From: Lux, Jeff J
To: Saxton, John
Subject: [External_Sender] RE: RAI 11 Clarification
Date: Tuesday, April 5, 2022 9:56:51 AM
Attachments:

Excellent response, John! I think I was running around in mental circles, trying to find the "wrong document", and the detail you provided below really helped me understand better.

Since 2018, groundwater extraction has been removed from the WAA-WEST, WAA-EAST, and WAA-BLUFF remediation areas, and we added a second extraction trench in the BA1 transition zone. Now we are committing to add treated water injection between the two BA1 extraction trenches, and we anticipate extracting more of the BA1 groundwater from the transition zone than we had planned on even in the draft Rev 3.

Because of these changes, I'm asking Enercon to revisit the calculations in the 2017 spreadsheet (regarding enrichment) and Burns & McDonnell to revisit the basis of design (regarding influent concentrations). I anticipate replacing that 2017 document with a revised version when we formally submit D-Plan Rev 3.

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From: Saxton, John <John.Saxton@nrc.gov>
Sent: Tuesday, April 5, 2022 6:13 AM
To: Lux, Jeff J <jlux@burnsmcd.com>
Cc: Smith, James <james.smith@nrc.gov>
Subject: RAI 11 Clarification

You've requested clarification on the comment in RSI-11 of the January 31, 2022, email (ML22031A175). Specifically, you could not identify a discrepancy.

The discrepancy is as follows:

On PDF Page 66 of 197, the Basis of Design memorandum states

"Remediation Goals
The Nuclear Regulatory Commission (NRC) uranium remediation goal (i.e., the DCGL) of 180 picoCuries per liter (pCi/L) applies to all Remediation Areas at the site; however, the equivalent DCGL mass concentration varies across the Site as the Uranium 235 enrichment varies. DCGL mass concentration equivalent calculations and results are contained within an MS Excel® workbook entitled *Uranium Activity vs. Mass Concentration_Rev. A (07-30-18).xlsx*." (color emphasis added)

The Basis of Design also includes the following statement and table:

Remediation goals used in calculations associated with Remediation Duration Estimates are summarized below:

Remediation Area	NRC Criterion for Uranium [DCGL] (µg/L)*	DEQ Criterion for Uranium [MCL] (µg/L)	DEQ Criterion for Nitrate (mg/L)
BA1-A	201	30	N/A
BA1-B			
BA1-C	Uranium <DCGL		22.9
WAA-EAST			
WAA-WEST			
WAA-BLUFF			
WU-UP1			
WU-UP2-SSA			
WU-UP2-SSB			
WU-1348			
WU-BA3	119		
WAA U>DCGL			
1206-NORTH			
WU-PBA	Uranium <DCGL		52

Notes:

An entry found in your excel listing of ADAMS submitted documents that was provided to the NRC is found for the following document:

118	004 Pilot Test Rpt - Appendices O - W	6/19/2018	6/20/2018	ML18171A310	
119	005 Pilot Test Rpt - Appendices X - AA	6/19/2018	6/20/2018	ML18171A316	
120	Mass concentration vs. activity	6/29/2018	6/29/2018	ML18180A248	
121	Mass Concentration vs. Specific Activity for Uranium	6/29/2018	10/9/2018	ML18282A355	
122	Decomissioning PlanText - Cover thru Section 4	10/1/2018	12/17/2019	ML19351D547	ML19352E4

The date for that document is listed approximately 1 month prior to the document listed in the Remediation goals (see red highlighted text above); however, no document exists in ADAMS with a July 30, 2018 date.

In any event, that document includes calculations for three areas.

For BA3:

1556	5/31/2015	Uranium-238	108		ug/L		0.94
Average Activity to Mass Concentration Ratio (pCi/L per µg/L)							**1.37**
In BA3, 180 pCi/L total U is approximately equal to a mass concentration of (in ug/L):							**131.34**

For BA1:

TMW-13	3/24/2015	Uranium-238	852		ug/L		1.01
Average Activity to Mass Concentration Ratio (pCi/L per µg/L)							**0.85**
In BA1, 180 pCi/L total U is approximately equal to a mass concentration of (in ug/L):							**212.34**

For WAA U>DCGL

1-07	3/27/2015	Uranium-238	156		ug/L		1.20
Average Activity to Mass Concentration Ratio (pCi/L per µg/L)							**1.55**
In WAA U > DCGL, 180 pCi/L total U is approximately equal to a mass concentration of (in ug/L):							**115.78**

None of the three calculated values listed in that document match those listed in the Basis of Design; hence the discrepancy, i.e., 212.34 ug/L v. 201 ug/L for BA1, and ,131.34 ug/L 115.78 ug/L, or average or …. v. 119 ug/L for the western area.

The RSI asked if the July 30, 2018, document exists, which is probably an update to the June 29, 2018, document, and provide it to NRC.