



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

MAR 30 2004

Mr. Steven McKew
Manger, Compliance Engineering
Northrop Grumman Electronic
P. O. Box 746, Mail Stop 1401
Baltimore, MD 21203

Ref No.: 04-0047

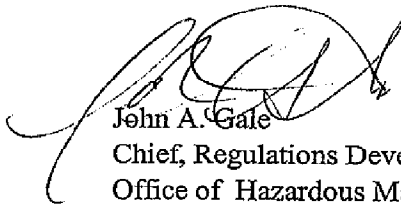
Dear Mr. McKew:

This is in response to your letter dated February 25, 2004, concerning the requirements for measuring levels of radioactive contamination on the external surfaces of packages of radioactive material offered for transportation under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-181).

Section 173.443(a) requires the level of non-fixed (removable) radioactive contamination on the external surfaces of a package offered for transportation to be kept as low as reasonably achievable. The HMR prohibit the non-fixed radiation contamination to exceed the limits set forth in Table 11 and authorize the use of a wipe survey or other assessment method to check for non-fixed radioactive contamination. The use of wipes is a suggested technique; however, there is no specification for the type of instrument to be used to measure the amount of activity on the wipe. The regulations permit other methods to be used to assure that contamination is within acceptable limits. The HMR provide shippers considerable flexibility to determine the most appropriate method among recognized procedures to achieve the performance standard.

I hope this information is helpful. Please contact us if you require additional assistance

Sincerely,



John A. Gale
Chief, Regulations Development
Office of Hazardous Materials Standards



040047

173.443

NORTHROP GRUMMAN

Refer to
§173.443
RAM
04-0047
Electronic Systems
Northrop Grumman Corporation
Post Office Box 746
Baltimore, Maryland 21203

February 25, 2004

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
Research and Special Programs Administration
400 7th Street, S.W.
Washington, D.C. 20590-001

Subject: Clarification concerning contamination control of external packages containing radioactive material (HMR; 49CFR Part 173.44)

Dear Mr. Mazzullo,

Northrop Grumman Electronic Systems has historically shipped an electronic component that contains trace quantities of a radioactive isotope. We currently ship this as "Radioactive material, excepted package-instruments or articles, UN2911".

Our manufacturing process takes a small glass ampule slightly larger than the size of your average pill capsule. This ampule has a trace amount of radioactive material sealed inside what we deem an electronic tube. Once sealed, we wipe/smear and ensure no external contamination exists on the external surface of the ampule/tube. Our manufacturing process then has the electronic tube connected to additional electronics and further encased within a sealed metal housing. At this point in the manufacturing process, the external surfaces are again smeared to ensure there is no external contamination on the surface of the sealed metal housing. As a reference, once it is incorporated in the larger assembly, the approximate size of the unit is that of a VCR tape. At this level of assembly, all requirements for labeling are verified, and there is a zero radiation reading on all surfaces. The unit is then cleared by our radiation safety procedures as to not posing any handling hazard, not possessing any surface contamination, and not having any surface readings.

At this point the unit is moved to the shipping department for transportation to another facility for incorporation into a larger electronic component.

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My question involves our interpretation of 49CFR 173.443, and if that interpretation would require wipe testing of the surface on the box being shipped to our other facility, or can we utilize the documented wipe testing performed at the two previous quality check points as verification of contamination control. Our operational goal is to ensure there is no surface contamination at two key manufacturing points, and then release the sealed unit as free and clear. Our approach is to ensure the unit never leave the manufacturing area with any reading of radioactivity, and always with zero surface contamination, fixed or smearable. I liken this analysis to that of smoke detectors, and a case of detectors being readied for shipment.

I greatly appreciate your assistance in this manner, and look forward to your response.

A handwritten signature in black ink, appearing to read "Steven McKew". The signature is fluid and cursive, with a large loop at the end.

Steven McKew
Manager, Compliance Engineering
Northrop Grumman Electronic Systems
P.O. Box 746, Mail Stop 1401
Baltimore, MD 21203

Ph (410) 993-8940
Fx (410) 993-2753
Cell (410) 227-6399