Rio Algom Mining Corp. (58FR 58657) 40

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December 15, 1993

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Federal Express #8238575321

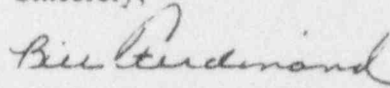
Samuel Chilk, The Secretary of the Commission
Attention: Docketing and Service Branch
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Re: Proposed Rulemaking 10 CFR §40
Conforming NRC Requirement To EPA Standards
Request for Public Comment
Federal Register Volume 58, 58657, November 3, 1993

Dear Sir or Madam:

Rio Algom Mining Corp. and its wholly owned subsidiary, Quivira Mining Company, submit the following comments for consideration on the proposed rulemaking of "Conforming NRC Requirements To EPA Standards" as published in the Federal Register notice Volume 58, No. 211 at 58657, dated November 3, 1993.

Sincerely,



Bill Ferdinand, Manager
Radiation Safety, Licensing &
Regulatory Compliance

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RIO ALGOM MINING CORP. AND QUIVIRA MINING COMPANY

COMMENTS ON

NRC'S PROPOSED REGULATIONS AT 10 CFR §40

CONFORMING TO EPA STANDARDS

RIO ALGOM MINING CORP. AND QUIVIRA MINING COMPANY

COMMENTS ON

"CONFORMING NRC REQUIREMENTS TO EPA STANDARDS"

These comments are submitted by Rio Algom Mining Corp. (Rio Algom) and Quivira Mining Company (Quivira) in response to the Nuclear Regulatory Commission's (NRC) proposed rulemaking as published in the Federal Register on November 3, 1993, at page 58657. These propose rules attempt to conform to EPA's final regulations for uranium mill tailings standards promulgated on November 15, 1993.

Rio Algom and its wholly owned subsidiary Quivira Mining Company, are uranium recovery source material licensees with uranium mining and milling interest in Ambrosia Lake, New Mexico; Lisbon Valley, Utah; and South Powder River Basin, Wyoming. Quivira's facility at Ambrosia Lake is the nation's largest uranium ore processing facility and was supported by nine underground uranium mines. Due to sustained depressed market conditions, the Ambrosia Lake mill and mines have been placed on standby status pending better market conditions. However, stabilization and reclamation on the facility's tailings impoundments commenced in late 1986 and reclamation of these impoundments presently is continuing in accordance with an approved NRC reclamation plan. The Lisbon valley facility contains an underground mine and mill complex. The mine site has been reclaimed with the mill tailings impoundments currently being reclaimed with an approved NRC reclamation plan to meet current NRC regulatory standards established in 10 CFR §40. The mill complex has been placed on standby awaiting better market condition. The South Powder River Basin area contains an uranium in-situ leaching facility. The in-situ leaching operation has been commercially licensed but has not been fully developed pending improved market conditions.

General Comments

Rio Algom generally concurs with underlying intent of revising NRC's proposed standards to conform with EPA's final "Health and Environmental Standards for Uranium and

Thorium Mill Tailings". These were promulgated and published in the Federal Register on November 15, 1993, Volume 58, No. 218 at page 60340. However, after review of the proposed regulations, several important changes are necessary to assure conformance with the intent of the settlement agreement whose provisions were the basis and foundation of EPA's final regulations.

The final EPA regulations for uranium mill tailings incorporate the provisions of a settlement agreement reached between EPA, various environmental groups, and the uranium recovery industry. The settlement agreement was published by EPA in the April 1, 1993, Federal Register notice at page 17230. Both Rio Algom and Quivira were signatories of the final agreement. Although not a signatory of the settlement agreement, NRC agreed in principle to uphold and implement the provisions of this agreement.[1]

As an integral part of the settlement agreement, it defines the steps for implementing the Memorandum of Understanding (MOU)[2] between EPA, NRC and the affected Agreement States including a call for NRC to amend its regulations in appendix A of part 40 to be consistent with the details contained within the settlement agreement.[3] Thus, in response to this settlement agreement and EPA's adoption of new standards for the disposal of uranium mill tailings, NRC is now proposing to conform it regulation under 10 CFR §40.

Although we agreed with the underlying principal to conform NRC's standards to those recently promulgated by EPA, after the review of the proposed regulations, Rio Algom and Quivira believe modifications to several of the proposed rules are necessary to conform with EPA's standards and to uphold the provisions of the settlement agreement. We believe these

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[1] Federal Register, Volume 58, No. 211, November 3, 1993, at page 58658

[2] Federal Register, Volume 56, No. 207, October 25, 1991, at page 55432.

[3] Federal Register, Vol. 58, No. 218, November 15, 1993, at page 60346 and Federal Register, Vol. 58, No. 211, November 3, 1993, at page 58658

changes will additionally prevent future misunderstandings regarding the imposition of the final regulations. These issues are presented below.

Definitions

Factors Beyond the Control of the Licensee

As currently proposed, the term "factors beyond the control of the licensee" is incomplete and is inconsistent with that promulgated by EPA.[4] Rio Algom and Quivira believe that NRC needs to incorporate the additional text contained within EPA's definition to clarify the intent of this term. The additional text is an essential and integral element of the settlement agreement which NRC stated it would uphold.

It is important to the industry that the additional language describing these factors be included so as to prevent future misunderstandings. We do not believe that the brief discussion regarding the "factors" within the preamble is adequate for the purposes of this promulgation.[5] In future years NRC staff may not refer to the preamble when applying the requirements of Criteria 6 and 6A. Additionally, there is no guarantee that future Federal or Agreement State regulators will even apply the appropriate test to determine what is "beyond the control of a licensee" unless these are expressly included within the regulations themselves.

It is essential that these concepts be included within the regulations as they address a key provision, namely the circumstances under which the milestone dates may be extended in the; (1) settlement agreement; (2) EPA/NRC Memorandum of Understanding (MOU) and; (3) final EPA regulations. Without the additional text, it would jeopardized and impair the ability of a licensee to extend a milestone because of site specific conditions. Their exclusion would compromise one of the basic tenants of the Commission's that each site is different and that

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[4] Federal Register, Vol. 58, No. 218, November 15, 1993, at page 60355

[5] Federal Register, Vol. 58, No. 211, November 3, 1993, at page 58661

reclamation plans are to be developed on site specific basis. Without language recognizing that all sites are uniquely different, the licensee's ability to cope with site specific conditions could be greatly reduced and NRC's approach in regulating such sites will be greatly changed for the worse. By omitting the additional descriptive text, as contained within EPA's standards, we do not believe that NRC is conforming with EPA's new standards nor do we believe the Commission is implementing the agreement as it was intended by the parties to the settlement.

The inclusion of the descriptive items within the term "factors beyond the control of the licensee" become even more important to the industry due to the closure of the Commission's Uranium Recovery Field Office (URFO) in Denver. With the loss of key staff, this closure will undoubtedly result in regulatory delays in reviewing and approving reclamation plans or their modifications. Industry from the start of the discussions with EPA and the environmental groups, has stressed and maintained that delays caused by regulatory inaction must be included within the standard. All parties have agreed to include these "factors" including regulatory delays, in the definition of the term "factors beyond the control of the licensee". This is evident by EPA's incorporation of such language within their definition for this term.

For these reasons, we propose the following modifications to the language for the term "factors beyond the control of the licensee":

> "Factors beyond the control of the licensee" means factors proximately causing delay in meeting the schedule in the applicable reclamation plan for the timely emplacement of the final radon barrier notwithstanding the good faith efforts of the licensee to ~~complete the barrier~~ achieve compliance. These factors may include, but are not limited to, physical conditions at the site; inclement weather or climatic conditions; an act of God; an act of war; a judicial or administrative order or decision, or change to the statutory, regulatory, or other legal requirements applicable to the licensee's facility that would preclude or delay the performance of activities required for compliance; labor disturbances; any modifications, cessation or delay ordered by the state, Federal or local agencies; delays beyond the time reasonably required in obtaining necessary governmental permits, licenses, approvals or consent for activities described in the tailings closure plan (radon) proposed by the licensee that results from agency failure to take final action after the licensee has made a good faith, timely effort to submit legally sufficient applications, responses to requests (including relevant data requested by the agencies), or other information, including approval of the tailings closure plan by NRC

or the affected Agreement State; and an act of omission of any third party over whom the licensee has no control.

Available Technology

The proposed term "available technology" is also missing explanatory language from the settlement agreement and EPA's final regulations which we believe are necessary to ensure consistency and conformity. The additional descriptive text is needed to clarify the intent of the definition "available technology" and is an essential element of the settlement agreement entered into by EPA and the environmental groups and the industry. We believe NRC must incorporate the additional language to describe the term as this will prevent misunderstandings in future years as NRC staff may not refer to the preamble when applying the requirements of Criteria 6 and 6A.

Again, without such language, there is no guarantee that Federal or Agreement State regulators will not require unreasonable technologies that are inconsistent with the settlement agreement or with industry practice unless these conditions are expressly included within the regulations themselves.

It is important the additional text be included within the final regulations as it addresses one of the principle agreements as set forth in the settlement agreement, the EPA/NRC Memorandum of Understanding (MOU) and the final EPA regulations. Without such examples, there are no gauges upon which to help judge what is considered available technology and what is "grossly excessive". As such, we propose the following language:

> "Available technology means technologies and methods for emplacing a final radon barrier on uranium mill tailings piles or impoundments. This term shall not be construed to include extraordinary measures or techniques that would impose costs that are grossly excessive as measured by practice within the industry (or one that is reasonably analogous), (such as, by way of illustration only, unreasonable overtime, staffing or transportation requirements, etc., considering normal practice in the industry; laser fusion of soil, etc.), provided there is reasonable progress towards emplacement of a permanent radon barrier. To determine grossly excessive costs, the relevant baseline against which cost shall be compared is the cost estimate for tailings impoundment closure contained

in the licensee's approved reclamation plan, but costs beyond these estimates shall not automatically be considered grossly excessive."

Milestone

As currently proposed, the definition of milestone needs to be amended as it is overly broad and could lead to misinterpretation. The sole purpose of EPA's new promulgation of uranium mill standards was to address the timeliness of emplacing the final radon attenuation cover and to provide a mechanism to assure the cover was effective in meeting the radon flux standard. Contrary to this, in the proposed regulations NRC has expanded the term "milestone" to include non-radon issues including erosion protection. These items were specifically excluded in the settlement agreement. The agreement states:

> *"Only milestones that are reasonably calculated to advance the timely compliance with the 20 pCi/m² -sec flux standard at uranium mill tailings sites are relevant to this Agreement. For example, the installation of erosion protection and groundwater corrective actions are not subject to this Agreement, ..."*[6] [Emphasis Added]

Erosion protection was not included within EPA's final regulations governing disposal of uranium mill tailings nor should it be included in NRC's proposed regulations as it is not needed and only clouds the intent of the proposed regulations. NRC states in the preamble that:

> *"Planning for reclamation activities with Commission approval is required by existing regulations."*[7]

Since NRC already controls such reclamation activities including erosion protection, we believe NRC should remove erosion protection from this promulgation as it will only contribute confusion as to what is applicable in regards to the radon cover requirements. Further, the language in the proposed regulation is vague and unclear in describing those items which are

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[6] Final NESHAP Subpart T Settlement Agreement, March 18, 1993, page 7.

[7] Federal Register, Vol. 58, No. 211, November 3, 1993, page 58661

indeed enforceable milestones. Only in the preamble does NRC state that erosion control is not an enforceable milestone.

Rio Algom believes the term "milestone" should only apply to the control of radon emissions from the impoundments to prevent future misunderstandings and misapplications. From the different usage and vague definition of the term "milestone" within NRC's proposal, such a misunderstanding may have already occurred. As one reads the proposed regulations, NRC uses several different and inconsistent terminologies to describing the term "milestone". With each of these terms, different interpretations could be construed creating the possibility for misapplication.

For example, NRC uses several different phrases to describe the term "milestone" in the preamble. These phrases include "key reclamation activities"[8], "key milestone reclamation activities"[9], "key reclamation milestone activities"[10], and "key milestone activities"[11]. NRC further clouds the intent of its meaning by using the term "key interim reclamation milestone" in the proposed regulations. What is meant by the term "<u>key interim</u> reclamation milestone"? The terms "key" and "interim" are not defined in the proposed regulations, nor is there a distinction anywhere in the preamble or the proposed regulations between any of these different phrases used to describe "milestone".

We believe it is necessary to have a definition of "milestone" that better conforms to that promulgated by EPA. A simple statement within the preamble stating they are equivalent is to EPA's not sufficient as the preamble does not carry the same force as the regulations. The statement in the preamble reads:

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[8] Federal Register, Vol. 58, No. 211, November 3, 1993, page 58661

[9] Id. at 8

[10] Id at 8

[11] Id. at 8

"The key reclamation activities for which enforceable dates are to be established are the same as in EPA's proposed rule"[12]

Although the statement from the preamble indicates they "are the same as in EPA's proposed rule", the regulations do not reflect nor correspond to EPA's definition. Specific language such as that used by EPA needs to be incorporated by NRC to ensure consistency and to prevent confusion on non-radon flux issues such as groundwater corrective action plans or erosion protection which are not strict compliance and enforcement dates. Again, on both of these items, it was specifically agreed they were to be outside the "milestone" requirements in the promulgation of standards by both EPA and NRC. EPA has through its final promulgation conformed with this agreement.

As seen from the different usages of these terms and phrases, there is already some misunderstanding as to what the actual definition of the term is, and what is its applicability. Rio Algom believes this definition needs to be better defined so as to assure clarity. Thus, we propose the term "milestone" be defined such that it is inclusive of only those items necessary to advance timely compliance with the radon flux standard. This would be consistent with EPA's final standards and the settlement agreement. Rio Algom proposes that to provide clarity and consistent intent of; (1) EPA's final promulgation and; (2) the settlement agreement, the term "milestone" be redefined as:

"Milestone means an enforceable date by which action, or the occurrence of an event, is required for purposes of achieving compliance with the 20 pCi/m^2-sec flux standard.

Regulations

Criteria 6(1)

Criteria 6(1) sets forth the requirements to employ a cover system designed to be effective for 1,000 years to the extent reasonably achievable and in any case for at least

[12] Federal Register, Vol. 58, No. 211, November 3, at 58661

200 years, to limit the release of radon-222 so as not to exceed an average release rate of 20 pCi/m^2/second. As part of the description to define the word "average", the regulation states in footnote #2:

> *"This average applies to the entire surface of each disposal area over a period of at least one year, but a period short compared to 100 years."*[13]

With the incorporation of a one-time monitoring requirement in Criteria 6(2), this footnote regarding *"the period of at least one year, but a period short compared to 100 years"* is unnecessary and in fact, is in conflict with Method 115 as proposed by Criteria 6(2). Method 115 does not require monitoring over a period of at least one year. Since Method 115 has been; (1) approved in EPA's final uranium mill tailings standards; (2) agreed upon in the settlement agreement and; (3) proposed in the NRC regulations at Criteria 6(2), this portion of the footnote should be deleted to prevent future misunderstandings or its misapplication. Rio Algom proposes the following changes to footnote #2.

> "This average applies to the entire surface of each disposal area ~~over a period of at least one year, but a period short compared to 100 years~~. Radon will come from both byproduct materials and from covering materials. Radon emissions from covering materials should be estimated as part of developing a closure plan for each site. The standard, however, applies only to emissions from byproduct material to the atmosphere."

Criteria 6(4)

In Criteria 6(4) it proposes that within 90 days of completion of radon flux verification pursuant to criteria in paragraphs 6(2) and 6(3), the licensee shall report to the Commission the results of the radon flux testing and analysis.

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[13] Federal Register, Vol.58, No. 211, Wednesday, November 3, at page 58664

As currently proposed, the language could be interpreted to require the licensee, when utilizing the phased emplacement of the final radon barrier, to submit the specified information after completing the testing for each phased emplacement area, rather than after completing the flux testing for all the phased emplacement areas. We do not believe it is the intent of the NRC regulation to require a separate submittal of the flux results for each section of the phased emplacement testing program. To require otherwise would become burdensome on both the Commission and the licensee wasting the resources of both.

Thus, Rio Algom proposes the following changes to rectify this potential misunderstanding:

> "Within ninety days of completing the final ~~the completion of the~~ required verification in paragraph (2) and (3) of this criterion, the uranium mill licensee shall report to the Commission the results of the testing and analysis, detailing the actions ..."

This change would clarify that the submittal is required after the last verification testing has been conducted completing the testing for all the phased emplacement areas.

Criteria 6A(1)

This proposed criteria establishes that upon tailings impoundment closure, reclamation be completed as expeditiously as practicable considering technological feasibility. To achieve closure in an expeditiously as practicable manner, the proposal sets forth enforceable milestone dates. We concur with the establishing of milestone dates which are associated with meeting the radon flux standard. We do not agree with establishment of other milestone dates outside the intent of the settlement agreement and those contained in EPA's final regulations.

As currently proposed within Criteria 6A(1), it expands the milestone criteria to include activities outside those previously agreed upon criteria by all the parties including NRC. The NRC proposal states:

> "Deadlines for completion of the final radon barrier and the following key interim reclamation milestones activities, if applicable, must be established as a condition of the individual license: windblown tailings retrieval and placement on the pile, interim stabilization, dewatering and recontouring."

These are not the milestones as agreed upon in the settlement agreement or those promulgated by EPA. The milestones agreed to and promulgated by EPA include; (1) windblown tailings; (2) interim stabilization (including dewatering or removal of freestanding liquids and recontouring) and; (3) radon barrier construction to achieve the flux standard.

As currently proposed, the regulations have created additional milestones by separating the "interim stabilization" milestone into two additional milestones, dewatering and recontouring. These new milestone categories are an integral and inseparable part of the interim stabilization process and should not be broken out individually from the "interim stabilization" milestone category.

Additionally, "recontouring" should not be considered a key milestone as it is but a small part of the milestone "radon barrier construction to achieve the flux standard". NRC needs to delete the milestone "recontouring" and instead incorporate the milestone of "radon barrier construction to achieve the flux standard". This would make NRC's proposal consistent with the final EPA rule and the settlement agreement. Rio Algom believes that to provide consistency with EPA's milestones and to assure conformance with the intent of the settlement agreement and EPA final standards, this section should be revised as follows:

> "Criteria 6A(1) - For impoundments containing uranium byproduct materials, actions required to achieve compliance with Criteria 6 must be completed as expeditiously as practicable considering technological feasibility after the pile or impoundment ceases operation. These controls must be carried out in accordance with a written, Commission approved reclamation plan. Deadlines for completion of the final radon barrier and the following ~~key interim~~ reclamation milestone activities, if applicable, must be established as a condition of the individual license: Windblown tailings retrieval and placement on the pile; interim stabilization (including dewatering or removal of freestanding liquids and recontouring), ~~dewatering, and recontouring~~ and; radon barrier construction to achieve the flux standard.

With the suggested changes to the proposed regulations, the final NRC rules will be consistent with actions NRC has already taken pursuant to the EPA/NRC Memorandum of Understanding (MOU)[14]. Under this MOU, the NRC has amended each of the facility licenses to incorporate the three milestone categories of windblown tailings, interim stabilization and radon barrier construction. [15] Promulgation of different milestones would be contrary to these actions and would be inconsistent with the standards promulgated by EPA.

Criteria 6A(3)

In Criteria 6A(3), NRC proposes that upon request by the licensee, it may authorize by license amendment, a portion of the impoundment to remain open to accept uranium byproduct material or other such similar material provided the licensee performs radon flux verification testing using the procedures proposed in Criteria 6(2) to assure the impoundment does not exceed the radon flux standard of 20 $pCi/m^2/second$. Further, NRC proposes that *"Authorizations to remain accessible will only be made after providing opportunity for public participation"*.

Rio Algom wishes to note that the EPA standards and the settlement agreement contains different provisions to; (1) accept byproduct material during the tailings closure process and; (2) accept byproduct material after achieving compliance with the emplacement of the radon cover milestone. As presently proposed, NRC has unfortunately tried to combined the different procedural criteria during and after the closure process into a single criteria in their proposed regulations. In so doing, NRC has misapplied the appropriate procedures and has not conformed with either the final EPA standards and the settlement agreement.

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[14] Federal Register, Vol. 56, No. 207, Friday, October 25, 1991, at page 55443.

[15] Letters From Mr. Ramon Hall (Director, Uranium Recovery Field Office) to Mr. Bill Ferdinand (Rio Algom and Quivira), dated October 22, 1991, for licenses SUA-1119 and SUA-1473.

This fact is reflected by EPA's final regulations as there are different procedural criteria specifying the steps NRC or the Agreement State will take during the closure process, and after the emplacement of the permanent radon barrier. Each of these procedural criteria are clear as to its intent. These procedures are codified as 40 CFR §192.32(a)(3)(ii), §192.32(a)(3)(iii), §192.32(a)(3)(iv), and §192.32(a)(3)(v). These regulations respectively develop procedures for; (1) approving a licensee's request to extend a milestone; (2) delaying the emplacement of the final radon barrier due to cost; (3) accepting byproduct material during the closure process and; (4) acceptance of byproduct material after the closure process.

The language presently proposed by NRC would be acceptable and in conformance only with EPA regulations at 40 CFR §192.32(a)(3)(ii) and §192.32(a)(3)(iii). It would not be acceptable and in conformance with EPA's language at 40 CFR §192.32(a)(3)(iv) which states:

> "The Nuclear Regulatory Commission or Agreement State may, in response to a request from a licensee, authorize by license or license amendment a portion of the site to remain accessible during the closure process to accept uranium byproduct material as defined in section 11(e)(2) of the Atomic Energy Act, 42 U.S.C. 2014(e)(2), or to accept materials similar to the physical, chemical and radiological characteristics of the in situ uranium mill tailings and associated wastes, from other sources. No such authorization may be used as a means for delaying or otherwise impeding emplacement of the permanent radon barrier over the remainder of the pile or impoundment in a manner that will achieve compliance with the 20 pCi/m^2-s flux standard, averaged over the entire pile or impoundment."[16] [Emphasis Added]

No where in the EPA promulgated regulation does it require the licensee to perform flux measurements or have public participation during the closure process. This EPA regulation is from and in conformance with the settlement agreement.[17]

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[16] Federal Register, Vol. 58, No. 218, November 15, 1993, at page 60356

[17] Settlement Agreement, Section III (2)(c)(i), pages 10-11.

NRC states in the preamble that it included the language requiring public notice and radon flux measurement pursuant to the proposed EPA regulation 40 CFR 192.32(a)(3)(iii).[18] However, Rio Algom would like to denote that 40 CFR 192.32(a)(3)(iii) does not refer to approval to dispose of material <u>during the closure process</u>. This regulation deals only with an extension of a milestone due to cost consideration. The EPA regulation at 40 CFR 192.32(a)(3)(iv) deals with disposal of material during the closure process and as noted above, does not contain the requirement for the performance of radon flux measurements or public participation during the closure process.

The adoption of the NRC requirements as proposed would result in prematurely closing such disposal sites since these facilities are in the process of complying with the radon flux standard through their on-going reclamation activities and in constructing the final radon cover. It does not make sense nor is it reasonable to require flux measurements during the closure period as the whole intent during that time period is to come into compliance and meet the milestone for final emplacement of the radon barrier to comply with the flux standard.

Rio Algom also disagrees with NRC's statement on page 58662 of the Federal Register notice regarding the phrase "during closure activities". NRC states:

> *'During closure activities' could include the period after emplacement of the final radon barrier.*

Rio Algom does not believe this is the correct interpretation of the term as used in EPA's regulations and the settlement agreement. We believe the intent of both the EPA promulgated regulations and the settlement agreement is that once the final radon barrier has been placed over the impoundment, excluding the area receiving byproduct material, the "closure process" ceases. At this point, if the licensee wishes to continue to receive byproduct material for disposal, it would then be required to show through radon flux measurements that the site will continue to

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[18] Federal Register, Vol. 58, No. 211, November 3, 1993, at page 58662

meet the 20 pCi/m²/second flux standard averaged over the entire impoundment including the disposal area.

This is evident by EPA's establishment of the regulations at 40 CFR 192.32(a)(3)(iv) and 192.32(a)(3)(v). The first regulation specifically deals with authorizations <u>during the closure process</u> while the latter regulation specifically deal with to dispose of byproduct material <u>after completion of the emplacement of a permanent radon barrier</u> excluding the portion of the impoundment to remain open for disposal of the byproduct material. Rio Algom believes NRC should modify Criteria 6(3) incorporating EPA's language at 40 CFR §192.32(a)(3)(ii) through (v).

<u>Miscellaneous</u>

Finally, although previously contained within the regulations, Rio Algom and Quivira believe now is the proper time to request that the following phrase in Criteria 6(1) be deleted:

> *"Direct gamma exposure from the tailings or wastes should be reduced to background levels."*

The prime reason for requesting this deletion is that the final erosion protection material such as granite, limestone or other materials may have direct gamma higher then normal background levels and may be precluded from being used by this definition. This deletion would allow such erosion protection material to be utilized. Otherwise, suitable erosion protection material may not be available for use. Rio Algom believes the direct gamma exposure standard should be applied at the property line of the land to be deeded to the government at the time of perpetual care and should be equivalent to the general population standard.

The present requirement is unnecessary and unduly restrictive as the reclaimed tailings impoundments will be in a restricted area with controlled access preventing public exposures. The tailings impoundment cover and surrounding buffer zone will limit direct gamma to near background anyway.