Association of Oil Pipe Lines

Federal Energy Regulatory Commission
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Pipeline Infrastructure Critical to Balance Energy Supply and Demand

- Crude oil and petroleum products are supplied to major demand centers in the United States by over 200,000 miles of pipelines representing a $31 billion investment.

- Pipelines transport over 38 million barrels of crude oil, feedstocks and petroleum products each day.

- 17% of the nation’s freight is transported via pipelines for only 2% of the nation’s freight bill.
Oil Pipeline Infrastructure

- **Crude oil**
  - Transport crude oils from major producing basins and ports to various refining centers and/or supply hubs

- **Refined products**
  - Transport refined petroleum products, including gasoline, diesel, jet fuel and LPGs, from refineries and ports to end user markets

- **Other liquids**
  - Energy related petrochemical feedstocks transported between supply chain points
Key Industry Challenges

- Changes in supply and distribution patterns challenge existing industry infrastructure
- Substantial investment required to meet logistics and safety requirements
- Increased competition from alternate logistics providers
- Need regulatory environment that continues to attract investment capital
Industry Organization

- Major integrated oil companies
  - Primarily focused on assets that support their proprietary operations
  - Have recently divested significant number of “non-strategic” assets

- Independent refiners and producers
  - Primarily invest in infrastructure directly upstream and downstream of their operations

- Joint ventures
  - Most are formed to share investment costs of major construction initiatives

- Independent pipelines
  - Proliferation of master limited partnerships reflects the need for new sources of capital

- Regardless of organizational structure, most pipelines are governed under the Interstate Commerce Act
Independent Pipeline Ownership

- Pipelines traditionally owned by large integrated companies
- Congress provided tax incentives in mid-1980’s to stimulate energy infrastructure investment
- Formation of MLPs has provided new sources of capital for energy infrastructure development
  - MLPs primarily owned by individual investors
- MLPs solely focused on increasing throughput and capacity
  - Benefits consumers by increasing transportation options and supply to regional markets
Supply and Demand Regions
East Coast (PADD 1)

- Highest petroleum consumption rates in the United States

- Highly dependent on imports for both crude oil and refined products supply
  - ~100% crude oil
  - 24% of refined products
  - Largest recipient of supplies from other regions

- South Atlantic region experiencing higher population growth rates than the slower growth New England region

- Largest concentration of oil-heated homes
Midwest (PADD 2)

- Dependent on crude oil imports (mostly Canadian) and refined products supplies from other regions
- 2nd highest crude oil demand region in the U.S.
- Chronically short market due to combination of demand growth and refinery closures
Gulf Coast (PADD 3)

- PADD 3 is the origin of 90% of crude oil and 80% of the refined products shipped between U.S. regions.

- Largest crude oil and refined products supply region in the U.S.
  - Only two OPEC nations (Saudi Arabia and Iran) have higher crude oil production than PADD 3.
  - No foreign nation has higher refined product output than PADD 3.

- Pipeline and terminal capacity in the Houston refining center constrained.
Rocky Mountains (PADD 4)

- PADD II and III have historically supplied market to augment local production
- Small, but growing market
- Minimal demand for specialty products
- Infrastructure not well developed due to long distances, limited markets and high costs
West Coast (PADD 5)

- West Coast traditionally isolated from other U.S. supply regions
- Growing population continues to increase demand for products
- Alaska North Slope crude oil an important source of supply for West Coast refineries
- CARB rules isolate market, limiting supply options
Supply and Demand Overview

- Over 50% of all U.S. crude oil demand exists in the Gulf Coast region

- Production from the Gulf Coast region supplies the majority of Midwest and East Coast refined products deficit
  - New England region becoming increasingly dependent on foreign imports as South Atlantic region continues to grow
  - Midwest deficit expected to grow as regional refineries struggle to keep up with demand

- West Coast and Rockies regions fairly well balanced between regional refined products supply and demand
Major Crude Oil Trunklines

State shading shows Petroleum Administration for Defense Districts (PADDs)
Crude Oil Supply Challenges

- Declining production of domestic on-shore crude oil
- Increased production from U.S. OCS, Canada, and other foreign countries
- Changing refinery crude slates and some refinery closures
- Adaptation of infrastructure to accommodate supply changes
Major Refined Product Pipelines
Product Supply Challenges

- Demand growth resulting in “tight” pipeline capacity in the Midwest and Gulf Coast markets

- Proliferation of fuel grades straining pipeline and terminal infrastructure

- Lack of capacity tempers market liquidity resulting in fuel shortages and retail price spikes
Pipeline Industry Economic Challenges

- Aging and limited logistics infrastructure
- Challenging environment for permitting
- Soaring expenditures for pipeline integrity programs
- Competition from non-regulated entities
  - Refiners
  - Barges, trucks, and rail cars
Summary

- The oil pipeline industry has responded well to supply and distribution challenges and integrity management issues.
- Future challenges will require significant investment in pipeline infrastructure.
- Continued rate flexibility will be paramount to attracting the capital necessary to successfully meet these challenges.