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EG&G ROCKY FLATS

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INTEROFFICE CORRESPONDENCE

DATE: October 13, 1992

TO: K. Lenarck, Traffic, Bldg. 111, X4430

FROM: E. M. Lee
E. M. Lee, Solar Ponds Remediation Project, Bldg. 080, X8523

SUBJECT: SHIPPING CONTAINERS - EML-119-92

Attached is an article on DOT's HM-181 Rule which raises questions with regard to our planning for the off-site shipment of Pondcrete/Saltcrete. We have been informed by DOE that the earliest we should plan on Nevada Test Site being open for receipt of low level mixed waste is FY-98. We currently have existing half-crates which were not qualified to the HM-181 rule. Could you provide us an assessment of the rule and what options are available to us to either qualify the existing half-crates if possible, or what action would be required to obtain a compliant half-crate. For your information, we are currently planning on starting processing the pondsludge in FY-93 in support of cleaning out the ponds. This task is required to support the AIP and the IAG OU-4 Remedial Investigation.

Please contact Don Ringle on extension 8523 or digital page 5243 for any question on this issue or for any additional data.

DRF:apt

Attachment:
As Stated

cc:
P. G. Agilar
D. R. Ferrier
D. E. Jossefy
R. V. Morgan
J. M. Prochazka
J. D. Roberts

A-OU04-000414

ADMIN RECORD

DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE

Compliance

DOT's HM-181 Rule Means Major Changes in Hazardous Materials Shipment

Shippers of all hazardous materials now have about eighteen months left—until October 1, 1993—to prepare for compliance with the Department of Transportation's (DOT) new HM-181 shipping rules. The rules change nearly everything about shipping hazardous materials—from how substances are classified to how shipping papers are filled out, from the type of packaging that is permitted to the emergency response requirements. The deadline is even closer—October 1, 1992—for shippers of poisonous by inhalation (PIH) or infectious substances.

"DOT's new rules have been in the making since 1982," says attorney Stanley Hoffman. "They represent the U.S. effort to bring our shipping rules closer to international and United Nations' standards." For international shipments, rules quite similar to the HM-181 rules went into effect in January 1991. These rules have also affected domestic air shipment since, as a matter of practice, airlines will not move air freight that doesn't conform to international regulations.

CHANGE TO PERFORMANCE STANDARDS FOR PACKAGING

A major change brought about by HM-181 is a shift from a design to a performance standard for hazardous materials packaging. Under current DOT rules for domestic shipment of hazardous materials, shippers are told exactly what packaging is required for the material being shipped, down to what kind of wood a crate must be made of and how many nails the crate has to have in some cases. Performance standards, on the other hand, do not specify how a package is to be designed, but only how it must perform, withstanding a drop test, leak test, and so on.

MATERIALS CLASSIFICATION

DOT HM-181 revises how hazardous materials are classified. Under current rules, hazardous materials are classified by their hazardous characteristics—i.e., corrosive, explosive, infectious. The same classifications are used under the new standards, with some changes in the classification criteria and introduction of some new classification criteria, such as corrosivity to aluminum. But HM-181 also introduces the element of "packaging group" into hazardous materials classification. There are three groups: Packing Group I, most severe hazard; Group II, medium severity; and Group III, less severity. Packing group designations, in combination with materials classifications, will drive the package performance requirements. "In some cases, shippers will have new expenses because they will have to change the shipping package to a more expensive one than is currently used," Hoffman says.

Another expense will be determining what package group a product falls into if it is not specifically listed in the DOT rules. Products that are not listed will have to undergo various tests for inhalation toxicity, vapor pressure, vapors, viscosity, etc., to determine their classification, subsidiary hazards (if any), and packing group. Some shippers will have to send their packagings out for testing by third party laboratories. And the

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use the better package was to save a couple of bucks. So you're negligent for not using the Group I package.' I'm concerned that over a long enough time with enough lawsuits, shippers of hazardous materials are going to find themselves forced to gilt-edge all their packaging."

WILL EUROPEAN STANDARDS WORK HERE?

"The whole impetus for the change to the new rules was to bring the United States into greater conformity with European and U.N. standards on hazardous materials shipments," Hoffman says. "But there are some real differences between the situation here and in other countries. Other countries don't have our liability climate for one thing. For another, movements by rail and highway here tend to be relatively longer than in other countries. It's not yet clear how the performance-based standards will work here. Even DOT seems to concede that performance standards can't be entirely trusted. The rules have added a vibration test and a required minimum thickness on reusable drums and other exceptions to a purely performance-based approach. I think those reflect some uncertainty at DOT."

Vitollo agrees that it's not yet clear that packages that meet the performance requirements will withstand the U.S. distribution environment. "Although DOT indicates packaging must withstand conditions 'normally incident to transport,' that gives no guarantee a package will withstand the trip. Shippers will need to take steps to ensure that the package will survive the distribution environment. It's important to remember that the new standards, as did the old rules, reflect only 'minimum' requirements."

ACT NOW

"Many people are very accustomed to working with the old 49 CFR rules," Vitollo says. "They haven't yet realized that HM-181 is going to cause a complete revolution in hazardous materials shipping, in packaging, classification, placarding, labeling, and shipping paper preparation. People need to be going through their inventories now to check their material classifications and to make sure that their current packagings are tested and certified to meet the new requirements *before* the effective dates kick in. Shippers also need to determine whether materials not regulated under the old rules will become regulated under HM-181."

Vitollo suggests shippers should carefully read the preamble to the December 21, 1990, HM-181 final rule and the preamble to the corrections that appeared December 20, 1991, and after that they should study the specific sections that apply to the products they are shipping: classifications, modes of shipment, segregation requirements, packaging requirements, and hazard communication requirements. Gearing up to comply with HM-181 will take time. Not much time is left to get that process underway. ■

For further information, see *The Chemical Packaging Review: The Journal of Hazardous Material Regulation and Distribution*, P.O. Box 3144, West Chester, PA 19381-3144; Tel. 215-436-8292.

National Association

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The managers cited the following areas in the order of the largest responsibilities that had been assigned to them (with some overlap among categories): (1) compliance; (2) environmental auditing; (3) waste minimization; (4) permitting; (5) hazardous materials identification; (6) TSDF selection; (7) training; (8) safety. Also mentioned, but as demanding less attention and time, were remediation, industrial hygiene, recycling, illegal discharge risk, public and community relations, transportation, and energy conservation.

The most often mentioned stumbling block to success was lack of management support for compliance. Other problems were insufficient resources, inertia of the corporate bureaucracy, and inability to promote sufficient environmental awareness throughout the company.

Environmental managers surveyed said they spent about 80 percent of their time either complying with existing regulations or planning for compliance with new ones. The rest of the time was spent primarily on promoting environmental awareness within the company, minimizing wastes, reducing risks of illegal spills, and training. ■

Northrop

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A SUCCESSFUL PROGRAM

The Focal Point training network is now approaching its third year as a huge success. It has proved to be an ongoing opportunity for information exchange and continuous improvement as Focal Points convey information back and forth between line workers and environmental professionals. "We were able to reach out to a large number of people and mobilize them quickly," Weise said. "In part we are providing technical training, but we also have met the goal of really increasing awareness. Everybody's concerned about the environment. We have been able to empower people to do something for the environment right on their jobs." ■

CERCLA

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comparable document for all waste sent off-site to prove that the treatment facility adequately treated waste in accordance with required treatment standards. "A site owner might assume that a signed, returned manifest is sufficient documentation, but it isn't. Only a verification of treatment for specific wastes allows for tracking," Noskin says.

For further information, contact Rita Carnes, c/o Benchmark Environmental Corporation, 4501 Indian School Rd., N.E., Suite 105, Albuquerque, NM 87110; Tel. 505-262-2694. ■

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packaging will have to be tested on the shipper's specific product, or one that is quite similar in terms of specific gravity and other characteristics.

To further complicate the classification picture, HM-181 adds a whole new class of hazardous materials, Class 9, which can include certain hazardous wastes not classified in one of the other categories. Also, some hazardous waste not regulated under the old 49 CFR rules could become regulated under the new provisions.

CHANGES TO SHIPPING PAPERS

Another change brought about by HM-181 is in descriptions used for shipping papers. Shipping documents will need to reflect changes in materials classifications and the addition of packing group designations. All hazardous materials are assigned numbers under HM-181; for example, flammable gas is class division 2.3. Shipping documents will have to have the materials' class number.

NEW INNOVATION IN PACKAGING?

Vincent Vitollo, publisher of *The Chemical Packaging Review: The Journal of Hazardous Material Regulation and Distribution*, predicts that HM-181 "will have a substantial impact on packaging. It gives product and package designers a lot more flexibility to come up with packaging based on pure performance standards rather than specific construction requirements." Already, Vitollo says, "there is development work going on to create inner packagings capable of withstanding the HM-181 pressure requirements for air transport—for example, use of polyethylene ring seals on one-gallon and one-quart cans."

Vitollo also notes the development of the "superpack" by 3M and other companies. Used primarily for shipping samples, the superpack was developed to meet the performance standards for all package groups, I, II, and III.

"Performance standards will push development of new materials and improvements in both physical and chemical characteristics of existing materials," Vitollo says. "Packaging manufacturing process improvements could lead to better packaging capable of withstanding performance requirements with no drastic change in weight."

"CHEVY-CADILLAC RULE"

"Something to be concerned about with HM-181," Hoffman says, "is what I call the Chevy-Cadillac rule. This basically says that if a Chevrolet is required, then a Cadillac is authorized. If you are required to use a drum that withstands a four-foot drop test (the Chevy), then the rule says you *may* use a metal that withstands an eight-foot drop test (the Cadillac). I think there's a liability downside to this rule. Suppose there is a serious accident. The plaintiff's lawyer says, 'You used a Group III package, but you could have used a Group I package and that would have prevented injuries. The only reason you didn't

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Compliance Schedule For HM-181

OCT 1 YEAR	MATERIAL	CLASSIFY MATERIALS THAT ARE	SHIPPING PAPERS	MARK	LABEL	PLACARD	EMERGENCY RESPONSE	PACKAGING	ALL OTHER REQ
1991	NEW EXPLOSIVES	X	X	X	X		X		
1991	GASES PIH[1]	X	X[2]						
1992	ALL PIH		X	X	X	X	X		
1992	INFECTIOUS SUBSTANCES	X	X	X	X		X		
1993	ALL MATERIALS	X	X	X	X		X		X
1993	PIH							X	
1994	ALL MATERIALS					X		X[3]	
1996	ALL MATERIALS							X[4]	

[1] Liquids that meet the criteria of poisonous by inhalation were governed by Docket HM-196.
[2] This requirement only applies to marking the shipping paper with the notation "Poison-Inhalation Hazard," as appropriate.
[3] For non-bulk packages, only UN performance-based packagings authorized for manufacture.
[4] May no longer maintain and use old DOT non-bulk specification packagings.