



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

January 16, 1997

Darrell Basinger
Hauni Richmond, Inc.
2800 Charles City Rd.
Richmond, VA 23231

Dear Mr. Basinger:

This letter is in reference to information recently received by the NRC concerning leaking sources in Hauni Richmond gauges. The State of North Carolina (NC) has reported that their licensee, R. J. Reynolds (RJR), has determined that six strontium-90 sealed sources contained in Hauni Richmond devices (Model 60-01-DR) have given a positive leak test result. RJR reported that device serial numbers 824, 820, 826, 892, 1066, and 1143 were the gauges having leaking sources. These positive results have occurred from 1990 to present. In addition, RJR reported that approximately 19 "questionable" sources were replaced in their devices during a return program of 67 Hauni Richmond gauges (serial numbers less than 1000) in 1991 and 1992, and that a Hauni representative from Germany indicated that as many as 25 additional leaking sources have been detected worldwide in Hauni gauges. In most cases, the reported leaking or "questionable" source has been the reference source. The suspected causes of RJR's leaking sources include corrosion, weld failure, and one instance of human error. RJR also indicated that a new calibration procedure for the gauge had been provided by Hauni whereby the reference source remains stationary and the calibration involves electronic adjustments only, and indicated that the original calibration procedure required movement of the reference source.

This information raises concerns that there may be a problem with the gauges or the operational procedures that causes an increased incidence of source failure and leakage, and the spread of contamination onto workers and equipment and the product being measured. To evaluate these concerns and determine the acceptability of the devices for continued licensing, please address the following issues:

1. Provide an accurate account of the number of leaking sources that have been identified in Hauni Richmond Model 60-01-DR and Model NSRB-14DS gauges, and the dates upon which the leakage was identified and reported to Hauni.
2. Indicate the model and serial numbers of each leaking source and whether they were reference or measuring sources.
3. For each source, provide the cause of failure as determined by Hauni, and provide the suspected causes reported by the users of the devices. If the cause of failure was not determined, provide an explanation of why the cause was not determined.
4. Provide past and current recommended wipe test procedures for these devices and indicate the reasons for any changes in the procedures. In particular, please address the adequacy of the procedures in detecting leakage from the reference source.

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5. Provide past and current recommended calibration procedures for these devices and indicate the reasons for any changes in the procedures. In particular, address the change from a moving reference source to a stationary, electronically calibrated reference source. Was this change intended to decrease the potential for damage to the reference source? If so, how and why is it intended to decrease the potential?
6. Provide a description and the results of any analysis of this issue that has been performed to date and any past or future corrective action recommended or taken by Hauni to correct the problem and notify users of the potential for leakage.
7. Indicate if any design changes to the devices or sources are necessary to correct the problem.
8. Indicate if the leaking sources are limited only to certain populations (i.e., range of source or device serial numbers, specific source or device models, environmental conditions, specific licensees, etc.).

Please provide this information within 20 (twenty) days of the date of this letter. If you are unable to provide complete information within 20 (twenty) days, please provide an interim report containing as much information as is available and indicate the schedule for providing the complete information.

If you have any questions concerning this request, please contact Ms. Michele Burgess at (301) 415-5868 or Mr. Douglas Broadus at (301) 415-5847.

Sincerely,

Original Signed by
 Steven L. Baggett, Section Chief
 Sealed Source Safety Section
 Medical, Academic, and Commercial
 Use Safety Branch
 Division of Industrial and
 Medical Nuclear Safety
 Office of Nuclear Material Safety
 and Safeguards

cc:
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Distribution:

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