

# Rail Ramps Up Oil Delivery: Get it to California Refineries

## Presentation



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# How To Get There From Here



- Shale Plays Changed Energy Landscape
- Moving Increasing Volume of Oil to Market Logistical Challenge
- Rail Transportation of Oil Burgeoning
- Rail to Marine Offer Greater Flexibility to Pipelines
- Pipeline Industry Stalled and Rail to Marine Grows
- Marine Terminals Provides Access to Refineries
- Crude Oil will be Transported by Rail & Marine as Economics Dictate

# The First Hurdles to the Rail & Marine Marriage (Port of Stockton Model)



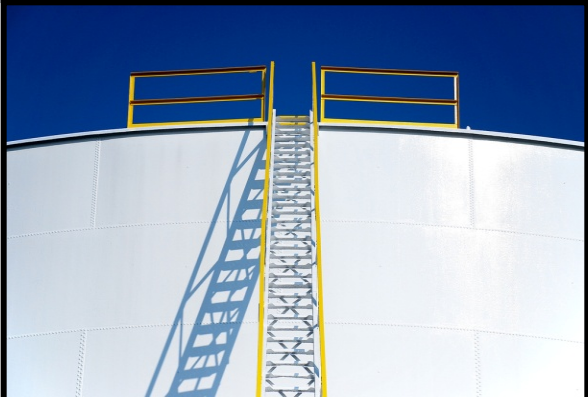
- Track Congestion
- Trackage Pinch Points in Urban Areas
  - Narrow Rail Corridors with Adjacent Urban Development
  - Conflicting Land Uses Surrounding Trackage
- Rail to Marine Overcomes Trackage Pinch Points
- Inland Waterway (Stockton Deep Water Shipping Channel) Transports Crude in Non-Urban Area, Congestion Free Transport
- Port of Stockton Marine Oil Terminal/Crude Oil Unit Train Facility – Model for Crude Oil Transport to Bay Area Refineries

# Costs vs Convenience



- Marine Transport Economics Compelling – 20% to 35% Cheaper than Pipelines
- Coastal Urban Locations, Mitigation Requirements, Permitting Requirements, have made several Rail to Marine Facilities Proposal Uneconomical
- Governmental Demand for Rail & Marine Crude Oil Transport Industry to Develop Proven Procedures, Equipment, & Technology, to Avoid Spills

# Loading/Unloading Terminals



- Making Rail to Marine Marriage Requires Terminals & Transfer Infrastructure
- Many Crude Oil Unit Train Facilities/Marine Oil Terminals have been Proposed and Failed Approval
- Unit Train Facilities/Marine Oil Terminals Development is Challenging
- Project Success Impacted by Range of Technical, Environmental, & Political Challenges
- Project Development Requires Experts to Shepard Complex Approval Process

# “Fast” Has its Price



- Growth of Rail to Marine Results of Economics & Expediency
- Pipeline Shipper Arrangements Moved to Long-Term Take or Pay Contracts
- Shale Oil Producers Avoid Long-Term Take or Pay Contracts
- Railroads Offer Shipping Terms that are Flexible for Shale Oil Producers
- Rail Provides Takeaway Capacity & Flexibility
- Marine Provides Expansion of Rail Flexibility

# Safety Matters



- Transport of Crude Oil by Any Mode is Dangerous
- U.S. Government has Rejected Pipeline Projects on Grounds of Being Too Risky
- Crude Oil is Still Being Cleared for Transport by Rail
- Rail Transport Does Not Trigger Environmental Assessment
- Public Input on Rail Crude Oil Transport not Required Under Current Rail Regulations
- Association of American Railroads Site Rail Transport of Crude Oil Safer than Pipeline
- Will Government Demand Rail to Develop Procedures, Equipment, Technology

# Problem Solved



- Rail to Marine Ideal Transportation Solution
- West Coast Buyers Seeking Shale Crude Oil
- California Lacks Rail to Marine Offloading Facilities to meet Demand for Shale Crude Oil
- Combining Rail with Marine Reduces Permitting
- Combination of Rail & Marine Provides Flexibility, and Rapid Development vs. Pipelines Stalled by Regulatory Hurdles
- Shale Oil Producers Must Use Rail & Marine or Shale Oil will stay where its found.



**Q & A**