples and did not include the site areas with proposed restrictions on residential use.</p> <p>NRC will confirm that the status of the anticipated CERCLA lcs and a map of the areas restricted by these institutional controls have been included in the DP Rev. 1b.</p>

67	Prohibited and permitted uses and dose assessment basis (Section 16.3.1)	Johnson	Use of dose assessment results to provide the basis for prohibited and permitted uses	<p>SMC understands the issues and provided a list of prohibited uses and “activities to be conducted” and will include them in DP Rev. 1b. However, the discussion was incomplete. The “activities to be conducted” are the only “permitted” uses. No dose assessment results were discussed that provided the basis for either the prohibited or permitted uses.</p> <p>NRC will review the added discussion of how dose assessment results were used to identify the permitted and prohibited uses.</p>
68	Use of barricades (Section 16.3.2)	Johnson	None	<p>SMC understands the issue and will revise the text to remove mention of use of barricades. The revision will be included in DP Rev. 1b.</p> <p>NRC will confirm that the text has been revised in the DP Rev. 1b</p>
69	Long-term monitoring plans and risk-informed basis (Section 16.4)	Johnson, et al	<p>Potential revision to long-term monitoring plans due to resolution of leaching, infiltration control and degradation analysis, and groundwater.</p> <p>Potential revision to cost estimate due to change in monitoring plans.</p>	<p>SMC understands the issue but holds to its previous position of no leaching, therefore, no groundwater contamination, and the external pathway is controlled by the cover which the proposed surveillance plans address. Depending on the resolution of issues related to leaching and groundwater, long-term monitoring may be required. Furthermore, SMC indicated it would add infiltration controls to the engineered barrier design and provide information in DP Rev. 1b. Refer to the response to RAI 22 regarding degradation analysis of infiltration controls. Depending on the resolution of this issue, long-term monitoring of the infiltration control degradation and performance may be needed.</p> <p>NRC will review the revisions for leaching, groundwater, infiltration controls, long term monitoring, and cost estimates included in the DP Rev. 1b.</p>

70 a	Long-term maintenance plans	Johnson, et al	Same as 69	Same as 69
70 b	Revise maintenance cost estimate (Section 16.4)	Johnson, et al	Same as 69 but for maintenance	Same as 69 but for maintenance
70 c	Robust design of erosion barrier (Section 16.4)	Johnson	PMP/PMF design precluding the need for maintenance	<p>SMC understands the issue and provided a discussion that the design will meet NRC guidance and be based on maximum events. A brief discussion of how a PMP/PMF design could preclude damage from smaller events and the associated maintenance to repair such damage should be provided.</p> <p>NRC will confirm that the revised text has been included in the DP Rev. 1b</p>
71	Continued SSAB meetings (Section 16)	Johnson	None	<p>SMC understands the issue and does not believe the SSAB wants another meeting to discuss the DP revisions. However, SMC will provide the SSAB with the DP revisions, a form to provide further input on the required four institutional control questions, and provide NRC with the responses to the four questions. SMC has addressed the RAI under the circumstances and given the other NRC processes in place for involvement by the affected parties (public comment on NRC's DEIS, public meeting on DEIS, hearing, and lawsuit).</p> <p>NRC will review any responses to the four institutional questions that SMC provides.</p>

73	The total system for protection (Section 16.1)	Johnson	Description of the system elements for dose caps; engineered barriers; and NRC's five year reviews.	<p>SMC understands the issue and provided a brief description of the total system and elements that will be included in the DP Rev 1b. However, the description is incomplete and should include the following: 1) discussion of the regulatory element of "dose cap" compliance as a safety net as discussed in NUREG-1757 that would prevent exceeding the public dose limit in the event the institutional controls fail; 2) how the engineered barriers mitigate exposures such as the erosion control rock layer preventing erosion that could remove the cover and expose the slag; and 3) the NRC's five year renewal reviews for effectiveness of restrictions, engineered barriers, and funds.</p> <p>NRC will confirm that the revised descriptions have been included in the DP Rev. 1b.</p>
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