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Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attn: Rulemaking and Adjudications Staff

Dear Sir:

June 30, 2003

DOCKETED  
USNRC

June 30, 2003 (4:50PM)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

The National Mining Association (NMA) submits these comments in response to the Nuclear Regulatory Commission's (NRC) request for comments regarding the scope of its proposed rulemaking related to disposition of certain solid materials. 68 Fed. Reg. 9595 (February 28, 2003). NMA represents producers of most of America's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery and supplies; transporters; financial and engineering firms; and other businesses related to coal and hardrock mining. These comments are submitted by NMA on behalf of its member companies who are NRC licensees and who will be impacted by changes to NRC's current regulations for controlling the disposition of solid materials that have no or very small amounts of radioactivity resulting from licensed operations. These members include the owners and operators of uranium mills and mill tailings sites and in situ uranium production facilities.

The types of solid materials that potentially could come within the scope of the rulemaking "include furniture and ventilation ducts in buildings; metal equipment and pipes; wood, paper, and glass; laboratory materials (gloves, beakers, etc); routine trash; site fences; concrete; soil; or other similar materials." These types of slightly contaminated materials are present at conventional uranium mills and in situ extraction operations. Materials from the "restricted area" at any uranium recovery site are currently subject to release procedures that require scanning of such materials with sensitive alpha and gamma meters to ensure such materials satisfy the activity level limits specified in applicable regulatory guidance, namely Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors," the requirements in Table 2 of Regulatory Guide 8.30, "Health Physics Surveys In Uranium Recovery Facilities and other guidance. Notably, most, if not all, equipment at a uranium recovery facility that potentially would be affected by this rulemaking has *surface* contamination which can be cleaned satisfactorily for release into commerce. This is far different than neutron activation of materials from nuclear reactors or other materials that are *volumetrically* contaminated. This distinction is an important one with respect to NMA's recommendations on the proposal and must be fully addressed in great detail before a final release standard is established.

NRC's request for comments discusses five alternatives for controlling the disposition of solid materials: 1) continue NRC's current approach which allows unrestricted use based on existing guidance on survey capabilities; 2) amend the NRC's regulations to include a dose based criterion for unrestricted use; 3) allow release of solid materials only if its further use would be restricted to certain uses to limit public exposures; 4) require solid materials to be placed in an Environmental Protection Agency (EPA)-regulated landfill; and 5) require solid material to be placed in an NRC/Agreement State-licensed low level waste (LLW) disposal site.

### **A Rulemaking Is Unnecessary for Solid Materials that Only Have Surface Contamination**

NMA believes that any proposed rule should be focused narrowly on potential problems or types of materials where problems of control and the potential for significant exposures have been or can be demonstrated. Solutions must be risk-informed. NMA does not believe that risks posed by surface contamination merit a new rulemaking, and therefore, NMA supports Alternative 1 – continuing NRC's current approach as it applies to surface contamination. Under this approach, NRC allows solid materials to be released for unrestricted use if a survey does not detect radioactivity on the material to be released from licensed operations or, if radioactivity is detected, the levels of radioactivity are below levels considered protective of public health and safety and the environment. These release levels generally are contained in Regulatory Guide 1.86 but are also listed in other applicable guidance.

NRC has determined that its current approach to release of solid materials adequately protects public health and the environment and the National Academy of Sciences has concurred, finding that the current approach "is workable and is sufficiently protective of the public health." See The Disposition Dilemma: Controlling the Release of Solid Materials from Nuclear Regulatory Commission Licensed Facilities, National Academy Press, 2002, p. 10 ("the standards range from about 1 mrem/yr (USNRC's Regulatory Guidance 1.86, as estimated in USNRC, 1998b), . . ." and the July 2002 draft of the CRCPD Implementation Guidance for Part N of the Suggested State Regulations for Control of Radiation – ADAMS #ML022040232 ("The radiation dose assessments performed for ANSI 13-12 (AN5199) indicate that the potential doses associated with the criteria of Appendix A [which are taken from Regulatory Guide 1.86] are about 10 microsievert per year (1 mrem per year), or under some circumstances may be conservatively as much as 50 microsievert per year (5 mrem per year)").

NMA believes that the current surface contamination release limits for materials from source material processing sites is adequately protective of public health, safety and the environment. Not only are these limits protective in and of themselves but they are applied in conjunction with the As Low As Reasonably Achievable (ALARA) principle. When an object is decontaminated by appropriate means prior to release for unrestricted use, which could include pressure washing, cleaning with acid-based cleaners, washing in a washing machine draining to a contaminated liquids tank (in the case of clothing) or other means, the object is then tested for residual contamination. Since monitoring of the object occurs after cleaning, every attempt is made to clean the object as thoroughly as possible so that the object does not have to be recleaned and remonitored if it fails to clear monitoring on the first attempt. As a result, items are cleaned to an ALARA level that is usually well below (often by an order of magnitude or more)

existing release limits for surface contamination. Thus, under the current standards, solid materials are not leaving facilities that are "just below the limit" but rather "well below the limit" meaning that the current standards are more than adequately protective of public health and safety.

In fact, there is little or no evidence of actual problems resulting from releases pursuant to Regulatory Guide 1.86. As Steve Collins of the State of Illinois Radiation Control Program and the CRCPD indicated at a 1999 NRC public meeting: "The actual evidence from the states responding to the monitor trips is that most all of those responses are not the result of releases under Reg Guide 1.86 criteria." Transcript of December 7, 1999, Release of Radioactive Material Workshop in Chicago, Illinois.

### **Current Standards for Surface Contamination Are Easy to Implement**

In addition to being protective of public health and safety and the environment, NRC's current standards are easy to implement in the field. NRC standards require the use of instruments (an alpha detector, beta detector, gamma detector and an instrument for counting wipes) to measure and determine compliance with limits that involve little calculation and/or interpretation. This is in sharp contrast to NRC's proposed Alternative 2 that would require a dose-based criterion for unrestricted use. The implementation of a dose-based criterion is not simple since dose depends on the exposure pathways and therefore, all potential pathways will have to be examined for each item released and doses will have to be calculated. Additionally, potential exposure pathways may change over time so release levels that are acceptable now may not be acceptable in the future. Thus, NMA does not support using dose-based criterion for unrestricted use of materials which are only contaminated on the surface.

NMA acknowledges that the NAS report concludes that NRC's current approach to control and release of solid minerals is incomplete and inconsistent and recommends that NRC conduct a rulemaking to evaluate alternatives to the current system and its shortcomings. The NAS report recommends that if NRC allows release or conditional use of these solid materials that dose-based standards be used and notes that an individual dose standard of 1 mrem/year may be a reasonable starting point. As the NAS study notes, the current standards from Regulatory Guide 1.86 apply to surface contamination only and apparently were based on detection limits of the instruments used and not on risk. This does not mean, however, that the limits found in Regulatory Guide 1.86 represent a risk to public health and safety or the environment. To the contrary, as mentioned above, the current approach has been found to be adequately protective of human health and safety and the environment.

The thornier issue is volumetric contamination. Since surface contamination means that the radioactive material remains on the surface of an otherwise uncontaminated object, such contamination is easily removed using chemical or mechanical methods. On the other hand, objects having volumetric contamination are more difficult to decontaminate and are subject to a less well-articulated system of standards for clearance from further regulatory controls. Therefore, it may make sense for NRC to contemplate a dose-based release criterion for materials that are volumetrically contaminated. Again, this would have little applicability for uranium recovery facilities because in the rare case where materials are volumetrically

contaminated, such materials are by definition 11e.(2) byproduct material and can be placed in uranium mill tailings impoundments for disposal. In fact, even though the proposal contemplates that some solid materials could be disposed of in an EPA-regulated landfill, these 11e.(2) byproduct materials would not be eligible for such disposal. 11e.(2) byproduct material generally must be disposed of in a uranium mill tailings pile. See 10 CFR 40, Appendix A. NRC needs to clarify this potential conflict as well as the applicability of this rulemaking to uranium recovery facilities generally.

### **Restricted Release Is Unrealistic and Unnecessary**

Restricting release of *all* materials used and/or stored in connection with radioactive materials is unrealistic, unnecessary and possibly illegal. Minimal exposures that are within the lower range of variations in natural background should be regarded as natural exposures and do not mandate a very expensive and completely restrictive standard for the control and release of solid materials and/or equipment. NMA wonders about such things as trucks, railroad cars or other receptacles that have been used for transport and/or storage of radioactive materials -- must all of these, whether they are subject to being cleaned or not, be permanently disposed of as low level radioactive waste (LLRW)? If so, the cost of such disposal would be astronomical and totally without any relation to the potential benefits since in most cases, unless there has been contamination by activation, surface contamination can be removed more than adequately to protect public health and safety. Any such policy would conflict with the NCRP's negligible individual risk level (NIRL) rationale and indeed the explanations associated with the American National Standards Institute (ANSI) standard relating to these matters. It would also not be justifiable on the basis of protecting public health and safety given any risk, much less significant risk, of harm and therefore, is beyond NRC's statutory authority under the AEA.

Finally, there is not enough waste disposal capacity for existing low level radioactive waste, particularly high volume LLRW, and the new NRC decommissioning rules will create additional significant volumes of materials that may need to find a disposal home. Restricting release of any and all solid materials or equipment that have been involved with any radioactive materials of any kind would just exacerbate the shortage of disposal capacity problem even further. Indeed, any rule setting a 1 or 2 mrem dose limit for the release of contaminated solid materials will generate enormous quantities of wastes with very low level of radioactivity. NMA wonders how these new volumes of materials will be handled given the shrinking disposal capacity in the United States. Creation of additional quantities of wastes and the problems related to the disposal of that waste will impede the decommissioning of many licensed sites throughout the United States by dramatically increasing costs and by preventing decommissioning through sheer lack of disposal capacity.

### **Increasing Public Confidence May Not Be Possible**

Increasing public confidence in NRC's regulatory process is important. It helps both NRC and its licensees develop positive working relationships with the public. NMA questions, however, whether, in this instance such a goal is even remotely achievable. Anyone who has attended one of the public meetings on release of solid materials over the past few years would likely answer in the negative. Some views on disposition of materials released from licensed

operations are so extreme that there is little hope of consensus and frankly, little need for consensus. No matter which alternative NRC chooses, some sector of the public will assert that the agency did not listen to the "public" and therefore, the process cannot be trusted. If NRC allows releases of solid materials, then there will be allegations that the NRC is putting the public at risk. If NRC requires all solid materials to be directly disposed, then scientists will allege that NRC is putting perceptions before science. Given that this is a no-win situation regarding increasing public confidence on this particular rulemaking, NRC should focus on its overall goal of ensuring that the use of radioactive material be conducted in a manner that protects public health and safety and the environment. What does NRC need to do to ensure that solid materials be handled to protect public health and safety and the environment? NMA believes that NRC needs to look no further than the current approach at least as materials contaminated on the surface are concerned.

NMA appreciates the opportunity to submit comments on this matter.

Sincerely,

A handwritten signature in black ink that reads "Katie Sweeney". The signature is written in a cursive, flowing style.

Katie Sweeney  
Associate General Counsel

**From:** Carol Gallagher  
**To:** Evangeline Ngbea  
**Date:** Mon, Jun 30, 2003 4:26 PM  
**Subject:** Comment letter on Controlling the Disposition of Solid Materials

Attached for docketing is a comment letter on the above noted subject from Katie Sweeney, National Mining Association, that I received via the Rulemaking website on 6/30/03.

Carol