



# US Department of Energy Office of Packaging and Transportation



## *Working to Keep our Shipments Safe, Secure and Economical*

Presented to:

Environmental/Radiological  
Assistance Directory Webinar

March 27, 2013



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

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# Items we will cover. . . .

## Topic

- Overview of Office of Packaging and Transportation
- Packaging and Transportation EFCOG Subgroup- Trailer Contamination Issue
- Transportation Emergency Preparedness Program

## Presenter

- Stephen O'Connor, Director
- Ashok Kapoor, OPT EFCOG Lead
- Ella McNeil, Manager, TEPP



# Office of Packaging and Transportation

## Packaging Certification

- Certificates of Compliance
- DOE Exemptions
- DOT Special Permits
- Quality Assurance
- RAMPAC

## Emergency Preparedness & Outreach

- TEPP
- NTSF
- State Regional Groups
- Tribes
- Prospective Shipment Report
- Fact Sheets

## Regulations & Standards Support

- Domestic Federal Agencies
- International Community
- Nongovernmental Organizations
- DOE Orders, Policy, Guidance

## Transportation Risk Reduction

- Motor Carrier Evaluations
- Physical Protection
- Transportation Compliance Reviews
- Safety Metrics

## Program & Site Support

- DOE/Contractor Interfaces
  - TMC
  - PMC
  - EFCOG
- Tender Negotiations
- Automated Systems



# FY 2012 DOE Offsite Shipments . . . By The Numbers

## DOE Shipments by Program Office/Mode

	Air	Air Mileage	Rail	Rail Mileage	Highway	Highway Mileage	Total Shipments	Mileage
EM	26	32,777	7,238	298,939	2,499	2,408,885	9,763	2,740,601
NE	15	25,362	0	0	3	3,232	18	28,594
SC	846	879,114	0	0	612	335,311	1,458	1,214,425
NNSA	906	1,279,421	0	0	885	538,322	1,791	1,817,743
<b>Totals</b>	<b>1,793</b>	<b>2,216,674</b>	<b>7,238</b>	<b>298,939</b>	<b>3,999</b>	<b>3,285,750</b>	<b>13,030</b>	<b>5,801,363</b>

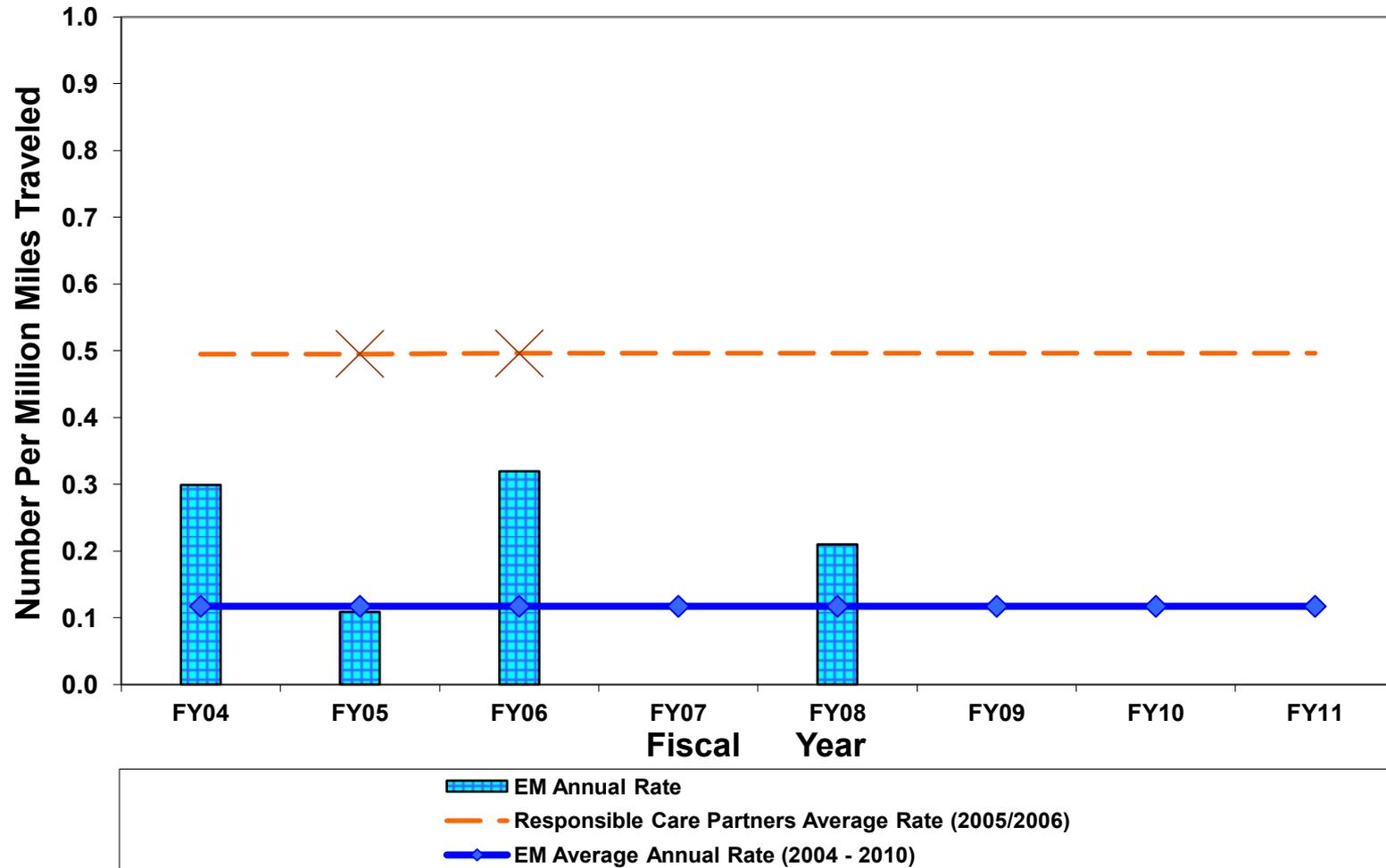


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# EM HAZMAT Shipment Reportable Rate Comparison



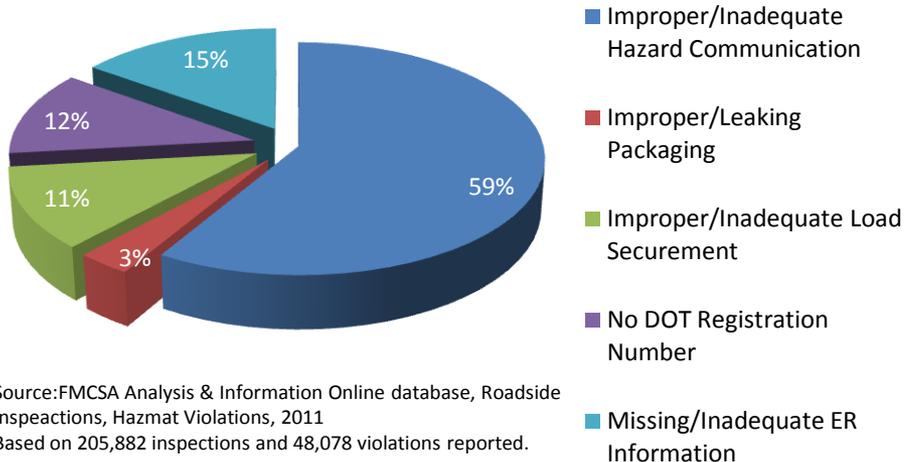
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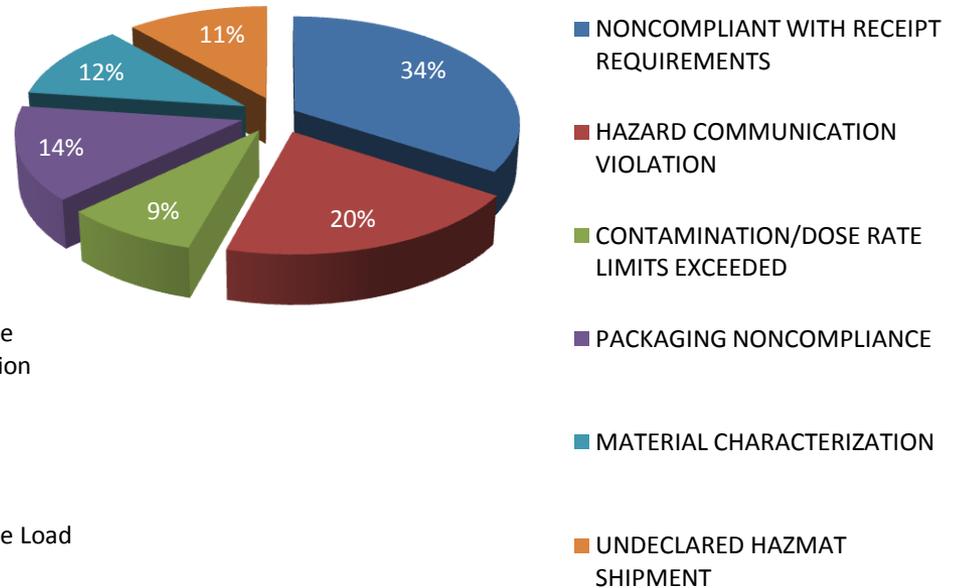
# Transportation Compliance Trends and Enforcement / Incident Statistics

**DOT (FMCSA) TOP HAZMAT VIOLATIONS FOR 2011**



Source: FMCSA Analysis & Information Online database, Roadside Inspections, Hazmat Violations, 2011  
Based on 205,882 inspections and 48,078 violations reported.

**DOE AREAS OF NONCOMPLIANCE (2011-Aug 2012)**



**Notes:**

"Non-compliant with receipt requirements" includes WAC issues and shipments where the wrong material/package was shipped

"Packaging noncompliance" includes incorrect packaging, leaking packaging, and issues with packaging CoC

"Material characterization" includes inadequate characterization for acceptance and improper hazard class determination

"Undeclared hazmat shipments only included those shipped by DOE contractors and not those received from commercial vendors



# Trailer Contamination Issue – LLW / MLLW

## NNSS Disposal Site (2009-2011)

- 21 Contaminated trailers
- 9 Contaminated packages

Issue was caused by many factors including:

- DOE vs. DOT surface contamination limits
- Inconsistent radiological surveys
- Improper storage and use of soft-sided packagings



# DOE vs. DOT Contamination Release Limits

DOE surface contamination limits are specified in 10CFR 835

- Based on NRC Regulatory Guide 1.86 issued in 1974 for the “*Termination of Operating Licenses for Nuclear Reactors*”

For DOE contractors:

- 10 CFR 835 is “THE LAW” and
- DOT 49 CFR 173 is also “THE LAW”



# DOT vs. DOE

- DOE 10 CFR 835 is more conservative than DOT 49 CFR 173
  - Impacts offsite/onsite operations significantly
    - Approximately 100 x for alpha
    - Approximately 22 x for beta-gamma
- No public or worker health and safety issues under DOT or DOE limits



# EFCOG P & T Subgroup

In 2012, the EFCOG P&T Subgroup worked with the EFCOG Radiation Protection group to identify the appropriate and consistent application of the regulations for release of packages and commercial carrier equipment used for DOE or DOE contractor transportation activities of radioactive material at DOE sites



# Team's Initial Findings

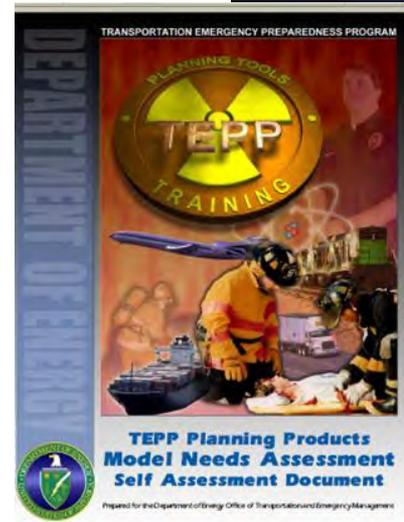
- Many trailer contamination incidents resulted from application of stricter DOE release limits (10 CFR 835)
- Resolution of conflict (DOE vs. DOT limits) will reduce equipment holds and decontamination costs
- Consistent radiological surveys will prevent unnecessary non-conformances and rejection of shipments
- Use of recently developed ANSI N14.36 Standard (*Measurement of Radiation Level and Surface Contamination for Packages and Conveyances*) will provide consistency in approaches complex-wide
- Implement and monitor consistent site performance standards for pre- and post-use radiological surveys



# Transportation Emergency Preparedness Program

- Ensures that responders are prepared to effectively respond to a radiological transportation incident.
- Aspects of the Program include:
  - Upfront planning tools
    - Needs Assessment
    - Model Plans and Procedures
  - Comprehensive training program
    - Awareness
    - Ops
    - Technician
    - Specialist
    - Hospital
  - Drill and exercise program that is compliant with the Homeland Security Exercise Evaluation Program

- Additional information can be found at [www.em.doe.gov/otem](http://www.em.doe.gov/otem)



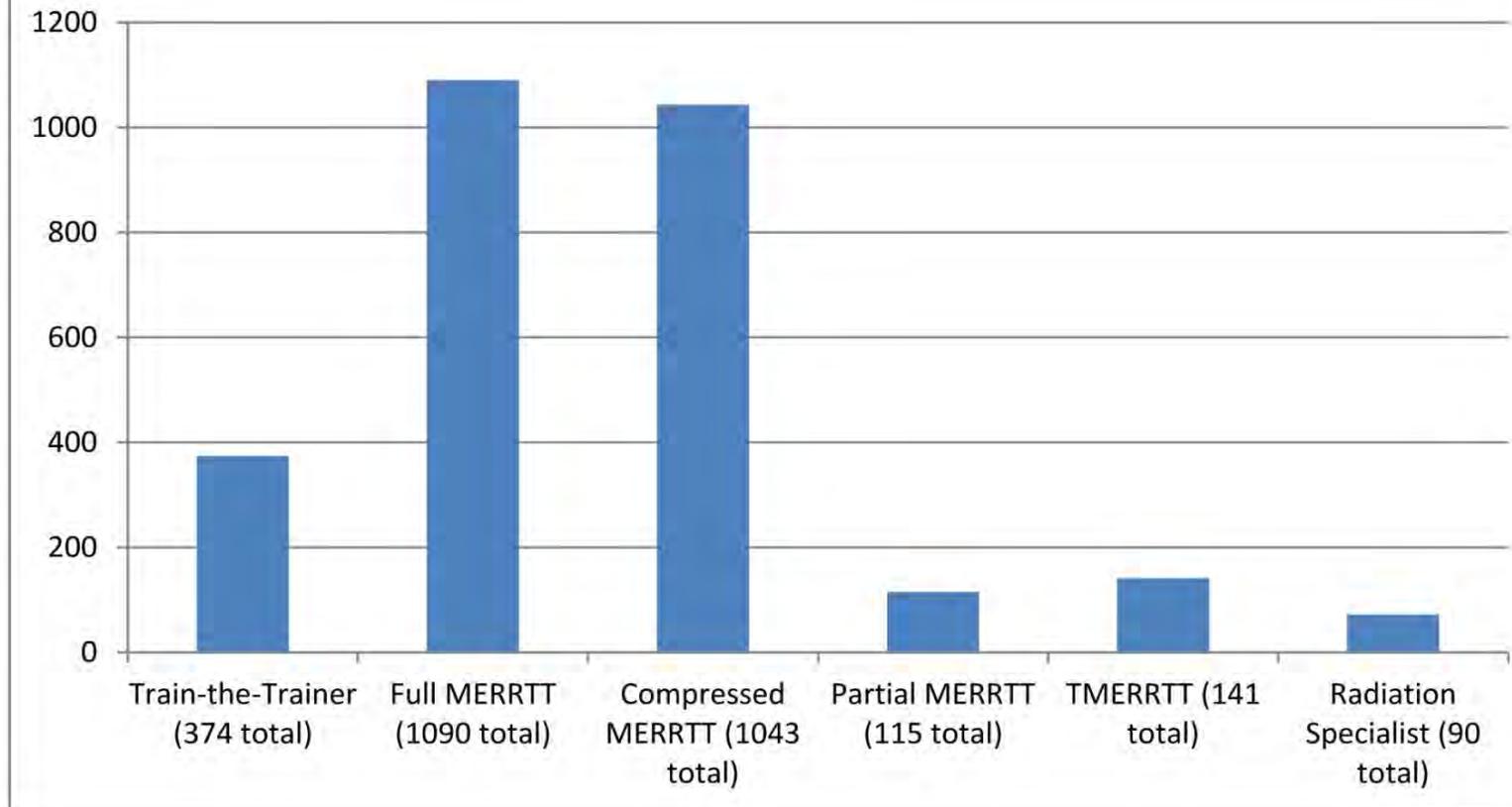
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# 2,853 Responders Trained in FY 2012

## FY 2012 MERRTT Sessions Responders Trained by Class Type



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# TEPP Sponsored Exercises

- TEPP has conducted over 30 full-scale exercises



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