

D&D (SPOS)

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# STATE OF COLORADO

AM/ASD

Bill Owens, Governor  
Jane E. Norton, Executive Director

*Dedicated to protecting and improving the health and environment of the people of Colorado*

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Colorado Department  
of Public Health  
and Environment

<http://www.cdphe.state.co.us>

APR 06 1999

Paul H. Lohaus, Director  
Office of State Programs  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-001

**RE: SP-99-018 GENERALLY LICENSED PORTABLE MOISTURE DENSITY GAUGES**

Colorado is opposed to authorizing the distribution of moisture density gauges under a general license because dose limits in Part 20 will be exceeded, users of the devices will not have adequate training, and because merely having an annual contact is not adequate to ensure the safe use of these devices.

### EXPOSURE LIMITS

The exposure from moisture density gauges (MDG) is too high to treat the devices as generally licensed. While the NRC staff appears to have made its evaluation based on the exposure from personnel monitoring, the evaluation failed to consider public dose. Since the public dose limit was lowered in 1994, Colorado has emphasized evaluating this standard at its MDG licensees. It is not uncommon for licensees to have more than 20 gauges. When these are stored in one location, we have found many examples where a licensee has exceeded the public dose limit. Often we require additional shielding before granting a license or an amendment for additional devices. Our licensees have had to move their storage locations and/or add shielding to reduce exposures to non-radiation workers. Were MDG licensees not evaluated through a licensing and inspection program, the licensees would neither know they were exceeding public dose limits, nor know how to reduce exposures.

We believe the Commission was correct in asking for an evaluation of risks relative to devices being lost and/or stolen. Because these types of devices are routinely stolen, we believe evaluating the consequences of the theft must be considered when evaluating "conditions of normal use." Review of Seaman Nuclear Corporation's (Seaman) MDG device sheets reveals that exposure rates from their devices can exceed 1 R/hr. It is not reasonable to believe a stolen gauge is unlikely to expose anyone over 500 millirem.

Reliance on past monitoring cannot be used to predict future exposure rates were the devices generally license. Not only are public doses reduced through licensing and inspections, but worker exposures are also reduced.

SP-A-4

SP-AG-5

PDR STPRG

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As a final comment regarding doses, while not specifically related to Seaman's request, Colorado believes that the basis for approving a device to be distributed as a generally licensed should be reviewed. The 500 millirem standard was established when the public dose limit was 500 millirem. Now that the public dose limit has been reduced, it is time to also reduce the exposures allowed from generally licensed devices. As the NRC stated when it proposed regulations to permit the release of therapy patients, exposures up to 500 millirem for members of the public may be permitted *when justified*. There has been no justification why general licensees should be allowed to receive 500 millirem per year.

#### **TRAINING**

For all of the issues discussed under training, an evaluation must consider that there is a high turn over rate among users of these devices. Having an individual certify that he has been trained prior to purchasing the device does not assure that his co-workers or replacement will also have the training.

The device sheets for Seaman's MDG's require user training. A frequent item of noncompliance is that users have not received required training. Occasionally we receive an application for a MDG license in which no one has had any training. If the MDG is generally licensed, there will be a workforce of untrained individuals.

A second area of training that will deteriorate involves Department of Transportation (DOT) requirements. Failure to comply with DOT requirements is one of the more common citations issued to MDG licensees. Elimination of a specific license will create more problems not only for the licensees, but also for "First Responders." If MDG's are to be generally licensed, what assurance is there that users will be properly instructed in shipping requirements.

Two of the ways radiation control programs educate licensees is through the application process and through license conditions. A general licensee will not be afforded this opportunity. Licensees and all users of radioactive materials are required to be familiar with the applicable sections of the regulations. Our licensees know that they must secure their MDG at temporary job sites, and must report the loss of theft of the device to our program. Our general licensees are not aware of this requirement. If MDG's are generally licensed, the licensees will cease to report the theft of the device.

The device sheets for Seaman MDG's recognize that typical users are not qualified to repair these devices. Colorado notes this as a license condition. If the devices were generally licensed, users, for economic reasons, might open the devices to repair them. They will not know that they should not do this. This too should be evaluated when considering the potential doses to general licensees.

During the last year, Colorado conducted a survey of general licensees that possess devices containing sealed sources. General licensees reported that no one was in charge of radiation safety, and there had been no training. The potential hazards from MDG's are too great to allow them to be used with no training and no one in charge of safety.

#### ANNUAL CONTACT BY SUPPLIER IS INADEQUATE

SECY-98-232 implies that an annual accountability program would provide more frequent contact than the current inspections. This is not true. NRC currently contacts all licensees on an annual basis through its collection of fees.

If Seaman notifies the NRC when a general licensee does not respond to their survey, the concept is that the NRC will follow up. If the NRC does not receive license fees, how will it afford to track down these licensees. Current Colorado licensees know that they must notify us prior to moving. General licensees do not. In a survey of general licensees, excluding exit signs and static eliminators, almost half of the surveys sent were not returned. Similar results for MDG's could be expected if they too were generally licensed.

If Seaman goes out of business before the NRC initiates a tracking system for general licensees, will these licensees then revert to specific licensees?

#### OTHER COMMENTS

Colorado strongly supports the Commissioners' recommendation to initiate a screening method to determine whether individual issues should be referred to the Office of State Programs for possible coordination with Agreement States.

The amount of americium-241 in these gauges exceeds that amount that can be disposed of at most disposal sites. Our regulatory programs have trouble disposing of these sources for specific licensees when the manufacturer will not take possession of the source. We should not lose control of licensees, as we would were we to generally license MDG's, when there is difficulty disposing of the sources.

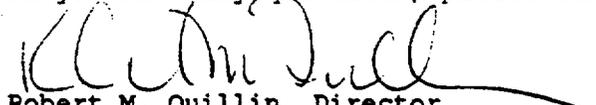
One of the ways Colorado has helped maintain control of devices is to require a use log. Prior to this requirement, licensees did not know a device was missing until we asked them to identify its location. Without this control, more sources will be lost.

SECY-98-232 seems to imply that the NRC wants to reduce the regulatory burden on MDG licensees, and we agree with this objective. Unlike the NRC's NUREG 1556 Volume 1, Colorado developed simplified application for MDG license applicants that addresses most safety concerns and still reduces the

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regulatory burden. The application informs the applicant what is require in simple language, and asks the applicant to commit to meeting the requirements. If the NRC wants examples of how to reduce the regulatory burden, Colorado, as well as other Agreement States, have already done this without treating MDG users as general licensees.

If you have any questions, please contact Jake Jacobi at (303) 692-3036.



Robert M. Quillin, Director  
Laboratory and Radiation Services Division

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SP-A-4

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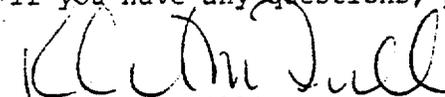
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