

The Oil Pipeline Industry Had an Idea . . .

Learning from PPTS 1999-2006

Cheryl J. Trench

President

Allegro Energy Consulting

Allegro Energy Consulting

P.O. Box 230592 ❖ New York, NY 10023
Phone: (212) 787-6923 ❖ Fax: (212) 721-9028
ctrench@rcn.com

April 9, 2008
Orlando, FL

What is the Pipeline Performance Tracking System?

- ✱ **“PPTS”**: voluntary; open to all liquids pipeline operators
- ✱ **No membership req’d, no fee imposed**
- ✱ **Industry-run and maintained**
- ✱ **Collecting info since 1999**
- ✱ **Records spills of 5 gallons or more on land, all spills to water (compare old OPS @ 50 barrels)**
- ✱ **In 2006, PPTS participants operated about 85% of OPS miles and total barrel-miles**

1. Measure 2. Learn 3. Manage 4. Improve

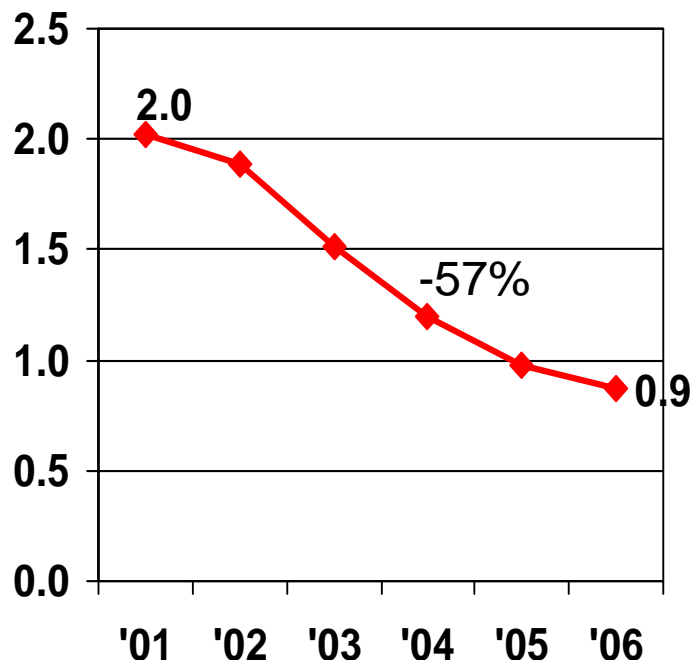
Profile of Part 195 Mileage & IMP Activities

- ✱ **Total System Miles, 2006:** **165K**
- ✱ **Total HCA Miles, 2006:** **72K**
- ✱ **HCA Share of Total, 2006:** **44%**
- ✱ **Largest HCA Miles:** **4,464**
 - **Share for this operator:** **43%**

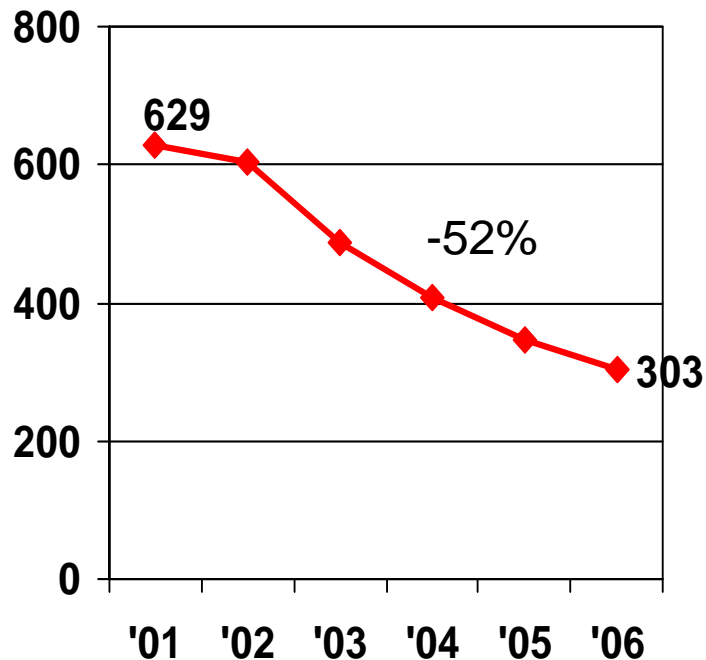
- ✱ **Costs**
 - **est'd from API/AOPL Pipeline Benchmarking Survey**
 - **If proportional for industry, \$430 Million/Year**

Dramatic Improvement: Liquids Pipeline Industry Onshore Pipe Spill Record

Number of Spills per 1,000 Miles



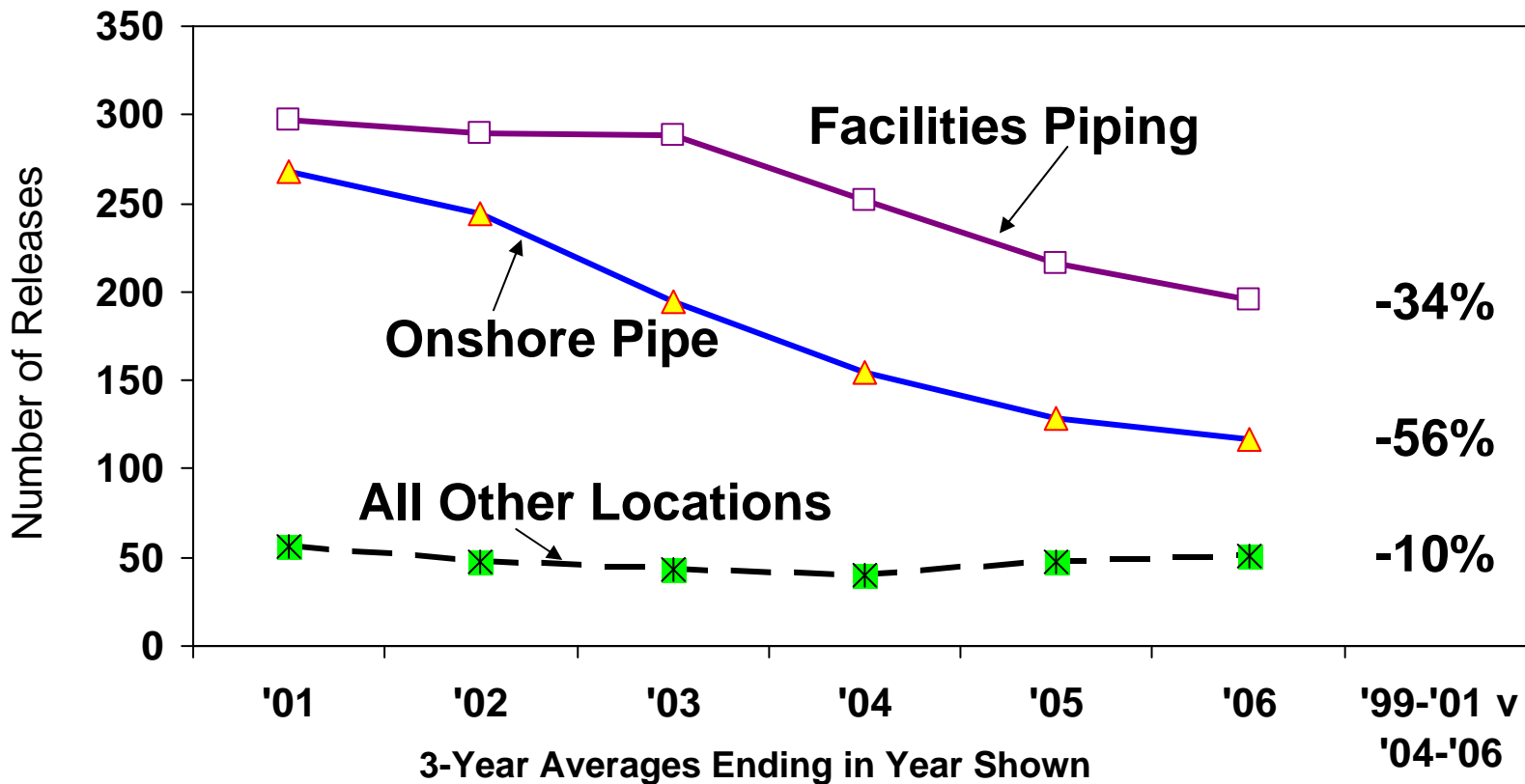
Barrels Released per 1,000 Miles



3-Year Averages Ending in Year Shown

Source: Pipeline Performance Tracking System, a voluntary spill reporting system involving 85% of the U.S. liquids pipeline mileage. Percentage decline from 1999-2001 average to 2004-2006 average.

Releases along the right-of-way have fallen by 56%

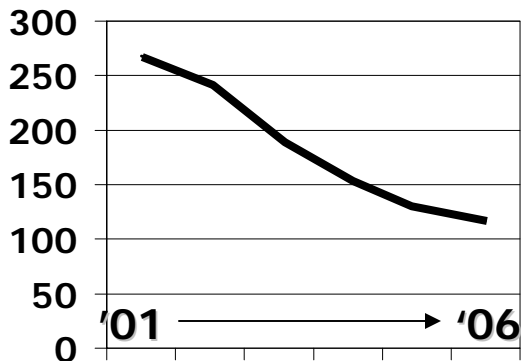


All other locations: tanks, caverns, offshore pipe
 Source: Pipeline Performance Tracking System, 1999-2006.

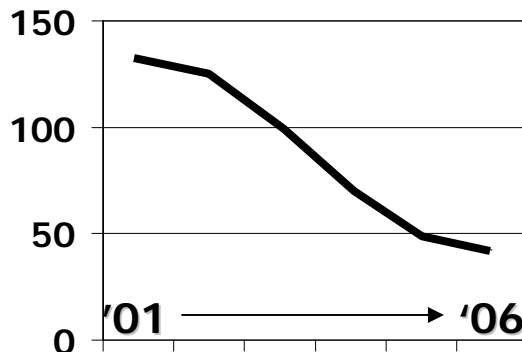
PPTS Onshore Pipe Incidents, '99-'06

3-Yr Average Ending Year Shown

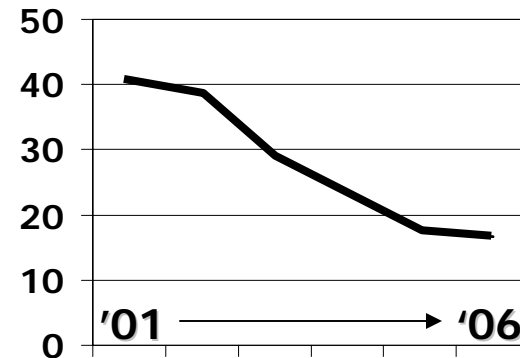
TOTAL, ALL CAUSES



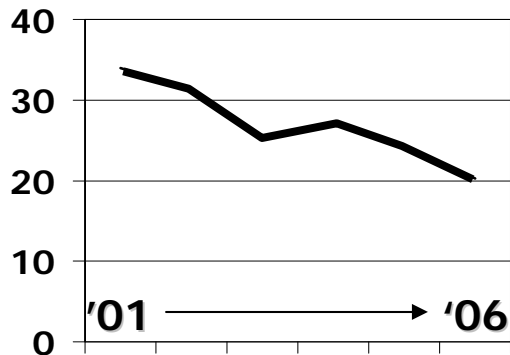
CORROSION



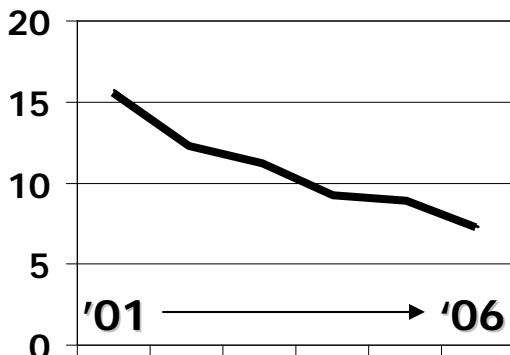
THIRD PARTY



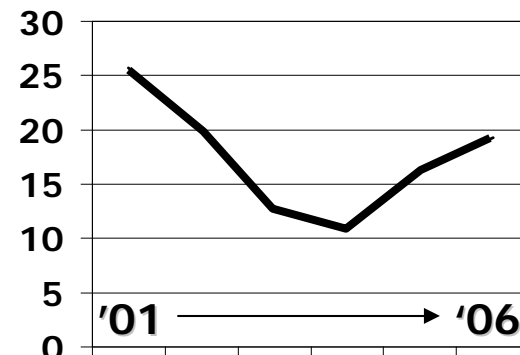
EQUIP./NON-PIPE



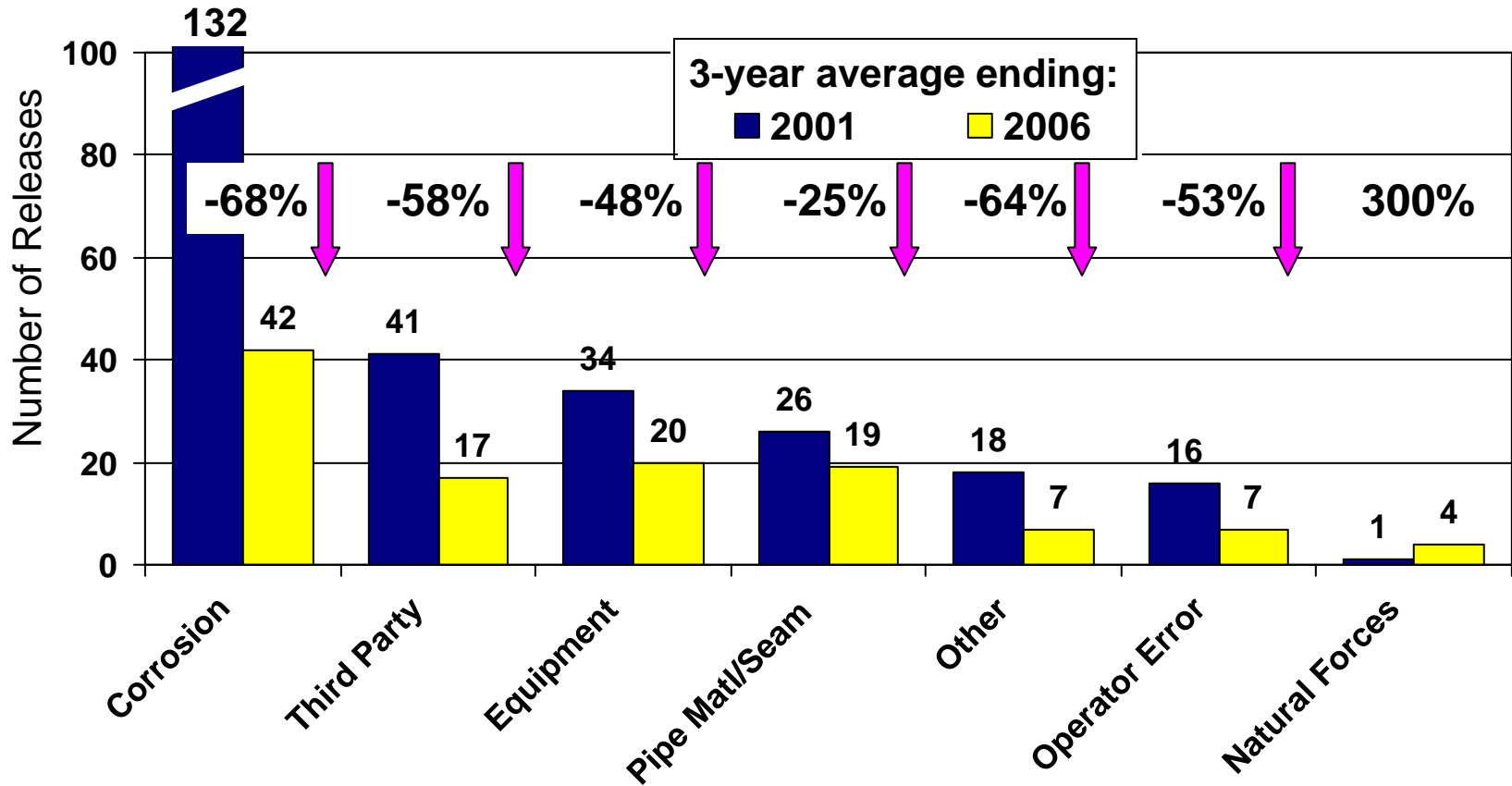
OPERATOR/OPER'N



MAT'L/SEAM/WELD



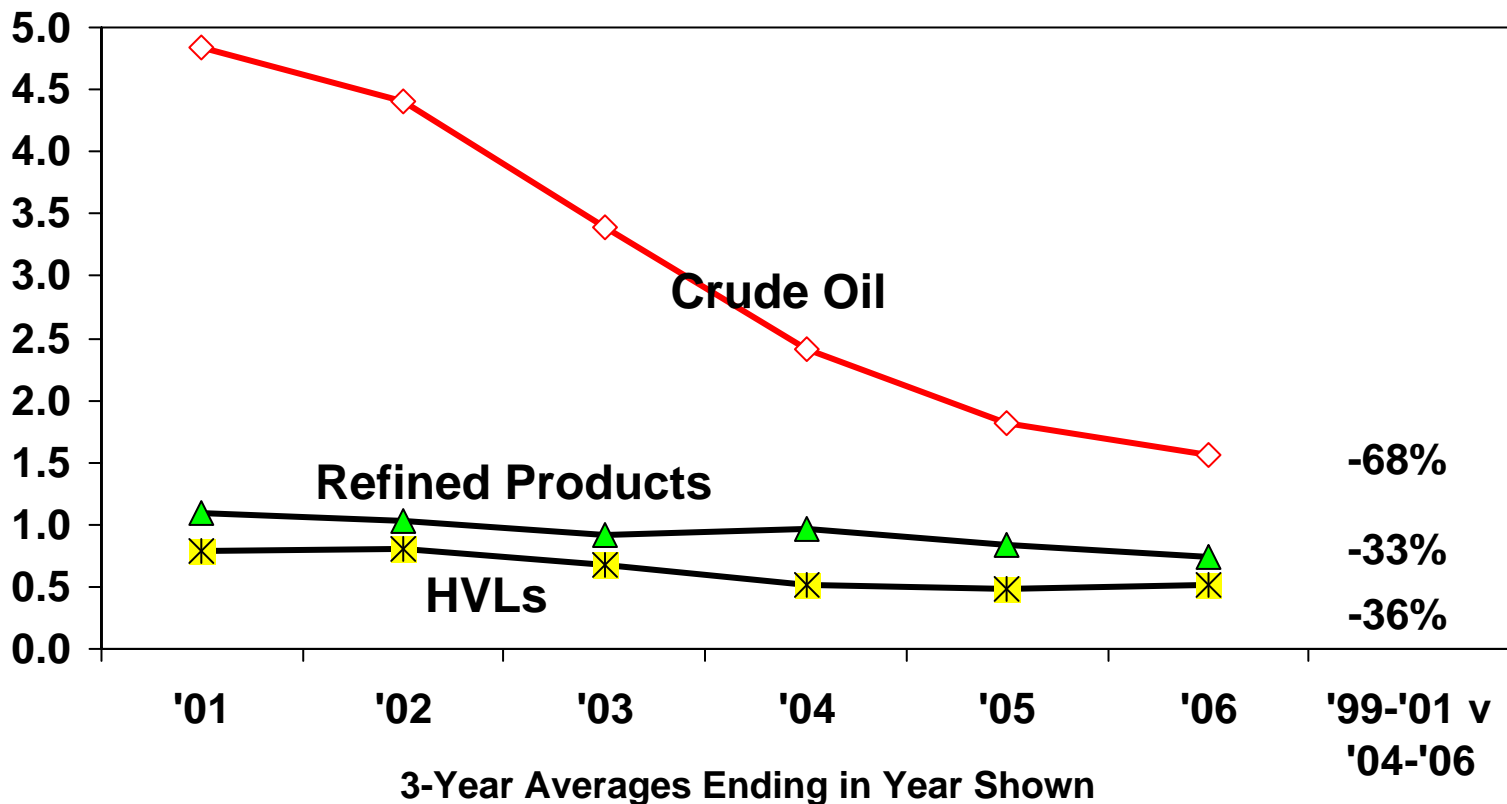
Reduction in releases along the right-of-way reflects diverse strategies



Source: Pipeline Performance Tracking System, a voluntary spill reporting system involving 85% of the U.S. liquids pipeline mileage

Releases along the Right-of-Way: Crude Oil Most Frequent and Most Improved

Number of Releases per 1,000 miles



- ✱ **Largest cause of ROW spills (47%)**
- ✱ **Reduced by 2/3 between 1999 and 2006**
- ✱ **56% are less than 5 barrels**
- ✱ **More important in crude oil systems than in refined product systems**
- ✱ **Hundreds of millions \$ of investment have reduced**
 - ➔ **Inspection and repair in high consequence areas**
 - ➔ **Now at end of first 5-year cycle**

Focus on Third Party Damage

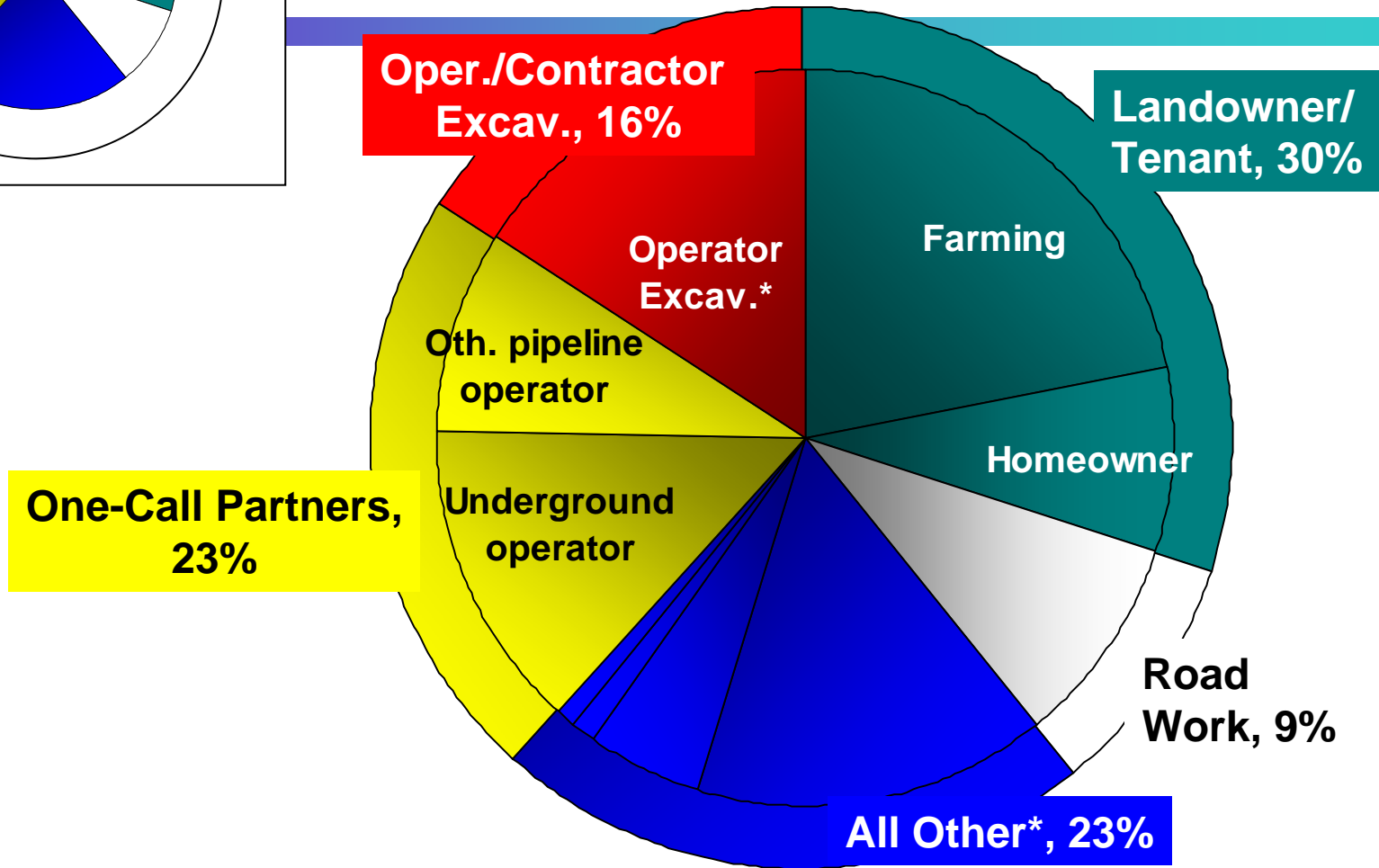
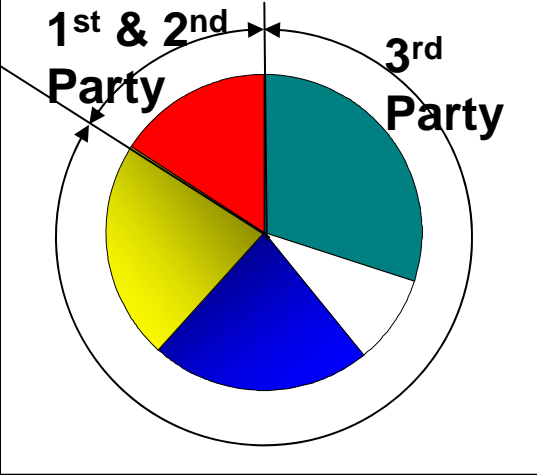
- ✱ **"Third party" is someone other than the operator (first party) or its contractor (second party)**
- ✱ **Excavation or other mechanical damage**
- ✱ **Not the greatest number, but the highest consequence**
 - **Almost 90% occur along ROW**
 - **Deaths, injuries**
 - ✓ **10 of 12 fatalities on ROW due to third party damage**
 - ✓ **16 of 25 injuries on ROW due to third party damage**
 - **Large spills**
 - ✓ **15% of ROW number, but 40% of ROW volume**

Who are these "third parties"?

- ✱ **Landowners (farmers, homeowners, tenants)**
- ✱ **Road construction crews**
- ✱ **Resid./comm'l development, etc.**
- ✱ **"One-call Partners" (pipelines and other underground utilities that pay for "call before you dig" systems)**

- ✱ **Can't forget first and second parties, though – the pipeline operator and its contractors**

Who does the damage? Not just excavators



Onshore pipeline spills where: release occurred at the time of damage, and involving 5 barrels or more, or death, injury, fire or explosion.

Source: Pipeline Performance Tracking System, 1999-2006

On the Radar Screen

