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to: TOM O'BRIEN
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re: SP-99-074
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From the desk of...

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STATE OF COLORADO

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Colorado Department
of Public Health
and Environment

November 10, 1999

Tom O'Brien
U.S. Nuclear Regulatory Commission
Washington DC 20555-0001

RE: REQUEST FOR INFORMATION SP-99-074

Following is Colorado's response to the additional questions contained in SP-99-074.

1. **How were your State's radiological criteria derived and to what type of materials (e.g., medical, pipe scale) do they apply? If Regulatory Guide 1.86 was used as a basis please indicate so, if another technical basis was used, please provide that basis.**

Prior to the 25 mrem/yr standard for unrestricted release, we had used Reg. Guide 1.86. Now we use a use 25 mrem/yr as a maximum dose, with an ALARA requirement. As appropriate, we use MARSSIM and RESRAD to assist in the evaluation. We have, on occasion, asked an applicant to perform a case-specific risk evaluation.

On a case-by-case basis, Colorado has authorized the disposal of items contaminated with or containing radioactive materials - both byproduct material and NORM. In regard to whether the contamination was surficial or volumetric, if surficial we require that the surface be cleaned ALARA prior to release. In evaluating impacts from any release or disposal, we perform calculations on the total amount of material present.

Other guidance has been concentrations for release into the sewer, and the concentrations acceptable in food products for consumption.

2. **How are your State's radiological criteria applied (e.g., through guidance, licensing actions, regulations)?**

The criteria have been applied through a licensing action, usually a termination, and as an authorization to dispose of contaminated material in a landfill. When contamination has set off alarms at landfills or scrap dealers, the material has been released if 1) no discrete source could be found, and 2) the exposure levels have been within the range of background for the State.

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3. **What surveying/monitoring methodologies are used? If NUREG/CR-5849 or MARSSIM are used, please indicate so. If a State developed or another method is used, please provide that method.**

Colorado looks for guidance to NUREG/CR-5849, MARSSIM, NUREG 1500 and NUREG 5512. NOTE: It would be helpful if the NRC would consolidate its guidance.

4. **What type of instruments (e.g., manual versus automated, hand-held versus stationary, barrel counters versus conveyor systems) and what sensitivity (i.e., lower limit of detection) values are used as selection criteria for instruments used in demonstrating compliance with the radiological criteria provided in response to Question 1?**

Applicants in Colorado have used manual, automated, hand-held and stationary systems. The sensitivity and calibration of the instruments are evaluated when an application to dispose of material or to terminate a license is received. We have not maintained a listing of the particular instruments nor the sensitivity for each application.

6. **If your release criterion is zero, how do you have your licensees determine that a solid to be released is not radioactive or meets the zero criterion?**

We do not use a zero criterion.

6. **If any State licensees currently have volumetric release authorization, please identify the licensees and whether the quantities released are tracked, summarize the scope of these authorized activities, and provide the criteria used in granting the authorization.**

No State licensee is currently authorized for volumetric releases.

As a general comment, we are concerned with the approach contained in the letter of the three members of the Committee on Commerce. The letter presents a legalistic argument which does not reflect the real world of radioactivity in which we live. Nor does it reflect the fact that NRC's authority is limited to special, source and byproduct material.

Because of the significance of this, we request that the NRC provide a copy of its response to the letter of the three members of the Committee on Commerce to each of the Agreement States.

Sincerely,



Robert M. Quillin, Director
Laboratory and Radiation Services Division