



# Colonial Pipeline Company

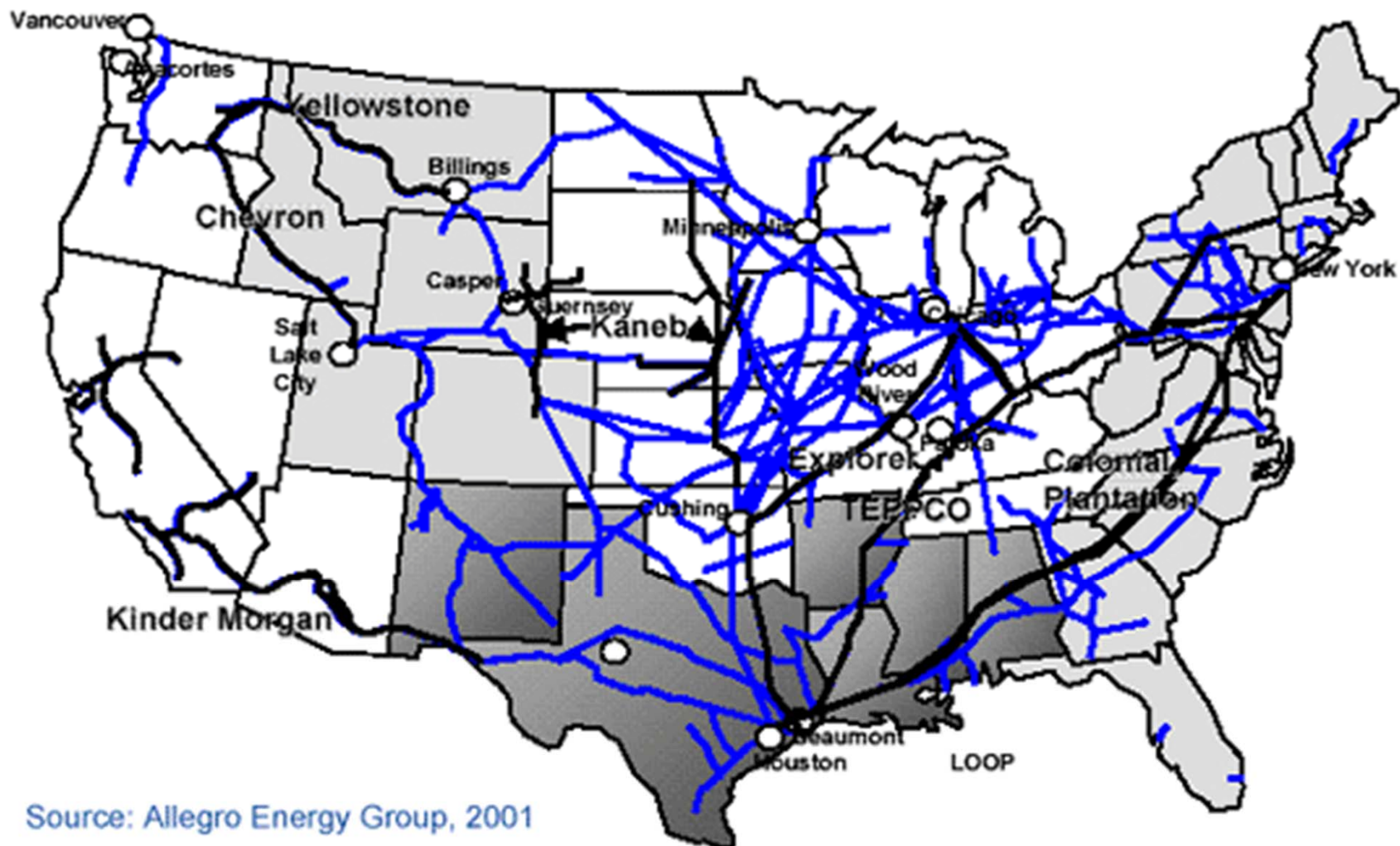
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*Moving the Energy that Moves America*

**Sam Whitehead**  
**Public & Government Affairs Manager**  
**February 8, 2012**



## Major Refined Products Pipelines

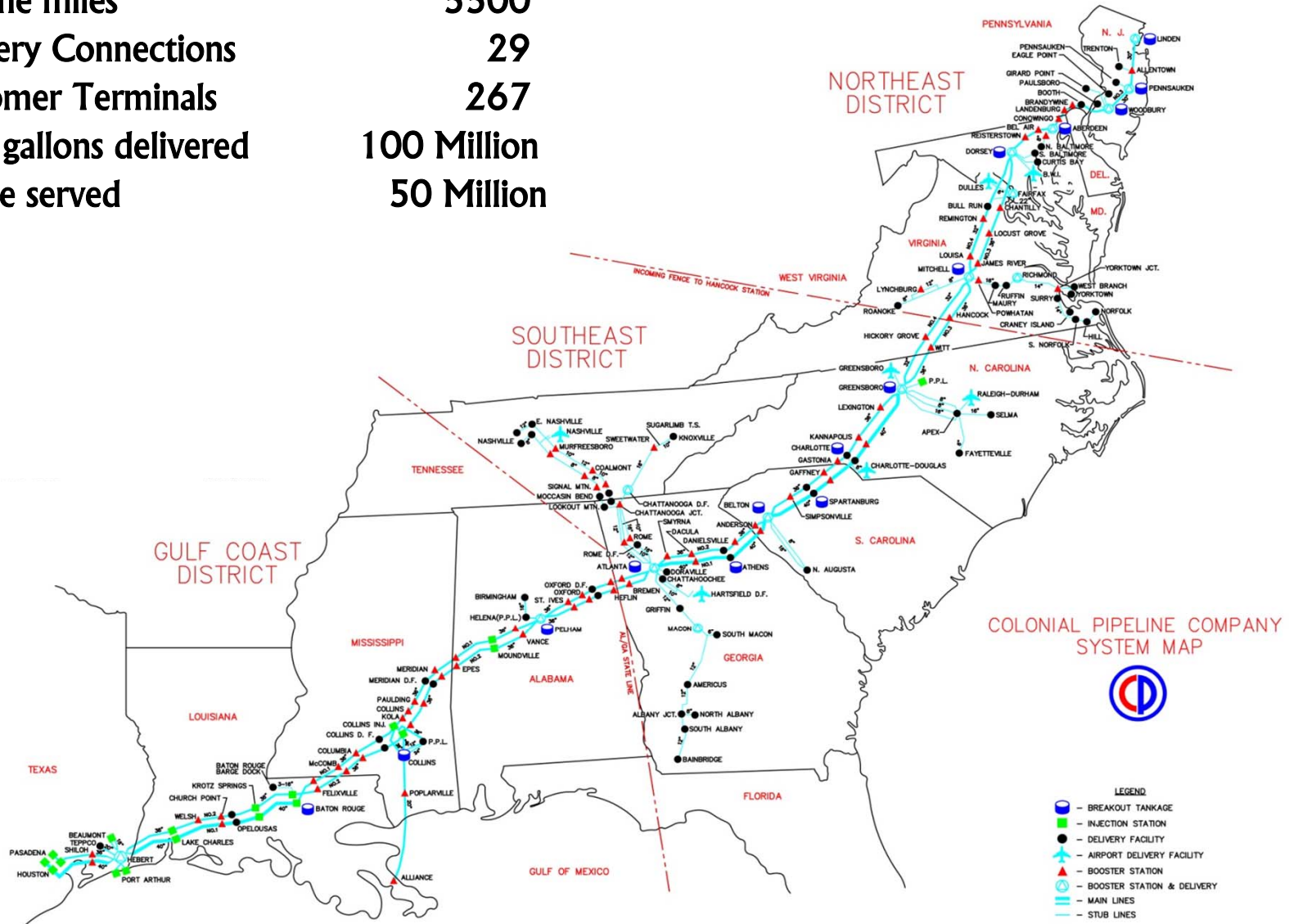


Source: Allegro Energy Group, 2001



# The Colonial System

Pipeline miles	5500
Refinery Connections	29
Customer Terminals	267
Daily gallons delivered	100 Million
People served	50 Million





# Colonial Pipeline Overview

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- ◆ **Largest refined-products pipeline in the U.S.**
  - **Founded 1962; operational since 1963**
  - **Delivers 16% of overall U.S. refined-product demand**
  - **Transports gasoline, diesel fuel, jet fuel, home heating oil, U.S. military fuels and similar products**
  - **Connects Gulf Coast refineries to Southeast, Mid-Atlantic and Northeast regions of U.S.**
  - **Direct connects to seven major airports; transfer service to three in NYC via Buckeye Pipeline**
  - **Deliver to five U.S. military installations, from where up to 10 additional bases (North Carolina to Maine) are served**
  - ***Making safety our No. 1 priority helps Colonial achieve reliable operations that are efficient, responsible and ultimately add stability and low-delivery costs to a sometimes volatile marketplace***



# Our Owners

	<u>Ownership</u>
Koch Industries	28.09%
Keats Pipeline Inv.	23.44%
Caisse	16.55%
Shell Oil Pipeline	16.12%
Industry Funds Mgt	<u>15.80%</u>
	100.00%



Caisse de dépôt et placement  
du Québec



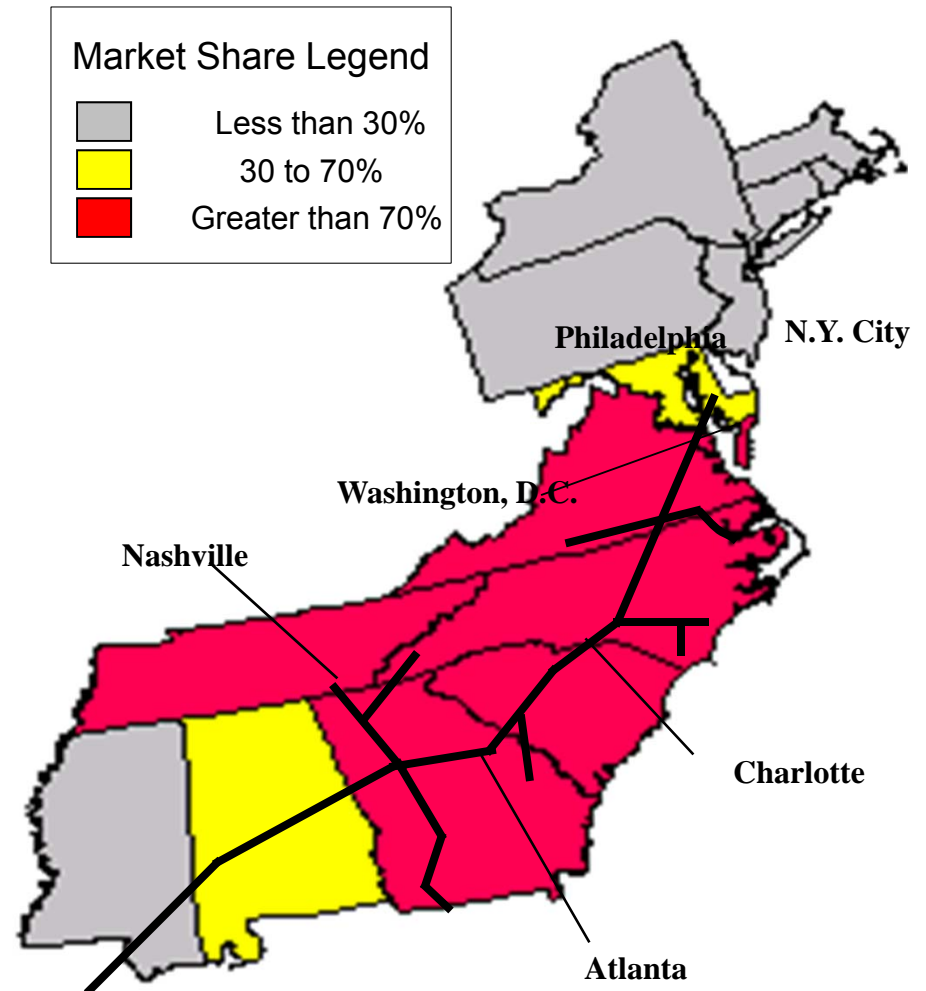
Industry Funds Management





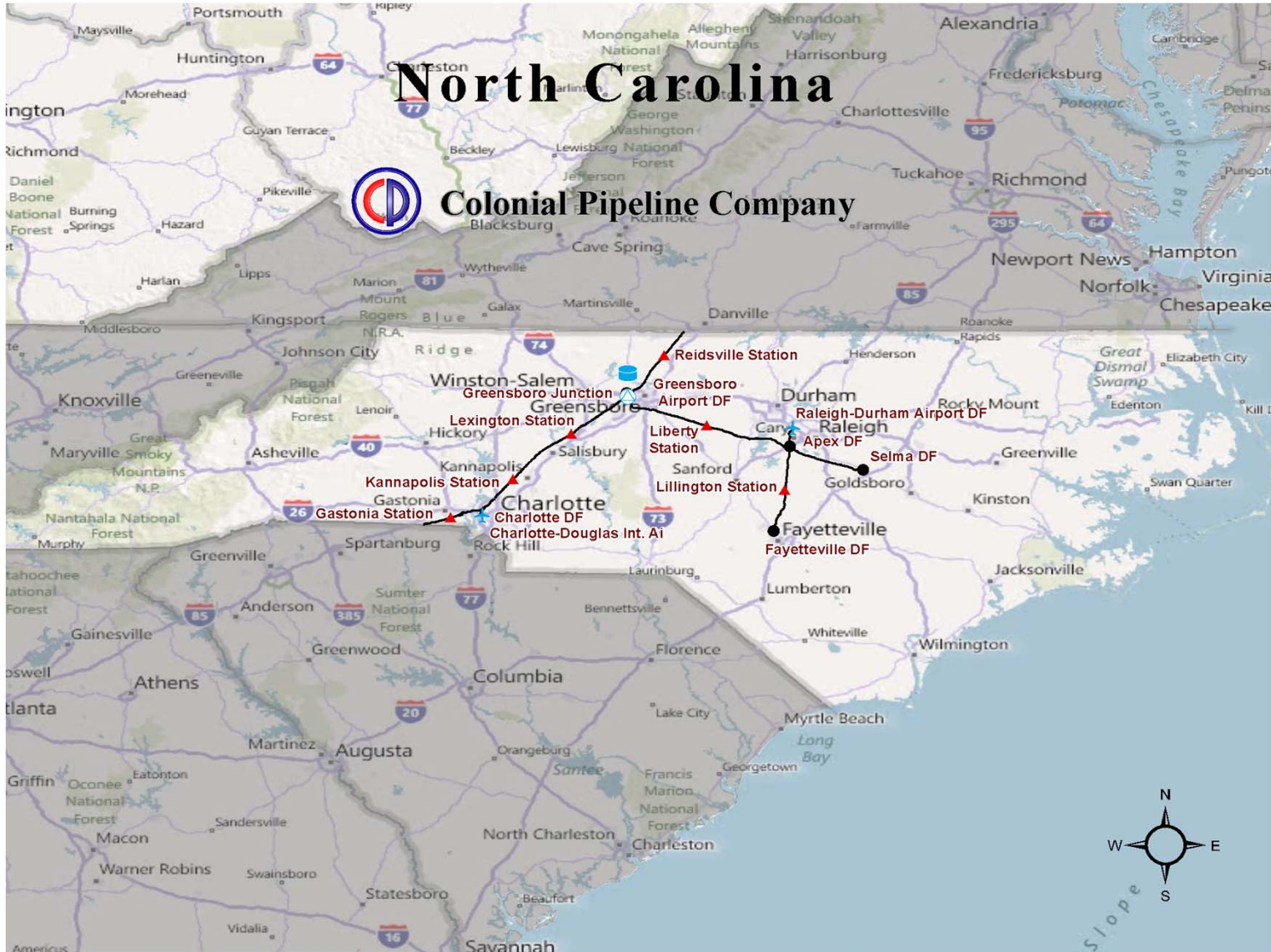
# South-Atlantic States Depend on Colonial for Liquid Fuel Supply

- ▶ Colonial delivers over 70% of the liquid fuel supply to GA, SC, NC, TN, and VA
- ▶ Northeast has alternate sources from northeast refineries and access to barge transport
- ▶ South-Atlantic states have limited alternate supply:
  - From coastal port terminals
  - No east to west supply routes
  - No direct supply route from northern refineries to the south
  - Limited service by Plantation Pipe Line





# Colonial in North Carolina





# North Carolina Statistics

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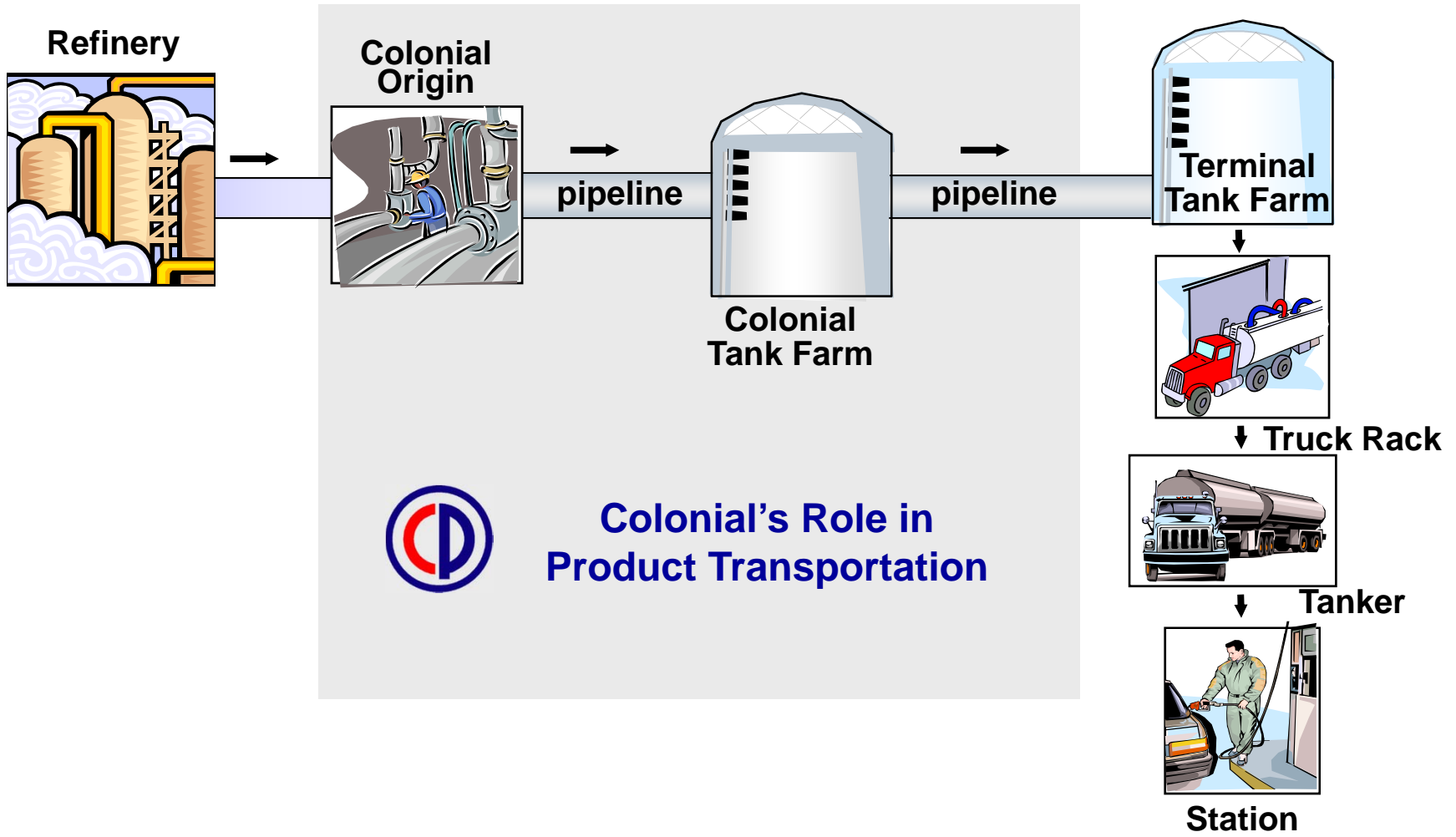
- ◆ **More than 700 miles of pipe**
- ◆ **92 tanks with almost 8 million barrels total capacity**
- ◆ **2011 Deliveries into North Carolina locations:**
  - **Gasoline 76.6 million barrels**
  - **Distillates 40.7 million barrels**

**(one barrel = 42 gallons)**



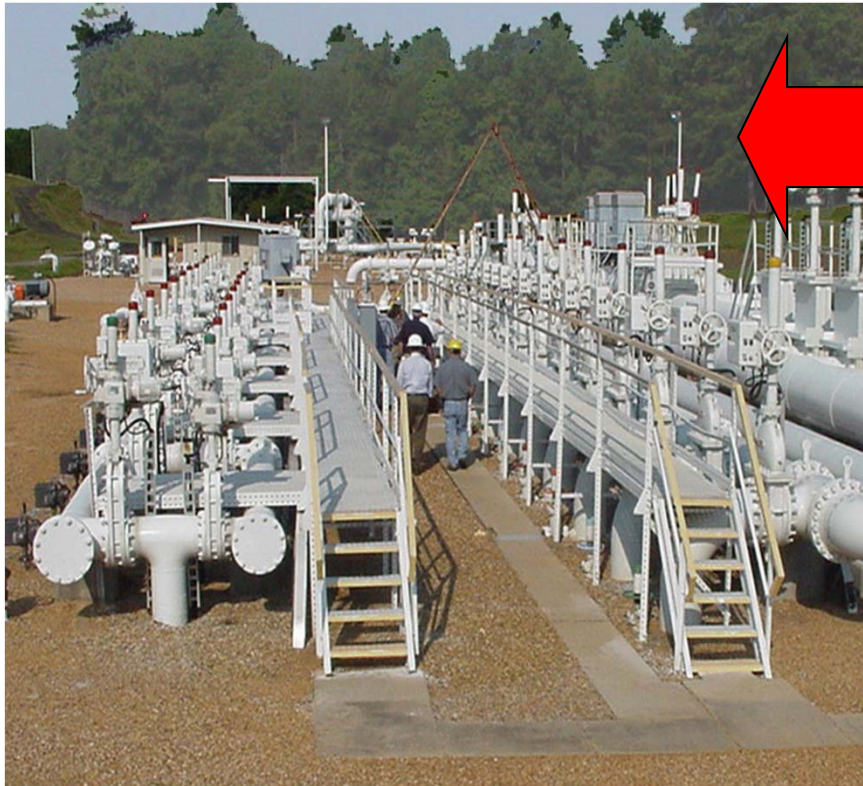


# Product Transportation System





# Basic Pipeline Operation



- ◆ **Product Injected at Origin**
- ◆ **Moved by Pumps**
  
- ◆ Transferred through Tank Farms
  
- ◆ Delivered to Terminals
  
- ◆ Direct Connections to:
  - Commercial Airports
  - Defense Installations
  - Truck Racks



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  - **Truck Racks**



# Product Sequencing



Reformulated Regular Gasoline	Low Sulfur Diesel Fuel	Kerosene/ Jet Fuel	High Sulfur Diesel	Conventional Regular Gasoline	Premium Gasoline	Reformulated Premium Gasoline
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- ◆ Petroleum products are loaded in the pipe as batches, with no separators
- ◆ Principles of hydraulics keep the batches from blending with each other, except at the interfaces
- ◆ Interfaces are separated out at their destination and reprocessed

**Increasing the number of distinct product types complicates the product distribution systems.**



# Colonial Supports National Renewable Fuels Initiative

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- ◆ Due to operational and compatibility concerns (steel, seals and pumps), Colonial does not transport ethanol or ethanol blends (ethanol is added to gasoline after it leaves Colonial's system)
- ◆ Early in 2011, we demonstrated our commitment to provide biofuels solutions by incorporating renewable diesel into our fungible distillate stream. (Leading the pipeline industry in this regard).
- ◆ We currently allow renewable diesel in our pipeline – neat or blended (Jan 1, 2011) – as it meets ASTM D975 (Diesel Fuel) specifications
- ◆ Renewable diesel (at 5% blends) has been available on Colonial since mid-year 2011, sustaining product throughput that may otherwise be blended at terminal/truck stop in the form of biodiesel
- ◆ As a fungible system, it's likely that all markets served by Colonial have received renewable diesel blends since mid-2011.



# Capacity Expansions 2011-2012

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- ◆ Expansions are based on customer needs, market forces, ongoing analysis of trends and conditions
  
- ◆ 2011 Projects Completed
  - 218,000 barrel tank in Linden, N.J.
  - 100,000 barrel-per-day Northeast expansion (Greensboro-Linden)
  - 25,000 stub-line expansion (serving eastern Virginia)
  
- ◆ 2012 Projects Under Way
  - 75,000 BPD distillate mainline (20,000 BPD completed in 2011)
  - 100,000 BPD gasoline mainline (Houston-Greensboro)
  
- ◆ Capacity enhancements give customers and the market greater access to reliable and low-cost pipeline deliveries, but they also add complexity and costs to operating the Colonial system.



# Protecting the Pipeline: Leak Detection

- ◆ **Control Center – SCADA, Procedures and Training**
  - The Supervisory Control and Data Acquisition (SCADA) system monitors flow rates, pressure and other operating variables
  - The SCADA system is a primary method of leak detection
  - Trained controllers rely on system of normal and abnormal operating procedures
  
- ◆ **Public Observation of Right of Way**
  - Visual observation by employees or the public is most common method of detecting smaller leaks
  - Pipeline markers provide toll-free phone number to Control Center
  - Partnership with local responders
  - Aerial patrols can detect leaks







# Protecting the Pipeline: Monitoring

- ◆ **Pipeline Surveillance**
  - **Ground patrol**
  - **Aerial Patrol**
  - **Video Surveillance**
  
- ◆ **Buried pipeline locating system**
  - **One-Call Center**





# Protecting the Pipeline: Ground Patrol



- ◆ Inspectors responsible for providing patrol of 3,500 miles of Right of Way
- ◆ Inspectors manage any encroachment on Right of Way
- ◆ Equipped with:
  - ◆ Global Positioning System (GPS) to locate pipeline
  - ◆ Pipeline locators to verify location



# Protecting the Pipeline: Aerial Patrol

- ◆ **Single-engine planes fly 300-500 feet over the Right of Way**
- ◆ **Right Of Way patrolled at least once a week, weather permitting**
- ◆ **Threatening activity is documented, with emergency conditions radioed immediately to inspectors on ground**





# Protecting the Pipeline: One Call Monitoring

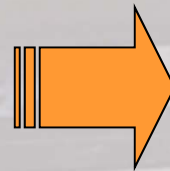
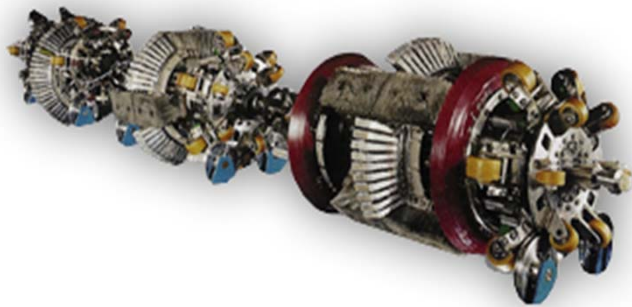


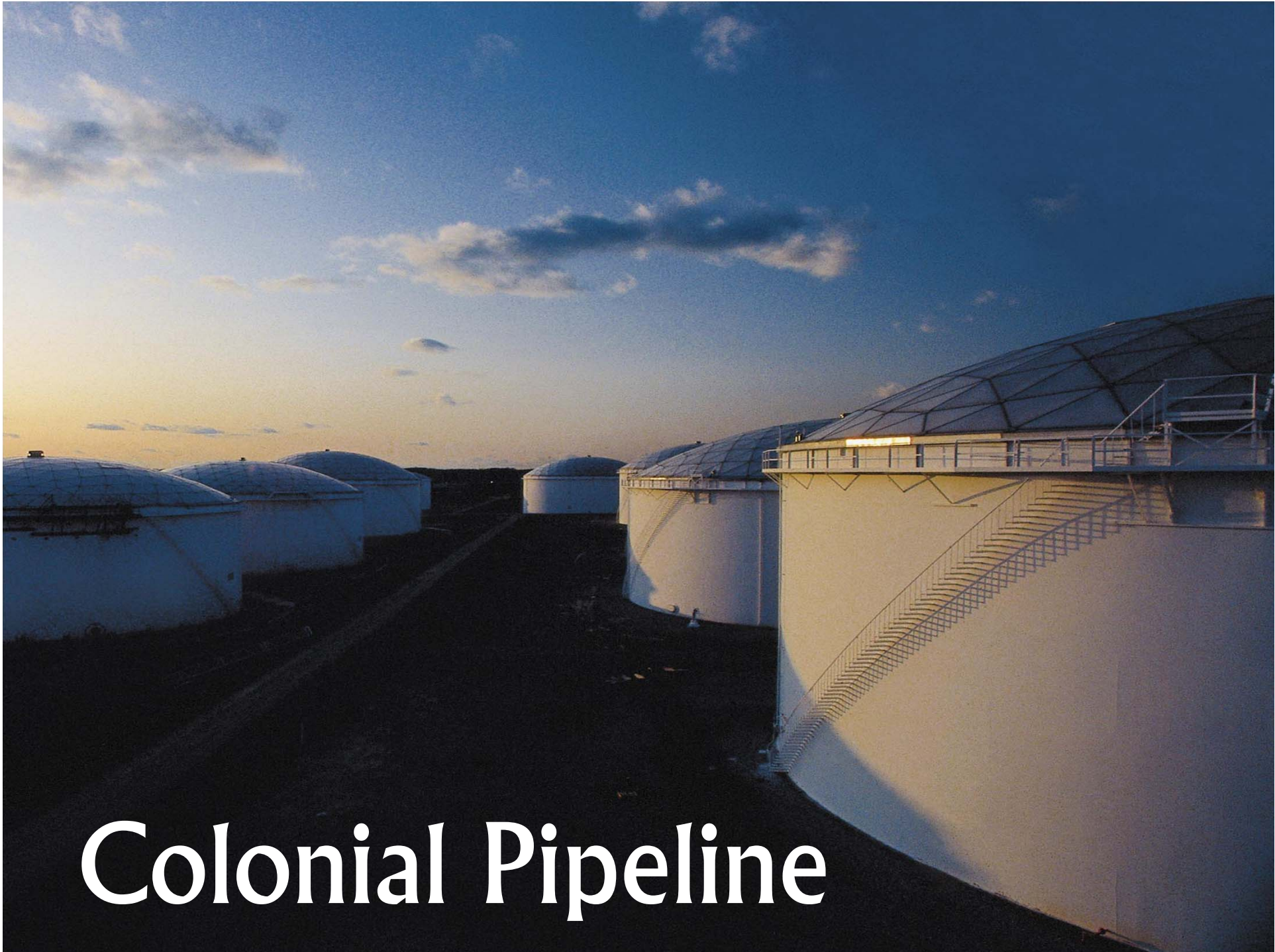
- ◆ States require excavators to request permission prior to digging
- ◆ That information is shared with companies that could be impacted
- ◆ Colonial receives an average of 1,000 encroachment requests each day.
- ◆ Colonial's One-Call computer system and software automatically maps the location of the dig site
- ◆ 40% of the requests resolved by Colonial's One-Call Center
- ◆ Remaining 60% are assigned to Right-of-Way Inspectors
  - ◆ Of those alerts, about three-quarters (450) are resolved by inspectors' phone calls
  - ◆ The remainder (150) require on-site visits



# Protecting the Pipeline: Tool Technology

- ◆ Internal Line Inspection
  - ◆ Tool Technology
    - ◆ Data Integration and Analysis





# Colonial Pipeline