



# Liquid Pipeline Operators

2014 R&D Forum Panel 1:

**Perspectives on Key R&D Challenges Facing Government & Industry**

# Craig Pierson

**President**  
**Marathon Pipe Line LLC**

**Member**  
**PHMSA Liquid Pipeline Advisory Committee**

**Vice-Chairman**  
**API Pipeline Subcommittee**

**Member**  
**API-AOPL Pipeline Safety Excellence**  
**Steering Committee**

**Executive Champion**  
**API-AOPL Research & Development Team**



# Goal of Zero Incidents Drives Our Priorities

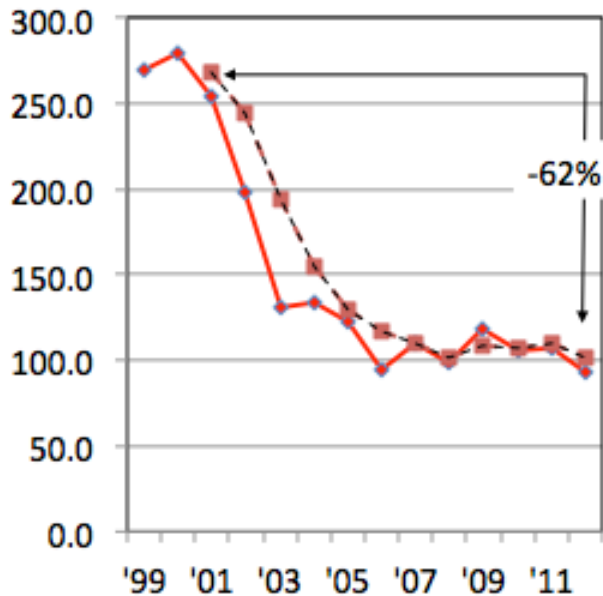
**Safety Performance Indicators All Show  
Large Improvement Last 10 Years –  
but Want Further Progress**

**Zero Incidents Is an Industry-Wide  
Shared Pipeline Safety Principle**

**Related R&D Principles Also Include:**

- **Employ Technology**
- **Continuous Improvement**
- **Learn from Experience**
- **Communicate with Stakeholders**

**# of Pipeline Incidents**  
Onshore, Right of Way



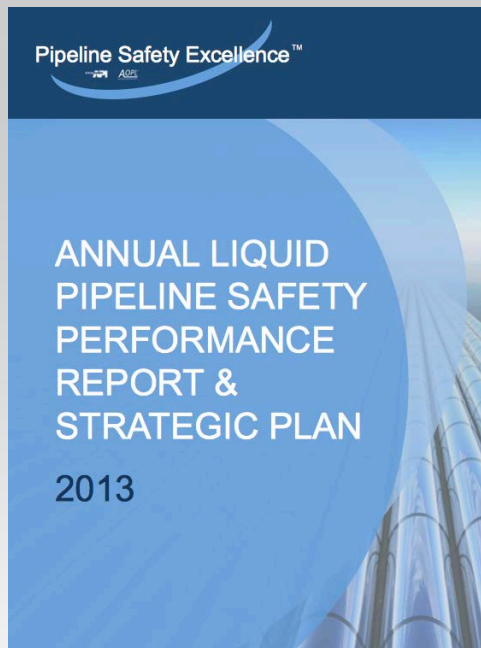
Source: API Pipeline Performance Tracking System

# Pipeline Safety Excellence Is Our Top Priority

Pipeline Safety Excellence®  
API AOPL

**Improved Safety Performance  
driven by Strategic Planning**

**Industry-Wide, Executive-Level  
Support**



# Strategic Initiative 1: ILI Capability R&D

***“Improve with Comprehensive and Accelerated R&D the Capabilities of In-Line Inspection (ILI) Technologies to Detect and Diagnose Cracks”***

**Industry-Wide, Executive-Level Support  
Delivered Leadership, Collaboration &  
Funding for Success**

**Report on ILI Crack Reliability for Detection &  
Sizing of Potential Defects - Summer 2014**

# Pipeline Research Council International

**\$20 million in Ongoing Research**

**\$10 million in Total 2014 Contributions**

**Liquid Industry Contributes:**

- **Currently 18 Liquid Pipeline Members**
- **Financial Support thru Dues & Special Assessments**
- **Research Project Team Membership**
- **Organization Leadership**



# API-AOPL Research & Development Team



**Advance Industry R&D Priorities,  
Assesses Industry Needs & Gaps,  
Advocate Deployment**



**Other Focus Areas in Addition to ILI:**

- **Crack Management**
- **ERW Weld Seams**
- **Leak Detection**
- **Damage Prevention**
- **Mechanical Damage Assessment**

# Working Together: Success & Challenge

## Successes:

- **Technology Development Center**
  - To house research samples
  - Expedite research testing
- **PHMSA Research Announcement (RA) Award - Pull Test Facility**
- **Pipeline Safety Management System**
  - NTSB recommended – Industry, PHMSA & State Regulators

**PRCI Technology  
Development Center**



## R&D Challenges:

- **Limited Test Samples**
  - Collect; characterize; collaborate
- **Hydrotesting**
  - Forge consensus on appropriate use
- **Parallel Research Efforts**
  - Collaborate based on RoadMap, then divide and conquer