



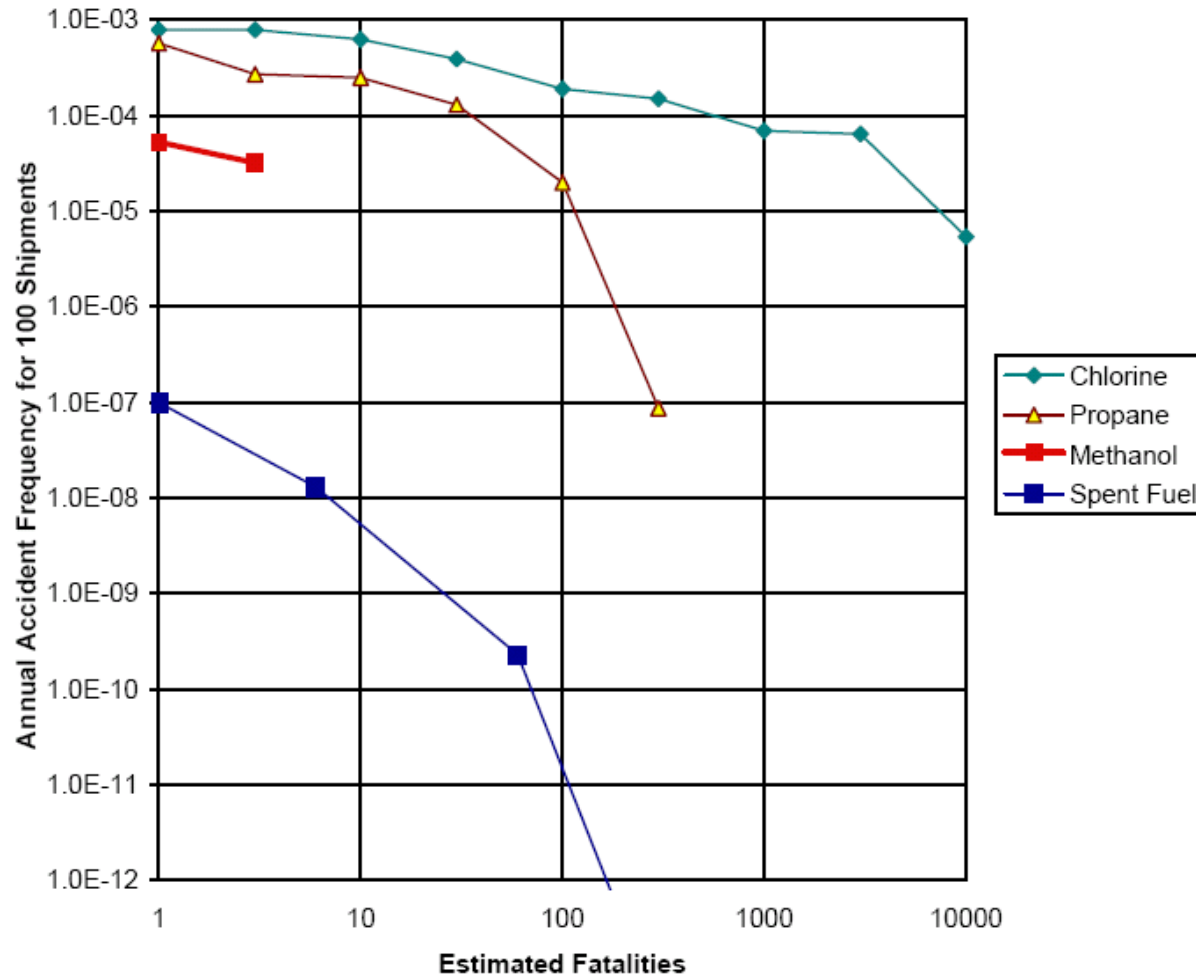
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The Social Dimension of UNF Transportation Planning

Waste Management Symposia 2013 – Session 37

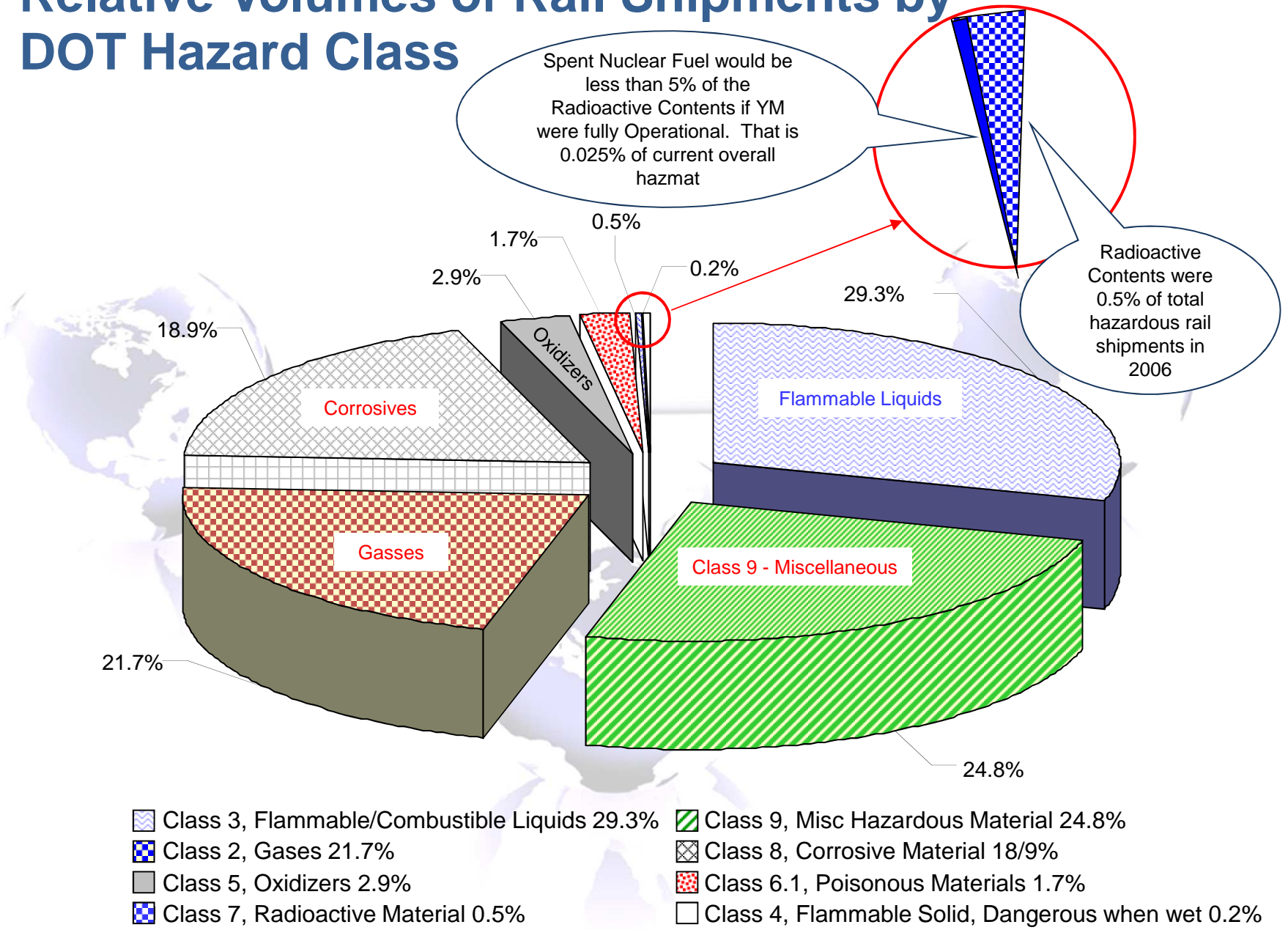
Comparative Risk of Hazardous Materials Shipments

- Over 40 years of UNF shipments have been made without any release of used fuel.



Source: National Academies' *Going the Distance*

Relative Volumes of Rail Shipments by DOT Hazard Class



Research on Transportation Risk Perceptions

- Risk perception is context dependent
 - Context is typically provided in “narrative” form
 - Purpose: Reasons, motives
 - Players: Victims, villains, and heroes
 - A 2008 Survey indicated that just over 20% of the public trusts the federal government regarding nuclear energy
 - Public trust in emergency response officials is over 80%
- Central role of trust and confidence
- Special nature of *nuclear* risk perceptions
- Biology impacts our response to perceived risk
- There is a path to increasing public confidence in spent fuel shipments

The Safety of Nuclear Material Shipments is by Design

- Unique to all hazardous materials, NRC regulations require the packages used to transport used nuclear fuel to survive severe transportation accidents intact.
- In addition to surviving a severe impact test, the package is also required to survive subsequent:
 - Puncture tests
 - Fire Tests (a fully engulfing 1475 degree fire for 30 minutes)
 - Submersion under 50 feet of water without leaking
- The NRC has plans to redo full scale testing with a current generation rail cask.
- Combining an emergency response exercise in conjunction with the test would be immensely beneficial to the emergency response community

