

Crude by Rail

April 2014

About API

- The American Petroleum Institute (API) is the only national trade association that represents all aspects of America's oil and natural gas industry, with more than 590 members who supply most of the nation's energy
- The oil industry leases and/or owns a large percentage of the tank cars that are moving crude oil

Industry Focus on Safety

Safety is a core value of the oil and natural gas industry.

Rail moves 99.99% of crude oil without incident but one incident is too many and zero is our goal. The oil and natural gas industry is on the leading edge of improving safety. Prevention, mitigation, and response is more than a slogan, it is our mantra. We remain committed to working with the regulators and the railroads to improve safety even further.

Holistic Approach to Safety

“Getting a new tank car is not a silver bullet; first we need to prevent derailments.” - Administrator Quarterman

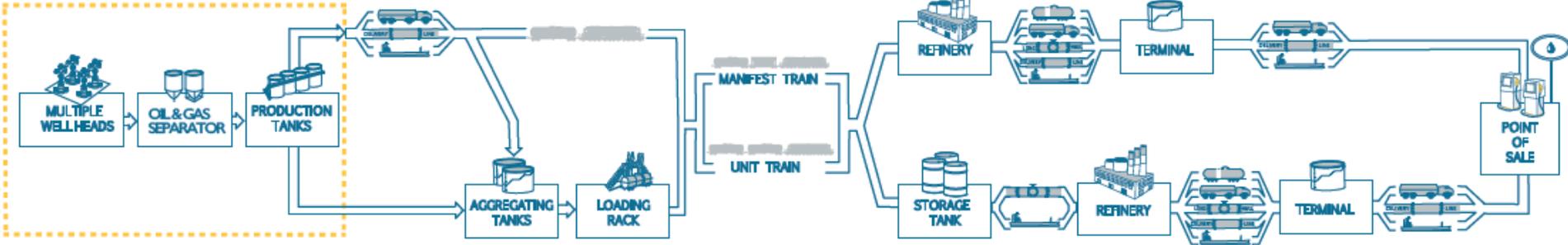
- Focus on a holistic, comprehensive approach to safety improvement
 - **Prevention:** API is collaborating with regulators, shippers, carriers, tank car manufacturers and lessors to address the root causes of derailments
 - **Mitigation:** API is also working with stakeholders to evaluate tank car design and developing a classification standard
 - **Response:** API is collaborating with railroads, first responders, and USDOT to improve emergency responder training
- Solutions must be data-driven with measurable improvements to safety without creating new risks or inadvertently shifting the risks to other businesses or operations

Integrated Risk Assessment

- API has invited stakeholders to jointly conduct an integrated risk assessment in order to:
 - Identify the risks to people, assets and the environment at each stage of transport of crude by rail (at the well-head, packaging selection, during loading, during transport, during unloading)
 - Identify the risk-mitigation efforts at each stage of the process, how they are managed and any associated defeating factors
 - Determine the overall risk and how risk-mitigation efforts and strategies in one stage of the transportation process may impact risk in other stages of transportation.

Supply Chain

PRODUCTION



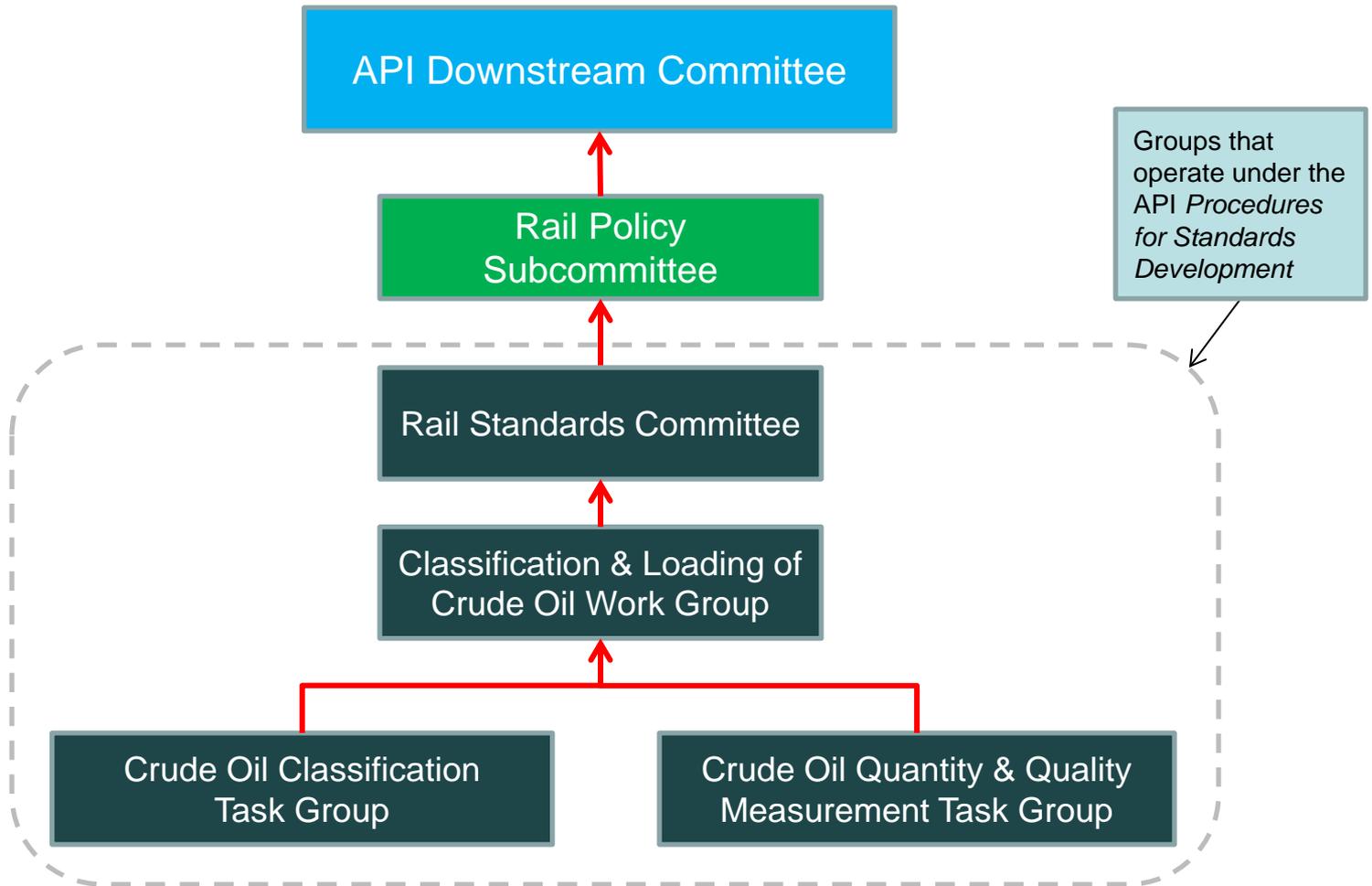
Crude Oil Classification

- What tests are being done on crude oil?
- PHMSA is conducting Operation Classification since last August and has promised to share the data. We hope to review their results with them soon
- API members are submitting data to PHMSA. API continues to encourage our members to submit their data individually
- North Dakota Petroleum Council is conducting an independent laboratory tests
 - Range and variability of Bakken crude oil qualities
 - Multiple wells and loading racks throughout the Williston Basin over a period of several weeks
 - Results provided to PHMSA and API Classification Standards Group

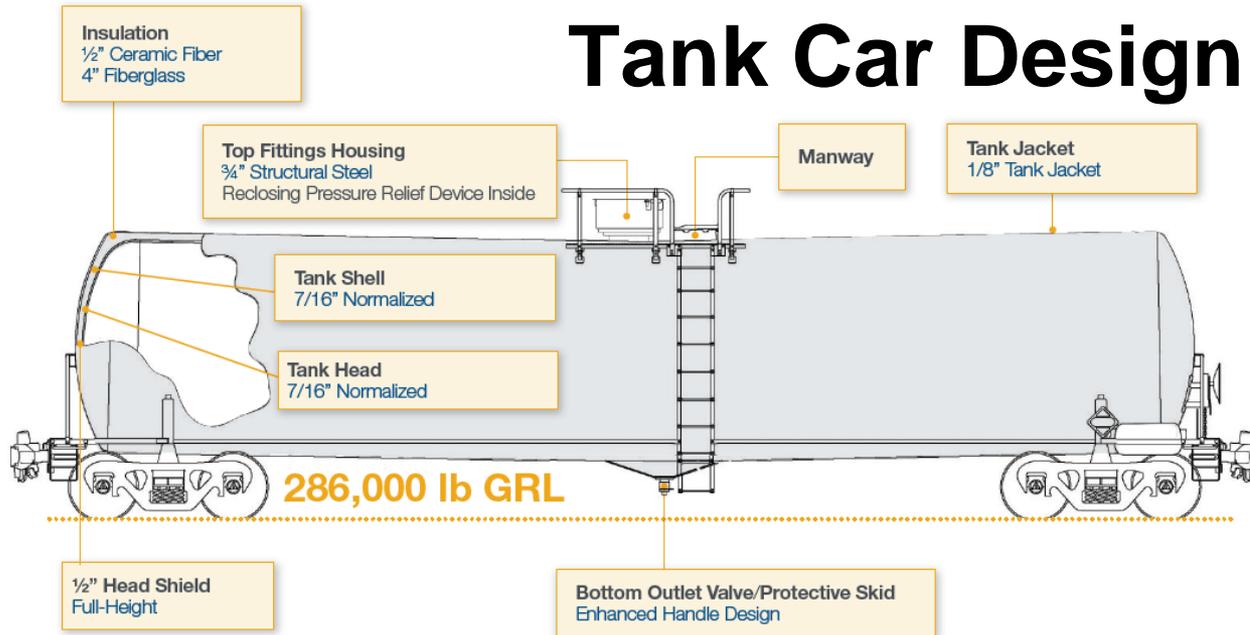
Crude Oil Classification Standard

- What is API doing?
- API is developing a standard that provides:
 - Guidance on the material characterization, transport classification, and quantity measurement of crude oil, using both lab and field testing techniques, for the loading and unloading of railroad tank cars
 - Guidance on the documentation of measurement results
 - Identifies criteria for determining frequency to sample and test crude oil
- Standard covers the transfer of crude oil into and out of rail tank cars at marine, pipeline and transloading terminals, including cargo tank truck to rail tank car

API Committee Structure

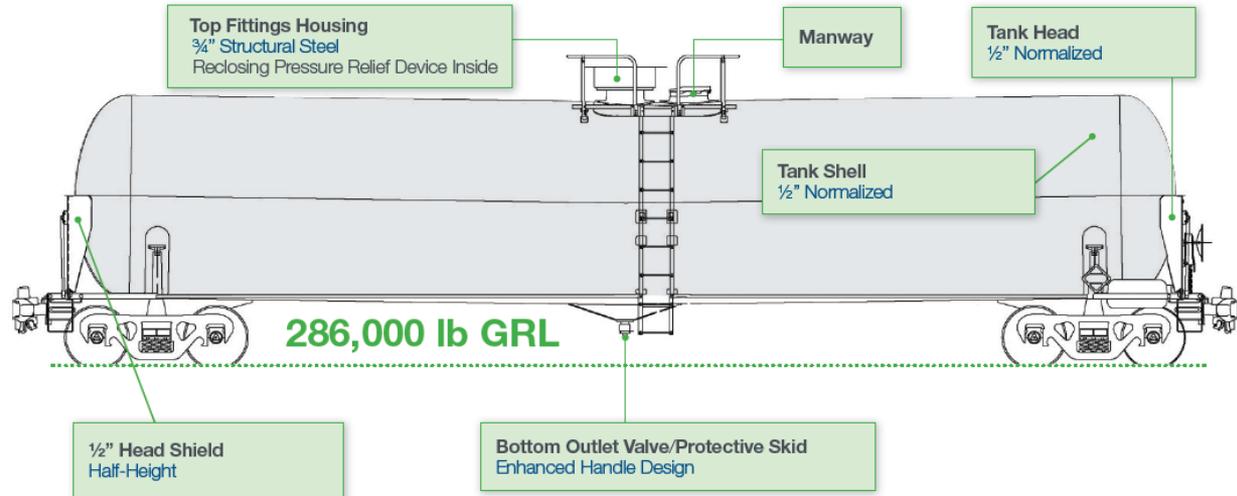


Tank Car Design



Jacketed Petition Car

Non-Jacketed Petition Car



Complex Dynamics: A Holistic Approach to Safe Transportation

- Crude production is increasing – the country needs state-of-the-art and legacy tank cars to deliver product
 - API is reviewing potential modifications to legacy cars
 - Modifications must be data driven
 - Need flexibility to move cars from one service to another
 - Need to prioritize Class 3, PG I & II commodities moved in blocks and unit trains (i.e. ethanol and crude oil)