

HAZMAT Transportation Report



SMS becomes part of HMSP review

The Safety Measurement System (SMS) has become part of the Hazardous Materials Safety Permit (HMSP) review process.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) required DOT to conduct a study and submit a report to Congress on the implementation of the HMSP program.

Now, DOT has announced implementation of two of the six recommendations in the report to Congress:

- Fully utilize the SMS as part of the HMSP review process, and
- Institute an ongoing requirement to conduct compliance

reviews for HMSP motor carriers with insufficient data to utilize SMS.

HMSPs

On January 1, 2005, the Federal Motor Carrier Safety Administration (FMCSA) began the HMSP program for intrastate, interstate, and foreign motor carriers transporting specified types and amounts of particularly dangerous hazardous material.

HMSPs are required for motor carriers transporting the following DOT-regulated hazardous material:

- Highway Route Controlled Quantity (HRCQ) of a Class

See HMSP p. 5

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Montana recycling fire results in HM violations charge

A fire at a recycling facility in December 2012 resulted in charges against a Montana man, alleging a hazmat violation.

The man pleaded guilty in May to the illegal transportation of hazardous materials without placards.

According to the complaint, on December 29, 2012, the



man loaded natural gas condensate, or "drip gas," from a pipeline

station that transports products from the Bakken oil fields in Montana and North Dakota.

The drip gas was hauled from Watford City, North Dakota, to a slop-oil processing/recycling company based near Wibaux, Montana. The bill of lading that accompanied the shipment identified the product as "slop oil and water," which is a non-hazardous substance.

However, while the material was pumping from the truck's front tank into the facility, a fire ignited, injuring three em-

ployees. The tanks on the truck burned for eight days until the local fire department could determine that they held drip gas and not slop oil and water, as indicated on the bill of lading.


Drip gas is a hazardous material and the truck was not placarded to indicate it held a flammable liquid.

The Office of Inspector General conducted the investigation with the Environmental Protection Agency's Criminal Investigation Division.



Future U.S. hazmat compliance dates

Changes in the regulations are hard to keep up with, and it always seems like there is another one just around the corner! Here is a compilation of what is coming up in the next few years:

DATE	CHANGE	REFERENCE
July 8, 2015	States must enforce definition of <i>Tank vehicle</i> for purposes of issuing tank vehicle endorsements.	<i>Federal Register</i> March 25, 2013
July 13, 2015	Compliance with HM-250 (Compatibility with IAEA) amendments is required, unless otherwise specified in the final rule.	<i>Federal Register</i> July 11, 2014
January 1, 2016	Compliance with HM-215M (Harmonization with International Standards) amendments is required, unless otherwise specified in the final rule.	<i>Federal Register</i> January 8, 2015
January 1, 2016	Old limited quantity marking may no longer be used; new limited quantity marking must be used.	49 CFR 172.315
January 1, 2016	Each lithium battery must be marked with the watt-hour rating on the outside case.	49 CFR 173.185
January 1, 2017	ID numbers on non-bulk packages must meet size requirements.	49 CFR 172.301
January 1, 2017	New size specifications must be used for: limited quantity, keep away from heat, marine pollutant, petroleum sour crude oil, salvage, excepted quantities, fumigant, and overpack markings.	49 CFR 172.315, 172.317, 172.322, 172.327, 173.3, 173.4a, 173.9, 173.25
January 1, 2017	New label size specifications must be used.	49 CFR 172.407
January 1, 2017	New placard size specifications must be used.	49 CFR 172.519
January 1, 2021	Old ORM-D marking may no longer be used; new limited quantity marking must be used.	49 CFR 172.316 

HM-251 appeals submitted

A number of appeals have been filed regarding final rule HM-251 – Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) published HM-251 on May 8, 2015, in the *Federal Register*.

In the final rule, PHMSA, in coordination with the Federal Railroad Administration, adopted requirements designed to reduce the consequences and probability of accidents involving trains transporting large quantities of flammable liquids.

The final rule defines certain trains transporting large volumes of flammable liquids as “high-hazard flammable trains”

(HHFT) and regulates their operation in terms of speed restrictions, braking systems, and routing. It also adopts safety improvements in tank car design standards, a sampling and classification program for unrefined petroleum-based products, and notification requirements.

PHMSA asserts that the operational and safety improvements were necessary to address

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DIRECTOR OF EDITORIAL RESOURCES: Paul V. Arnold

EDITOR: Randall J. Skoog

CONTRIBUTING EDITORS: Daren B. Hansen

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the unique risks associated with the growing reliance on trains to transport large quantities of flammable liquids.

HM-251 was effective July 7, 2015.

DGAC

Based on input from its members, the Dangerous Goods Advisory Council (DGAC) submitted an appeal of these specific provisions:

- The definitions of High-Hazard Flammable Train, and High-Hazard Flammable Unit Train;
- The lack of a definition for unrefined petroleum-based products;
- Requirements for a sampling and testing program for unrefined petroleum-based products;
- Various operational requirements including speed

restrictions and enhanced braking; and

- The need for additional harmonization with the Canadian requirements.

DGAC has additional concerns regarding potential unintended consequences of adopting the various requirements in HM-251.

Several others also submitted appeals as well. The appeals can be viewed at:

<http://1.usa.gov/1H12XSI>


The Association of American Railroads (AAR) says the new rule is defective in its approach to regulating the packaging of Class III flammable liquids.

According to AAR, the final rule does contain tank car stan-



dards that most stakeholders agreed were necessary for safe transport of flammable liquids.

However, the rule does not require that all Class III flammable liquids be packaged in tank cars that meet the new standards.

Instead, AAR says the rule imposes operational limitations and other burdens on the freight railroads, which do not select the packaging for shipments. 

NRC amends regulations to maintain consistency with international standards

The Nuclear Regulatory Commission (NRC) has published a final rule that brings its regulations into line with international standards.

The final rule was published in the June 12, 2015, *Federal Register*. It became effective July 13, 2015.

The amendments make conforming changes to the NRC's regulations based on the International Atomic Energy Agency's (IAEA) 2009 standards for the international transportation of radioactive material. The final rule also maintains consistency with the DOT's regulations.

TS-R-1

The NRC evaluated changes in the 2009 edition of the IAEA's "Regulations for the Safe Transport of Radioactive Material" (TS-R-1), and identified a number of areas in 10 CFR that needed to be revised to maintain compatibility with the IAEA's regulations.

The new final rule brings 49 CFR into general accord with TS-R-1, and maintains consistency between NRC and DOT regulations.

Who is affected by the rulemaking?

The final rule affects:

- NRC licensees authorized by a specific or general NRC license to receive, possess, use, or transfer licensed material, if the licensee delivers that material to a carrier for transport, or transports the material outside of the site of usage as specified in the NRC license, or transports that material on public highways;
- Holders of, and applicants for a Certificate of Compliance; and
- Holders of a 10 CFR Part 71, Subpart H, quality assurance program approval.

See NRC p. 4

NRC from p. 3

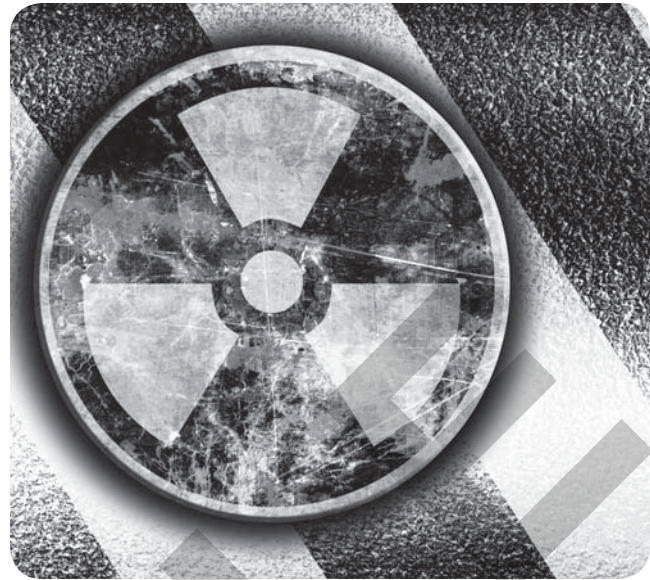
The action also affects holders of quality assurance program approvals under Appendix B of 10 CFR Part 50 or Subpart G of 10 CFR Part 72 to the extent that the approvals apply to transport packaging as specified in 10 CFR 71.101(f), “Previously approved programs.”

What changes are being made?

The NRC is revising 10 CFR Part 71 as follows:

- The concept of processing ores for purposes other than radioactive material content is added to the provisions that apply to natural materials and ores in the exemptions for low-level materials.
- The NRC is adopting the scoping statement paragraph 107(f) of TS-R-1, which addresses non-radioactive solid objects with radioactive substances present on any surface in quantities not in excess of certain levels.
- The definitions Criticality Safety Index (CSI), Low Specific Activity (LSA) material, and Uranium--natural, depleted, enriched in 10 CFR 71.4 are amended to reflect the current definitions in TS-R-1.
- The NRC is adopting the use of the Class 5 impact test prescribed in the International Organization for Standardization’s (ISO) Document 2919, “Radiation protection--Sealed radioactive sources--General requirements and classification,” Second Edition, for special form radioactive material, provided the mass is less than 500 grams.

- The NRC is incorporating by reference (A) ISO Document 2919, and (B) ISO Document 9978, “Radiation protection--Sealed radioactive sources--Leakage test methods,” First Edition.



- The description of billet used in the percussion test in Section 71.75 is corrected by replacing “edges” with “edge.”
- The definition of “Special form radioactive material” in Section 71.4 is revised to allow special form radioactive material that is successfully tested in accordance with the current requirements to be transported as special form radioactive material, if the testing was completed before the effective date of the final rule.
- Krypton-79 values are added to Table A-1 and Table A-2, “Exempt Material Activity Concentrations and Exempt Consignment Activity Limits for Radionuclides.” The A1 and A2 values in Table A-1, the activity concentration for exempt material, and the activity limit for exempt consignment are consistent with the IAEA’s values in TS-R-1.
- Footnote a to Table A-1 is revised to include the list of parent radionuclides whose A1 and A2 values include contributions from daughter radionuclides with half-lives of less than 10 days.
- Footnote c to Table A-1 is moved to the A1 values and revised to clarify that only the activity for iridium-192 in special form may be determined from a measurement of the rate of decay or a measurement of the radiation level at a prescribed distance.
- In Appendix A, Table A-2, the activity limit in Table A-2 for exempt consignment for tellurium-121m is revised to be consistent with the new IAEA value in TS-R-1.
- The list of parent radionuclides and their progeny included in secular equilibrium in footnote b to Table A-2 is revised to be consistent with the list accompanying Table 2 in TS-R-1.
- The descriptive language in Table A-3, “General Values for A1 and A2,” of Appendix A under the heading “Contents” is revised to be consistent with the IAEA descriptions in Table 3, “Basic Radionuclide Values for Unknown Radionuclides or Mixtures,” in TS-R-1 (2009 edition). “Only alpha emitting nuclides are known to be present” is replaced with

“Alpha emitting nuclides, but no neutron emitters, are known to be present.” The phrase “No relevant data are available” is replaced with the phrase “Neutron emitting nuclides are known to be present or no relevant data are available.”

Further information

Copies of TS-R-1 may be obtained from:

- Bernan, 15200 NBN Way, P.O. Box 191, Blue Ridge Summit, PA 17214, (800) 865-3457; or email customer-care@bernan.com, or
- Renouf Publishing Company Ltd., 812 Proctor Ave., Ogdensburg, NY 13669-2205; (888) 551-7470; or email orders@renoufbooks.com

An electronic copy of TS-R-1 may be found at <http://www-pub.iaea.org/MTCD/pub->

[lications/PDF/Pub1384_web.pdf](#)

Additional information may be obtained by contacting Solomon Sahle, Office of Federal and State Materials and Environmental Management Programs, U.S. NRC, Washington, DC 20555-0001, (301) 415-3781, or Solomon.Sahle@nrc.gov.



HMSP from p. 1

- 7 (radioactive) material,
- More than 55 pounds of a Division 1.1, 1.2, or 1.3 Explosive, or an amount of a Division 1.5 material requiring placarding,
- Certain Poison by Inhalation Hazard (PIH) materials, including anhydrous ammonia, and
- Compressed or refrigerated liquefied methane or liquefied natural gas in packaging equal to or greater than 3,500 water gallons.

Records show almost 11,000 interstate and intrastate motor carriers that have had an inspection indicated that they transport hazardous material requiring

placards. Approximately 1,500 motor carriers possess an HMSP.

The first recommendation

The first recommendation in the HMSP Report to Congress was for FMCSA to fully utilize the agency’s SMS to provide continuous monitoring of HMSP holders’ safety performance in order to determine a carrier’s continuing suitability to retain or renew a non-temporary HMSP.

Carriers applying for a six-month temporary permit (T-HMSP) will be subject to the requirements for initial issuance of a HMSP.

Temporary HMSPs are issued when a motor carrier meets all of the qualifications in except for having a safety rating assigned.

If the carrier has no safety rating, the T-HMSP is issued, and the motor carrier is assigned for a comprehensive investigation within six months of the FMCSA field staff being notified.

FMCSA may extend the T-HMSP for two months, when necessary due

to the agency’s inability to schedule a comprehensive investigation during the initial six-month timeframe.

Once the carrier receives a comprehensive investigation and is assigned a satisfactory safety rating, the carrier is eligible for a full, non-temporary HMSP subject to the initial requirements.

Once the non-temporary HMSP is issued, the agency will place the carrier under the continuous monitoring program.

Non-temporary HMSP carriers will continue to be subject to the current intervention thresholds for all carriers of placarded hazardous material under the seven Behavior Analysis and Safety Improvement Categories (BASIC) in SMS.

These intervention thresholds are:

- 60th percentile for Unsafe Driving, Hours of Service Compliance, and Crash Indicator,
- 75th percentile for Driver Fitness, Controlled Substances/Alcohol, and Vehicle Maintenance, and
- 80th percentile for Hazardous Material Compliance.

See *HMSP* p. 6



HMSP from p. 5

For carriers that have a non-temporary HMSP, FMCSA will review the permit holder's SMS scores monthly to determine if the carrier has met or exceeded intervention thresholds for either the Hazardous Materials Compliance BASIC (HM BASIC) or met or exceeded thresholds for any two of the other BASICs for the preceding two consecutive months.

If the carrier meets or exceeds the HM BASIC or meets or exceeds thresholds of any other two BASICs over a consecutive two-month period, FMCSA will identify the carrier for investigation with hazardous material compliance emphasis.

A comprehensive investigation will entail a review that will also determine whether the carrier meets the safety fitness requirements.

If a carrier fails to comply with the applicable regulations, or an order issued under those regula-

tions, indicating that the carrier is not fit to transport hazardous material that requires a HMSP, such conduct could similarly trigger a proposed suspension or revocation.

It should be noted that a proposed suspension or revocation would be based on serious instances of noncompliance, a less than satisfactory safety rating, or loss of operating authority.

The proposed suspension or revocation would be subject to the 30-day notice requirement, and the carrier would have an opportunity to take corrective action and/or to apply for administrative review before FMCSA took final action.

If a carrier's non-temporary HMSP is denied, suspended, or revoked, the carrier will have various options for seeking administrative review and providing evidence of corrective action.

If the suspension or revocation is based on a less than satisfactory safety rating, the carrier may re-

quest administrative review of the proposed rating, or may request upgrade of a proposed safety rating based on corrective action.

The carrier may seek administrative review of other grounds for a proposed suspension or revocation.

A proposed suspension or revocation will not become effective during a request for administrative review that is filed during the 30-day timeframe from the date of service of the written notice of proposed suspension or revocation.

The second recommendation

The second recommendation in the HMSP Report was for FMCSA to institute an ongoing requirement to closely monitor HMSP carriers with insufficient SMS data, HMSP carriers that rarely undergo roadside inspections and have a safety rating over 4 years old.

Because of the lack of information and oversight on these carriers, FMCSA will conduct comprehensive investigations for HMSP carriers when the carrier has insufficient data to calculate a percentile in SMS during any month of the previous 48-month period.

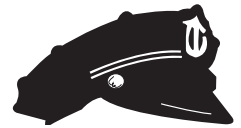
HMSP carriers will not be allowed to operate for more than four years without either having enough safety performance data to confirm compliance, or having received a compliance review that results in a satisfactory rating.

FMCSA says that by instituting a specific 4-year investigation cycle for non-temporary HMSP carriers with insufficient safety data, these carriers will become subject to increased oversight.



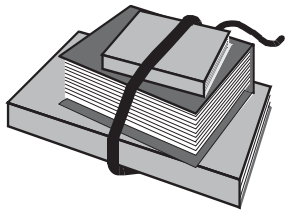
VIOLATIONS & ENFORCEMENT

It is the task of PHMSA's inspection and enforcement staff to inspect companies and individuals who offer hazardous materials for transportation or who manufacture, maintain, repair, recondition, or test packages authorized for transporting hazardous materials.



The following table shows recent violations and hefty fines published by PHMSA.

TYPE OF BUSINESS	VIOLATION	PENALTY AMOUNT
Fire & Safety Equipment Company	<ul style="list-style-type: none"> Failed to calibrate its test equipment each day prior to testing and failed to calibrate test equipment at a pressure within 500 psig of actual test pressure at or above 3000 psig. 	\$2,000
Steel Drum Manufacturer	<ul style="list-style-type: none"> Represented and certified UN standard steel drums; Failed to conduct design qualification testing with sufficient weight, properly mark and test UN standard 55-gallon steel drums to the UN standard marked on the drum; Failed to maintain accurate test records of design qualification testing; and Failed to provide initial function-specific training. 	\$4,100
Chemical company	<ul style="list-style-type: none"> Offered sulfuric acid, 8, II, and hypochlorite solution, 8, in UN-certified combination packages and jerricans that were not closed in accordance with the package manufacturer's notification; Offered hypochlorite solution, 8, in an overpack that failed to be properly marked with the proper shipping name and identification number, and labeled with the proper hazard warning label; and Filled, offered, and transported hypochlorite solution, 8, in reused UN certified jerricans that had not been subjected to or marked as having successfully passed the leakproofness testing. 	\$5,850
Shipper	<ul style="list-style-type: none"> Offered for transportation and transported in commerce a hazardous material, UN1005, Ammonia, anhydrous, 2.2, in nurse tanks that required "Inhalation Hazard" markings, a proper shipping name, and non-flammable gas placards under the provisions of the HMR, while failing to maintain the markings and placards durability and legibility; Transported in commerce a Division 2.1 hazardous material contained in cargo tank motor vehicle in which the company failed to create and maintain a monthly delivery hose assembly inspection report; Offered and transported ammonium nitrate based fertilizer, 5.1, accompanied by shipping papers that failed to list the proper UN identification number, and include the packing group of the material information; Offered for transportation and transported in commerce hazardous materials while failing to retain shipping papers with all of the required information; and Offered for transportation and transported in commerce a Division 2.1 hazardous material contained in cargo tank motor vehicle that was required to be equipped with an off-truck remote shut-off device, which failed to be tested or failed to work when activated. 	\$8,000



Training Take-Home

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ATTENDANCE REQUIREMENTS

LOADING & UNLOADING HAZMAT

During the loading and unloading of hazardous materials, a cargo tank must be attended at all times by a "qualified" person — either the driver or someone else who meets the following requirements.

A qualified person:

- ◆ Has been made aware of the nature of the hazmat to be loaded or unloaded
- ◆ Has been instructed on the procedures to follow in emergencies
- ◆ Is authorized to move the cargo tank and
- ◆ Has the means to move it

Cargo tank attendance requirements: 49 CFR 171 Subpart B

A QUALIFIED PERSON who attends either the loading or unloading process must be alert and within 25 feet of the cargo tank.

Make sure a "qualified" person attends the process!


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