

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: LANDOWNER ACTIVITY IMPACT ON THIRD PARTY DAMAGE

### Landowner Activities Are Major Drivers for Third Party Damage

Between 1999 and 2001, there were 25 releases reported to PPTS for Third Party Damage caused by Landowner Activity, incidents where the "Damaging party or activity" was identified as Farming or Homeowner. Although less than 2% of total incidents reported, these incidents:

- Accounted for an incident involving a death;
- Accounted for 3 incidents involving an injury;
- Accounted for 2 incidents involving fire or explosion;
- Accounted for 37,700 barrels released, 43% of all reported volume released from Onshore Pipe in accidents involving excavation/mechanical damage;
- Accounted for 8 spills larger than 1,000 bbls

For PPTS, a "third party" is considered a person or persons not involved with operating or maintaining the pipeline. Examples of third parties would be farmers, homeowners, construction crews and excavators,

people who in the course of their normal activities may come in contact with a pipeline and, by damaging the pipe, could cause a spill or worse. For this paper we are focusing on farmers and homeowners (including tenants or renters), which we define as landowner activity. We group these together because they are different from the industrial/commercial entities more commonly associated with excavation/mechanical damage to pipelines.<sup>1</sup>

### Landowner Activity Damaging Party for Onshore Pipe, PPTS Data 1999-2001

- Farming led all Damaging Party/Activity categories specified in PPTS with 19 incidents.
- Homeowner was second highest in volume released.
- One-Call was not used in any Farming incidents and in only one Homeowner incident.

Third Party Damage Incidents Involving Damage to Onshore Pipe, PPTS 1999-2001								
Damaging Party/Activity	Number of Incidents				Barrels Released			
	Crude	HVL	Ref. Prod.	Total	Crude	HVL	Ref. Prod.	Total
Farming	6	4	9	19	1,450	11,547	5,720	18,717
Homeowner	1	2	3	6	70	17,540	1,384	18,994
All Other Parties/Activities	21	6	17	44	18,687	23,893	6,274	48,854
<b>Grand Total</b>	<b>28</b>	<b>12</b>	<b>29</b>	<b>69</b>	<b>20,207</b>	<b>52,980</b>	<b>13,378</b>	<b>86,565</b>

Includes only releases of 5 barrels or more, or that involved a death, injury, fire or explosion. Limited to incidents where the pipeline failure occurred at the time the damage was incurred.

<sup>1</sup> PPTS also specifies the following Damaging Parties/Activities: Other liquid or gas transmission pipeline operator or their contractor; Other underground facility operator or their contractor; Residential or commercial development, Road construction or maintenance; Railroad construction, maintenance, or repair; Waterway or reservoir construction or maintenance; Offshore oil production, maritime, shipping, or fishing activity or equipment; Inland waterway oil production, maritime, shipping, or fishing activity or equipment; Other damaging party or activity.

### Closer Look at Third Party Damage by Farming

PPTS collects information on depth of cover and some other aspects of the incident, such as the type of activity that caused the damage to the pipe. Depth of cover was not entered for 7 of the Farming incidents. Even so, the following thoughts can be drawn from the data:

- “Trenching, grading, and backfilling” are major farm activity threats to pipelines. They caused the one Farming incident that involved an injury. The laying of drain tile, digging a pond, or the construction of terraces would be examples of these activities.
- The PPTS questionnaire does not specify cultivation or plowing as an activity. However, cultivation activities may be represented in the “Other” category, which had the largest number of farming incidents (10 out of 19). Where depth of cover was reported, all but one happened at depths of 15” or less, the other was at 24”. Unfortunately depth of cover was not reported for half of the incidents in the category.
- “Drilling, boring, or augering” and “blasting, tunneling, or mining” only had one incident between them, at a depth of 44”. These activities were not significant drivers for farming incidents during this time period.

Depth of Cover	Drilling, boring, augering	Blasting, tunneling, mining	Trenching, grading, backfilling	Other	Total
0"-12"			1	2	3
13"-24"			1	3	4
25"-36"			4		4
37"-48"	1				1
Blank			2	5	7
Total	1	0	8	10	19

Texas led all states with 6 farming incidents, 4 of which were crude. Kansas had 3, Minnesota and Illinois each had 2, with six other central US states experiencing one incident.

### Closer Look at Third Party Damage by Homeowners

PPTS had six incidents of Homeowner Third Party Damage reported. Damage resulted from “trenching, grading, or backfilling” for all but the crude oil incident which was listed as “other”. The risk for Public Safety impact is high: half required evacuation and one caused a death and an injury, another caused an injury. Both of these latter incidents also involved a fire, and one involved an explosion as well. One-Call was reported as used in only one of the six incidents. Line markers were reported as visible in 4 of the 6 incidents.

Commodity	Volume bbls	Non-rural	Deaths or injuries	Fire or explosion	Evacuation	Depth of cover	One Call	Line Markers Visible
HVL	10,740	Y	Y	Y	Y	48"	N	Yes
HVL	6,800	N	Y	Y	Y	17"	Y	Yes
Ref. Prod.	1,087	N	N	N	N	27"	N	Yes
Ref. Prod.	277	Y	N	N	Y	30"	N	Yes
Crude	70	N	N	N	N	Unknown	N	Unknown
Ref. Prod.	20	N	N	N	N	Unknown	N	Unknown

Each row is an individual incident. Includes releases of 5 barrels or more, or those involving a death, injury, fire or explosion.

## The Role of One-Call

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PPTS data make clear that the prevention of excavation/mechanical damage incidents is complex and requires a variety of tools and strategies. The importance of this “landowner activity” category in Third Party Damage incidents is a clear indication that the hazards and their sources are diverse. Strategies to reach one set of parties that might potentially damage a pipeline cannot be the same as strategies 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 two-thirds of the Farming incidents and half of the Homeowner incidents (See chart on page 3 of PPTS Advisory 2003-8 for more detail). Because some of these public activity incidents also incurred significant public safety impacts, it is critical to encourage and facilitate the use of One-Call systems.

One-Call systems are designed and administered on a state-by-state basis. The patchwork of exemptions for different kinds of activities includes some instances where agricultural and/or farming activities are fully exempt from requirements to call One-Call notification centers. However, in many states, the exemptions are limited and require various farming activities to utilize One-Call depending upon depth or nature of activity. Operators need to clearly communicate the correct state requirements for One-Call to landowners. .

## Operator Considerations

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- ❖ Operators should continue support for the development and use of One Call systems. PPTS operators listed “failure to utilize One-Call” as the primary cause of two-thirds of the Farming incidents and half of the Homeowner incidents. The use of One Call should be encouraged universally, including those exempt from state One Call requirements.
- ❖ Operators should continue educating farmers and homeowners regarding safety around pipeline facilities and strive to develop open channels of communication, such as personal contact with individual farmers. Operators should consider adopting the protocols in the industry standard API RP 1162 to facilitate these efforts.
- ❖ 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 or the cultivated fields that the pipeline traverses. These activities were the leading cause of landowner incidents based upon PPTS data.
- ❖ When evaluating depth of cover in areas of routine cultivation, operators should consider the farming methods used.



For further data related to Third Party Damage incidents see PPTS Advisory 2003-8, “General Overview of Third Party Damage,” and PPTS Advisory 2003-10, “Impact of Commercial and Industrial Activity on Third Party Damage.”