Prepared by: [redacted]

GENERAL REQUIREMENTS WORK REPORTABLE TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION

A-34.1

Asset Type: Gas Transmission and Distribution **Function:** Design and Construction

Issued by: [redacted] Original Signed By **Date:** 02-25-10

Rev. #05: This document replaces Revision #04. For a description of the changes, see Page 4.

Purpose and Scope

This numbered document establishes uniform procedures for preparing reports required by G.O. 112-E, Sections 125, 126, and 162.3. It also establishes the procedures for filing the reports with the CPUC.

Acronyms

CFR: *Code of Federal Regulations*
CPUC: California Public Utilities Commission
DOT: Department of Transportation
G.O.: General Order
GRI: Gas Research Institute
LNG: liquefied natural gas
MAOP: maximum allowable operating pressure
psig: pounds per square inch gauge
RS&A: Regulatory Support and Analysis
RSPA: Research and Special Programs Administration
SMYS: specified minimum yield strength
U.S.: United States
USB: Utility Safety Branch

References	Document
DOT *Code of Federal Regulations*, Latest Edition	49 CFR 192 and 49 CFR 193
CPUC General Order 112-E, Latest Edition	G.O. 112-E
Piping Design and Test Requirements	A-04
Hydrostatic Testing Procedure	A-37
Revising the MAOP of Pipelines Operating at 60 psig or Less	TD-4149P-02
Incident Report – Gas Distribution System	Form PHMSA F 7100.1
Incident Report – Gas Transmission and Gathering Systems	Form PHMSA F 7100.2

Definitions of Reportable Work

1. Report work when constructing a new pipeline, or reconstructing or reconditioning an existing pipeline, that meets both of the following conditions:

   A. At the proposed MAOP, will operate at a hoop stress of 20% or more of the SMYS of the pipe.

   B. Will cost $2.5 million (financial) or more.

   Note: For the purpose of Item 1 above, "pipeline" work is limited to the installation, relocation, or reinforcement of line pipe. If a project includes both pipeline work and associated non-pipeline related work, such as station regulation and controls, station piping, main-line valve work, or other capital or expense related non-pipeline work, apply only the direct "pipeline" work costs toward the $2.5 million financial threshold when determining whether a project is reportable.

2. Report work when increasing the MAOP of pipeline systems as outlined below:

   A. Uprating a pipeline to an MAOP that produces a hoop stress of 20% or more of the SMYS.

   B. Uprating 2,500' or more of distribution main from an MAOP of 60 psig or less to an MAOP of more than 60 psig.

[redacted]

C. Uprating by converting 5,000' or more of a low-pressure distribution main, operating at a standard customer delivery pressure (does not require service regulators) to a high-pressure distribution main, operating in excess of standard customer delivery pressure (requires service regulators).

Exception: Work is not reportable when converting a segment of a distribution system serving 300 or fewer customers by connecting the service lines individually to a higher-pressure main.

3. Report work when test failures occur while strength testing a pipeline that will be operated at a hoop stress of 20% or more of the SMYS of the pipe used.
4. Report work when using a Clock Spring wrap to repair defects in a pipeline operating at 40% or more of SMYS.
5. Report work when constructing a permanent LNG facility or when intending to inject vaporized LNG using a mobile and temporary LNG facility.

Responsibility

6. The responsible engineer for the project shall determine whether or not the proposed work is reportable to the CPUC according to the parameters specified in this document.
   A. The responsible engineer or designee shall prepare and assemble the specified reports and drawings along with the written reports required by the CPUC.
   B. Gas engineering employees shall review the written reports and associated documentation, and submit the finalized paperwork to the CPUC.
   C. Gas engineering employees shall monitor all reportable work and issue status reports, as needed.
   D. Line organizations shall provide timely feedback to gas engineering regarding the current status of reportable projects under their respective jurisdictions (e.g., scope and schedule changes). Correspondence should be sent by email to Gas CPUC Report.

30-Day Written Notification Report to the CPUC

7. Reports for applicable new construction, reconstruction, or reconditioning jobs must be submitted to the CPUC 30 days before construction begins. Reports must be signed by the senior director of gas engineering before they are forwarded to the CPUC. In order to ensure that reports are filed in a timely manner, it is necessary that gas engineering employees receive accurate and complete engineering reports, written in the specified format, no later than 45 days before the start of construction. Late reports to the CPUC may result in postponing construction or require writing a letter to the CPUC explaining why the report was late.
   A. Reports to the CPUC must contain the following information:
      (1) The construction project's job title.
      (2) An introductory paragraph referencing the section of G.O. 112-E requiring the report and a brief description of the scope of work. Include the following information in the scope of work section of the document:
         - A description of and the purpose for the proposed work.
         - The specification of the pipes selected for installation.
         - The MAOP for which the line is being constructed.
         - The test fluid and test pressure to be used during strength testing. This subsection must refer to Numbered Documents A-33 and A-37, as applicable. The effects of elevation variation on test pressure must be defined on the strength test pressure report.
         - The measures taken to protect the pipeline from hazards as indicated in 49 CFR 192.317 and 49 CFR 192.319.
         - The measures taken to protect the pipeline from external corrosion.
         - The reasons for using casing or bridging where the minimum cover will be less than that specified in 49 CFR 192.327.
         - The estimated financial cost of the project.
         - The estimated start of construction date.
         - Include the name and telephone number of the construction project's contact person.

(3) A general arrangement drawing of the pipeline installation. This drawing must show the route of the pipeline and identify the class locations and required design factors for each segment of the pipeline requiring different design factors.

(4) A vicinity map showing the location of the work with respect to other well-defined landmarks.

B. It is not necessary to include a set of construction drawings when submitting the 30-day report to the CPUC. These construction drawings should be available upon request.

Construction drawings must show plan and profile views of the pipeline and include all other required data. For a description of required construction drawing content, format, technical reviews, and professional engineering reviews, see Numbered Document A-34.

8. Reports for uprate projects must be submitted to the CPUC 30 days before beginning an uprate. Reports must be signed by the senior director of gas engineering before they are forwarded to the CPUC. In order to ensure that reports are filed in a timely manner, it is necessary that gas engineering employees receive accurate and complete engineering reports, written in the specified format, no later than 45 days before the start of the uprate. Late reports to the CPUC may result in postponing the uprate or require writing a letter to the CPUC explaining why the report was late.

A. Reports to the CPUC must contain the following information:

(1) The uprate project's job title.

(2) An introductory paragraph referencing the section of G.O. 112-E requiring the report and a brief description of the scope of work. Include the following information in the scope of work section of the document:

- The MAOP before uprating and after uprating.
- A description of and the purpose for the uprating.
- The steps taken to determine the capability of the pipeline to withstand the planned pressure increase.
- The estimated start date of the uprating.
- Include the name and telephone number of the uprate's contact person.

B. It is not necessary to include a copy of the detailed uprate procedure when submitting the 30-day report to the CPUC. These procedures should be available upon request. TD-4125P-03 contains a sample low-pressure to semi-high or high-pressure uprate procedure.

90-Day Written Notification Report to the CPUC – Permanent LNG Facility Installation

9. Reports of construction of new, permanent LNG facilities must be submitted to the CPUC 90 days before construction begins. The senior director of gas engineering must sign reports before they are forwarded to the CPUC. In order to ensure that reports are filed in a timely manner, it is necessary that gas engineering employees receive accurate and complete reports, written in the specified format, no later than 15 calendar weeks before the start of construction.

A. Reports to the CPUC must contain the following information:

(1) The construction project's job title.

(2) An introductory paragraph referencing G.O. 112-E, Section 162.3, requiring the report and a brief description of and the purpose for the proposed work.

(3) A location description.

B. It is not necessary to include a set of construction drawings when submitting the 90-day report to the CPUC. These construction drawings should be available upon request.

2-Week Written Notification Report to the CPUC – Mobile and Temporary LNG Facilities

10. Except in an emergency, reports of intending to inject vaporized LNG using mobile and temporary LNG facilities must be submitted to the CPUC at least 2 weeks before the injection occurs. The responsible LNG project manager shall provide the information identified below to an RS&A representative. The RS&A representative will provide the notification to the CPUC. Email notifications to the CPUC are acceptable. The RS&A representative

will also notify key personnel including the senior director of gas engineering that the notification to the CPUC has been made.

A. Reports to the CPUC must contain the following information:

(1) An introductory paragraph referencing 49 CFR 193.2019, requiring the report and a brief description of and the purpose for the proposed work.

(2) A location description, including to the extent practical, all of the following:

- Details of the siting,
- Leakage containment or control,
- Fire fighting equipment, and
- Methods employed to restrict public access.

Test Failures

Reports for test failures, as required in the "Definitions of Reportable Work" section, Item 3 on Page 2 of this numbered document, shall be submitted on DOT Form PHMSA F 7100.1 for distribution lines and DOT Form PHMSA F 7100.2 for transmission and gathering lines.

Revision Notes

Revision 05 has the following changes:

1. Updated the "Acronyms" section.
2. Modified the requirement to reflect reporting requirements from "siting" to "intending to inject vaporized LNG using" mobile and temporary LNG facilities.
3. This document is part of Change 62.

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed $100,000 for each violation for each day the violation continues up to a maximum of $1,000,000 for any related series of violations as provided in 49 USC 60122 Form Approved OMB No. 2137-0522

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

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

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 Office Of Pipeline Safety Web Page at http://ops.dot.gov.*

PART A - GENERAL REPORT INFORMATION Check: ☐ **Original Report** ☐ **Supplemental Report** ☐ **Final Report**

1. Operator Name and Address

a. Operator's 5-digit Identification Number / / / / / /

b. If Operator does not own the pipeline, enter Owner's 5-digit Identification Number / / / / / /

c. Name of Operator _____

d. Operator street address _____

e. Operator address _____
City County or Parish State and Zip Code

2. Time and date of the incident

/ / / / / hr / / / month / / day / / / year

3. Incident Location

a. _____
Street or nearest street or road

b. _____
City and County or Parish

c. _____
State and Zip Code

d. Latitude: / / / / / / Longitude: / / / / / / /
(if not available, see instructions for how to provide specific location)

e. Class location description
O Class 1 O Class 2 O Class 3 O Class 4

f. Incident on Federal Land O Yes O No

4. Type of leak or rupture

O Leak: O Pinhole O Connection Failure *(complete sec. F5)*
O Puncture, diameter or cross section *(inches)*____

O Rupture (if applicable):
O Circumferential – Separation
O Longitudinal
- Tear/Crack, length *(inches)* _____
- Propagation Length, total, both sides *(feet)* _____

O N/A
O Other: _____

5. Consequences *(check and complete all that apply)*

a. ☐ Fatality Total number of people: / / / /
Employees: / / / / *General Public:* / / / /
Non-employee Contractors: / / / /

b. ☐ Injury requiring inpatient hospitalization
Total number of people: / / / /
Employees: / / / / *General Public:* / / / /
Non-employee Contractors: / / / /

c. ☐ Property damage/loss *(estimated)* Total $_____
Gas loss $_____ Operator damage $_____
Public/private property damage $_____

d. ☐ Gas ignited O Explosion O No Explosion

e. ☐ Gas did not ignite O Explosion O No Explosion

f. ☐ Evacuation *(general public only)* / / / / people
Evacuation Reason:
O Unknown
O Emergency worker or public official ordered, precautionary
O Threat to the public
O Company policy

6. Elapsed time until area was made safe:
/ / / hr. / / / min.

7. Telephone Report:
/ / / / / / / NRC Report Number / / month / / day / / year

8. a. Estimated pressure at point and time of incident:
_____ *PSIG*
b. Max. allowable operating pressure *(MAOP)*: _____ *PSIG*
c. MAOP established by:
O Test Pressure _____ psig
O 49 CFR § 192.619 (a)(3)

PART B - PREPARER AND AUTHORIZED SIGNATURE

(type or print) Preparer's Name and Title — Area Code and Telephone Number

Preparer's E-mail Address — Area Code and Facsimile Number

Authorized Signature — (type or print) Name and Title — Date — Area Code and Telephone Number

[redacted] GTR0002742

[redacted]

PART C – ORIGIN OF THE INCIDENT

1. Incident occurred on
   - ○ Main ○ Meter Set
   - ○ Service Line ○ Other: _____
   - ○ Pressure Limiting and Regulating Facility
2. Failure occurred on
   - ○ Body of pipe ○ Pipe Seam
   - ○ Joint ○ Component
   - ○ Other: _____
3. Material involved *(pipe, fitting, or other component)*
   - ○ Steel
   - ○ Cast/Wrought Iron
   - ○ Polyethelene Plastic (complete all items that apply in a-c)
   - ○ Other Plastic (complete all items that apply in a-c)
     Plastic failure was: ☐ a.ductile ☐ b.brittle ☐ c.joint failure
   - ○ Other material: _____
4. Year the pipe or component which failed was installed: / / / / /

PART D – MATERIAL SPECIFICATION *(if applicable)*

1. Nominal pipe size *(NPS)* / / / / / in.
2. Wall thickness / / / / / in.
3. Specification _____ SMYS / / / / / /
4. Seam type
5. Valve type
6. Pipe or valve manufactured by _____ in year / / / / /

PART E – ENVIRONMENT

1. Area of incident
   - ○ Under pavement ○ In open ditch
   - ○ Under ground ○ Above ground
   - ○ Inside/under building ○ Under water
   - ○ Other: _____
2. Depth of cover: _____ inches

PART F – APPARENT CAUSE

Important: There are 25 numbered causes in this section. Check the box to the left of the primary cause of the incident. Check one circle in each of the supplemental items to the right of or below the cause you indicate. See the instructions for this form for guidance.

F1 – CORROSION

If either F1 (1) External Corrosion, or F1 (2) Internal Corrosion is checked, complete all subparts a – e.

1. ☐ External Corrosion
   - a. Pipe Coating: ○ Bare ○ Coated ○ Unknown
   - b. Visual Examination: ○ Localized Pitting ○ General Corrosion ○ Other
   - c. Cause of Corrosion: ○ Galvanic ○ Stray Current ○ Improper Cathodic Protection ○ Microbiological ○ Other: _____
   - d. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident? ○ No ○ Yes ○ Unknown Year Protection Started: / / / / /
   - e. Was pipe previously damaged in the area of corrosion? ○ No ○ Yes ○ Unknown How long prior to incident: / / / years / / months
2. ☐ Internal Corrosion

F2 – NATURAL FORCES

3. ☐ Earth Movement ⇒ ○ Earthquake ○ Subsidence ○ Landslide ○ Other: _____
4. ☐ Lightning
5. ☐ Heavy Rains/Floods ⇒ ○ Washouts ○ Flotation ○ Mudslide ○ Scouring ○ Other: _____
6. ☐ Temperature ⇒ ○ Thermal stress ○ Frost heave ○ Frozen components ○ Other: _____
7. ☐ High Winds

F3 – EXCAVATION

8. ☐ Operator Excavation Damage *(including their contractors)* / Not Third Party
9. ☐ Third Party Excavation Damage *(complete a-d)*
   - a. Excavator group: ○ General Public ○ Government ○ Excavator other than Operator/subcontractor
   - b. Type: ○ Road Work ○ Pipeline ○ Water ○ Electric ○ Sewer ○ Phone/Cable/Fiber ○ Landowner ○ Railroad ○ Building Construction ○ Other: _____
   - c. Did operator get prior notification of excavation activity? ○ No ○ Yes: Date received: / / mo. / / day / / yr. Notification received from: ○ One Call System ○ Excavator ○ General Contractor ○ Landowner
   - d. Was pipeline marked? ○ No ○ Yes *(If Yes, check applicable items i – iv)*
     - i. Temporary markings: ○ Flags ○ Stakes ○ Paint
     - ii. Permanent markings: ○ Yes ○ No
     - iii. Marks were *(check one)* ○ Accurate ○ Not Accurate
     - iv. Were marks made within required time? ○ Yes ○ No

F4 – OTHER OUTSIDE FORCE DAMAGE

10. ☐ Fire/Explosion as primary cause of failure = Fire/Explosion cause: ○ Man made ○ Natural *Describe in Part G*
11. ☐ Car, truck or other vehicle not relating to excavation activity damaging pipe
12. ☐ Rupture of Previously Damaged Pipe
13. ☐ Vandalism

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F5 – MATERIAL OR WELDS

Material

14 ☐ Body of Pipe ⇒ ○ Dent ○ Gouge ○ Wrinkle Bend ○ Arc Burn ○ Other: _____

15 ☐ Component ⇒ ○ Valve ○ Fitting ○ Vessel ○ Extruded Outlet ○ Other: _____

16 ☐ Joint ⇒ ○ Gasket ○ O-Ring ○ Threads ○ Fusion ○ Other: _____

Weld

17 ☐ Butt ⇒ ○ Pipe ○ Fabrication ○ Other: _____

18 ☐ Fillet ⇒ ○ Branch ○ Hot Tap ○ Fitting ○ Repair Sleeve ○ Other: _____

19 ☐ Pipe Seam ⇒ ○ LF ERW ○ DSAW ○ Seamless ○ Flash Weld

○ HF ERW ○ SAW ○ Spiral ○ Other: _____

*Complete a-f if you indicate **any** cause in part F5.*

a. Type of failure:

☐ Construction Defect ⇒ ○ Poor Workmanship ○ Procedure not followed ○ Poor Construction Procedures

☐ Material Defect

b. Was failure due to pipe damage sustained in transportation to the construction or fabrication site? ○ Yes ○ No

c. Was part which leaked pressure tested before incident occurred? ○ Yes, *complete d-f.* ***if known*** ○ No

d. Date of test: _/_/_/_ mo. _/_/_/_ day _/_/_/_ yr.

e. Time held at test pressure: _/_/_/_ hr

f. Estimated test pressure at point of incident: _____ *PSIG*

F6 – EQUIPMENT OR OPERATIONS

20 ☐ Malfunction of Control/Relief Equipment ⇒ ○ Valve ○ Instrumentation ○ Pressure Regulator ○ Other:

21 ☐ Threads Stripped, Broken Pipe Coupling ⇒ ○ Nipples ○ Valve Threads ○ Mechanical Couplings ○ Other: _____

22 ☐ Leaking Seals

23 ☐ Incorrect Operation

a. Type: ○ Inadequate Procedures ○ Inadequate Safety Practices ○ Failure to Follow Procedures ○ Other: _____

b. Number of employees involved in incident who failed post-incident drug test _/_/_/_ Alcohol test: _/_/_/_

c. Was person involved in incident qualified per OQ rule? ○ Yes ○ No d. Hours on duty for person involved: _/_/_

F7 – OTHER

24 ☐ Miscellaneous, *describe:* _____

25 ☐ Unknown

○ Investigation Complete ○ Still Under Investigation *(submit a supplemental report when investigation is complete)*

PART G – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE EVENT *(Attach additional sheets as necessary)*

[redacted]

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed $25,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $500,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

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

INCIDENT REPORT - GAS TRANSMISSION AND GATHERING 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 Office Of Pipeline Safety Web Page at* http://ops.dot.gov.

PART A - GENERAL REPORT INFORMATION Check one: ☐ **Original Report** ☐ **Supplemental Report** ☐ **Final Report**

Operator Name and Address

a. Operator's 5-digit Identification Number (when known) / / / / / /

b. If Operator does not own the pipeline, enter Owner's 5-digit Identification Number (when known) / / / / / /

c. Name of Operator _____

d. Operator street address _____

e. Operator address _____
City County or Parish, State and Zip Code

2. Time and date of the incident
/ / / / / hr / / / / / / month / / day / / / / year

3. Location of incident

a. _____
Nearest street or road

b.
City and County or Parish

c. _____
State and Zip Code

d. Mile Post/Valve Station _____

e. Survey Station No. _____

f. Latitude: _____ Longitude: _____
(if not available, see instructions for how to provide specific location)

g. Class location description
Onshore: ○ Class 1 ○ Class 2 ○ Class 3 ○ Class 4

Offshore: ○ Class 1 *(complete rest of this item)*

Area _____ Block # _____

State / / / or Outer Continental Shelf ☐

h. Incident on Federal Land other than Outer Continental Shelf
○ Yes ○ No

i. Is pipeline interstate ○ Yes ○ No

4. Type of leak or rupture

○ Leak: ○ Pinhole ○ Connection Failure *(complete sec. F5)*

○ Puncture, diameter *(inches)*

○ Rupture: ○ Circumferential – Separation

○ Longitudinal
– Tear/Crack, length *(inches)* _

- Propagation Length, total, both sides *(feet)* _____

○ N/A

○ Other: _____

5. Consequences *(check and complete all that apply)*

a. ☐ Fatality Total number of people. / / / /
Employees: / / / / *General Public:* / / / /
Non-employee Contractors: / / / /

b. ☐ Injury requiring inpatient hospitalization Total number of people: / / / /
Employees: / / / / *General Public:* / / / /
Non-employee Contractors: / / / /

c. ☐ Property damage/loss *(estimated)* Total $_____
Gas loss $ Operator damage $
Public/private property damage $_____

d. ☐ Release Occurred in a "High Consequence Area"

e. ☐ Gas ignited – No explosion f. ☐ Explosion

g. ☐ Evacuation *(general public only)* / / / / / people
Reason for Evacuation:
○ Emergency worker or public official ordered, precautionary
○ Threat to the public ○ Company policy

6. Elapsed time until area was made safe:
/ / / hr. / / / min.

7. Telephone Report:
/ / / / / / / / / / / / / / / / / /
NRC Report Number month day year

8. a. Estimated pressure at point and time of incident:
PSIG

b. Max. allowable operating pressure *(MAOP)*: _____ *PSIG*

c. MAOP established by 49 CFR section:
☐ 192.619 (a)(1) ☐ 192.619 (a)(2) ☐ 192.619 (a)(3)
☐ 192.619 (a)(4) ☐ 192.619 (c)

d. Did an overpressurization occur relating to the incident? ○ Yes ○ No

PART B - PREPARER AND AUTHORIZED SIGNATURE

_____ _____
(type or print) Preparer's Name and Title Area Code and Telephone Number

_____ _____
Preparer's E-mail Address Area Code and Facsimile Number

_____ _____ _____
Authorized Signature (type or print) Name and Title Date Area Code and Telephone Number

[redacted] GTR0002746

PART C – ORIGIN OF THE INCIDENT

1. Incident occurred on
   - ○ Transmission System
   - ○ Gathering System
   - ○ Transmission Line of Distribution System
2. Failure occurred on
   - ○ Body of pipe ○ Pipe Seam
   - ○ Joint
   - ○ Component
   - ○ Other: _____
3. Material involved *(pipe, fitting, or other component)*
   - ○ Steel
   - ○ Plastic (if plastic complete all items that apply in a-c)
     Plastic failure was: ☐ a.ductile ☐ b.brittle ☐ c.joint failure
   - ○ Material other than plastic or steel: _____
4. Part of system involved in incident
   - ○ Pipeline ○ Regulator/Metering System
   - ○ Compressor Station ○ Other:
5. Year the pipe or component which failed was installed: / / / / /

PART D – MATERIAL SPECIFICATION (if applicable)

1. Nominal pipe size *(NPS)* / / / / / in.
2. Wall thickness / / / / / in.
3. Specification _____ SMYS / / / / / /
4. Seam type _____
5. Valve type _____
6. Pipe or valve manufactured by _____ in year / / / / /

PART E – ENVIRONMENT

1. Area of incident
   - ○ Under pavement ○ In open ditch
   - ○ Above ground
   - ○ Under ground ○ Under water
   - ○ Inside/under building ○ Other: _____
2. Depth of cover: _____ inches

PART F – APPARENT CAUSE

Important: *There are 25 numbered causes in this section. Check the box to the left of the* ***primary*** *cause of the incident. Check one circle in each of the supplemental items to the right of or below the cause you indicate. See the instructions for this form for guidance.*

F1 – CORROSION

If either F1 (1) External Corrosion, or F1 (2) Internal Corrosion is checked, complete all subparts a – e.

1. ☐ External Corrosion
2. ☐ Internal Corrosion

a. Pipe Coating
- ○ Bare
- ○ Coated

b. Visual Examination
- ○ Localized Pitting
- ○ General Corrosion
- ○ Other _____

c. Cause of Corrosion
- ○ Galvanic ○ Stray Current
- ○ Improper Cathodic Protection
- ○ Microbiological
- ○ Stress Corrosion Cracking
- ○ Other:

d. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident?
○ No ○ Yes Year Protection Started: / / / / /

e. Was pipe previously damaged in the area of corrosion?
○ No ○ Yes How long prior to incident: / / / / years / / / months

F2 – NATURAL FORCES

3. ☐ Earth Movement ⇒ ○ Earthquake ○ Subsidence ○ Landslide ○ Other: _____
4. ☐ Lightning
5. ☐ Heavy Rains/Floods ⇒ ○ Washouts ○ Flotation ○ Mudslide ○ Scouring ○ Other: _____
6. ☐ Temperature ⇒ ○ Thermal stress ○ Frost heave ○ Frozen components ○ Other: _____
7. ☐ High Winds

F3 – EXCAVATION

8. ☐ Operator Excavation Damage *(including their contractors)* / Not Third Party
9. ☐ Third Party Excavation Damage *(complete a-d)*
   a. Excavator group
   ○ General Public ○ Government ○ Excavator other than Operator/subcontractor
   b. Type: ○ Road Work ○ Pipeline ○ Water ○ Electric ○ Sewer ○ Phone/Cable ○ Landowner ○ Railroad
   ○ Other: _____
   c. Did operator get prior notification of excavation activity?
   ○ No ○ Yes: Date received: / / mo. / / day / / yr.
   Notification received from: ○ One Call System ○ Excavator ○ Contractor ○ Landowner
   d. Was pipeline marked?
   ○ No ○ Yes *(If Yes, check applicable items i – iv)*
   i. Temporary markings: ○ Flags ○ Stakes ○ Paint
   ii. Permanent markings: ○ Yes ○ No
   iii. Marks were *(check one)* ○ Accurate ○ Not Accurate
   iv. Were marks made within required time? ○ Yes ○ No

F4 – OTHER OUTSIDE FORCE DAMAGE

10. ☐ Fire/Explosion as primary cause of failure → Fire/Explosion cause: ○ Man made ○ Natural
11. ☐ Car, truck or other vehicle not relating to excavation activity damaging pipe
12. ☐ Rupture of Previously Damaged Pipe
13. ☐ Vandalism

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F5 – MATERIAL AND WELDS

Material

14	☐ Body of Pipe	⇒	○ Dent	○ Gouge	○ Wrinkle Bend	○ Arc Burn	○ Other:
15	☐ Component	→	○ Valve	○ Fitting	○ Vessel	○ Extruded Outlet	○ Other: _____
16	☐ Joint	→	○ Gasket	○ O-Ring	○ Threads		○ Other: _____

Weld

17	☐ Butt	→	○ Pipe	○ Fabrication			○ Other: _____
18	☐ Fillet	→	○ Branch	○ Hot Tap	○ Fitting	○ Repair Sleeve	○ Other: _____
19	☐ Pipe Seam	→	○ LF ERW	○ DSAW	○ Seamless	○ Flash Weld	
			○ HF ERW	○ SAW	○ Spiral		○ Other: _____

*Complete a-g if you indicate **any** cause in part F5.*

a. Type of failure:

☐ Construction Defect ⇒ ○ Poor Workmanship ○ Procedure not followed ○ Poor Construction Procedures

☐ Material Defect

b. Was failure due to pipe damage sustained in transportation to the construction or fabrication site? ○ Yes ○ No

c. Was part which leaked pressure tested before incident occurred? ○ Yes. *complete d-g* ○ No

d. Date of test: / / / mo. / / / day / / / yr.

e. Test medium: ○ Water ○ Natural Gas ○ Inert Gas ○ Other: _____

f. Time held at test pressure: / / / hr

g. Estimated test pressure at point of incident: _____ *PSIG*

F6 – EQUIPMENT AND OPERATIONS

20. ☐ Malfunction of Control/Relief Equipment → ○ Valve ○ Instrumentation ○ Pressure Regulator ○ Other: _____

21. ☐ Threads Stripped, Broken Pipe Coupling → ○ Nipples ○ Valve Threads ○ Mechanical Couplings ○ Other: _____

22. ☐ Ruptured or Leaking Seal/Pump Packing

23. ☐ Incorrect Operation

a. Type: ○ Inadequate Procedures ○ Inadequate Safety Practices ○ Failure to Follow Procedures ○ Other: _____

b. Number of employees involved who failed post incident drug test:: / / / / Alcohol test: / / / /

c. Were most senior employee(s) involved qualified? ○ Yes ○ No d. Hours on duty: / / /

F7 – OTHER

24. ☐ Miscellaneous. *describe:* _____

25. ☐ Unknown

○ Investigation Complete ○ Still Under Investigation *(submit a supplemental report when investigation is complete)*

PART G – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE EVENT *(Attach additional sheets as necessary)*

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