

## **Tank Car Safety Initiatives Federal Railroad Administration**

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### **Noteworthiness**

On September 21, 1995, the Department issued new safety regulations to improve the railworthiness of tank cars. The new requirements include the use of quality assurance programs at facilities that build, inspect, maintain, or repair tank cars. Under the Federal program, tank car facilities cannot work on tank cars unless such facilities have a valid quality assurance program approved by the Association of American Railroads and the facilities are operating in conformance with it. These requirements apply to all AAR certified and registered tank car facilities (i.e., Class A, B, C, D, E, F, G, and L). The quality assurance program must ensure that the finished product conforms to the Federal regulations (including industry standards adopted into Federal law), has the means to detect nonconformities in any process, and has the means to prevent any nonconformity from recurring.

Embodied within this structure is the need to qualify not only persons but also the procedures that such persons use to accomplish their task. For example, the regulations require performance qualification of welders and nondestructive examination personnel and procedural qualification of welding and nondestructive examination processes. See 49 CFR 179.7(b)(6), (8), (9), (10), (d), and 179.11, 179.100-10, 179.200-10. In qualifying people and procedures, employers must have a system for determining what the minimal detectable defect size is for the nondestructive examination method used (i.e., defining the reliability and sensitivity of the process). This rule encompasses all portions of the tank car, including the tank car butt welds located within the lower four feet of the tank and certain attachment fillet welds located within the lower eight feet of the tank. Another way to express this is what is the largest defect that will probably be missed. Understanding the probability of manufacturing a tank car which includes a certain size defect and overlooking this defect during an inspection of an item at the time of construction or during in-service maintenance is important in establishing safe initial and recurrent inspection intervals for both damage-tolerance and reliability-based inspection programs.

Often I am asked if 49 CFR Part 180 applies to new car construction. The simple answer is yes. Section 180.501 makes clear that the "qualification" and "maintenance" functions apply to persons who manufacture, fabricate, mark, maintain, repair, inspect, or service tank cars. Emphasis added. Thus, it is important in designing qualification and maintenance programs to understand the overall relationship between what to inspect, when to inspect, how to inspect, why a particular nondestructive examination process was chosen in the inspection process, and how the acceptance criteria establishes the inspection interval. Owners of assets must understand the probability of missing a defect for any given nondestructive examination process and the propensity of that missed defect to grow to failure before the next inspection or test. As professionals in safety, we must constantly remind ourselves when designing a manufacturing process or maintenance plan the level of risk our companies are willing to accept for the maintenance decisions we make today. Not managing your quality assurance program, choosing the wrong nondestructive examination method to find critical defects, or using people or

procedures that fail to find these defects can lead to civil and criminal penalties, affect your company's "bottom line" and in extreme cases tarnish your company's social image.

### **Stronger Hazardous Materials Legislation**

On October 10, U.S. Secretary Norman Mineta sent to Congress proposed legislation that would strengthen the security and safety in the transportation of hazardous materials. The DOT proposed legislation would:

- Strengthen DOT inspector's authority to inspect packages in transportation;
- Provide these inspectors with authority to stop seriously unsafe transportation;
- Increase the maximum civil penalty for hazardous materials violations from \$27,500 to \$100,000;
- Expand the requirements for training persons involved in the transportation of hazardous materials;
- Strengthen the enforcement authority of DOT's State enforcement partners;
- Provide the U.S. Postal Service with civil penalty authority to effectively enforce its regulations on mail shipments of hazardous materials;
- Address the current overlap of hazardous materials transportation regulations between DOT and OSHA, except in certain areas;
- Specifically allow participation by states in a coordinated program of hazardous material carrier registrations and permits.

### **Materials Poisonous by Inhalation**

On August 22, 2001, RSPA issued a Final Rule to facilitate international transportation of PIH materials. In the Final Rule RSPA provided the following provisions and exceptions for international shipments:

- An exception from PIH labeling requirements for certain non-bulk and bulk packagings in closed transport vehicles or freight containers transported by vessel or by motor vehicle or rail car to or from Canada;
- An exception from PIH labeling requirements for certain non-bulk and bulk packagings in closed transport vehicles or freight containers transported by vessel or by motor vehicle or rail car to or from Mexico; and
- An exception from PIH placarding requirements on a transport vehicle or freight container carrying PIH materials within a single port area.

As of October 1, 2001, any poisonous by inhalation material transported in a tank car within the United States must have the appropriate PIH placard applied. Canada and the United States will recognize and allow for "dual" placarding—the TDG poison gas or TDG poison liquid placard and the U.S. appropriate PIH placard.

## National Performance Plan

The following table shows the observations, units, and number of defects reported to the RISPC database this calendar year

### FRA Inspection Report Summary January 2001 – October 2001

	Total Units	Defects
Car other than tank car	4955	500
Freight forward	25	41
HM training program records	2021	3753
IM portable tank	1344	351
Rail facility	3246	1779
Non-bulk/smaller container mfg	105	3
Shipper, consignee	2694	2387
Tank car	58911	7543
Tank car facility	95	164
Transport vehicle	6280	267
TOFC/COFC facility	661	108
Total	80337	16896

### Tank Car Facility Compliance Reviews

Since December of 2000, FRA conducted five team-based audits at tank car facilities. FRA audits quality assurance program, government and industry reporting requirements, compliance with the Hazardous Materials Regulations (such as shipping papers, placarding, and training), and the company's conformance with a car owner's maintenance program; including the owner's written procedures. Currently, my staff is assembling the final reports for these audits. You can expect that some of these facilities will receive civil penalty enforcement actions for failure to comply with the AAR's approved quality assurance program or certain Federal safety regulations. Based on our findings, I encourage all facilities to review their programs to ensure that their finished product conforms to the Federal, industry, and the car owner's requirements; with a special emphasis on special processes, measuring and test equipment, inspection hold points, handling of electrodes, quality records of subcontractors, storage of gaskets and supplies, accessibility (control) of supplies, and adherence to the owner's written maintenance plan.

### Scheduling of Modifications and Progress Reporting

On September 21, 1995, the Department of Transportation issued a final rule that improved the crashworthiness of certain tank cars when involved in accidents (Docket HM-175A). Car owners that have tanks subject to the rule must schedule the cars for modification under a phased program. Car owners must submit a report to FRA by October 1 of each year. Currently, FRA is reviewing the reports submitted and evaluating whether owners are progressing the modification of cars at an acceptable rate.

### Renewal of DOT-12095

This project is on hold, pending staff resources.

## **Rulemakings**

### *HM-189R Minor Editorial Corrections and Clarifications*

Final Rule published August 28, 2001. Effective date September 27, 2001.

### *HM-189S Editorial Corrections and Clarifications*

Final Rule published August 28, 2001. Effective date October 1, 2001.

### *HM-215D Harmonization with the United Nations Recommendations, IMDG Code, and ICAO Instructions*

Final Rule published June 21, 2001. Effective October 1, 2001. Incorporates changes to proper shipping names, hazard classes, packing groups, special provisions, and packaging authorizations. The final rule revises requirements for IBC's and UN portable tanks for alignment with international requirements.

### *HM-206D Exceptions from Labeling and Placarding Materials Poisonous by Inhalation*

Final Rule published August 22, 2001, Effective October 1, 2001. This Final Rule provides additional exceptions for labeling of shipments made under the IMDG Code and TDGR. AAR submitted petition for reconsideration to postpone the PIH placarding requirement for shipments intended for international transportation. The petition was denied in a letter from RSPA Associate Administrator dated October 4, 2001. Compliance with the new placards is required as of October 1, 2001.

### *HM-223 Applicability of the Hazardous Materials Regulations to Loading, Unloading, and Storage*

NPRM published June 14, 2001 to clarify the applicability of the HMR to certain loading, unloading, and storage operations. Public meeting scheduled for September 14, 2001 in Washington D.C. was cancelled and will not be rescheduled. October 30, 2001 meeting in California is cancelled.

### *HM-229 Revisions to the Incident Reporting Requirements (Form F5800.1) (NPRM)*

NPRM published July 3, 2001 proposed revisions to the incident report form F5800.1. Several comments were received to the NPRM and are being reviewed by RSPA staff.

### *HM-207B Retention of Shipping Papers*

NPRM published September 12, 2001. RSPA is proposing to require shippers and carriers to retain a copy of shipping papers (or electronic image thereof) for 375 days after the carrier accepts the HAZMAT.