



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

JUN 10 1999

Mr. Vernon E. Vondera
Chief, Safety Office
Department of the Army
U.S. Army Tank-Automotive and
Armament Command
Armament and Chemical Acquisition
and Logistics Activity
Rock Island, IL 61299-7630

Ref. No. 99-0119

Dear Mr. Vondera:

This is in response to your letter dated May 4, 1999, requesting a clarification of the requirements in 49 CFR 173.443, concerning the control of contamination on the external surfaces of packages of radioactive material offered for transportation.

You state that before the regulations were revised (Docket HM-169A, which became effective on April 1, 1996), the second sentence in § 173.443 (a) read: "The level of non-fixed radioactive contamination may be determined by wiping an area of 300 square centimeters of the surface concerned.....," whereas after April 1, 1996, the wording was changed to: "The level of non-fixed radioactive contamination may not exceed the limits set forth in table 11 and must be determined by either:

- (1) Wiping an area of 300 square centimeters of the surface concerned : or
- (2) Using other methods of assessment of equal or greater efficiency, in which case the efficiency of the method must be taken into account:"

You also state that in 1985 the Department of the Army requested a clarification of § 173.443. You enclosed a copy of RSPA's response, in which we stated "... it is desirable to allow flexibility in the manner of ensuring compliance," and "if a shipper utilizes methods which do not rely on actual wipe samples, such as new packaging material which is protected from on-site contamination, it is acceptable as long as it ensures compliance." You asked if the current regulations allow the same degree of flexibility.

The answer is yes. Sections 173.443 (a)(1) and 173.443 (a)(2) allow a shipper the same degree of flexibility as before. The shipper must either make one or more wipe measurements and compare the results against the limits in table 11, or use another method of equal or greater efficiency.

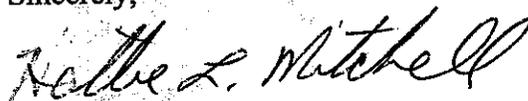


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As used in § 173.443(a)(2), "efficiency" means either the ratio of a measured value of contamination (such as from a wipe) divided by the actual contamination on the surface of the package, or, in a more general sense, an alternate method which gives the same or greater assurance that the package contamination levels do not exceed the stated regulatory limits.

I hope this information is helpful. Should you have further questions, please contact us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Hattie L. Mitchell".

Hattie L. Mitchell, Chief
Regulatory Review and Reinvention
Office of Hazardous Materials Standards



DEPARTMENT OF THE ARMY
UNITED STATES ARMY TANK - AUTOMOTIVE AND ARMAMENTS COMMAND
ARMAMENT AND CHEMICAL ACQUISITION AND LOGISTICS ACTIVITY
ROCK ISLAND, ILLINOIS 61299-7630

4 May 99

REPLY TO
ATTENTION OF

Safety Office, Armament and Chemical
Acquisition and Logistics Activity

Betts
§ 173.443
99-0119

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/RSPA (DHM-10)
400 7th Street SW
Washington, D.C. 20590-0001

Dear Mr. Mazzullo,

This is in reference to Title 49. We would like an interpretation of section 173.443, Contamination Control requirements and how it applies to the U.S. Army.

First a little background information. Our Command procures and manages Nuclear Regulatory Commission (NRC) licensed radioactive material for use in Army weapon systems. These weapon systems are distributed throughout the country and the world to be used for military purposes (exercises and otherwise). Many of these systems were procured and distributed twenty or thirty years ago and are still in the field. The radioactive material consists of low level radioactive material that qualifies it to be shipped as "excepted packages-instruments or articles" under Title 49 Code of Federal Regulations (CFR) 173.424.

The NRC requires our Command, as the entry point for these weapons systems into the Army arsenal, to hold a NRC license. As the NRC licensee, we are responsible to ensure that end users have a radiation protection program (RPP) that meets the minimum CFR and NRC license requirements. The RPP consists of written documents, guidance, newsletters, website material, and periodic inspections or visits.

In 1985, we requested an interpretation of 49 CFR 173.443 and obtained the enclosed DOT letter (September 25, 1985). However, we feel that this issue needs to be revisited due to the amendment of 49 CFR in 1995. Prior to 1995, the rule for contamination control (49 CFR 173.443) stated: "The level of

non-fixed radioactive contamination **may** be determined by wiping an area of 300 square centimeters." The wording was changed to: "The level of non-fixed radioactive contamination may not exceed the limits set forth in Table 11 and **must** be determined by either (a) Wiping an area of 300 square centimeters... or (b) Using other methods of assessment of equal or greater efficiency."

We always assumed the CFR provided a wide degree of variance or flexibility based on the 1985 letter (like a performance standard). However, it seems that it has become more rigid in specifying (like a specification standard) the exact steps to take in shipping packages.

What alternative "methods of assessment" can be justified by the statement of 173.443(2)? We are not sure how much variance this statement allows us. For example, many times the device is wipe tested prior to maintenance. If the device is clean and new packaging material is used, is this acceptable? However, the terms "equal or greater efficiency" implies nothing less than a wipe tests analysis of the package surface.

Typical shipment methods the Army uses in lieu of wiping the surface of the package may include any or all of the following precautions:

- o Using new packaging materials.
- o Wiping the device instead of wiping the surface of the package.
- o Invoking 49 CFR 173.7(b).
- o Personally transporting the device instead of consigning it to a carrier.
- o Checking the annual leak test records (for those items that require it).

- o Checking tritium devices for illumination. The assumption is that if all sources are illuminated, it can safely be shipped.
- o Shipping the instrument or article as "Limited Quantity."

Our program is based on the cooperation of a great many people. We can make recommendations to limit the spread of contamination. However, we cannot mandate that all installations set up and use counting laboratories. The funds are just not available. Sending wipe samples off to a qualified laboratory is another options that many installations take. However, the turn around time may be up to two weeks. This delay is often not acceptable.

Title 10 CFR 20.1906(d) requires us as licensee to report immediately to the NRC and the final delivery carrier any time the surface contamination exceeds the limits of 173.443. This has become a point of constant emphasis in our program. It is in our best interest to find away to comply.

You are welcome to review our draft transportation guidelines. It can be downloaded from the following FTP site: <ftp://ftpserver.ria.army.mil/Safety/TB430197/Draft/>. More information can be found at: <http://www-acalal.ria.army.mil/ACALA/SAFETY/safe.htm>.

We appreciate any comments, interpretation, or advice on how we may best comply with the regulatory requirements.

The point of contact is Mr. Gavin Ziegler, (309) 782-2995.

Sincerely,


Vernon E. Vondera
Chief, Safety Office

Enclosure

Enclosure

Copy Furnished:

Mr. Fred Ferate
Radioactive Materials Branch
U.S. DOT/RSPA (DHM-23)
400 7th Street SW
Washington, D.C. 20590-0001



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of Transportation
Research and
Special Programs
Administration

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SEP 25 1985

Commander, U.S. Army Armament,
Munitions and Chemical Command
ATTN: AMSMC-SFS
Department of the Army
Rock Island, Illinois 61299-6000

Dear Sir:

Thank you for your letter of August 22, 1985, concerning compliance with the removable contamination limits specified in 49 CFR 173.443.

As with many of the DOT requirements, the removable contamination limits specify what must be accomplished and do not elaborate on how this must be accomplished. Given the very diverse shipping situations to which these limits apply it is desirable to allow flexibility in the manner of ensuring compliance.

The shipper has responsibility for ensuring that every package complies with the stated limits. If a shipper utilizes methods which do not rely on actual wipe samples, such as new packaging material which is protected from on-site contamination, it is acceptable as long as it ensures compliance.

Sincerely,

Richard R. Rawl
Chief, Radioactive Materials Branch
Office of Hazardous Materials Regulation
Materials Transportation Bureau

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