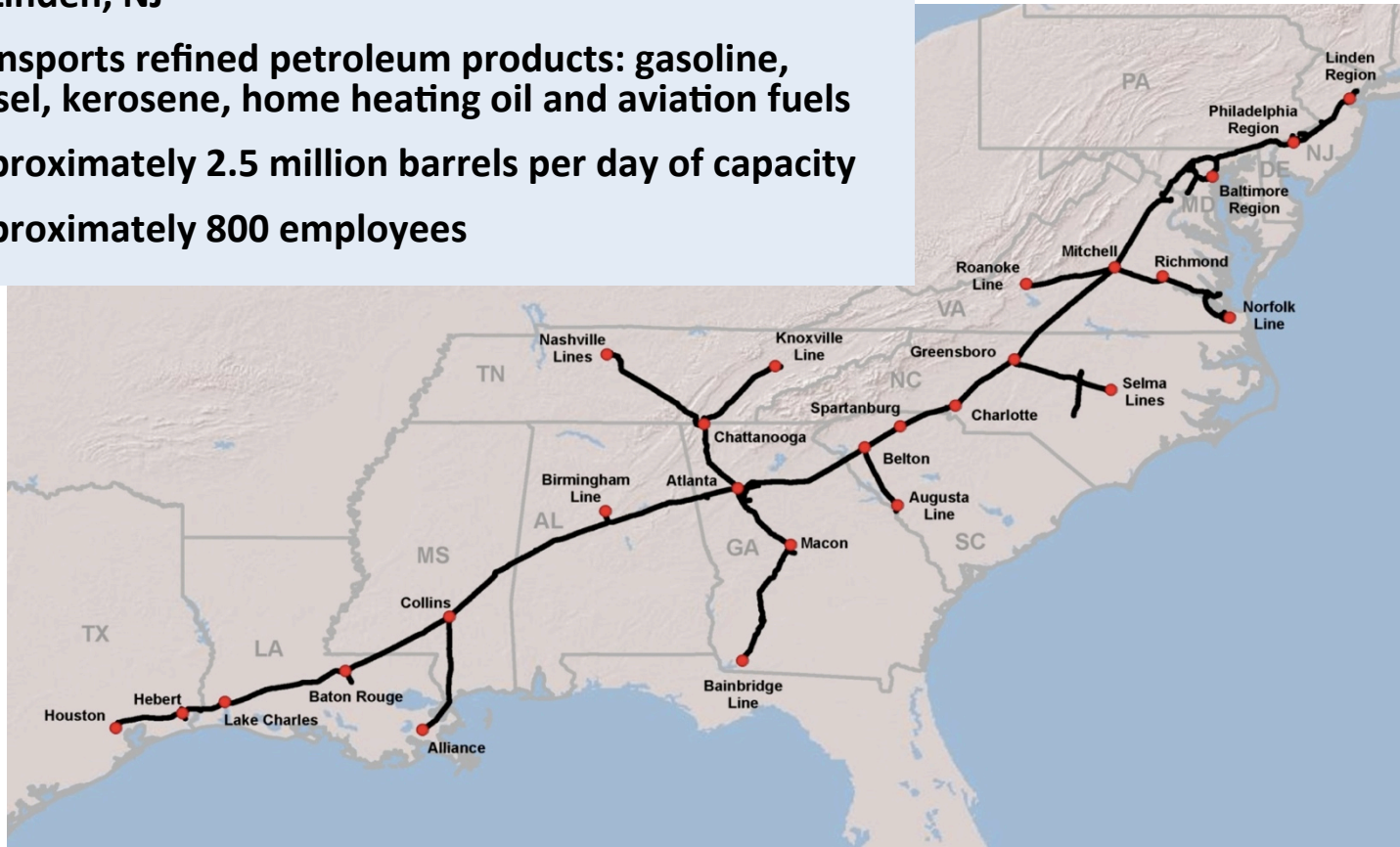


Actions to Improve Liquid Pipeline Safety

Tim Felt
Colonial Pipeline
Presented at the
Pipeline Safety Trust 2013 Annual Conference

Colonial Pipeline

- ❖ Operational since 1963
- ❖ Approx. 5,500 miles stretching from Houston, TX to Linden, NJ
- ❖ Transports refined petroleum products: gasoline, diesel, kerosene, home heating oil and aviation fuels
- ❖ Approximately 2.5 million barrels per day of capacity
- ❖ Approximately 800 employees



Safety Is A Core Value for Colonial

Colonial's Philosophy:

- It is Colonial's belief that the primary responsibility of its operations is to protect the public, the environment and Colonial's workforce, both employees and contract workers.
- Colonial is accountable for its actions and will not compromise the integrity of its operations for financial gain.
- Colonial will continually strive to improve its operations in order to achieve spill-free, error-free operations.
- Colonial employees are expected to conduct themselves and perform their work tasks in a manner that demonstrates Colonial's commitment to safety.

Case Example: Unannounced Drills

- **Emergency Response Drills Build Expertise –but Unannounced Drills Are the True Test of Capabilities**
- **October 2013, Colonial Conducted Unannounced Drill in Texas**
- **Showed Good Response Capabilities, and Areas with Room for Improvement – Lessons Learned Will Improve Future Performance**

Our Hard Work Yields Good Results

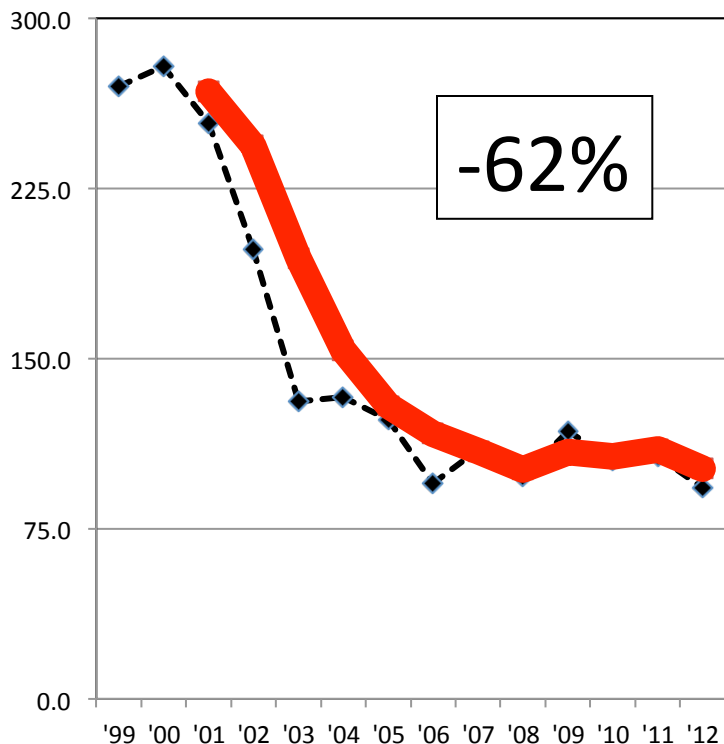
- **Last year, Colonial spent over \$100 million maintaining the integrity of the pipeline. Over the past decade, that amount is more than a half billion dollars.**
- **Last year, Colonial lost only 39 barrels of the 850 million barrels we transported. Of those 39 barrels, all but eight were contained within our facilities, and less than half a gallon was released from line pipe.**
- **We're proud that our efforts to maintain our pipelines did not compromise the safety of any of our neighbors. Even so, we look to do better; our goal is always ZERO incidents.**

Industry-Wide Results Show Good Progress Over 10 Years

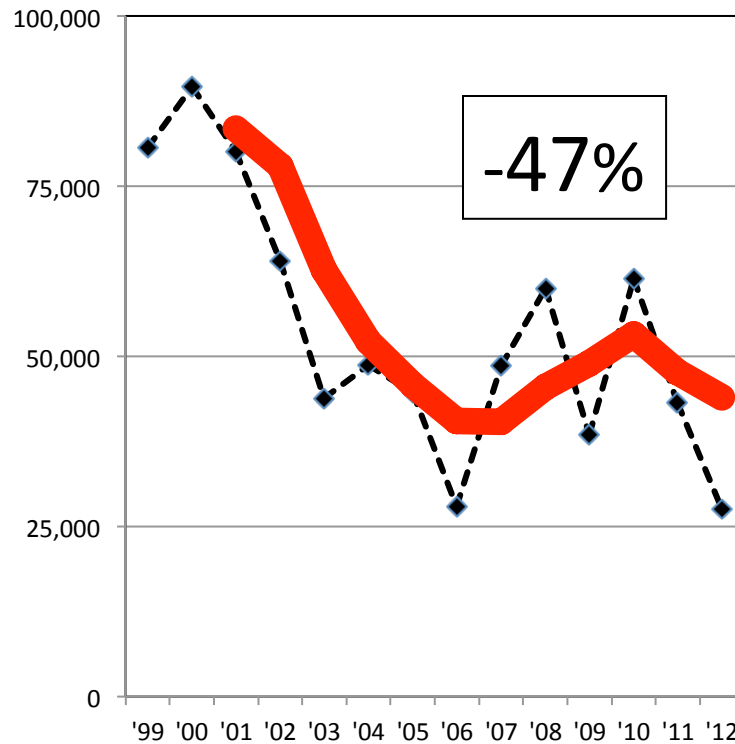
- **Overall Pipeline Incidents on ROW Are Down 60% Since 1999**
- **60% Drop Coincides with Integrity Management Program and Public Awareness Efforts**

Both Incidents and Volumes Down

Incidents



Barrels

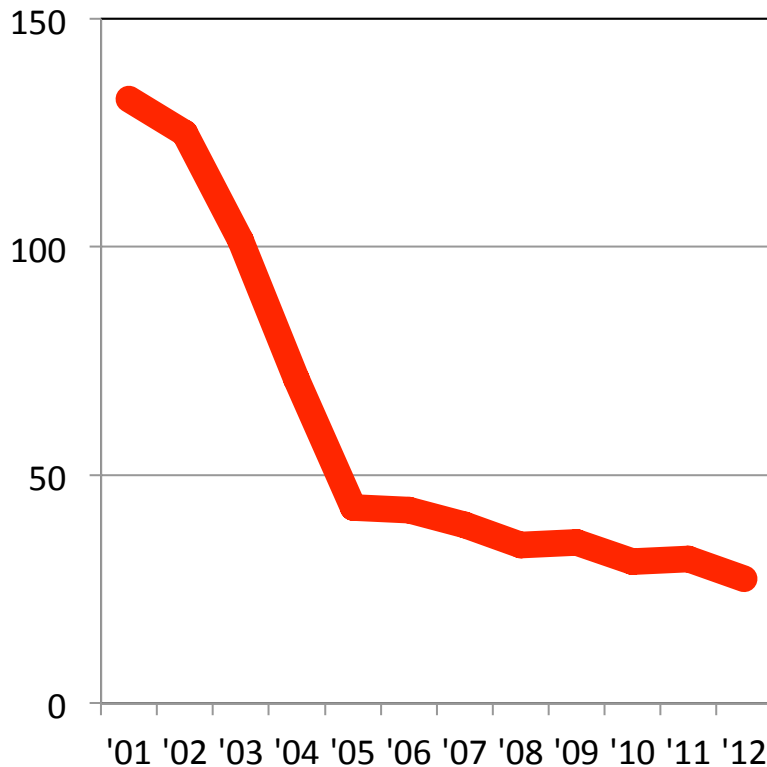


Trend lines are three-year averages

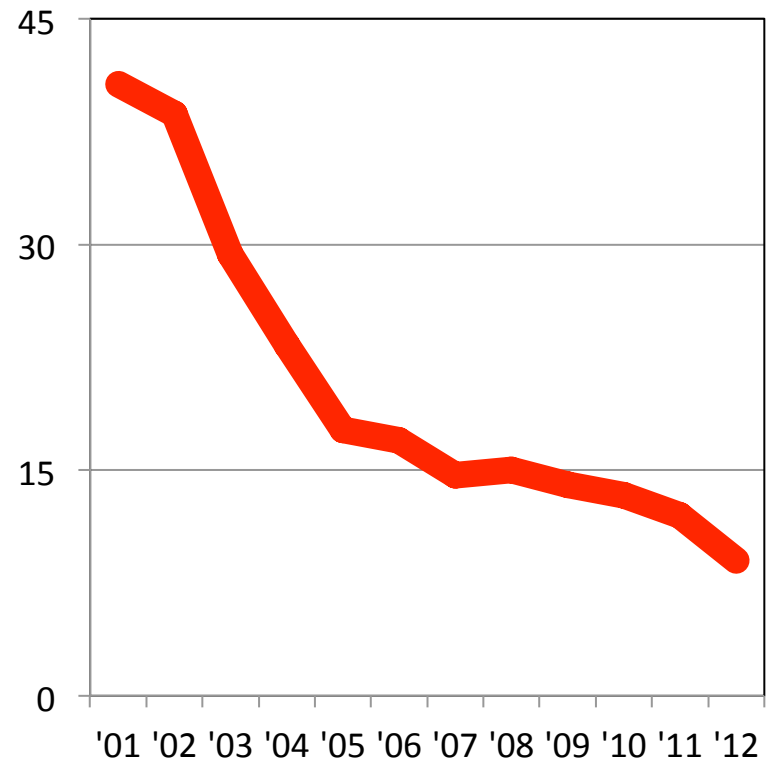
Source: Pipeline Performance Tracking System; excludes unregulated gathering.
 Percentage decline from 1999-2001 average to 2010-2012 average.

Corrosion & 3rd Party Damage Down 80% Since 2001

Corrosion



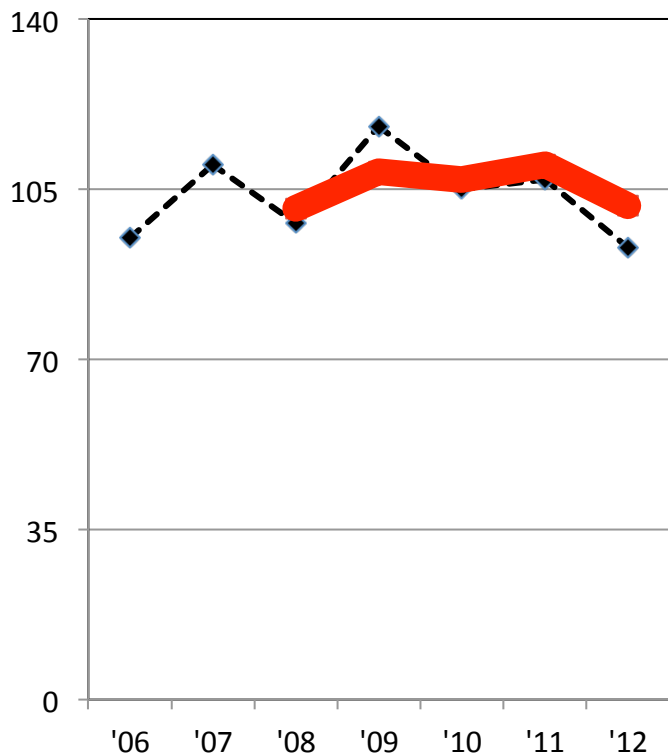
Third Party



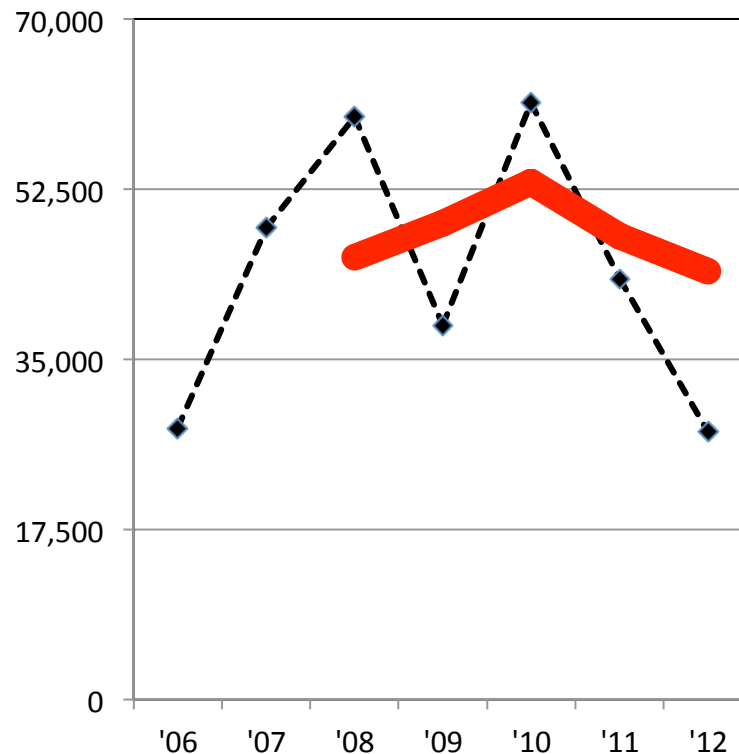
Onshore pipeline; 3-year average ending in year shown

However, Trends Are Flat In More Recent Years

Number



Barrels

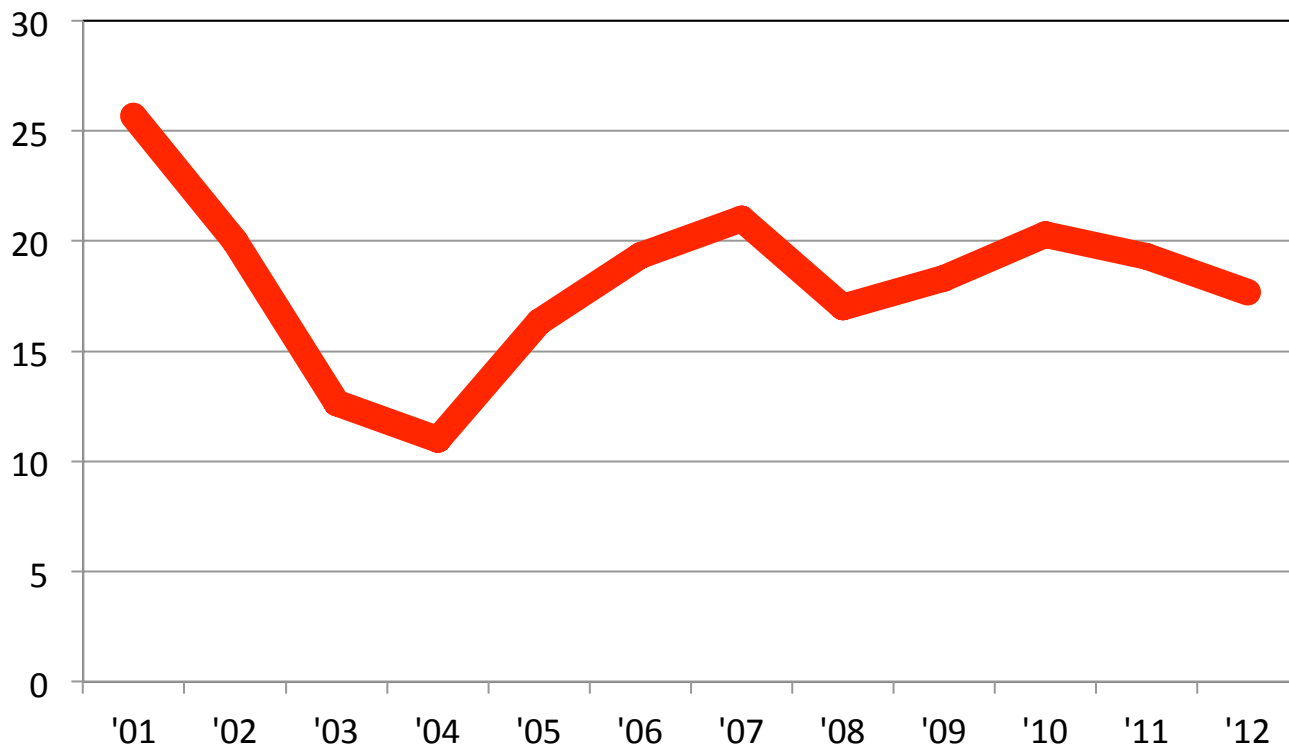


Trend lines are three-year averages

Source: Pipeline Performance Tracking System

Progress In Seams and Other Areas Is Modest

Material/Seam/Weld



Onshore pipeline; 3-year average ending in year shown

So, More Progress Is Needed

- **Even with 60% Overall Reduction, Ultimate Industry Goal Is *Zero* Incidents**
- **Even with Major Progress on Corrosion and 3rd Party Damage, Want More Progress In Other Areas**

The Pursuit of Zero Leaks - 2012

- Integrity Management
 - ***\$1.6 Billion Spent in 2012 on Evaluations, Inspections & Maintenance***
- In-Line Inspections of Liquids Pipelines
 - ***1,260 “Pig Runs”***
 - ***35,000 Miles Inspected***
- Integrity-Related Pipeline Digs
 - ***13,000 Digs***

Source: Survey of operators representing 121,900 miles (2/3 rds of total)

Our Focuses for Improving Safety in 2014

- 1. Improve Inspection Technology Capabilities**
- 2. Enhance Threat Identification and Response**
- 3. Expand Safety Culture & Management Practices**
- 4. Boost Leak Detection and Response Capabilities**

Improve Threat Detection & Analysis

- **In-Line Inspection Technology Improvements thru PRCI Research**
- **Integrity Management – ERW Seams PRCI Research**
- **Build on 2013 Liquids Industry Survey on Crack Response Practices**
- **2014 API Recommended Practice on Crack Detection, Analysis and Response**
- **2014 Guidance on Threat Data Integration Programs**

Expand Safety Culture & Management Practices

- **Recommended Practice on Pipeline Safety Management Systems (API RP 1173)**
 - 2014 Liquids Industry Implementation Plan
- **Safety Sharing Events**
 - Pipeline Information Exchange, Virtual Tailgates
 - Peer-to-Peer Safety Meetings
 - Pipeline Performance Tracking System Advisories
 - 2014 Program on Implementation of Lessons

Boost Leak Detection Capabilities

- **Rupture Detection and Response Initiative**
- **Improving Small Leak Detection PRCI Research**
- **Revisions to API RP 1168 on Roles and Responsibilities (coming soon)**
- **2014 API Recommended Practice for Leak Detection Program Management**

Boost Emergency Response Capabilities

- **Operator Preparation and Response**
 - Operator Drills With First Responders, Government
 - 2014 API Recommended Practice on Emergency Response
- **Sharing and Implementing Lessons**
 - 2014 Emergency Response Forum, Advisories
- **First Responder Outreach**
 - Emergency Response Advisory Board
- **First Responder Training**
 - National Pipeline Emergency Response Training Portal
 - Pipeline Response Training Referenced in NFPA Codes



Colonial Pipeline System Overview