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Hazardous Materials Guidance Notices (HMG's)

Appendix A in the Hazardous Materials Compliance Manual

The Federal Railroad Administration's Hazardous Materials Seminar
Houston, TX - August 2018

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A QUICK HISTORY BEHIND THE HMG'S

- They started out in 1989 as Hazardous Materials Notices with a total of 10 notices. Each year they were re-issued and some additional Hazardous Materials Notices were added until 1999.
- In 2004, 2006 and 2011, the Hazardous Materials Notices were re-issued when the Hazardous Materials Enforcement Manual was updated. From 2004 to present the Hazardous Materials Notices were renamed as Hazardous Materials Guidance Notices or HMG's.

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A QUICK HISTORY BEHIND THE HMG'S

- They were documents issued from the FRA Headquarters Staff that were intended to clarify and explain new regulations, and their applicability, and to explain FRA's position on handling and enforcing certain regulations in rail transportation that were confusing or too subjective.

- Over time, regulations change and some of the HMG's have been modified or rescinded so the current list of HMG's are not sequential.

- They are on the public site;

@https://www.fra.dot.gov/eLib/Find#p1_z10_gT_s23_lCT

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CURRENT HMG'S

- Currently the HMGs range in numbers from 101-131. As previously stated, several are missing but the following slides are representative of the most current as of 2017 and 2018.
- HM 101,102, 109, 113. 119, 125, 126 & 128 were rescinded, and; (**HMG 108, 129 and 131 are discussed but in draft)**
- HM 106 and 107 were incorporated into the HM Compliance Manual.

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Updated HMG's List, subject and current status

Guidance Number	Status	Subject	Effective Date
HMG 101	Rescinded	---	---
HMG 102	Rescinded	---	---
HMG 103	Updated	Train Placement	December 2017* (Added Column)
HMG 104	Unchanged	Class 207 Cars	March 2018
HMG 105	Updated	Department of Transportation Security Plans	January 2018*
HMG 106	Incorporated into Compliance Manual	---	---
HMG 107	Incorporated into the Regulations	---	----
HMG 108	Updated	Loading, Unloading, and Storage	DRAFT
HMG 109	Rescinded	---	---
HMG 110	Unchanged Content	Fumigant Marking	December 2017
HMG 111	Unchanged Content	Hazardous Substances	February 2018
HMG 112	Updated	Locomotive Dead in Tow; Using Cabooses as Riding Platforms	December 2017*

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Updated HMG's List, subject and current status

HMG 113	Rescinded	---	---
HMG 114	Unchanged Content	Multi-Compartmented Tank Cars and Placarding	February 2018
HMG 115	Rescinded		
HMG 116	Unchanged Content	Tank Car Test Overdue	March 2018
HMG 117	Unchanged Content	Sift-Proof Package	March 2018
HMG 118	Unchanged Content	Spray-on Thermal Protection Incorporated into the Regulations	January 2018
HMG 119	Rescinded	---	---
HMG 120	Unchanged Content	The 48-Hour Rule	December 2017
HMG 121	Unchanged Content	U.S. Code on Document Availability to the Federal Railroad Administration	February 2018
HMG 122	Unchanged Content	Blocking and Bracing	February 2018
HMG 123	Unchanged Content	Definition of a Train	January 2018
HMG 124	Unchanged Content	Placard, White Square Background	December 2017
HMG 125	Rescinded	---	---
HMG 126	Rescinded	---	---
HMG 127 (Version 4)	Unchanged	One-Time Movement Approval Process	October 7, 2014
HMG 128	Rescinded	---	---
HMG 129	New	Defining "Offeror"	*
HMG 130	New	FAST ACT Guidance--	-December 2017*
HMG 131	New	Title 49 Code of Federal Regulations Parts 179, 180: Tank Car Maintenance, Repair, and Qualification	*

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Hazardous Materials Guidance Document #103 – Train Placement Guidance

- This guidance document clarifies the train placement rules (49 CFR §174.85) and how they apply to certain flatcars that are identified by their reporting mark that are equipped with specially equipped tie down devices.
- The identified flat cars (by reporting mark) in this document allows the flat cars to be loaded and placed next to Division 1.1 or 1.2 materials, or loaded placarded tank cars and still be in compliance with the regulations. This document also clearly identifies those cars that cannot such as automobile frames and rail car wheel sets.

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HMG # 103 – Acceptable Flats Equipped with Specialized Tie Down Next to loaded HM tank cars

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HMG # 103 – Example of a flat car of railroad wheels that are not allowed to be next to a placarded tank car

These derailments demonstrates why they cannot be next to a loaded tank car

NAR

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Hazardous Materials Guidance Document
#104- AAR 207 Hoppers in HM Service

- This guidance document clarifies the definition of an AAR Class 207 car.
- An AAR 207 car is a covered hopper (C/H), but its unique because it does not require double shelf couplers and the tank car unloading regulations do not apply, BUT..
- It can be loaded with Group 2 materials (Class and for that its subject to the train placement requirements and packaging requirements of 49 CFR §§ 173.24 and 173.24b.
- If found to be damaged, or otherwise out of compliance, it is only authorized to move under an OTMA-2 (Overweight HM Package), otherwise a nonconforming C/H is only required to be sift proof and does not fit under an OTMA-1 or OTMA-3.

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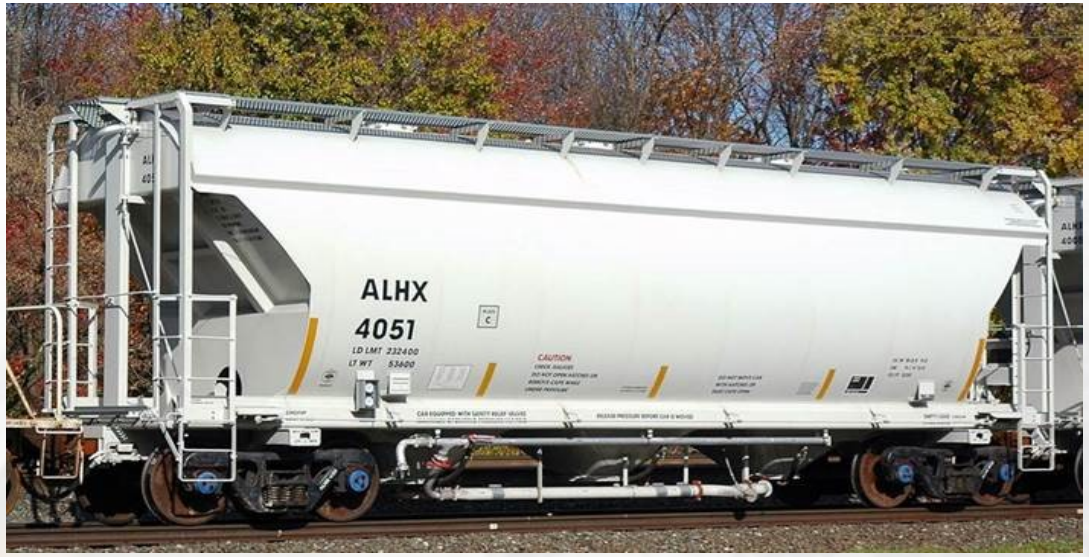
HMG # 104 (contd..) AAR 207 Pressure Differential Hopper



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Hazardous Materials Guidance Document #105 – Security and Rail Routing

- This guidance document offer a broad overview of FRA's inspection and enforcement requirements under 49 CFR §172 Subpart H and I regarding Security Plans and Security Training.

- This was updated recently to include the 27 identified risk factors that carriers have to analyze along their rail routes that transport High Hazard Flammable Trains (HHFT's) and Security Sensitive Materials (SSM's).

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Hazardous Materials Guidance Document #108 – Currently in Draft Review

- The purpose of this Hazardous Materials Guidance Document is to explain the hazardous materials regulations (HMR) concerning tank car loading, unloading, transloading and storage.

- It addresses each of the topics below with some examples to help define each;
  - Pre-transportation functions; loading incidental to movement; unloading incidental to movement; storage incidental to movement and transloading.

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Hazardous Materials Guidance Document #110- *Fumigant Marking*

- This guidance document remained unchanged from its 2004 version but was placed to help define and recognize the basic information required and the differences in compliance for domestic and international shipments.
- The marking must display the date of the fumigation, type and amount of fumigation used, and the instructions for the disposal of any fumigant devices.
- Shipping papers will bear the information FUMIGANT, moving under 49 CFR §173.9

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Hazardous Materials Guidance Document #111 – Hazardous Substances

- This guidance document explains the importance on the applicability of residue packages of hazardous materials that contain hazardous substances and determining when the HMR applies;

  - If a railcar contains any material (or mixture) listed in Appendix A in a quantity greater than or equal to its reportable quantity (RQ) in one package it is subject to the requirements of the HMR, subsequently,
  - If a railcar contains any material (or mixture) listed in Appendix A in a quantity less than or equal to its reportable quantity (RQ) in one package, which does not meet the criteria for any other hazard class in 49 CFR § Part 173, and its not a hazard waste or marine pollutant it is **NOT** subject to the requirements of the HMR.

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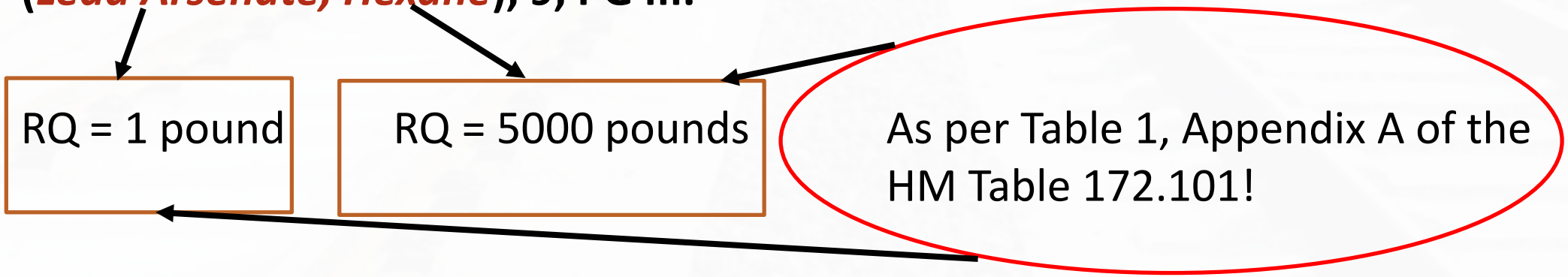
Quick Example of a Hazardous materials description that is subject to the regulations

- An example would be; an HM description of the following

Residue Last Contained, UN 3082, Environmentally Hazardous Substances, Liquid, N.O.S. (*Lead Arsenate, Hexane*), 9, PG III.



By the shippers description, the 1 pound of *"Lead Arsenate," as the minimum amount of that makes this shipment subject to the HMR as described.*

Remember, looking up the RQ in Appendix A for the individual RQ or reportable Quantity of a single component or either one, or both of the mixture constituents will help determine if the shipment is subject to the HMR.

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Quick Example of a Hazardous materials description that is not subject to the regulations

- An example would be; an HM description of the following

Residue Last Contained, UN 3077, Environmentally Hazardous Substances, Solid, N.O.S. (*Adipic Acid*), 9, PG III.

RQ = 5000 pounds

As per Table 1, Appendix A of the HM Table 172.101!

OR "non-haz"

By the shippers description, the minimum of 5000 pounds of *"Adipic Acid," as the minimum amount of that makes this shipment subject to the HMR as described. If the shipper chooses to not describe this shipment as previously containing a Hazardous Material then the shipper is declaring that the shipment is BELOW the 5000 pounds and is not subject to the HMR.*

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Hazardous Materials Guidance Document #112 – *Dead-in-Tow locomotives & Cabooses*

- This guidance document explains the operational status as they relate to train placement when discussing the following;

  - locomotives whether its in active use or dead-in-tow (non-operational are not allowed to be nearer that the second position of a placarded tank car of a hazardous material (in group 1,2, or 3 as defined by 49 CFR §174.85) and;

  - Cabooses especially as they relate to their use as a riding platform. (*****The recent RSAC suggestions may affect the status of a dead-in-tow locomotive as it relates to train placement.**)***

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Hazardous Materials Guidance

Document #114 – *Multi-Compartmented Tank Cars*

- This guidance document explains the marking exceptions and placarding requirements of multi-compartmented and articulated tank cars under 49 CFR §§172.336(c) and 172.504.

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Hazardous Materials Guidance Document # 115 – Poison Inhalation Calculations

- This document discussed the calculations that can be used to determine whether or not a material meets the poison inhalation requirements of 49 CFR 173.132.

- These calculations are used for Poison Liquids based upon LC or “Lethal Concentration,” and the LD values or “Lethal Dose “as its given on the Safety Data Sheets (SDS)supplied from the shipper.

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Hazardous Materials Guidance Document #116 – Overdue Test Dates

- This guidance document explains the regulations as to the loading and offering of an tank car as it relates to the displayed of an out of date test date on a tank car.

- This document explains 49 CFR§ 173.31(a)(3) – the car must be loaded **and** offered with the test date expired to be out of compliance. **REMEMBER, You MUST both LOAD and Offer with the Test dates expired!**

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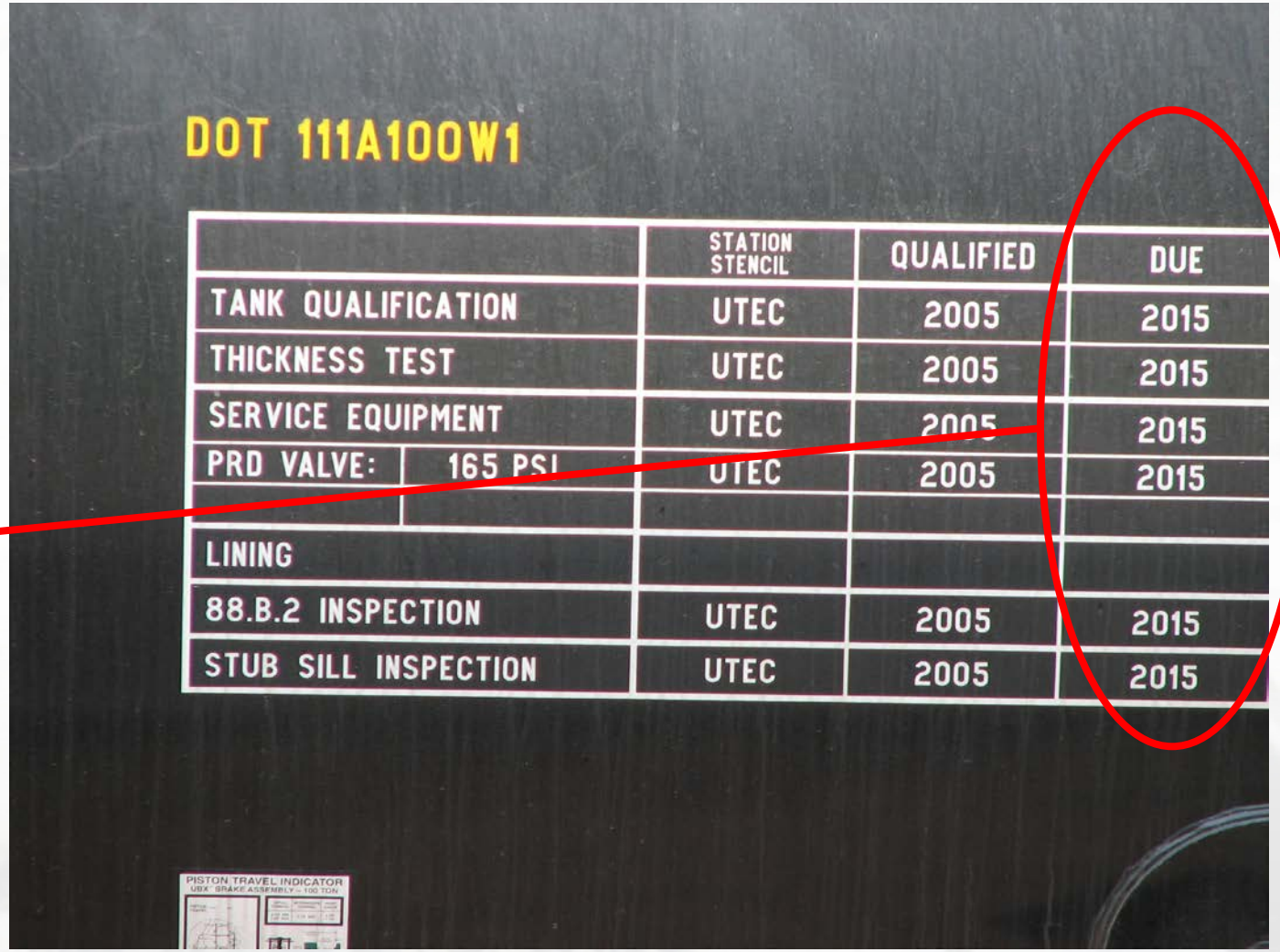
HMG # 116 example of a Tank Car Recently Loaded and Offered in 2018



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Hazardous Materials Guidance Document #117 – *Sift Proof Packages*

- The purpose of this Hazardous Materials Guidance (HMG) document is to describe the Federal Railroad Administration's (FRA) policy and clarity on the definition of a sift proof package as the performance standard of the packages ability to hold any dry powder substance. It does not require the railcar itself to be sift proof, provided the product, essentially any dry powder substance, is fully contained.

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Hazardous Materials Guidance Document #118 – Spray on Thermal Protection

- The purpose of this Hazardous Materials Guidance (HMG) document is to describe the Federal Railroad Administration's (FRA) policy addressing some of the few 112T and 114T tank cars with "spray-on" thermal protection systems that are thinning, missing, or damaged and may not be in compliance with 49 CFR §§ 173 and 179.

- Tank cars found with thinning, missing, or damaged spray-on thermal protection are not in compliance with Title 49 Code of Federal Regulations (CFR) §§ 173 and 179 and must be removed from service until repaired.

- If specification 112T and 114T tank cars are found with bubbles in their spray-on thermal protection systems (but with their thermal protection systems otherwise intact), the shipper and tank car owner should be contacted and advised that those bubble(s)may fail at some point may expose the tank to a fire in the event of a derailment. It is recommended that cars with found with bubble(s) in their thermal protection be shopped for repair.

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Examples of spray on thermal protection

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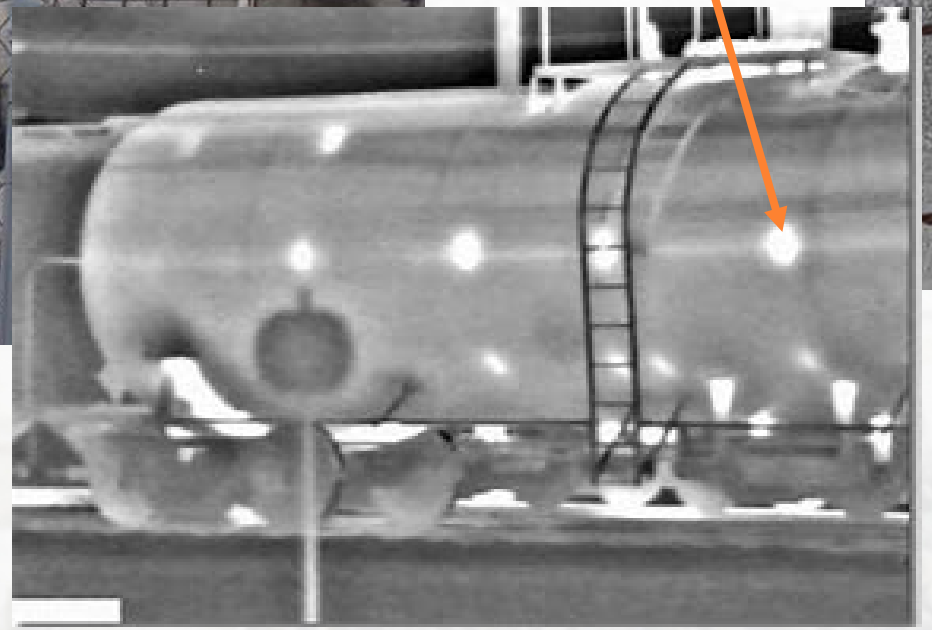
Examples of spray on thermal protection damages and other issues



Thermal
Hot Spots

Cracks in the Thermal
Protection

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Hazardous Materials Guidance Document #120 – The 48 Hour Rule

- This guidance document explains the movement of hazardous materials shipments from their origin shipment location to their final destination. It limits the "idle" time in one location to 48 hours and explains some of the exceptions in 174.14 and 174.16.

- 174.16(b) – Explains that when a consignee is not able to take delivery, usually because there is not enough room) the rail carrier is required to notify the consignee that the shipment has arrived and the consignee is generally required to move the shipment within 48 hours, but when the consignee cannot, the carrier has the following options;
  - Store the shipment, providing safe storage is maintained, or.
  - If safe storage on the carrier's property is not available, the carrier may elect to store the shipment/s off-site.
  - And lastly, at the expiration of 15 calendar days, the carrier may sell the material.

*****Most common with unit trains backing up at various terminals on their way to their final destination.******

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Hazardous Materials Guidance Document #121 – Shipping Paper Requests

- This guidance document explains FRA's current position on gaining access to requested shipping documents for records inspections, Hazardous Materials Incident and Accident Investigations.
- It lists some reasonable guidance for inspectors to use.
- If you are having trouble retrieving documents please call your Regional Specialist or Headquarters Staff for assistance.

Shipping papers for a shipment in transit	Same business day
Shipping papers for a shipment delivered 30 days ago	48 hours
Shipping papers for a shipment delivered six months ago	7 calendar days
Training records	48 hours

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Hazardous Materials Guidance Document #122 – Blocking, Bracing and Rear Door Protection

- This guidance document clarifies 49 CFR § 174.55 and the Association of American Railroads (AAR) Pamphlet 6 and 6C.

- Shippers may use their judgement or industry guidance standards (such as AAR Pamphlet 6 or 6C) on how to block and brace as long as there is no evidence of any lading leaking or changing positions **(EX: sliding into each other or falling down)**

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HMG # 122 – Evidence of Load Shift do to Ineffective Blocking and Bracing

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Hazardous Materials Guidance Document #123– Defining the Term "Train," as it relates to the movement of hazardous materials

- This guidance document defines the term "train," and clarifies when the hazardous materials train placement and documentation rules apply as it relates to 49 CFR § 174.85 and 49 CFR § 172, Subparts C thru G.
- Additionally this definition also clarifies when the train crew must have their hazardous materials train documents to be in compliance with 49 CFR § 174.26 (a) & (b).

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Hazardous Materials Guidance Document #124 – Hazardous Substances

- This guidance document explains the importance on the applicability of residue packages of hazardous materials that contain hazardous substances and determining when the HMR applies to shipping paper and marking requirements.

- It is highly recommended to review 49 CFR §172.101- Table 1, Appendix A– Hazardous Substances.

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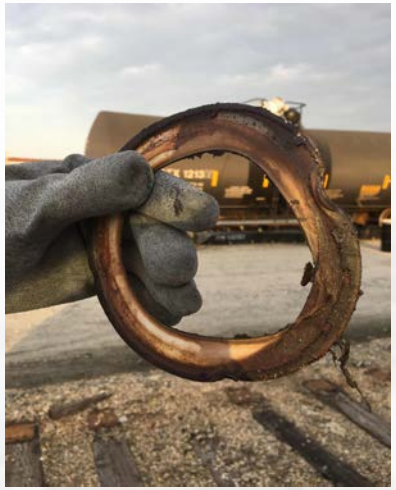
Hazardous Materials Guidance Document #127 (Version # 4) –

- This guidance document explains how to decide when an One-Time-Movement Approval is needed and what criteria is needed to decide which OTMA to choose and the evidence needed to support the safe movement of the package.

- This document is currently under review and in Version #5 is being written.



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Hazardous Materials Guidance Document #129 – Currently in DRAFT review

- This guidance document explains how we define, “offeror,” and importance on the defining the functions performed by each person involved in the transportation of a package

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Hazardous Materials Guidance Document #130 – FAST ACT Phase Out Schedule

- This guidance document explains FRA's enforcement on the mandatory phase out schedule of the DOT 111 tank cars in Class 3 flammable liquid service.

- It speaks to FRA's enforcement discretion to allow a tank car residue of a flammable liquid to move for cleaning, retrofitting and/or repurposing without taking any defects or violations. Also, no OTMA will be required.

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HMG 130 continued - A Copy of the Phase- Out Schedule Chart

Timeline for the Retrofit of Affected Tank Cars for Use in North American HHFTs			
Tank Car Type / Service	**US Retrofit Deadline***	**Tank Car Type / Service**	**TC Retrofit Deadline**
Non Jacketed DOT-111 tank cars in PG I service	(January 1, 2017)[1] January 1, 2018	Non Jacketed DOT-111 tank cars in Crude Oil service	May 1, 2017
Jacketed DOT-111 tank cars in PG I	March 1, 2018	Jacketed DOT-111 tank cars in Crude Oil service	March 1, 2018
Non Jacketed CPC-1232 tank cars in PG I service	April 1, 2020	Non Jacketed CPC-1232 tank cars in Crude Oil service	April 1, 2020
Non Jacketed DOT-111 tank cars in PG II service	May 1, 2023	Non Jacketed DOT-111 tank cars in Ethanol service	May 1, 2023
Jacketed DOT-111 tank cars in PG II service	May 1, 2023	Jacketed DOT-111 tank cars in Ethanol service	May 1, 2023
Non Jacketed CPC-1232 tank cars in PG II service	July 1, 2023	Non Jacketed CPC-1232 tank cars in Ethanol service	July 1, 2023
Jacketed CPC-1232 tank cars in PG I and PG II service and all remaining tank cars carrying PG III materials in an HHFT (pressure relief valve and valve handles).	May 1, 2025	Jacketed CPC-1232 tank cars in in Crude and Ethanol service and all remaining tank cars carrying PG III materials in an HHFT (pressure relief valve and valve handles).	May 1, 2025

[1]The January 1, 2017 date would trigger a reporting requirement, and shippers would have to report to DOT the number of tank cars that they own or lease that have been retrofitted, and the number that have not yet been retrofitted.

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Hazardous Materials Guidance Document #131 – Currently in DRAFT Review

- This guidance document explains the regulations regarding who must perform maintenance, repairs, and qualifications of DOT specification tank cars under 179 as required by part 180.

- This notice defines exceptions, by list, of maintenance that can be performed by someone other than a tank car facility.

(SEE NEXT SLIDE!)

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HMG 131 CONTINUED

- Coupler Replacement
- Marking/Stencils – other than markings required by 180.515

(all markings/ stencils must be made in accordance with AAR specifications for Tank Cars, Appendix C)

- Hinged and bolted manway cover gasket replacement.
- Fill port cover gasket replacement
- Bottom outlet gasket replacement
- Quick disconnect dust cap gasket replacement
- Rupture disc replacement

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HMG 131 – Also Addresses Emergency Response Repairs

- Emergency response repairs are considered to be temporary and do not bring the tank car in compliance with the HMR, but are necessary to abate a safety issue. Unless the emergency response repair is one of the five service equipment related exceptions listed above, then the repair requires follow-up permanent repairs and qualification once the tank car is unloaded and prior to its return to service, unless performed by a certified tank car facility.

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HMG 131 Emergency Response Repairs-OTMA

- Additionally, tank cars with these repairs require an OTMA prior to continuing in transportation. Refer to FRA's Hazardous Materials Guidance document HMG-127 for instructions on how to procure an OTMA.

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Any Questions?

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