



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

INCIDENT REPORT – NATURAL AND OTHER GAS TRANSMISSION AND GATHERING PIPELINE SYSTEMS

Report Date

No. _____
(DOT Use Only)

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

*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 Incident:

Hour Month Day Year

*5. Location of Incident:

*Latitude: .

*Longitude: - / / / / . / / / / / /

6. National Response Center Report Number:

/ / / / / / /

7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):

Hour Month Day Year

*8. Incident resulted from:

- ☐ Unintentional release of gas
- ☐ Intentional release of gas
- ☐ Reasons other than release of gas

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

- ☐ Natural Gas
- ☐ Propane Gas
- ☐ Synthetic Gas
- ☐ Hydrogen Gas

☐ Other Gas ➡ Name:

*10. Estimated volume of gas released unintentionally: / / /,/ / / / Thousand Cubic Feet (MCF)

11. Estimated volume of intentional and controlled release/blowdown : / / /, / / / Thousand Cubic Feet (MCF)

12. Estimated volume of accompanying liquid released: / / /, / / / Barrels

☐ No (Complete Questions 13-15)

☐ Platform

PART C – ADDITIONAL FACILITY INFORMATION

*1. Is the pipeline or facility:

- ☐ Interstate
☐ Intrastate

*2. 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

*3. Item involved in Incident: *(select only one)*

- ☐ Pipe ➡ Specify: ☐ Pipe Body ☐ Pipe Seam

3.a Nominal diameter of pipe (in): / / / / / / / 3.b Wall thickness (in): / / / / / / / 3.c SMYS (Specified Minimum Yield Strength) of pipe (psi): / / / / / / /

3.d Pipe specification: _____

- *3.e Pipe Seam ➡ Specify: ☐ Longitudinal ERW - High Frequency ☐ Single SAW ☐ Flash Welded
☐ Longitudinal ERW - Low Frequency ☐ DSAW ☐ Continuous Welded
☐ Longitudinal ERW – Unknown Frequency ☐ Furnace Butt Welded
☐ Spiral Welded ERW ☐ Spiral Welded SAW ☐ Spiral Welded DSAW
☐ Lap Welded ☐ Seamless ☐ Other _____

3.f Pipe manufacturer: _____

3.g Year of manufacture: / / / / / / /

*3.h Pipeline coating type at point of Incident

- ➡ Specify: ☐ Fusion Bonded Epoxy ☐ Coal Tar ☐ Asphalt ☐ Polyolefin
☐ Extruded Polyethylene ☐ Field Applied Epoxy ☐ Cold Applied Tape ☐ Paint
☐ Composite ☐ None ☐ Other _____

☐ Weld, including heat-affected zone ➡ Specify: ☐ Pipe Girth Weld ☐ Other Butt Weld ☐ Fillet Weld ☐ Other _____
If Pipe Girth Weld is selected, complete items 3.a. through h. above. If the values differ on either side of the girth weld, enter one value in 3.a. through h. and list the different value(s) in Part H - Narrative Description of the Incident.

- ☐ Valve ☐ Mainline ➡ Specify: ☐ Butterfly ☐ Check ☐ Gate ☐ Plug ☐ Ball ☐ Globe
☐ Other _____

3.i Mainline valve manufacturer: _____

3.j Year of manufacture: / / / / / / / ☐ Relief Valve☐ Auxiliary or Other Valve

- ☐ Compressor
☐ Meter
☐ Scraper/Pig Trap
☐ Separator/Separator Filter
☐ Strainer/Filter
☐ Dehydrator/Drier/Treater
☐ Regulator/Control Valve
☐ Drip/Drip Collection Device
☐ Pulsation Bottle
☐ Cooler
☐ Repair Sleeve or Clamp
☐ Hot Tap Equipment
☐ Stopple Fitting
☐ Flange
☐ Relief Line
☐ Auxiliary Piping (e.g. drain lines)
☐ Tubing
☐ Instrumentation
☐ Underground Gas Storage or Cavern
☐ Pressure Vessel
☐ Other _____

4. Year item involved in Incident was installed: / / / / / / /

☐ Carbon Steel
☐ Plastic
☐ Material other than Carbon Steel or Plastic ➡ *Specify: _____

☐ Mechanical Puncture ➡ Approx. size: / / / / / in. (axial) by / / / / / in. (circumferential)

☐ Leak ➡ Select Type: ☐ Pinhole ☐ Crack ☐ Connection Failure ☐ Seal or Packing ☐ Other

☐ Rupture ➡ Select Orientation: ☐ Circumferential ☐ Longitudinal ☐ Other _____

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

☐ Other ➡ *Describe: _____

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

☐ No

☐ Yes ➡ 2.a Specify the Method used to identify the HCA: ☐ Method 1 ☐ Method 2

*6. Were any of the fatalities or injuries reported for persons located outside the PIR? ☐ Yes ☐ No

*7.a Estimated cost of public and non-Operator private property damage	\$ / / / ,/ / / ,/ / /
*7.b Estimated cost of Operator's property damage & repairs	\$ / / / ,/ / / ,/ / /
*7.c Estimated cost of Operator's emergency response	\$ / / / ,/ / / ,/ / /
*7.d Estimated other costs	\$ / / / ,/ / / ,/ / /
Describe	

7.h Total estimated cost of gas released (sum of 7.f & 7.g above) \$ / / / ,/ / / ,/ / / /

PART E – ADDITIONAL OPERATING INFORMATION			
*1. Estimated pressure at the point and time of the Incident (psig):	 		
*2. Maximum Allowable Operating Pressure (MAOP) at the point and time of the Incident (psig) :	 		
*3. Describe the pressure on the system or facility relating to the Incident: <i>(select only one)</i> ☐ Pressure did not exceed MAOP ☐ Pressure exceeded MAOP, but did not exceed 110% of MAOP ☐ Pressure exceeded 110% of MAOP			
*4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), was the system or facility relating to the Incident operating under an established pressure restriction with pressure limits below those normally allowed by the MAOP ? ☐ No ☐ Yes ➡ <i>(Complete 4.a and 4.b below)</i>			
*4.a Did the pressure exceed this established pressure restriction?	☐ Yes	☐ No	
*4.b Was this pressure restriction mandated by PHMSA or the State?	☐ PHMSA	☐ State	☐ Not mandated
*5. Was “Onshore Pipeline, Including Valve Sites” OR “Offshore Pipeline, Including Riser and Riser Bend” selected in PART C, Question 2? ☐ No ☐ Yes ➡ <i>(Complete 5.a – 5.e below)</i>			
5.a Type of upstream valve used to initially isolate release source:	☐ Manual	☐ Automatic	☐ Remotely Controlled
5.b Type of downstream valve used to initially isolate release source:	☐ Manual	☐ Automatic	☐ Remotely Controlled
	☐ Check Valve		
5.c Length of segment isolated between valves (ft):	 		
5.d Is the pipeline configured to accommodate internal inspection tools? ☐ Yes ☐ No ➡ Which physical features limit tool accommodation? <i>(select all that apply)</i>			
☐ Changes in line pipe diameter ☐ Presence of unsuitable mainline valves ☐ Tight or mitered pipe bends ☐ Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.) ☐ Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools) ☐ Other ➡ Describe: _____			
5.e For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run? ☐ No ☐ Yes ➡ Which operational factors complicate execution? <i>(select all that apply)</i>			
☐ Excessive debris or scale, wax, or other wall build-up ☐ Low operating pressure(s) ☐ Low flow or absence of flow ☐ Incompatible commodity ☐ Other ➡ Describe: _____			
*5.f Function of pipeline system: <i>(select only one)</i> ☐ Transmission System ☐ Type A Gathering ☐ Storage Gathering ☐ Transmission Line of Distribution System ☐ Type B Gathering ☐ Offshore Gathering			

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

☐ No

☐ Yes ➡

*6.a Was it operating at the time of the Incident?

☐ Yes

☐ No

*6.b Was it fully functional at the time of the Incident?

☐ Yes

☐ No

*6.c Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume or pack calculations) assist with the detection of the Incident?

☐ 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 Incident?

☐ Yes

☐ No

*7. How was the Incident initially identified for the Operator? (select only one)

☐ SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume or pack 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 _____

*7.a If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 7, specify the following: (select only one)

☐ Operator employee

☐ Contractor working for the Operator

*8. 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

*1. 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 ➡ *1.a Specify how many were tested: / /

*1.b Specify how many failed: / /

*2. 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 ➡ *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 Incident, and answer the questions on the right. Describe secondary, contributing, or root causes of the Incident 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 incident? ☐ Yes ⇒ Year protection started: ____/____/____/____/____ ☐ No *4.b Was shielding, tenting, or disbonding of coating evident at the point of the incident? ☐ Yes ☐ No *4.c Has one or more Cathodic Protection Survey been conducted at the point of the incident? ☐ 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 ☐ Drop-out ☐ 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

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

14. Has one or more internal inspection tool collected data at the point of the Incident?

☐ Yes ☐ No

14.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 _____ / / / / /

15. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident?

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

☐ No

16. Has one or more Direct Assessment been conducted on this segment?

☐ Yes, and an investigative dig was conducted at the point of the Incident ➞ Most recent year conducted: / / / / /

☐ Yes, but the point of the Incident was not identified as a dig site ➞ Most recent year conducted: / / / / /

☐ No

17. Has one or more non-destructive examination been conducted at the point of the Incident since January 21, 2002?

☐ Yes ☐ No

17.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

☐ 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	
☐ 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

*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

☐ 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 Questions 1-5 ONLY IF the "Item Involved in Incident" (from PART C, Question 3) is Pipe or Weld. *1. Has one or more internal inspection tool collected data at the point of the Incident? ☐ Yes ☐ No 1.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: <table border="0"> <tr> <td>☐ Magnetic Flux Leakage</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Ultrasonic</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Geometry</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Caliper</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Crack</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Hard Spot</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Combination Tool</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Transverse Field/Triaxial</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Other _____</td> <td>____/____/____/____/____/</td> </tr> </table> 2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained? ☐ Yes ☐ No 3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident? ☐ Yes ➡ Most recent year tested: ____/____/____/____/____/ Test pressure (psig): ____/____/____/____/____/ ☐ No 4. Has one or more Direct Assessment been conducted on the pipeline segment? ☐ Yes, and an investigative dig was conducted at the point of the Incident ➡ Most recent year conducted: ____/____/____/____/____/ ☐ Yes, but the point of the Incident was not identified as a dig site ➡ Most recent year conducted: ____/____/____/____/____/ ☐ No 5. Has one or more non-destructive examination been conducted at the point of the Incident since January 1, 2002? ☐ Yes ☐ No 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: <table border="0"> <tr> <td>☐ Radiography</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Guided Wave Ultrasonic</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Handheld Ultrasonic Tool</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Wet Magnetic Particle Test</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Dry Magnetic Particle Test</td> <td>____/____/____/____/____/</td> </tr> <tr> <td>☐ Other _____</td> <td>____/____/____/____/____/</td> </tr> </table>	☐ Magnetic Flux Leakage	____/____/____/____/____/	☐ Ultrasonic	____/____/____/____/____/	☐ Geometry	____/____/____/____/____/	☐ Caliper	____/____/____/____/____/	☐ Crack	____/____/____/____/____/	☐ Hard Spot	____/____/____/____/____/	☐ Combination Tool	____/____/____/____/____/	☐ Transverse Field/Triaxial	____/____/____/____/____/	☐ Other _____	____/____/____/____/____/	☐ Radiography	____/____/____/____/____/	☐ Guided Wave Ultrasonic	____/____/____/____/____/	☐ Handheld Ultrasonic Tool	____/____/____/____/____/	☐ Wet Magnetic Particle Test	____/____/____/____/____/	☐ Dry Magnetic Particle Test	____/____/____/____/____/	☐ Other _____	____/____/____/____/____/
☐ Magnetic Flux Leakage	____/____/____/____/____/																														
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☐ Wet Magnetic Particle Test	____/____/____/____/____/																														
☐ Dry Magnetic Particle Test	____/____/____/____/____/																														
☐ Other _____	____/____/____/____/____/																														

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

*7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)? ☐ Yes ☐ No

☐ Public ➡ Specify: ☐ City Street ☐ State Highway ☐ County Road ☐ Interstate Highway ☐ Other

☐ Pipeline Property/Easement

☐ Power/Transmission Line

☐ Railroad☐ Dedicated Public Utility Easement☐ Federal Land

□ Data not collected

☐ Unknown/Other

☐ Contractor ☐ County ☐ Developer ☐ Farmer ☐ Municipality ☐ Occupant
☐ Railroad ☐ State ☐ Utility ☐ Data not collected ☐ Unknown/Other

☐ 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

☐ 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			

*12.a If Yes, specify ticket number: / / / / / / / / / / / / / / / / /

*14. Were facility locate marks visible in the area of excavation? ☐ No ☐ Yes ☐ Data not collected ☐ Unknown/Other

*16. Did the damage cause an interruption in service? ☐ No ☐ Yes ☐ Data not collected ☐ Unknown/Other

*16.a If Yes, specify duration of the interruption: / / / / / hours

*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)

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: <i>(select only one)</i> ☐ Operator ☐ Operator's Contractor ☐ Third Party																		
☐ 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	Complete Questions 3-7 ONLY IF the "Item Involved in Incident" (from PART C, Question 3) is Pipe or Weld. 3. Has one or more internal inspection tool collected data at the point of the Incident? ☐ Yes ☐ No 3.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: <table border="0"> <tr><td>☐ Magnetic Flux Leakage</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Ultrasonic</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Geometry</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Caliper</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Crack</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Hard Spot</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Combination Tool</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Transverse Field/Triaxial</td><td>____/____/____/____/____</td></tr> <tr><td>☐ Other</td><td>____/____/____/____/____</td></tr> </table> 4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained? ☐ Yes ☐ No 5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident? ☐ Yes ➡ Most recent year tested: ____/____/____/____/____ Test pressure (psig): ____/____/____/____/____ ☐ No 6. Has one or more Direct Assessment been conducted on the pipeline segment? ☐ Yes, and an investigative dig was conducted at the point of the Incident ➡ Most recent year conducted: ____/____/____/____/____ ☐ Yes, but the point of the Incident was not identified as a dig site ➡ Most recent year conducted: ____/____/____/____/____ ☐ No <i>(This section continued on next page with Question 7.)</i>	☐ Magnetic Flux Leakage	____/____/____/____/____	☐ Ultrasonic	____/____/____/____/____	☐ Geometry	____/____/____/____/____	☐ Caliper	____/____/____/____/____	☐ Crack	____/____/____/____/____	☐ Hard Spot	____/____/____/____/____	☐ Combination Tool	____/____/____/____/____	☐ Transverse Field/Triaxial	____/____/____/____/____	☐ Other	____/____/____/____/____
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☐ Combination Tool	____/____/____/____/____																		
☐ Transverse Field/Triaxial	____/____/____/____/____																		
☐ Other	____/____/____/____/____																		

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." <i>*Only one sub-cause can be picked from shaded left-hand column</i>																		
1. The sub-cause selected below is based on the following: <i>(select all that apply)</i> ☐ Field Examination ☐ Determined by Metallurgical Analysis ☐ Other Analysis _____ ☐ Sub-cause is Tentative or Suspected; Still Under Investigation <i>(Supplemental Report required)</i>																			
☐ Construction-, Installation-, or Fabrication-related ☐ Original Manufacturing-related (NOT girth weld or other welds formed in the field)	*2. List contributing factors: <i>(select all that apply)</i> ☐ 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 <i>(select all that apply)</i>: ☐ 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 Incident? ☐ Yes ☐ No *5.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: <table style="width: 100%; border-collapse: collapse;"> <tr> <td>☐ Magnetic Flux Leakage Tool</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Ultrasonic</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Geometry</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Caliper</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Crack</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Hard Spot</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Combination Tool</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Transverse Field/Triaxial</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Other _____</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> </table>		☐ Magnetic Flux Leakage Tool	_/_/_/_/_/	☐ Ultrasonic	_/_/_/_/_/	☐ Geometry	_/_/_/_/_/	☐ Caliper	_/_/_/_/_/	☐ Crack	_/_/_/_/_/	☐ Hard Spot	_/_/_/_/_/	☐ Combination Tool	_/_/_/_/_/	☐ Transverse Field/Triaxial	_/_/_/_/_/	☐ Other _____	_/_/_/_/_/
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*6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident? ☐ 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 Incident ➞ Most recent year conducted: _/_/_/_/_/ ☐ Yes, but the point of the incident 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 Incident 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: <table style="width: 100%; border-collapse: collapse;"> <tr> <td>☐ Radiography</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Guided Wave Ultrasonic</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Handheld Ultrasonic Tool</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Wet Magnetic Particle Test</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Dry Magnetic Particle Test</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> <tr> <td>☐ Other _____</td> <td style="text-align: center;">_/_/_/_/_/</td> </tr> </table>		☐ Radiography	_/_/_/_/_/	☐ Guided Wave Ultrasonic	_/_/_/_/_/	☐ Handheld Ultrasonic Tool	_/_/_/_/_/	☐ Wet Magnetic Particle Test	_/_/_/_/_/	☐ Dry Magnetic Particle Test	_/_/_/_/_/	☐ Other _____	_/_/_/_/_/						
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☐ Dry Magnetic Particle Test	_/_/_/_/_/																		
☐ Other _____	_/_/_/_/_/																		

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

☐ Malfunction of Control/Relief Equipment	*1. Specify: <i>(select all that apply)</i> ☐ Control Valve ☐ Instrumentation ☐ SCADA ☐ Communications ☐ Block Valve ☐ Check Valve ☐ Relief Valve ☐ Power Failure ☐ Stopple/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
- ☐ 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
- ☐ 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

*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 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 ☐ Still under investigation, cause of Incident to be determined* (*Supplemental Report required)

