

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: _____

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

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

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

<input type="checkbox"/> Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident																			
<input type="checkbox"/> Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation	1. Vehicle/Equipment operated by: <i>(select only one)</i> <input type="radio"/> Operator <input type="radio"/> Operator's Contractor <input type="radio"/> Third Party																		
<input type="checkbox"/> 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: <input type="radio"/> Hurricane <input type="radio"/> Tropical Storm <input type="radio"/> Tornado <input type="radio"/> Heavy Rains/Flood <input type="radio"/> Other _____																		
<input type="checkbox"/> Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation																			
<input type="checkbox"/> Electrical Arcing from Other Equipment or Facility																			
<input type="checkbox"/> Previous Mechanical Damage NOT Related to Excavation	<p>Complete Questions 3-7 ONLY IF the "Item Involved in Incident" (from PART C, Question 3) is Pipe or Weld.</p> <p>3. Has one or more internal inspection tool collected data at the point of the Incident? <input type="radio"/> Yes <input type="radio"/> No</p> <p>3.a If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:</p> <table style="width: 100%; border: none;"> <tr><td><input type="radio"/> Magnetic Flux Leakage</td><td>_____</td></tr> <tr><td><input type="radio"/> Ultrasonic</td><td>_____</td></tr> <tr><td><input type="radio"/> Geometry</td><td>_____</td></tr> <tr><td><input type="radio"/> Caliper</td><td>_____</td></tr> <tr><td><input type="radio"/> Crack</td><td>_____</td></tr> <tr><td><input type="radio"/> Hard Spot</td><td>_____</td></tr> <tr><td><input type="radio"/> Combination Tool</td><td>_____</td></tr> <tr><td><input type="radio"/> Transverse Field/Triaxial</td><td>_____</td></tr> <tr><td><input type="radio"/> Other</td><td>_____</td></tr> </table> <p>4. 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>5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Incident?</p> <p><input type="radio"/> Yes ⇨ Most recent year tested: _____ Test pressure (psig): _____</p> <p><input type="radio"/> No</p> <p>6. 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 Incident ⇨ Most recent year conducted: _____</p> <p><input type="radio"/> Yes, but the point of the Incident was not identified as a dig site ⇨ Most recent year conducted: _____</p> <p><input type="radio"/> No</p> <p><i>(This section continued on next page with Question 7.)</i></p>	<input type="radio"/> Magnetic Flux Leakage	_____	<input type="radio"/> Ultrasonic	_____	<input type="radio"/> Geometry	_____	<input type="radio"/> Caliper	_____	<input type="radio"/> Crack	_____	<input type="radio"/> Hard Spot	_____	<input type="radio"/> Combination Tool	_____	<input type="radio"/> Transverse Field/Triaxial	_____	<input type="radio"/> Other	_____
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<input type="radio"/> Geometry	_____																		
<input type="radio"/> Caliper	_____																		
<input type="radio"/> Crack	_____																		
<input type="radio"/> Hard Spot	_____																		
<input type="radio"/> Combination Tool	_____																		
<input type="radio"/> Transverse Field/Triaxial	_____																		
<input type="radio"/> Other	_____																		

	<p>7. Has one or more non-destructive examination been conducted at the point of the Incident 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 / / / / /</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>
<input type="checkbox"/> Intentional Damage	<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"/> Other Outside Force Damage	<p>9. Describe: _____</p>

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

<input type="checkbox"/> Malfunction of Control/Relief Equipment	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"/> Pressure Regulator <input type="radio"/> ESD System Failure <input type="radio"/> Other _____
<input type="checkbox"/> Compressor or Compressor-related Equipment	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"/> Pressure Vessel Failure <input type="radio"/> Other _____
<input type="checkbox"/> Threaded Connection/Coupling Failure	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"/> Non-threaded Connection Failure	4. Specify: <input type="radio"/> O-Ring <input type="radio"/> Gasket <input type="radio"/> Seal (NOT compressor seal) or Packing <input type="radio"/> Other _____
<input type="checkbox"/> Defective or Loose Tubing or Fitting	
<input type="checkbox"/> Failure of Equipment Body (except Compressor), Vessel Plate, or other Material	
<input type="checkbox"/> 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

<input type="checkbox"/> Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage	
<input type="checkbox"/> Underground Gas Storage, Pressure Vessel, or Cavern Allowed or Caused to Overpressure	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"/> Valve Left or Placed in Wrong Position, but NOT Resulting in an Overpressure	
<input type="checkbox"/> Pipeline or Equipment Overpressured	
<input type="checkbox"/> Equipment Not Installed Properly	
<input type="checkbox"/> Wrong Equipment Specified or Installed	
<input type="checkbox"/> 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

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

