

From: Michael Raddatz
To: Betty Garrett
Date: 07/25/2006 3:32:54 PM
Subject: Questions on Soil Decommissioning Plan - *Docket 40-8905*

Betty would you Docket this under Rio Please. I will send you their response in a minute

I have a few questions that I inherited. All relate to work on the Soil Decommissioning Plan. I have included a draft copy of the TER for you to reference

Page 2

Ponds 3 - 10

During operations, the mill tailings slurry was discharged to Ponds 1 and 2, while Pond 3 was a decant and seepage collection pond. Ponds 4 through 8 (unlined) were used for evaporation of liquid decanted from Ponds 1 and 2. Ponds 9 and 10 (lined) were constructed in 1976 for the same purpose.

The engineered earth and rock cover for Ponds 1 and 2 (now considered as Tailings Impoundments) were completed in 1999. The Plan states that Pond 3 is considered part of the main disposal cell (Impoundment 1) and is covered by those requirements. **RAM stated that they intend to do radon flux measurements of Pond 3 following placement of all contaminated soils requiring disposal. The flux testing will determine the need for an engineered cover for Pond 3. If the measured radon flux on Pond 3 is below regulatory standards of 20 pCi/m² s, then no engineering cover will be proposed, and RAM will proceed with pond closure.** If the radon flux exceeds regulatory standards, then RAM will construct a cover system to comply with 10 CFR Appendix A, Criterion 6. The sampling plan consists of collecting soil samples from 50 locations.

1) Please Justify the **no engineering cover** it appears to conflict with Criterion 6

Review of the analytical results above, the radium-226 concentrations appear to conform to the Criterion 6 concentrations for radium-226. The results for Pond 10 are indicative of the same condition that was observed within the other evaporation ponds where concentrations of other radionuclides remain elevated at depth. As a result of these factors, combined with the fact that NRC required Rio Algom to develop and submit a new soil decommissioning plan for the site pursuant to the revised Criterion 6, Alternate Release Criteria (ARC) approved for Pond 10 as a practical solution that is protective of human health and the environment. Other proposed ARC areas are described within the Soil Plan.

Page 4

Review of the analytical results above, the radium-226 concentrations appear to conform to the Criterion 6 concentrations for radium-226. The results for Pond 10 are indicative of the same condition that was observed within the other evaporation ponds where concentrations of other radionuclides remain elevated at depth. As a result of these factors, combined with the fact that NRC required Rio Algom to develop and submit a new soil decommissioning plan for the site pursuant to the revised Criterion 6, Alternate Release Criteria (ARC) approved for Pond 10 as a practical solution that is protective of human health and the environment. Other proposed ARC areas are described within the Soil Plan.

2) Locations G-1 - C3 and I2-A5 appear not to conform to Criterion 6

Page 4

A dose assessment will be completed for Pond 10 to demonstrate that the contribution to the Total Effective Dose Equivalent (TEDE) at the site is small. The Pond 10 dose assessment will account for site-specific information regarding the source term; critical group, scenario, and pathways identification and selection; the conceptual model; and calculations and input parameters. The Pond 10 dose assessment

will be completed solely with respect to dose received due to pathways related to residual radioactive material in subsurface soil.
Ponds 11 - 21 (a.k.a., "Section 4 Ponds")

3) What about Th and U ? Criterion 6(6) requires a sum of ratios analysis.

Mail Envelope Properties (44C671DC.714 : 15 : 35214)

Subject: Questions on Soil Decommissioning Plan
Creation Date 07/25/2006 3:32:44 PM
From: Michael Raddatz

Created By: MGR@nrc.gov

Recipients

nrc.gov

OWGWPO02.HQGWDO01

BSG (Betty Garrett)

Post Office

OWGWPO02.HQGWDO01

Route

nrc.gov

Files	Size	Date & Time
MESSAGE	4756	07/25/2006 3:32:44 PM

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is not eligible for Junk Mail handling

Message is from an internal sender

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User

Junk Mail handling disabled by Administrator

Junk List is not enabled

Junk Mail using personal address books is not enabled

Block List is not enabled