Transportation Challenges and Solutions

Crude Oil Quality Association
New Orleans, Louisiana
February 27, 2014
Seminal Events in North American Transportation History
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Texas City 1947
Fertilizer Ship Explosion
Seminal Events in North American Transportation History

Valdez Alaska 1989

Marine Oil Spill
Seminal Events in North American Transportation History

Minot, North Dakota 2002
Ammonia Tank Car Explosion
Seminal Events in North American Transportation History

Graniteville, Tennessee 2005
Chlorine Tank Car Derailment
Seminal Events in North American Transportation History

Lac Megataganic 2013

Crude Oil Derailment/Fire

47 dead

THERE WILL BE REGULATORY CHANGES
Dot 111 Tank Cars

- Likely design modifications:
  - Increased head and shell thickness
  - Normalized steel
  - ½ inch thick head shields
  - Top fitting protection

- Possible Modifications:
  - Higher flow safety valves
  - Additional bottom outlet protection
Railroad Handling Modifications

Potential procedural modifications by the railroads:
- Rerouting of unit trains around highly populated areas.
- Slower speeds (less than 50 MPH).
- Mandatory supervision of idle trains outside rail yards.
- More buffer cars required.

Less Likely Modifications:
- Higher quality of track infrastructure for crude trains.
- PTC for crude trains/routes.
Largest Liability Issues for Crude Shippers

- Incorrect determination of packing group resulting in wrong railcar
- Improper shipping documentation - these are legal documents
- Improper securement of railcars - leaks may result in fines, personal injury, or environmental damage
40 OCG Laboratories throughout North America and newest location in Williston, ND with extensive crude capabilities servicing the Bakken and Rockies regions
Portable Laboratories Available for Deployment to Remote Locations and New Producing Regions
Tank Car Inspection and Loading
Overview of SGS Petroleum Service Corporation (PSC)

- **Facility Operations ~80 sites**
  - Annual PSC Volume:
    - 400,000 railcars / trucks loaded and unloaded;
    - 300,000 “outbounded” railcars from rail switching operations.

- **Dock Operations ~70 docks**
  - Facilities range from large, multi-berth docks that PSC staffs 24/7 to smaller terminals receiving only a few vessels per week, staffed on-call.

- **Tankerman Operations ~36,000 barges annually**
  - Tankermen work in geographic pools via centralized dispatch in Baton Rouge.
  - Training is provided through PSC’s Coast Guard-approved Tankerman Career Academy.

- **Alignment of Purpose**
  - PSC is not a terminal company, we are an operator. When we excel, this promotes the success of your terminal.

- **Major Facility Customers**
  - Practically all major U.S. refineries as well as petrochemical facilities.
Representative PSC Operations: NuStar - St. James, LA

- State-of-the-art Unit Train crude oil unloading facility
- PSC collaboration with NuStar to maximize infrastructure operability
  - Managing vapor and accumulated pressure
  - Rail car fittings, hoses, wrenches
  - Ergonomics
  - “The devil is in the details”
- Averaging one unit train every 24-hour period
- Special qualifications for PSC employees
  - Mainline locomotive power stays with train
    - “DPU” – Distributed Power Unit training
  - Qualified Mechanical Inspector (“QMI”)
    - Train air brake testing and inspection allows for train release
Challenges and Solutions

- Challenges are getting complex with the diversity and amount of crude oil that is currently being transported throughout North America.

- Challenges include, but are not limited to, Quality, Quantity, Transportation & Logistics, Safety, Environmental, and Regulatory parameters.

- Solutions include, but are not limited to, proper understanding of product quality and transportation requirements, along with logistical and legislative understanding to protect your organization and the environment.
Questions, Answers and Contact Information

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