

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed \$100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0047

EXPIRATION DATE: 01/31/2013



U.S. Department of Transportation  
Pipeline and Hazardous Materials  
Safety Administration

## ACCIDENT REPORT – HAZARDOUS LIQUID PIPELINE SYSTEMS

Report Date \_\_\_\_\_

No. \_\_\_\_\_  
(DOT Use Only)

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. Public reporting for this collection of information is estimated to be approximately 10 hours per response (5 hours for a small release), including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

### INSTRUCTIONS

**Important:** Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at <http://www.phmsa.dot.gov/pipeline>. Note: Certain low consequence accidents only require the information indicated in the shaded fields.

### PART A – KEY REPORT INFORMATION

\*\*Report Type: (select all that apply)  Original  Supplemental  Final

\*\*1. Operator's OPS-issued Operator Identification Number (OPID): / / / / / / / /

\*\*2. Name of Operator: \_\_\_\_\_

\*\*3. Address of Operator:

3.a \_\_\_\_\_  
(Street Address)

3.b \_\_\_\_\_  
(City)

3.c State: / / /

3.d Zip Code: / / / / / / - / / / / / /

\*\*4. Local time (24-hr clock) and date of the Accident:  
/ / / / / / / / / / / / / /  
Hour Month Day Year

\*\*6. National Response Center Report Number (if applicable):  
/ / / / / / / / / /

\*\*5. Location of Accident:  
Latitude: / / / . / / / / / / / / / /  
Longitude: - / / / / / . / / / / / / / / / /

\*\*7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):  
/ / / / / / / / / / / / / /  
Hour Month Day Year

\*\*8. Commodity released: (select only one, based on predominant volume released)

- Crude Oil
- Refined and/or Petroleum Product (non-HVL) which is a Liquid at Ambient Conditions
  - Gasoline (non-Ethanol)  Diesel, Fuel Oil, Kerosene, Jet Fuel
  - Mixture of Refined Products (transmix or other mixture)
  - Other ⇨ Name: \_\_\_\_\_
- HVL or Other Flammable or Toxic Fluid which is a Gas at Ambient Conditions
  - Anhydrous Ammonia
  - LPG (Liquefied Petroleum Gas) / NGL (Natural Gas Liquid)
  - Other HVL ⇨ Name: \_\_\_\_\_
- CO<sub>2</sub> (Carbon Dioxide)
- Biofuel / Alternative Fuel (including ethanol blends)
  - Fuel Grade Ethanol  Ethanol Blend ⇨ % Ethanol: / / / /
  - Biodiesel ⇨ Blend (e.g. B2, B20, B100): B / / / / / /  Other ⇨ Name: \_\_\_\_\_

\*\*9. Estimated volume of commodity released unintentionally: / / / / / / / / / / / / / / Barrels

\*\*10. Estimated volume of intentional and/or controlled release/blowdown: / / / / / / / / / / / / / / Barrels

\*\*11. Estimated volume of commodity recovered: / / / / / / / / / / / / / / Barrels





<b>PART C – ADDITIONAL FACILITY INFORMATION</b>	
<b>**1. Is the pipeline or facility:</b> <input type="checkbox"/> Interstate <input type="checkbox"/> Intrastate	
<b>**2. Part of system involved in Accident: (select only one)</b> <input type="checkbox"/> Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances ⇨ <input type="radio"/> Atmospheric or Low Pressure <div style="text-align: right;"><input type="radio"/> Pressurized</div> <input type="checkbox"/> Onshore Terminal/Tank Farm Equipment and Piping <input type="checkbox"/> Onshore Equipment and Piping Associated with Belowground Storage <input type="checkbox"/> Onshore Pump/Meter Station Equipment and Piping <input type="checkbox"/> Onshore Pipeline, Including Valve Sites <input type="checkbox"/> Offshore Platform/Deepwater Port, Including Platform-mounted Equipment and Piping <input type="checkbox"/> Offshore Pipeline, Including Riser and Riser Bend	
<b>**3. Item involved in Accident: (select only one)</b> <input type="checkbox"/> Pipe ⇨ Specify: <input type="radio"/> Pipe Body <input type="radio"/> Pipe Seam <div style="margin-left: 20px;"> <b>**3.a</b> Nominal diameter of pipe (in):    /   /   / /   /   /   /   /  <b>3.b</b> Wall thickness (in):    /   / /   /   /   /  <b>3.c</b> SMYS (Specified Minimum Yield Strength) of pipe (psi):    /   /   /   / /   /   /   /  <b>3.d</b> Pipe specification: _____    <b>**3.e</b> Pipe Seam ⇨ Specify: <input type="radio"/> Longitudinal ERW - High Frequency                      <input type="radio"/> Single SAW                      <input type="radio"/> Flash Welded  <input type="radio"/> Longitudinal ERW - Low Frequency                      <input type="radio"/> DSAW                      <input type="radio"/> Continuous Welded  <input type="radio"/> Longitudinal ERW – Unknown Frequency                      <input type="radio"/> Furnace Butt Welded  <input type="radio"/> Spiral Welded ERW    <input type="radio"/> Spiral Welded SAW    <input type="radio"/> Spiral Welded DSAW  <input type="radio"/> Lap Welded                      <input type="radio"/> Seamless                      <input type="radio"/> Other _____    <b>3.f</b> Pipe manufacturer: _____  <b>3.g</b> Year of manufacture:    /   /   /   /   /    <b>**3.h</b> Pipeline coating type at point of Accident  ⇨ Specify:    <input type="radio"/> Fusion Bonded Epoxy    <input type="radio"/> Coal Tar                      <input type="radio"/> Asphalt                      <input type="radio"/> Polyolefin  <input type="radio"/> Extruded Polyethylene    <input type="radio"/> Field Applied Epoxy    <input type="radio"/> Cold Applied Tape    <input type="radio"/> Paint  <input type="radio"/> Composite                      <input type="radio"/> None                      <input type="radio"/> Other _____    <input type="checkbox"/> Weld, including heat-affected zone ⇨ Specify: <input type="radio"/> Pipe Girth Weld    <input type="radio"/> Other Butt Weld    <input type="radio"/> Fillet Weld    <input type="radio"/> Other _____  <input type="checkbox"/> Valve    <input type="radio"/> Mainline ⇨ Specify: <input type="radio"/> Butterfly    <input type="radio"/> Check    <input type="radio"/> Gate    <input type="radio"/> Plug    <input type="radio"/> Ball    <input type="radio"/> Globe  <input type="radio"/> Other _____  <div style="margin-left: 40px;"> <b>3.i</b> Mainline valve manufacturer: _____  <b>3.j</b> Year of manufacture:    /   /   /   /   /         </div>   <div style="background-color: #f0f0f0; padding: 5px;"> <input type="radio"/> Relief Valve  <input type="radio"/> Auxiliary or Other Valve  <input type="checkbox"/> Pump  <input type="checkbox"/> Meter/Prover  <input type="checkbox"/> Scraper/Pig Trap  <input type="checkbox"/> Sump/Separator  <input type="checkbox"/> Repair Sleeve or Clamp  <input type="checkbox"/> Hot Tap Equipment  <input type="checkbox"/> Stoppie Fitting  <input type="checkbox"/> Flange  <input type="checkbox"/> Relief Line  <input type="checkbox"/> Auxiliary Piping (e.g. drain lines)  <input type="checkbox"/> Tubing  <input type="checkbox"/> Instrumentation  <input type="checkbox"/> Tank/Vessel ⇨ Specify: <input type="radio"/> Single Bottom System                      <input type="radio"/> Double Bottom System                      <input type="radio"/> Tank Shell                      <input type="radio"/> Chime  <input type="radio"/> Roof/Roof Seal    <input type="radio"/> Roof Drain System    <input type="radio"/> Mixer                      <input type="radio"/> Pressure Vessel Head or Wall  <input type="radio"/> Appurtenance    <input type="radio"/> Other _____  <input type="checkbox"/> Other _____         </div> </div>	
<b>4. Year item involved in Accident was installed:</b> /   /   /   /   /	







6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?

No

Yes ➔

6.a Was it operating at the time of the Accident?  Yes  No

6.b Was it fully functional at the time of the Accident?  Yes  No

6.c Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?  Yes  No

6.d Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?  Yes  No

7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?

No

Yes ➔

7.a Was it operating at the time of the Accident?  Yes  No

7.b Was it fully functional at the time of the Accident?  Yes  No

7.c Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?  Yes  No

7.d Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?  Yes  No

8. How was the Accident initially identified for the Operator? (select only one)

CPM leak detection system or SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations)

Static Shut-in Test or Other Pressure or Leak Test

Controller

Local Operating Personnel, including contractors

Air Patrol

Ground Patrol by Operator or its contractor

Notification from Public

Notification from Emergency Responder

Notification from Third Party that caused the Accident

Other \_\_\_\_\_

8.a If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 8, specify the following: (select only one)

Operator employee  Contractor working for the Operator

9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident? (select only one)

Yes, but the investigation of the control room and/or controller actions has not yet been completed by the Operator (Supplemental Report required)

No, the facility was not monitored by a controller(s) at the time of the Accident

No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)

Yes, specify investigation result(s): (select all that apply)

Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator) and other factors associated with fatigue

Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator) and other factors associated with fatigue (provide an explanation for why not)

Investigation identified no control room issues

Investigation identified no controller issues

Investigation identified incorrect controller action or controller error

Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response

Investigation identified incorrect procedures

Investigation identified incorrect control room equipment operation

Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response

Investigation identified areas other than those above ➔ Describe: \_\_\_\_\_



**PART F – DRUG & ALCOHOL TESTING INFORMATION**

\*\*1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

No

Yes ⇨ 1.a Specify how many were tested:   /  /  /  

1.b Specify how many failed:   /  /  /  

\*\*2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

No

Yes ⇨ 2.a Specify how many were tested:   /  /  /  

2.b Specify how many failed:   /  /  /

**PART G – APPARENT CAUSE**

Select only one box from PART G in the shaded column on the left representing the APPARENT Cause of the Accident, and answer the questions on the right. Describe secondary, contributing, or root causes of the Accident in the narrative (PART H).

**G1 - Corrosion Failure** – \*\*only one sub-cause can be picked from shaded left-hand column

**External Corrosion**

- \*\*1. Results of visual examination:  
 Localized Pitting     General Corrosion  
 Other \_\_\_\_\_
2. Type of corrosion: (select all that apply)  
 Galvanic     Atmospheric     Stray Current     Microbiological     Selective Seam  
 Other \_\_\_\_\_
3. The type(s) of corrosion selected in Question 2 is based on the following: (select all that apply)  
 Field examination     Determined by metallurgical analysis  
 Other \_\_\_\_\_
- \*\*4. Was the failed item buried under the ground?  
 Yes ⇨ 4.a Was failed item considered to be under cathodic protection at the time of the Accident?  
 Yes ⇨ Year protection started: / / / / /  
 No  
 4.b Was shielding, tenting, or disbonding of coating evident at the point of the Accident?  
 Yes     No  
 4.c Has one or more Cathodic Protection Survey been conducted at the point of the Accident?  
 Yes, CP Annual Survey ⇨ Most recent year conducted: / / / / /  
 Yes, Close Interval Survey ⇨ Most recent year conducted: / / / / /  
 Yes, Other CP Survey ⇨ Most recent year conducted: / / / / /  
 No  
 No ⇨ 4.d Was the failed item externally coated or painted?     Yes     No
- \*\*5. Was there observable damage to the coating or paint in the vicinity of the corrosion?  
 Yes     No

**Internal Corrosion**

- \*\*6. Results of visual examination:  
 Localized Pitting     General Corrosion     Not cut open  
 Other \_\_\_\_\_
7. Cause of corrosion: (select all that apply)  
 Corrosive Commodity     Water drop-out/Acid     Microbiological     Erosion  
 Other \_\_\_\_\_
8. The cause(s) of corrosion selected in Question 7 is based on the following: (select all that apply)  
 Field examination     Determined by metallurgical analysis  
 Other \_\_\_\_\_
9. Location of corrosion: (select all that apply)  
 Low point in pipe     Elbow     Other \_\_\_\_\_
- \*\*10. Was the commodity treated with corrosion inhibitors or biocides?     Yes     No
- \*\*11. Was the interior coated or lined with protective coating?     Yes     No
- \*\*12. Were cleaning/dewatering pigs (or other operations) routinely utilized?  
 Not applicable - Not mainline pipe     Yes     No
- \*\*13. Were corrosion coupons routinely utilized?  
 Not applicable - Not mainline pipe     Yes     No

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.

- \*\*14. List the year of the most recent inspections:  
 14.a API Std 653 Out-of-Service Inspection    / / / / /     No Out-of-Service Inspection completed  
 14.b API Std 653 In-Service Inspection    / / / / /     No In-Service Inspection completed

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.

\*\*15. Has one or more internal inspection tool collected data at the point of the Accident?

Yes  No

15.a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:

- Magnetic Flux Leakage Tool            / / / / /
- Ultrasonic                                    / / / / /
- Geometry                                    / / / / /
- Caliper                                        / / / / /
- Crack                                         / / / / /
- Hard Spot                                    / / / / /
- Combination Tool                        / / / / /
- Transverse Field/Triaxial             / / / / /
- Other \_\_\_\_\_ / / / / /

\*\*16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?

Yes ⇨ Most recent year tested: / / / / /      Test pressure (psig): / / / / /

No

\*\*17. Has one or more Direct Assessment been conducted on this segment?

Yes, and an investigative dig was conducted at the point of the Accident ⇨ Most recent year conducted: / / / / /

Yes, but the point of the Accident was not identified as a dig site      ⇨ Most recent year conducted: / / / / /

No

18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?

Yes  No

18.a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:

- Radiography                                / / / / /
- Guided Wave Ultrasonic                / / / / /
- Handheld Ultrasonic Tool               / / / / /
- Wet Magnetic Particle Test             / / / / /
- Dry Magnetic Particle Test             / / / / /
- Other \_\_\_\_\_ / / / / /

**G2 - Natural Force Damage** - \*\*only one sub-cause can be picked from shaded left-hand column

<input type="checkbox"/> <b>Earth Movement, NOT due to Heavy Rains/Floods</b>	**1. Specify: <input type="radio"/> Earthquake <input type="radio"/> Subsidence <input type="radio"/> Landslide <input type="radio"/> Other _____
<input type="checkbox"/> <b>Heavy Rains/Floods</b>	2. Specify: <input type="radio"/> Washout/Scouring <input type="radio"/> Flotation <input type="radio"/> Mudslide <input type="radio"/> Other _____
<input type="checkbox"/> <b>Lightning</b>	3. Specify: <input type="radio"/> Direct hit <input type="radio"/> Secondary impact such as resulting nearby fires
<input type="checkbox"/> <b>Temperature</b>	**4. Specify: <input type="radio"/> Thermal Stress <input type="radio"/> Frost Heave <input type="radio"/> Frozen Components <input type="radio"/> Other _____
<input type="checkbox"/> <b>High Winds</b>	
<input type="checkbox"/> <b>Other Natural Force Damage</b>	**5. Describe: _____

Complete the following if any Natural Force Damage sub-cause is selected.

\*\*6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?  Yes  No

6.a. If Yes, specify: (select all that apply)  Hurricane  Tropical Storm  Tornado  
 Other \_\_\_\_\_

**G3 – Excavation Damage** - \*\*only one sub-cause can be picked from shaded left-hand column

<input type="checkbox"/> Excavation Damage by Operator (First Party)	
<input type="checkbox"/> Excavation Damage by Operator's Contractor (Second Party)	
<input type="checkbox"/> Excavation Damage by Third Party	
<input type="checkbox"/> Previous Damage due to Excavation Activity	<p><b>Complete Questions 1-5 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.</b></p> <p>**1. Has one or more internal inspection tool collected data at the point of the Accident?  <input type="radio"/> Yes <input type="radio"/> No</p> <p>1.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:</p> <p><input type="radio"/> Magnetic Flux Leakage                    / / / / / /</p> <p><input type="radio"/> Ultrasonic                                        / / / / / /</p> <p><input type="radio"/> Geometry                                         / / / / / /</p> <p><input type="radio"/> Caliper    / / / / / /</p> <p><input type="radio"/> Crack    / / / / / /</p> <p><input type="radio"/> Hard Spot                                        / / / / / /</p> <p><input type="radio"/> Combination Tool                            / / / / / /</p> <p><input type="radio"/> Transverse Field/Triaxial                / / / / / /</p> <p><input type="radio"/> Other _____ / / / / / /</p> <p>2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained? <input type="radio"/> Yes <input type="radio"/> No</p> <p>**3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?</p> <p><input type="radio"/> Yes ⇒ Most recent year tested: / / / / / /          Test pressure (psig): / / / / / / / /</p> <p><input type="radio"/> No</p> <p>**4. Has one or more Direct Assessment been conducted on the pipeline segment?</p> <p><input type="radio"/> Yes, and an investigative dig was conducted at the point of the Accident          ⇒ Most recent year conducted: / / / / / /</p> <p><input type="radio"/> Yes, but the point of the Accident was not identified as a dig site          ⇒ Most recent year conducted: / / / / / /</p> <p><input type="radio"/> No</p> <p>5. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?  <input type="radio"/> Yes <input type="radio"/> No</p> <p>5.a If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:</p> <p><input type="radio"/> Radiography                                    / / / / / /</p> <p><input type="radio"/> Guided Wave Ultrasonic                    / / / / / /</p> <p><input type="radio"/> Handheld Ultrasonic Tool                 / / / / / /</p> <p><input type="radio"/> Wet Magnetic Particle Test                / / / / / /</p> <p><input type="radio"/> Dry Magnetic Particle Test                / / / / / /</p> <p><input type="radio"/> Other _____ / / / / / /</p>

**Complete the following if Excavation Damage by Third Party is selected as the sub-cause.**

\*\*6. Did the Operator get prior notification of the excavation activity?  Yes  No

6.a If Yes, Notification received from: (select all that apply)  One-Call System  Excavator  Contractor  Landowner



17. Description of the CGA-DIRT Root Cause (select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):

One-Call Notification Practices Not Sufficient: (select only one)

- No notification made to the One-Call Center
- Notification to One-Call Center made, but not sufficient
- Wrong information provided

Locating Practices Not Sufficient: (select only one)

- Facility could not be found/located
- Facility marking or location not sufficient
- Facility was not located or marked
- Incorrect facility records/maps

Excavation Practices Not Sufficient: (select only one)

- Excavation practices not sufficient (other)
- Failure to maintain clearance
- Failure to maintain the marks
- Failure to support exposed facilities
- Failure to use hand tools where required
- Failure to verify location by test-hole (pot-holing)
- Improper backfilling

One-Call Notification Center Error

Abandoned Facility

Deteriorated Facility

Previous Damage

Data Not Collected

Other / None of the Above (explain)

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	<p>7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?  <input type="radio"/> Yes <input type="radio"/> No</p> <p>7.a If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:</p> <p><input type="radio"/> Radiography <u>      / / / / /      </u></p> <p><input type="radio"/> Guided Wave Ultrasonic <u>      / / / / /      </u></p> <p><input type="radio"/> Handheld Ultrasonic Tool <u>      / / / / /      </u></p> <p><input type="radio"/> Wet Magnetic Particle Test <u>      / / / / /      </u></p> <p><input type="radio"/> Dry Magnetic Particle Test <u>      / / / / /      </u></p> <p><input type="radio"/> Other _____ <u>      / / / / /      </u></p>
<input type="checkbox"/> <b>Intentional Damage</b>	<p>8. Specify:</p> <p><input type="radio"/> Vandalism <input type="radio"/> Terrorism</p> <p><input type="radio"/> Theft of transported commodity <input type="radio"/> Theft of equipment</p> <p><input type="radio"/> Other _____</p>
<input type="checkbox"/> <b>Other Outside Force Damage</b>	<p>**9. Describe: _____</p>



## G5 - Material Failure of Pipe or Weld

Use this section to report material failures ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is "Pipe" or "Weld."

\*\*Only one sub-cause can be picked from shaded left-hand column

\*\*1. The sub-cause selected below is based on the following: (select all that apply)

- Field Examination   
  Determined by Metallurgical Analysis   
  Other Analysis \_\_\_\_\_  
 Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)

Construction-, Installation-, or Fabrication-related

Original Manufacturing-related (NOT girth weld or other welds formed in the field)

2. List contributing factors: (select all that apply)

- Fatigue- or Vibration-related:  
      Mechanically-induced prior to installation (such as during transport of pipe)  
      Mechanical Vibration  
      Pressure-related  
      Thermal  
      Other \_\_\_\_\_  
 Mechanical Stress  
 Other \_\_\_\_\_

Environmental Cracking-related

3. Specify:    Stress Corrosion Cracking                       Sulfide Stress Cracking  
                   Hydrogen Stress Cracking                       Other \_\_\_\_\_

Complete the following if any Material Failure of Pipe or Weld sub-cause is selected.

4. Additional factors: (select all that apply)    Dent    Gouge    Pipe Bend    Arc Burn    Crack    Lack of Fusion  
                           Lamination    Buckle    Wrinkle    Misalignment    Burnt Steel  
                           Other \_\_\_\_\_

\*\*5. Has one or more internal inspection tool collected data at the point of the Accident?    Yes    No

5.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:

- Magnetic Flux Leakage Tool                      / / / / / /  
 Ultrasonic    / / / / / /  
 Geometry    / / / / / /  
 Caliper   / / / / / /  
 Crack   / / / / / /  
 Hard Spot   / / / / / /  
 Combination Tool                                 / / / / / /  
 Transverse Field/Triaxial                     / / / / / /  
 Other \_\_\_\_\_                                 / / / / / /

\*\*6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?

- Yes   ⇒ Most recent year tested: / / / / / /    Test pressure (psig): / / / / / /  
 No

\*\*7. Has one or more Direct Assessment been conducted on the pipeline segment?

- Yes, and an investigative dig was conducted at the point of the Accident   ⇒ Most recent year conducted: / / / / / /  
 Yes, but the point of the Accident was not identified as a dig site           ⇒ Most recent year conducted: / / / / / /  
 No

8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?

- Yes    No

8.a If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:

- Radiography   / / / / / /  
 Guided Wave Ultrasonic                         / / / / / /  
 Handheld Ultrasonic Tool                     / / / / / /  
 Wet Magnetic Particle Test                   / / / / / /  
 Dry Magnetic Particle Test                   / / / / / /  
 Other \_\_\_\_\_                                 / / / / / /

**G6 - Equipment Failure** - \*\*only one **sub-cause** can be picked from shaded left-hand column

<input type="checkbox"/> <b>Malfunction of Control/Relief Equipment</b>	**1. Specify: <i>(select all that apply)</i> <input type="radio"/> Control Valve <input type="radio"/> Instrumentation <input type="radio"/> SCADA <input type="radio"/> Communications <input type="radio"/> Block Valve <input type="radio"/> Check Valve <input type="radio"/> Relief Valve <input type="radio"/> Power Failure <input type="radio"/> Stopple/Control Fitting <input type="radio"/> ESD System Failure <input type="radio"/> Other _____
<input type="checkbox"/> <b>Pump or Pump-related Equipment</b>	**2. Specify: <input type="radio"/> Seal/Packing Failure <input type="radio"/> Body Failure <input type="radio"/> Crack in Body <input type="radio"/> Appurtenance Failure <input type="radio"/> Other _____
<input type="checkbox"/> <b>Threaded Connection/Coupling Failure</b>	**3. Specify: <input type="radio"/> Pipe Nipple <input type="radio"/> Valve Threads <input type="radio"/> Mechanical Coupling <input type="radio"/> Threaded Pipe Collar <input type="radio"/> Threaded Fitting <input type="radio"/> Other _____
<input type="checkbox"/> <b>Non-threaded Connection Failure</b>	**4. Specify: <input type="radio"/> O-Ring <input type="radio"/> Gasket <input type="radio"/> Seal (NOT pump seal) or Packing <input type="radio"/> Other _____
<input type="checkbox"/> <b>Defective or Loose Tubing or Fitting</b>	
<input type="checkbox"/> <b>Failure of Equipment Body (except Pump), Tank Plate, or other Material</b>	
<input type="checkbox"/> <b>Other Equipment Failure</b>	**5. Describe: _____ _____

**Complete the following if any Equipment Failure sub-cause is selected.**

6. Additional factors that contributed to the equipment failure: *(select all that apply)*
- Excessive vibration
  - Overpressurization
  - No support or loss of support
  - Manufacturing defect
  - Loss of electricity
  - Improper installation
  - Mismatched items (different manufacturer for tubing and tubing fittings)
  - Dissimilar metals
  - Breakdown of soft goods due to compatibility issues with transported commodity
  - Valve vault or valve can contributed to the release
  - Alarm/status failure
  - Misalignment
  - Thermal stress
  - Other \_\_\_\_\_

**G7 - Incorrect Operation** - \*\*only one sub-cause can be picked from shaded left-hand column

<input type="checkbox"/> <b>Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage</b>	
<input type="checkbox"/> <b>Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow</b>	1. Specify: <input type="radio"/> Valve misalignment <input type="radio"/> Incorrect reference data/calculation <input type="radio"/> Miscommunication <input type="radio"/> Inadequate monitoring <input type="radio"/> Other _____
<input type="checkbox"/> <b>Valve Left or Placed in Wrong Position, but NOT Resulting in a Tank, Vessel, or Sump/Separator Overflow or Facility Overpressure</b>	
<input type="checkbox"/> <b>Pipeline or Equipment Overpressured</b>	
<input type="checkbox"/> <b>Equipment Not Installed Properly</b>	
<input type="checkbox"/> <b>Wrong Equipment Specified or Installed</b>	
<input type="checkbox"/> <b>Other Incorrect Operation</b>	**2. Describe: _____

**Complete the following if any Incorrect Operation sub-cause is selected.**

3. Was this Accident related to: *(select all that apply)*
- Inadequate procedure
  - No procedure established
  - Failure to follow procedure
  - Other: \_\_\_\_\_
- \*\*4. What category type was the activity that caused the Accident:
- Construction
  - Commissioning
  - Decommissioning
  - Right-of-Way activities
  - Routine maintenance
  - Other maintenance
  - Normal operating conditions
  - Non-routine operating conditions (abnormal operations or emergencies)
5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?  Yes  No
- 5.a If Yes, were the individuals performing the task(s) qualified for the task(s)?
- Yes, they were qualified for the task(s)
  - No, but they were performing the task(s) under the direction and observation of a qualified individual
  - No, they were not qualified for the task(s) nor were they performing the task(s) under the direction and observation of a qualified individual

**G8 – Other Accident Cause** - \*\*only one sub-cause can be picked from shaded left-hand column

<input type="checkbox"/> <b>Miscellaneous</b>	**1. Describe: _____ _____
<input type="checkbox"/> <b>Unknown</b>	**2. Specify: <input type="radio"/> Investigation complete, cause of Accident unknown <input type="radio"/> Still under investigation, cause of Accident to be determined* (*Supplemental Report required)

