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: REPORTING OIL PIPELINE RELEASES IN HIGH CONSEQUENCE AREAS

Understanding releases in High Consequence Areas is crucial to continuous improvement

The Office of Pipeline Safety implemented its regulations on "Pipeline Integrity Management in High Consequence Areas" for large operators in 2001. The regulations (49 CFR 195.452) require that each operator develop an integrity management program that addresses the risks associated with pipeline segments and facilities that could affect a "High Consequence Area" (HCA). The program must include the identification of each segment or facility that could affect an HCA, a plan for assessing those segments, criteria for remediating integrity issues, and a process for continual integrity assessment and evaluation. The rule defines an HCA[1] as 1) a commercially navigable waterway; 2) a high population area; 3) an "other populated area" or 4) an "unusually sensitive area," based on environmental factors or its designation as a source of drinking water.

The PPTS survey form was changed to collect information about releases involving HCAs. Understanding the impact of pipeline releases on HCAs is crucial to understanding the industry's success in meeting the intent of the regulations, the effectiveness of the regulations, and in understanding if and how the regulations may need improvement. Inconsistent information undermines the data integrity and credibility. In the absence of the PPTS information, the industry will have no data source but the less specific information gathered on the RSPA Form 7000-1, which may lead to false conclusions about the industry's impacts on HCAs.

This PPTS Operator Advisory addresses the HCA questions on the survey form and provides guidance on answering them correctly, including specific examples.

The HCA questions on the PPTS survey form

There are three parts to the HCA questions: a) did the release occur on a segment or facility that had been identified as one that could affect an HCA segment, b) did the release's spill zone

[1] *High consequence area* means:
(1) A *commercially navigable waterway*, which means a waterway where a substantial likelihood of commercial navigation exists;
(2) A *high population area*, which means an urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per square mile;
(3) An *other populated area*, which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area;
(4) An *unusually sensitive area*, as defined in § 195.6.

actually reach an HCA, and c) if it reached an HCA, what type of HCA and had the operator identified the potential for reaching that HCA. The follow-up questions (b and c above) provide important information about the industry's performance around HCAs and operators' programs. Each of the questions is discussed below.

Question: *Did this release originate from a facility or pipeline segment that had been identified as one that "could affect" any "high consequence area"? (49 CFR Part 195.450)?*

__ Yes __ No __ Don't know

Comment: This is a straightforward answer. As part of its Integrity Management Program (IMP), each operator was required to document all of its segments and facilities identified as to whether they "could affect" an HCA. Checking the coordinates of the release's origin with the operator's maps (or database) provides the answer.

Question: *Did this release reach or occur in any "high consequence areas" (49 CFR Part 195.450)?*

__ Yes __ No __ Don't know

Comment: Another way to phrase this question is, "Is any part of the release (regardless of origin) within the boundaries of a designated HCA?" Did the plume or vapor reach an HCA? This question refers to the product's spill zone. The coordinates of the spill zone should be compared to the map of polygons and buffer zones created as part of the IMP. This is not a question about the impact of the release, which is answered in later PPTS questions.

Question: *If yes, specify below the types of HCA's intersected or reached[2] and whether they were identified or not identified in your Integrity Management Program as HCAs that the pipeline segment "could affect." If a particular type of HCA was not reached[3], leave blank.*

Commercially navigable waterway	*__ identified*	*__ not identified*
High population area	*__ identified*	*__ not identified*
Other populated area	*__ identified*	*__ not identified*
Unusually Sensitive Area – Water	*__ identified*	*__ not identified*
Unusually Sensitive Area – Ecological	*__ identified*	*__ not identified*

Comment: This is also a straightforward question. Like the questions above, this is a question of location, not impact. If the released product reached an HCA – if the location of the product was within the boundary of the HCA polygon – was the potential for reaching that HCA polygon identified in the IMP?

Examples of how to report

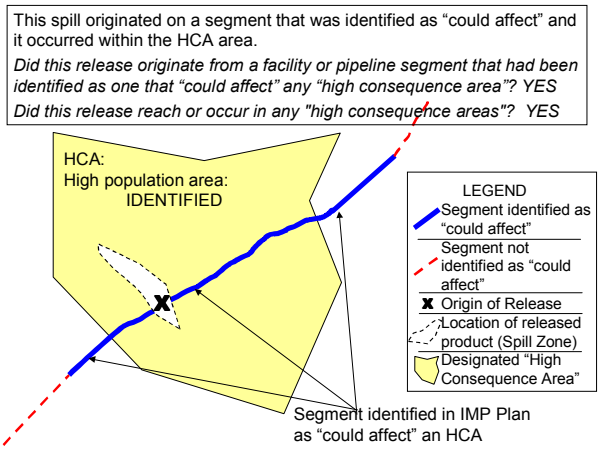
The illustrations below help clarify different situations.

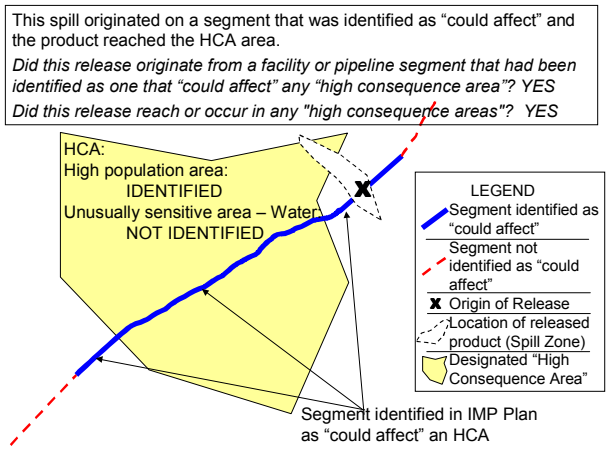
They include a polygon representing a generic HCA that might be a high population area, an other population area, an unusually sensitive area with respect to environment or an unusually sensitive area with respect to sole source drinking water. Commercially navigable waterways are also HCAs and are generally represented on HCA maps as lines, not polygons.

[2] The PPTS survey form now uses the term "affected." Coincident with the publication of this PPTS Advisory, the wording will be changed to "intersected or reached."

[3] The PPTS survey form now uses the term "involved." Coincident with the publication of this PPTS Advisory, the wording will be changed to "reached."

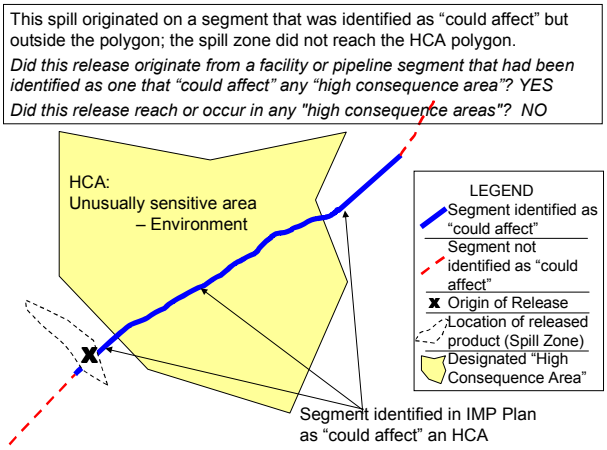
The illustrations on this page involve releases from segments that **had been identified** in the operator's program as ones that "could affect" an HCA. As shown in the sketch, the segment of pipe that could affect the HCA runs beyond the actual boundary of the mapped HCA polygon.





In the example above on the left, the spill occurs within the boundary of the HCA polygon. The answer to the first two questions is YES. It was designated an HCA because it is a high population area, and the operator had correctly identified it as such. Thus, the answers to the third question, are HIGH POPULATION AREA for the type of HCA and IDENTIFIED for whether it was identified in the IMP or not.

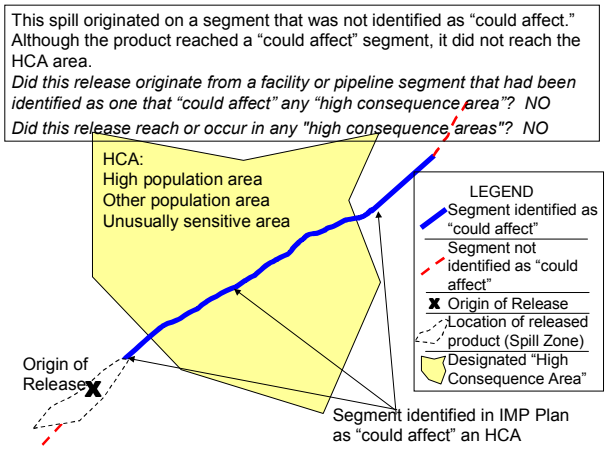
In the example above on the right, the spill occurred on a "could affect" segment, and the spill zone reached the HCA. The answer to the first two HCA questions is YES. However, in this hypothetical situation, the area was designated as an HCA both because it was a high population area and because it was an unusually sensitive area based on drinking water. The operator's IMP had not identified the potential to reach the drinking water. Thus, for the third question, the respondent would answer HIGH POPULATION AREA and IDENTIFIED as well as UNUSUALLY SENSITIVE AREA – WATER and NOT IDENTIFIED.

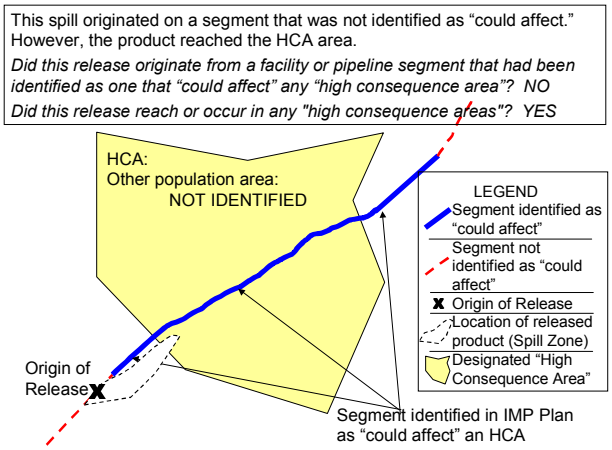


In the example on the left, the spill occurs outside the boundary of the HCA polygon, even though the segment has been identified as one that "could affect" an HCA. The answer to the first question is YES. The spill zone, however, does not reach the boundary of the HCA polygon, so the answer to the second question is NO. Furthermore, because the second answer is NO, the respondent will not be presented with the question of what type of HCA and whether it was identified as that type of HCA in the operator's IMP.

It is useful to recall that these questions refer to the location of the spill's origin and its spill zone, not to the impact of the spill. PPTS captures information about actual environmental and other impacts in a separate section of the incident release survey. Furthermore, HCAs are not points of impact, but *areas*. Thus, even a spill that reaches an Unusually Sensitive Area with respect to drinking water does not necessarily have an impact on the drinking water. (An exception is a commercially navigable waterway. If a spill reaches a commercially navigable waterway, it would likely also have an "impact" on surface or ocean/seawater, and be so reported in the later questions about impact in the PPTS survey.)

In the examples below, the spill originated from a segment that had **not been identified** as one that "could affect" an HCA.





In the illustration above on the left, the spill zone does not reach the HCA polygon (including buffer). Thus the answer to the first two HCA questions is NO, and the respondent will not be asked the third question about the type of HCA and whether it was identified in the IMP.

In the illustration above on the right, the spill zone reaches the HCA. The answer to the first HCA question is NO, and the answer to the second is YES. In this circumstance, the respondent will also be presented with the follow-up question about what type of HCA and whether it had been identified or not. In this circumstance, the respondent answers OTHER POPULATION AREA and NOT IDENTIFIED. By definition, if the segment was not designated a "could affect" segment, the type of HCA will not have been identified.

Some special cases

The rules and concepts surrounding HCAs and reporting releases can lead to complex situations. Among the questions that have been presented to the Data Mining Team are the following:

How do we handle a release on an asset that is not regulated by Part 195 but has impacted an identified HCA?

Response: Operators participating in PPTS report releases on all of their assets, whether subject to Part 195 or not. For some participants, non-jurisdictional

assets may be gathering lines; for others, they may be tanks regulated by EPA but not by DOT. By definition, these non-jurisdictional assets are not subject to the requirements for Integrity Management in High Consequence Areas, from which all of the HCA questions derive. Releases from these assets are also not required to be reported on a RSPA Form 7000-1. Thus, the PPTS data entry system will now make additional use of the existing question, "Was or will a DOT 7000-1 report be submitted?" If the answer to this question is NO, the respondent will be navigated past all of the HCA questions. As an adjunct to this change, the option of answering "I don't know" to the 7000-1 question will be removed. Thus, before submitting a release report to PPTS, respondents must know if the release requires the filing of a 7000-1.

How do we report a release that occurred in a facility that is in an HCA, but where the product never left a designed containment area? Is this even a "release" in PPTS terms?

Response: An unintended release that remains in designed containment is still a release. It would be reportable to PPTS and to OPS unless it meets the criteria for a maintenance exclusion. If the release originates from a facility that is within the boundaries of an HCA, the HCA questions are answered just as they would be for a spill that reached the ground. Again, the HCA questions in the PPTS survey are about location, not about impact. In another portion of the PPTS survey, it would be reported that 1) the area affected by the release was contained on the company-controlled facility, and 2) there was no impact to to water, and, as appropriate for the navigation path depending on spill size, no impact to ecology or soils.

Operator Considerations

- *PPTS Advisory for Operators: Building Quality into the Numbers* (PPTS Advisory 2003-5), made a variety of recommendations on PPTS reporting. Only with high quality reporting can the industry benefit fully from the PPTS system and the insights it provides.
- These recommendations included:
  - *Communicate within the company the commitment of senior management* for accurate and complete reporting, and resources sufficient to assuring its success.
  - *Understand the information required and designate a data source* within the company for each PPTS and OPS data field. Make sure that the data source understands the importance of the input provided.
  - *Consider technical quality review of all PPTS submittals* prior to the annual PPTS reporting deadline (typically the end of February).