

The petroleum pipeline industry has undertaken a voluntary environmental performance tracking initiative, recording detailed information about spills and releases, their causes and consequences.

The pipeline members of the American Petroleum Institute and the Association of Oil Pipe Lines believe that tracking and learning from spills will improve performance, thus demonstrating the industry's firm commitment to safety and environmental protection by its results.

This is one of a series of fact sheets about the Pipeline Performance Tracking System, "PPTS," its evolution and its lessons.

PPTS OPERATOR ADVISORY: INDUSTRIAL / COMMERCIAL DAMAGING PARTIES IMPACT ON THIRD PARTY DAMAGE

Industrial / Commercial Damaging Parties

There were 44 Onshore Pipeline releases reported to PPTS between 1999 and 2001 for Third Party Damage caused by Industrial/Commercial Damaging Parties,¹ including road construction, One-Call Partners, and other industrial/commercial activities. These incidents:

- Accounted for one incident involving a death, and one incident involving an injury.
- Accounted for two incidents involving fire or explosion.
- Accounted for almost 49,000 barrels released, 56% of all reported volumes released from Onshore Pipe in accidents involving third party damage.
- Accounted for 8 spills larger than 1,000 bbls.

These consequences underscore the importance of this group to public safety. This Operator Advisory reviews the role of various types of third party² industrial and commercial activities and entities that may cause damage to a pipeline that contributes to or is the primary cause of a pipeline failure. This is the traditional target group for damage prevention efforts, and includes One-Call Partners, the parties involved in One-Call systems – utilities and other pipeline operators -- who should understand the significance and the nature of Third Party Damage. (Previous Operator Advisories on Third Party Damage have covered the overview of the PPTS data, and the Landowner group, farmers, homeowners and their tenants, a less traditional but important target group for outreach efforts.)

Industrial/Commercial Damaging Parties for Onshore Pipe, PPTS Data 1999-2001

- Industrial/Commercial Damaging Parties combined account for 64% of all onshore pipeline releases caused by Third Party Damage where the failure occurs at the time of the damage.
- As shown in the table below, One-Call Partners -- utilities and other pipeline operators that fund one-call systems and receive notifications under the system – accounted for 18 of these incidents, the largest share. “Other Industrial/Commercial Activities” such as residential/commercial development, rail construction, onshore waterway activity and

¹ Includes only failures that occur at the time of the damage, not failures from prior damage. This level of detail is available only for incidents of 5 barrels or more, or that involve a death, injury, fire or explosion.

² For PPTS, a “third party” is a person or persons not involved with operating or maintaining the pipeline. Mechanical/excavation damage incidents caused by the operator (the PPTS respondent) or its contractor are classified as Operator Error rather than Third Party Damage and thus, are not listed in this advisory's tables.

miscellaneous activities accounted for 17 incidents. Road construction and related maintenance activity accounted for 9 incidents.

- The Industrial/Commercial Damaging Parties were involved in 10 of the 13 incidents where the primary cause was listed as “failure of third party to take reasonable care to protect facilities.” In other words, they knew where the pipeline was, but damaged it anyway.
- The failure to use One-Call was the single largest contributor. The One-Call Partners were a significant portion of that group and this group in particular should be knowledgeable about the importance of this program and its impact.

Apparent Primary Cause of Damage by Damaging Party Group, Damage at the Time, Onshore Pipe, 1999-2001								
Damaging Party Group	Failure to utilize One-Call system [see Memo]	Failure to wait the proper time	Failure to respect pipeline co. directions/procedures	Failure to take care to protect facilities	Failure of operator to respond or to properly mark pipeline	Other	Total	Memo
								% Failure to utilize
One-Call Partners	7	3		4		4	18	39%
Add'l Indus'l/Comm'l Activities	7	1	2	5	1	1	17	41%
Road construction	5	1		1	1	1	9	56%
Subtotal, Indus'l/ Comm'l Activities	19	5	2	10	2	6	44	43%
Farming/Homeowner	16		1	3	1	4	25	64%
Total	35	5	3	13	3	10	69	51%

Includes only releases of 5 barrels or more, or that involve a death, injury, fire or explosion

The table below shows the activity that caused the damage to the pipe, by depth of cover.

- The “Trenching, grading and backfilling” category is the most prominent activity: 9 of 9 incidents for road; 14 of 18 for one-call partners; 11 of 17 for additional Industrial/Commercial Activities.
- For Industrial/Commercial Damaging Parties, there were nearly as many incidents involving pipelines with more than 36” of cover than with 36” or less.
- For the 14 incidents where the pipe was buried 36” or less, the data do not indicate whether the activity that caused the damage went deeper than 36”.
- “Drilling, boring and augering” activities have not been significant contributors to spills, and in the 1999-2001 period, there were no incidents that fit into the “Blasting, tunneling, and mining” activities.

Depth of Cover When Industrial/Commercial Activity Caused Third Party Damage					
Depth of Cover	Drilling, boring, augering	Blasting, tunneling, mining	Trenching, grading, backfilling	Other	Total
0"-24"			5		5
25"-36"	1		7	1	9
37"-48"			8	1	9
>48"	1		2	1	4
Not listed	2		12	3	17
Total	4	0	34	6	44

Closer Look at Third Party Damage by Road Construction

- Road construction accounted for 9 releases, or 13% of all onshore pipeline incidents caused by Third Party Damage occurring at the time of the pipeline failure.
- “Failure to utilize the One-Call system” was listed as the primary cause in 5 of the 9 incidents. These incidents are a particularly important issue in many localities, as municipal and county road crews are exempt from many states’ One-Call requirements. One of these incidents involved pipe with a depth of cover of 50”.

Closer Look at Third Party Damage by One-Call Partners

Damaging parties involved with mechanical damage prevention -- other underground operator, other pipeline operator -- together comprise the largest damaging party accounting for 26% of the Third Party Damage incidents where the failure occurs at the time of the damage. Looking at the reported apparent primary cause, in 7 out of the 18 incidents, it was “failure to utilize One-Call;” in 4, “failure to take care to protect facilities;” and in 3, “failure to wait the proper time.” (The remaining 4 incidents were classified as “Other” apparent primary cause.) Thus, in more than 75% of the incidents involving One-Call partners, the apparent primary cause was a failing to follow a basic practice in damage prevention.

Closer Look at Third Party Damage by Additional Industrial / Commercial Activities

The diversity of circumstances surrounding these incidents is an important illustration of the complexity of preventing them. In the incident involving a death, for instance, a subcontractor of a subcontractor installing electric poles in a subdivision failed to make a One-Call notification, and the pipeline operator was unaware of the activity. The rupture resulted in a death, an injury, a fire, an explosion, and a release of more than 17,000 barrels of HVL. In an illustration of how important each step of the process is, another incident started with a One-Call notification, and the pipeline operator’s response was to flag the line, expose it sufficiently to show location and direction, and schedule with the excavator to observe the work. The excavator arrived early, began trenching, and did not stop the excavation equipment before reaching the exposed line crossing.

The Role of One-Call

The routine successful use and implementation of the One-Call system and its protocols vastly outweigh the few failures highlighted here. Yet, the elimination of all Third Party incidents is our

ultimate goal. PPTS data make clear that the prevention of excavation/ mechanical damage incidents is complex and requires a variety of tools and strategies. The strategies used to reach one set of parties that might potentially damage a pipeline cannot be the same as the strategies used to reach another.

The PPTS questionnaire asks the “apparent primary cause” of Third Party Damage incidents, and it reflects an operator’s assessment of factors beyond whether One-Call was used. However, “Failure to utilize One-Call system” was listed as the primary cause in 43% of the Industrial / Commercial incidents. Because some of these incidents also incurred significant public safety impacts, it is critical to encourage and facilitate the use of One-Call systems.

Operator Considerations

- ❖ Operators should continue support for the development and use of One-Call systems.
- ❖ Operators should continue educating industrial / commercial / municipal parties regarding safety around pipeline facilities (encouraging the use of soft excavation technology around utilities) and strive to develop open channels of communication.
- ❖ Based on industry-wide failure information such as this Advisory, operators may elect to target certain types of potential excavators like municipal road maintenance departments with specific messages.
- ❖ Improving the effectiveness of communications related to One-Call systems and other damage prevention messages is addressed in more depth in API Recommended Practice 1162. OPS has indicated that it will adopt API RP 1162 by reference in a rulemaking on public awareness programs.
- ❖ Operators should have a strong right of way maintenance and surveillance program in place which deals with issues such as vegetation control, signage, encroachment, etc. and follow it diligently.
- ❖ Line inspection patrols should look closely for signs of trenching, grading, or backfilling near the pipeline ROW.
- ❖ Operators should strictly enforce the use of One-Call systems by their employees and contractors.



For further data related to Third Party Damage incidents see PPTS Operator Advisory 2003-8, “General Overview of Third Party Damage;” and PPTS Operator Advisory 2003-9, “Landowner Activity Impact on Third Party Damage.”