

 <p>U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration</p>	<p><b>INCIDENT REPORT – GAS TRANSMISSION AND GATHERING SYSTEMS</b></p>	<p>Report Date _____ No. _____ (DOT Use Only)</p>
<p>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 2137-0635. Public reporting for this collection of information is estimated to be approximately 12 hours per response, 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.</p>		

**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/library/forms>

**PART A – KEY REPORT INFORMATION** Report Type: (select all that apply)  Original  Supplemental  Final

A1. Operator's OPS-issued Operator Identification Number (OPID): \_\_\_\_\_

A2. Name of Operator: auto-populated based on OPID

A3. Address of Operator:

A3a. Street Address: auto-populated based on OPID

A3b. City: auto-populated based on OPID

A3c. State: auto-populated based on OPID

A3d. Zip Code: auto-populated based on OPID

A4. Earliest local time (24-hr clock) and date an incident reporting criteria was met:

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Hour Month Day Year

A4a. Time Zone for local time (select only one)  Alaska  Eastern  Central  Hawaii-Aleutian  Mountain  Pacific.

A4b. Daylight Saving in effect?  Yes  No

A5. Location of Incident:

Latitude: \_\_\_\_\_

Longitude: - \_\_\_\_\_

A6. Gas released: (select only one, based on predominant volume released)

- Natural Gas
- Propane Gas
- Synthetic Gas
- Hydrogen Gas
- Landfill Gas
- Other Gas ➡ Name: \_\_\_\_\_

A7. Estimated volume of gas released unintentionally: \_\_\_\_\_ / thousand standard cubic feet (mcf)

A8. Estimated volume of intentional and controlled release/blowdown : \_\_\_\_\_ / thousand standard cubic feet (mcf)

A9. Estimated volume of accompanying liquid released: \_\_\_\_\_ / Barrels

A10. Were there fatalities?  Yes  No

If Yes, specify the number in each category:

- A10a. Operator employees     /    /    /    /    /
- A10b. Contractor employees working for the Operator     /    /    /    /    /
- A10c. Non-Operator emergency responders     /    /    /    /    /
- A10d. Workers working on the right-of-way, but NOT associated with this Operator     /    /    /    /    /
- A10e. General public     /    /    /    /    /
- A10f. Total fatalities (sum of above) *calculated*

A11. Were there injuries requiring inpatient hospitalization?  Yes  No

If Yes, specify the number in each category:

- A11a. Operator employees     /    /    /    /    /
- A11b. Contractor employees working for the Operator     /    /    /    /    /
- A11c. Non-Operator emergency responders     /    /    /    /    /
- A11d. Workers working on the right-of-way, but NOT associated with this Operator     /    /    /    /    /
- A11e. General public     /    /    /    /    /
- A11f. Total injuries (sum of above) *calculated*

A12. What was the Operator's initial indication of the Failure? (*select only one*)

- 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
- Air Patrol
- Notification from Public
- Notification from Third Party that caused the Incident
- Local Operating Personnel, including contractors
- Ground Patrol by Operator or its contractor
- Notification from Emergency Responder
- Other \_\_\_\_\_

A12a. If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 12, specify the following: (*select only one*)

- Operator employee
- Contractor working for the Operator

A13. Local time Operator identified failure     /    /    /    /     Hour Month Day Year

A14. Part of system involved in Incident: (*select only one*)

- Belowground Storage, Including Associated Equipment and Piping
- Aboveground Storage, Including Associated Equipment and Piping
- Onshore Compressor Station Equipment and Piping
- Onshore Regulator/Metering Station Equipment and Piping
- Onshore Pipeline, Including Valve Sites
- Offshore Platform, Including Platform-mounted Equipment and Piping
- Offshore Pipeline, Including Riser and Riser Bend

A15. Operational Status at time Operator identified failure (*select only one*)

- Post-Construction Commissioning
- Post-Maintenance/Repair
- Routine Start-Up
- Routine Shutdown
- Normal Operation, includes pauses during maintenance
- Idle

A16. If A15 = Routine Start-Up or Normal Operation, was the pipeline/facility shut down due to the incident?

Yes  No ⇨ Explain: \_\_\_\_\_

If Yes, complete Questions A16.a and A16.b: (*use local time, 24-hr clock*)

A16a. Local time and date of shutdown     /    /    /    /     Hour Month Day Year

A16b. Local time pipeline/facility restarted     /    /    /    /     Hour Month Day Year  Still shut down\*  
\*Supplemental Report required

If A12 = Notification from Emergency Responder, skip A17.

A17a. Did the operator communicate with Local, State, or Federal Emergency Responders about the incident?  Yes  No

If No, skip A17b and c.

A17b. Which party initiated communication about the incident?  Operator  Local/State/Federal Emergency Responder

A17c. Local time of initial Operator and Local/State/Federal Emergency Responder communication     /    /    /    /     Hour Month Day Year

A18. Local time operator resources arrived on site     /    /    /    /     Hour Month Day Year

A19. reserved







- Valve, excluding Regulator/Control Valves**  
 Mainline  $\Rightarrow$  Specify:  Butterfly  Check  Gate  Plug  Ball  Globe  Other \_\_\_\_\_  
 C3s. Mainline valve manufacturer: \_\_\_\_\_ OR  Unknown  
 Relief Valve  
 Auxiliary or Other Valve

- Compressor**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Meter**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Scraper/Pig Trap**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Odorization System**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Filter/Strainer/Separator**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Dehydrator/Drier/Treater/Scrubber**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.

tubing.

- Regulator/Control Valve**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.  
 **Pulsation Bottle or Drip/Drip Collection Device**

- Cooler or Heater**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.

- Repair Sleeve or Clamp**

- Hot Tap Equipment**

- Tap Fitting** (stopple, thread-o-ring, weld-o-let, etc.)

- Flange Assembly, including Gaskets**

- ESD System**, including auxiliary piping, connections, valves, and equipment, but excluding product drain lines and tubing.

- Drain Lines**

- Tubing, including Fittings**

C3t. Tubing material (select only one):

- Stainless steel  
 Carbon steel  
 Copper  
 Other \_\_\_\_\_

C3u. Type of tubing (select only one):

- Rigid  
 Flexible

- Instrumentation, including Programmable Logic Controllers and Controls**

- Underground Gas Storage or Cavern**

- Other** \_\_\_\_\_

C4. Year item involved in Incident was installed:   /  /  /  /  /   OR  Unknown

C5. Year item involved in Incident was manufactured:   /  /  /  /  /   OR  Unknown

C6. Type of release involved: *(select only one)*

- Mechanical Puncture  $\Rightarrow$  Approx. size:   /  /  /  /  /   /in. (axial) by   /  /  /  /  /   /in. (circumferential)

- Leak  $\Rightarrow$  Select Type:  Pinhole  Crack  Connection Failure  Seal or Packing  Other \_\_\_\_\_

- Rupture  $\Rightarrow$  Select Orientation:  Circumferential  Longitudinal  Other \_\_\_\_\_

Approx. size:   /  /  /  /  /   /in. (widest opening) by   /  /  /  /  /   /in. (length circumferentially or axially)

- Other  $\Rightarrow$  \*Describe: \_\_\_\_\_

**PART D – ADDITIONAL CONSEQUENCE INFORMATION**

D1. Class Location of Incident: *(select only one)*

- Class 1 Location  
 Class 2 Location  
 Class 3 Location  
 Class 4 Location

D2. Did this Incident occur in a High Consequence Area (HCA)?

- No  
 Yes  $\Rightarrow$  D2.a Specify the Method used to identify the HCA:  Method 1(Class Location)  Method 2 (PIR)

D3. What is the PIR (Potential Impact Radius) for the location of this Incident?   /  /  /  /  /   feet\_ or  Not Flammable

D4. Were any structures outside the PIR impacted or otherwise damaged by heat/fire resulting from the Incident?  Yes  No

D5. Were any structures outside the PIR impacted or otherwise damaged NOT by heat/fire resulting from the Incident?  Yes  No

D6. Were any of the fatalities or injuries (A11 only) reported for persons located outside the PIR?  Yes  No

If Yes, Describe the cause of the fatalities or injuries: \_\_\_\_\_

D13. If D2. Is No, answer D13a.

D13a. Did this incident occur in a Moderate Consequence Area (MCA)?  Yes  No

If D13a. is Yes, answer D13b.

D13b. Select each of the items below that were present within the potential impact circle:

- 5 or more buildings intended for human occupancy  
 Paved surface for a designated interstate, freeway, expressway, or other principal 4-lane arterial roadway

D7. Estimated Property Damage:

D7a. Estimated cost of public and non-Operator private property damage \$ / / / ,/ / / ,/ / / /  
D7b. Estimated cost of Operator's property damage & repairs \$ / / / ,/ / / ,/ / / /  
D7c. Estimated cost of emergency response \$ / / / ,/ / / ,/ / / /  
D7d. Estimated other costs \$ / / / ,/ / / ,/ / / /

Describe: \_\_\_\_\_

D7e. Total estimated property damage (sum of above) \$ *calculated*

Cost of Gas Released

Cost of Gas in \$ per thousand standard cubic feet (mcf): \_\_\_\_\_

D7f. Estimated cost of gas released unintentionally \$ *calculated*

D7g. Estimated cost of gas released during intentional and controlled blowdown \$ *calculated*

D7h. Total estimated cost of gas released (sum of 7.f & 7.g above) \$ *calculated*

D7i. Estimated Total Cost (sum of D7e and D7h) \$ *calculated*

**Injured Persons not included in A11** The number of persons injured, admitted to a hospital, and remaining in the hospital for at least one overnight are reported in A11. **If a person is included in A11, do not include them in D8.**

D8. Estimated number of persons with injuries requiring treatment in a medical facility but not requiring overnight in-patient hospitalization: \_\_\_\_\_

**If a person is included in D8, do not include them in D9.**

D9. Estimated number of persons with injuries requiring treatment by EMTs at the site of incident: \_\_\_\_\_

**Buildings Affected**

D10. Number of residential buildings affected (evacuated or required repair or gas service interrupted): \_\_\_\_\_

D11. Number of business buildings affected (evacuated or required repair or gas service interrupted): \_\_\_\_\_

D12. Wildlife impact:  Yes  No

D12a. If Yes, specify all that apply:

- Fish/aquatic
- Birds
- Terrestrial





E10 Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Incident?

No

Yes ⇨ E10.a Was it operating at the time of the Incident?  Yes  No

E10.b Was it fully functional at the time of the Incident?  Yes  No

E10.c Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume or pack calculations) assist with the initial indication of the Incident?  Yes  No

E10.d Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmed discovery of the Incident?  Yes  No

E11 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 Incident? (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 Incident

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

F1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

No

Yes ⇨ F1a. Specify how many were tested:   /  /  /  

F1b. Specify how many failed:   /  /  /  

F2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

No

Yes ⇨ F2a. Specify how many were tested:   /  /  /  

F2b. 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 Incident, and answer the questions on the right. Enter secondary, contributing, or root causes of the Incident in Part K – Contributing Factors.

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

2a. If 2 is Stray Current, specify  Alternating Current  Direct Current AND

2b. Describe the stray current source:

- 
- 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 or submerged?

Yes  No 4a. Was failed item considered to be under cathodic protection at the time of the incident?

Yes  No Year protection started: \_\_\_/\_\_\_/\_\_\_

No

4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident?

Yes  No

4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident? (select all that apply)

Yes, CP Annual Survey  Most recent year conducted: \_\_\_/\_\_\_/\_\_\_/\_\_\_

Yes, Close Interval Survey  Most recent year conducted: \_\_\_/\_\_\_/\_\_\_/\_\_\_

Yes, Other CP Survey  Most recent year conducted: \_\_\_/\_\_\_/\_\_\_/\_\_\_

Describe other CP survey

No

No  Yes 4d. 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  N/A Bare/Ineffectively Coated Pipe

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 \_\_\_\_\_

Internal Corrosion

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     Drop-out     Dead-Leg  
 Other
- 

10. Was the gas/fluid 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

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

**Earth Movement, NOT due to Heavy Rains/Floods**

1. Specify:  Earthquake  Subsidence  Landslide  
 Other \_\_\_\_\_

**Heavy Rains/Floods**

2. Specify:  Washout/Scouring  Flotation  Mudslide  Other \_\_\_\_\_

**Lightning**

3. Specify:  Direct hit  Secondary impact such as resulting nearby fires

**Temperature**

4. Specify:  Thermal Stress  Frost Heave  
 Frozen Components  Other  
\_\_\_\_\_

**High Winds**

**Trees/Vegetation Roots**

**Snow/Ice impact or Accumulation**

**Other Natural Force Damage**

5. Describe: \_\_\_\_\_

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

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

6a. 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

- Excavation Damage by Operator (First Party)**
  
- Excavation Damage by Operator’s Contractor (Second Party)**
  
- Excavation Damage by Third Party**
  
- Previous Damage due to Excavation Activity**

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

- 1. Did the operator get prior notification of the excavation activity?  Yes  No
  - 1a. If Yes, Notification received from: *(select all that apply)*  One-Call System  Excavator  Contractor  Landowner
  - 1b. Per the primary Incident Investigator results, did State law exempt the excavator from notifying the one-call center?  Yes  No  Unknown
  - If yes, answer 1c. through 1e.
    - 1c. select one of the following:
      - Excavator is exempt
      - Activity is exempt and did not exceed the limits of the exemption
      - Activity is exempt and exceeded the limits of the exemption
      - Other mandatory text field: \_\_\_\_\_
    - 1d. Exempting authority \_\_\_\_\_
    - 1e. Exempting criteria \_\_\_\_\_

**Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.**

- 2. Do you want PHMSA to upload the following information to CGA-DIRT ([www.cga-dirt.com](http://www.cga-dirt.com))?  Yes  No
- 3. Right-of-Way where event occurred: *(select all that apply)*
  - Public ➔ Specify:  City Street  State Highway  County Road  Interstate Highway  Other
  - Private ➔ Specify:  Private Landowner  Private Business  Private Easement
  - Pipeline Property/Easement
  - Power/Transmission Line
  - Railroad
  - Dedicated Public Utility Easement
  - Federal Land
  - Data not collected
  - Unknown/Other
- 4. Type of excavator: *(select only one)*
  - Contractor  County  Developer  Farmer  Municipality  Occupant
  - Railroad  State  Utility  Data not collected  Unknown/Other
- 5. Type of excavation equipment: *(select only one)*
  - Auger  Backhoe/Trackhoe  Boring  Drilling  Directional Drilling
  - Explosives  Farm Equipment  Grader/Scraper  Hand Tools  Milling Equipment
  - Probing Device  Trencher  Vacuum Equipment  Data not collected  Unknown/Other
- 6. Type of work performed: *(select only one)*
  - Agriculture  Cable TV  Curb/Sidewalk  Building Construction  Building Demolition
  - Drainage  Driveway  Electric  Engineering/Surveying  Fencing
  - Grading  Irrigation  Landscaping  Liquid Pipeline  Milling
  - Natural Gas  Pole  Public Transit Authority  Railroad Maintenance  Road Work
  - Sewer (Sanitary/Storm)  Site Development  Steam  Storm Drain/Culvert  Street Light
  - Telecommunications  Traffic Signal  Traffic Sign  Water  Waterway Improvement
  - Data not collected  Unknown/Other



G4 - Other Outside Force Damage - only one sub-cause can be picked from shaded left-hand column

Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident

Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation

1. Vehicle/Equipment operated by: (select only one)  
 Operator  Operator's Contractor  Third Party

If this sub-section is picked, please complete questions 5-11 below

Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring

2. Select one or more of the following IF an extreme weather event was a factor:

Hurricane  Tropical Storm  Tornado  
 Heavy Rains/Flood  Other

Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation

Electrical Arcing from Other Equipment or Facility

Previous Mechanical Damage NOT Related to Excavation

Intentional Damage

3. Specify:  
 Vandalism  Terrorism  
 Theft of transported commodity  Theft of equipment  
 Other \_\_\_\_\_

Other Outside Force Damage

4. Describe: \_\_\_\_\_

Complete the following if Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation sub-cause is selected.

5. Was the driver of the vehicle or equipment issued one or more citations related to the incident?  Yes  No  Unknown

If 5 is Yes, what was the nature of the citations (select all that apply)

- 5a. Excessive Speed
- 5b. Reckless Driving
- 5c. Driving Under the Influence
- 5e. Other, describe: \_\_\_\_\_

6. Was the driver under control of the vehicle at the time of the collision?  Yes  No  Unknown

7. Estimated speed of the vehicle at the time of impact (miles per hour)? \_\_\_\_\_ or  Unknown

8. Type of vehicle? (select only one)  Motorcycle/ATV  Passenger Car  Small Truck  Bus  Large Truck

9. Where did the vehicle travel from to hit the pipeline facility? (select only one)  
 Roadway  Driveway  Parking Lot  Loading Dock  Off-Road

10. Shortest distance from answer in 9. to the damaged pipeline facility (in feet): \_\_\_\_\_

11. At the time of the Incident, were protections installed to protect the damaged pipeline facility from vehicular damage?  Yes  No

If 11. is Yes, specify type of protection (select all that apply):

- 11a. Bollards/Guard Posts
- 11b. Barricades – include Jersey barriers and fences in instructions
- 11c. Guard Rails
- 11d. Other, describe: \_\_\_\_\_

**G5 - Material Failure of Pipe or Weld**

**Use this section to report material failures ONLY IF the "Item Involved in Incident" (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)*

**Design-, 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     Hard Spot

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. Post-construction pressure test value (psig)     /    /    /    /    /     OR  Unknown



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

Malfunction of Control/Relief Equipment

1. Specify: *(select all that apply)*
- Control Valve
  - Instrumentation
  - SCADA
  - Communications
  - Block Valve
  - Check Valve
  - Relief Valve
  - Power Failure
  - Stopp/Control Fitting
  - Pressure Regulator
  - ESD System Failure
  - Other
- 

Compressor or Compressor-related Equipment

2. Specify:  Seal/Packing Failure       Body Failure
- Crack in Body
- Appurtenance Failure       Pressure
  - Vessel Failure
  - Other
- 

Threaded Connection/Coupling Failure

3. Specify:  Pipe Nipple       Valve Threads
- Mechanical Coupling
- Threaded Pipe Collar       Threaded Fitting
- Other
- 

Non-threaded Connection Failure

4. Specify:  O-Ring       Gasket       Seal (NOT
- compressor seal) or Packing
- 
- Other \_\_\_\_\_
- 

Defective or Loose Tubing or Fitting

Failure of Equipment Body (except Compressor), Vessel Plate, or other Material

Other Equipment Failure

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
- Improper maintenance
- Mismatched items (different manufacturer for tubing and tubing fittings)
- Dissimilar metals
- Breakdown of soft goods due to compatibility issues with transported gas/fluid
- Valve vault or valve can contributed to the release
- Alarm/status failure
- Misalignment
- Thermal stress
- Erosion/abnormal wear
- Other \_\_\_\_\_

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

Damage by Operator or Operator’s Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage

Underground Gas Storage, Pressure Vessel, or Cavern Allowed or Caused to Overpressure

1. Specify:  Valve Misalignment       Incorrect Reference Data/Calculation  
 Miscommunication       Inadequate Monitoring  
 Other \_\_\_\_\_

Valve Left or Placed in Wrong Position, but NOT Resulting in an Overpressure

Pipeline or Equipment Overpressured

Equipment Not Installed Properly

Wrong Equipment Specified or Installed

Other Incorrect Operation

2. Describe: \_\_\_\_\_

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

3. Was this Incident 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 Incident:

- 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 Incident identified as a covered task in your Operator Qualification Program?  Yes  No

5a. 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 Incident Cause - only one sub-cause can be picked from shaded left-hand column

Miscellaneous

1. Describe: \_\_\_\_\_

Unknown

2. Specify:  Investigation complete, cause of Incident unknown  
Mandatory comment field:  
\_\_\_\_\_  
 Still under investigation, cause of Incident to be determined\*  
(\*Supplemental Report required)

**PART J – INTEGRITY INSPECTIONS**

**Complete the following if the “Item Involved in Accident” (from PART C, Question 3) is Pipe or Weld and the “Cause” (from Part G) is: Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or Previous Mechanical Damage NOT Related to Excavation (subCause in Part G4); or Material Failure of Pipe or Weld (any subCause in Part G5)**

J1. Have internal inspection tools collected data at the point of the Incident?  
 Yes  No

J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:

Axial Magnetic Flux Leakage

Most recent run Year: \_\_\_\_\_

Most recent run Propulsion Method (select only one):  Free Swimming  Tethered

Most recent run Attuned to Detect (select only one):  Metal Loss  Hard Spots  Girth Weld Anomalies

Other Describe: \_\_\_\_\_

If Metal Loss, specify (select only one):  High Resolution  Standard Resolution

Other Describe: \_\_\_\_\_

Previous run Year: \_\_\_\_\_

Previous run Propulsion Method (select only one):  Free Swimming  Tethered

Previous run Attuned to Detect (select only one):  Metal Loss  Hard Spots  Girth Weld Anomalies

Other Describe: \_\_\_\_\_

If Metal Loss, specify (select only one):  High Resolution  Standard Resolution

Other Describe: \_\_\_\_\_

Circumferential/Transverse Wave Magnetic Flux Leakage

Most recent run Year: \_\_\_\_\_

Most recent run Propulsion Method (select only one):  Free Swimming  Tethered

Most recent run Resolution (select only one):  High Resolution  Standard Resolution

Other Describe: \_\_\_\_\_

Previous run Year: \_\_\_\_\_

Previous run Propulsion Method (select only one):  Free Swimming  Tethered

Previous run Resolution (select only one):  High Resolution  Standard Resolution

Other Describe: \_\_\_\_\_

Ultrasonic

Most recent run Year: \_\_\_\_\_

Most recent run Propulsion Method (select only one):  Free Swimming  Tethered

Most recent run Attuned to (select only one)  Wall Measurement  Crack

Other Describe: \_\_\_\_\_

If Attuned to Wall Measurement, most recent run Metal Loss Resolution (select only one):

Standard Resolution  Other Describe: \_\_\_\_\_

Previous run Year: \_\_\_\_\_

Previous run Propulsion Method (select only one):  Free Swimming  Tethered

Most recent run Attuned to (select only one)  Wall Measurement  Crack

Other Describe: \_\_\_\_\_

If Attuned to Wall Measurement, most recent run Metal Loss Resolution (select only one):

Standard Resolution  Other Describe: \_\_\_\_\_

Geometry/Deformation  
 Most recent run Year: \_\_\_\_\_  
 Most recent run Propulsion Method (select only one):  Free Swimming  Tethered  
 Most recent run Resolution (select only one):  High Resolution  Standard Resolution  
 Other Describe: \_\_\_\_\_  
 Most recent run Measurement Cups (select only one):  Inside ILI Cups  No Cups  
 Previous run Year: \_\_\_\_\_  
 Previous run Propulsion Method (select only one):  Free Swimming  Tethered  
 Previous run Resolution (select only one):  High Resolution  Standard Resolution  
 Other Describe: \_\_\_\_\_  
 Previous run Measurement Cups (select only one):  Inside ILI Cups  No Cups

Electromagnetic Acoustic Transducer (EMAT)  
 Most recent run Year: \_\_\_\_\_  
 Most recent run Propulsion Method (select only one):  Free Swimming  Tethered  
 Previous run Year: \_\_\_\_\_  
 Previous run Propulsion Method (select only one):  Free Swimming  Tethered

Cathodic Protection Current Measurement (CPCM)  
 Most recent run Year: \_\_\_\_\_  
 Most recent run Propulsion Method (select only one):  Free Swimming  Tethered  
 Previous run Year: \_\_\_\_\_  
 Previous run Propulsion Method (select only one):  Free Swimming  Tethered

Other, specify tool: \_\_\_\_\_  
 Most recent run Year: \_\_\_\_\_  
 Most recent run Propulsion Method (select only one):  Free Swimming  Tethered  
 Previous run Year: \_\_\_\_\_  
 Previous run Propulsion Method (select only one):  Free Swimming  Tethered

**Answer J1b only when the cause is:  
 Previous Damage due to Excavation Activity (subCause in Part G3); or  
 Previous Mechanical Damage NOT Related to Excavation (subCause in Part G4)**

J1b. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?  Yes  No

J2. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident?  
 (initial post construction pressure test is NOT reported here)

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

J3. Has 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

If Yes, J3a. For each type, indicate the year of the most recent assessment:  
 External Corrosion Direct Assessment (ECDA) / / / / / /  
 Internal Corrosion Direct Assessment (ICDA) / / / / / /  
 Stress Corrosion Cracking Direct Assessment (SCCDA) / / / / / /  
 Confirmatory Direct Assessment / / / / / /  
 Other, specify type: \_\_\_\_\_ / / / / / /

J4. Has one or more non-destructive examination been conducted prior to the Incident at the point of the Incident since January 1, 2002?  
 Yes  No

J4a. If Yes, for each examination conducted, 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, specify type \_\_\_\_\_ / / / / / /

**PART K – CONTRIBUTING FACTORS**

The Apparent Cause of the accident is contained in Part G. Do not report the Apparent Cause again in this Part K. If Contributing Factors were identified, select all that apply below and explain each in the Narrative:

**External Corrosion**

- External Corrosion, Galvanic
- External Corrosion, Atmospheric
- External Corrosion, Stray Current Induced
- External Corrosion, Microbiologically Induced
- External Corrosion, Selective Seam

**Internal Corrosion**

- Internal Corrosion, Corrosive Commodity
- Internal Corrosion, Water drop-out/Acid
- Internal Corrosion, Microbiological
- Internal Corrosion, Erosion

**Natural Forces**

- Earth Movement, NOT due to Heavy Rains/Floods
- Heavy Rains/Floods
- Lightning
- Temperature
- High Winds
- Tree/Vegetation Root

**Excavation Damage**

- Excavation Damage by Operator (First Party)
- Excavation Damage by Operator's Contractor (Second Party)
- Excavation Damage by Third Party
- Previous Damage due to Excavation Activity

**Other Outside Force**

- Nearby Industrial, Man-made, or Other Fire/Explosion
- Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation
- Damage by Boats, Barges, Drilling Rigs, or Other Adrift Maritime Equipment
- Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation
- Electrical Arcing from Other Equipment or Facility
- Previous Mechanical Damage NOT Related to Excavation
- Intentional Damage
- Other underground facilities buried within 12 inches of the failure location

**Pipe/Weld Failure**

- Design-related
- Construction-related
- Installation-related
- Fabrication-related
- Original Manufacturing-related
- Environmental Cracking-related, Stress Corrosion Cracking
- Environmental Cracking-related, Sulfide Stress Cracking
- Environmental Cracking-related, Hydrogen Stress Cracking
- Environmental Cracking-related, Hard Spot

**Equipment Failure**

- Malfunction of Control/Relief Equipment
- Compressor or Compressor-related Equipment
- Threaded Connection/Coupling Failure
- Non-threaded Connection Failure
- Defective or Loose Tubing or Fitting
- Failure of Equipment Body (except Compressor), Vessel Plate, or other Material

**Incorrect Operation**

- Damage by Operator or Operator's Contractor NOT Excavation and NOT Vehicle/Equipment Damage
- Valve Left or Placed in Wrong Position, but NOT Resulting in Overpressure
- Pipeline or Equipment Overpressured
- Equipment Not Installed Properly
- Wrong Equipment Specified or Installed
- Inadequate Procedure
- No procedure established
- Failure to follow procedures

