APPENDIX H

Incident Reports
Gas Distribution System
(Form and Instructions)

Incident Report
Gas Distribution System

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed $1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

U.S. Department of Transportation
Research and Special Programs Administration

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

Report Date _____

No. _____ (RSPA)

PART 1 - GENERAL REPORT INFORMATION

SEE INSTRUCTIONS

1. a. Operator's 5 digit Identification Number /___/___/___/___/___/
   b. Name of Operator _____
   c. _____ Number and Street
   d. _____ City, County, State and Zip Code
2. Location of incident
   a. _____ Number and Street
   b. _____ City and County
   c. _____ State and Zip Code
   d. Class location ☐ 1 ☐ 2 ☐ 3 ☐ 4
   e. Incident on Federal land ☐ Yes ☐ No
3. Time and date of incident
   /___/___/___/___/ hr. /___/___/ mo. /___/___/ day /___/___/ yr.
4. Reason for reporting
   ☐ Fatality Number /___/___/___/ persons
   ☐ Injury requiring inpatient hospitalization Number /___/___/___/ persons
   ☐ Property damage/loss Estimate $ _____
   ☐ Operator judgment/emergency action
   ☐ Supplemental Report
5. Elapsed time until area was made safe /___/___/ hr. /___/___/ min.
6. Telephone Report
   /___/___/ mo. /___/___/ day /___/___/ yr.
7. a. Estimated pressure at point and time of incident *(PSIG)*_____
   b. Maximum allowable operating pressure *(MAOP)(PSIG)*_____
   c. MAOP established by:
   (1) Test pressure _____*(PSIG)*
   (2) 49 CFR § 192.619 (a)(3) ☐

PART 2 - APPARENT CAUSE

☐ Corrosion *(Continue in Part A)*
☐ Damage by Outside Forces *(Continue in Part B)*
☐ Construction/Operating error *(Continue in Part C)*
☐ Other _____
☐ Accidentally caused by operator *(Continue in Parts B and/or C)*

PART 3 - NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT

(Attach additional sheet(s) as necessary)

PART 4 - ORIGIN OF THE INCIDENT

1. Part of system where incident occurred
   ☐ Main ☐ Meter Set Assembly
   ☐ Service Line ☐ Other _____
2. Component which failed
   a. Part
   ☐ Body of pipe ☐ Valve
   ☐ Joint type ☐ Regulator/meter
   ☐ Fitting ☐ Weld(Specify)_____ *(girth, longitudinal, fillet)*
   ☐ Drip/Riser ☐ Other _____
3. Material involved:
   ☐ Steel ☐ Cast iron
   ☐ Polyethylene plastic ☐ Other plastic:_____
   ☐ Other _____
   Nominal pipe size *(NPS)* /___/___/___/___/___/ in. Wall thickness /___/___/___/___/___/ in.
4. Specification_____ Manufacturer_____ Yr Manufactured /___/___/___/___/ Yr Installed /___/___/___/___/

PART 5 - ENVIRONMENT

Area of Incident
☐Within/Under bldg ☐Under pavement ☐Above ground ☐Under ground or Under water ☐Other _____

PART 6 - PREPARER AND AUTHORIZED SIGNATURE

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

_____ Authorized Signature
_____ Date
_____ Area Code and Telephone Number

Form RSPA F 7100.1 (3-84)

Reproduction of this form is permitted.

PART A - CORROSION

1. Where did the corrosion occur?
   - ☐ Internally
   - ☐ Externally
2. Visual Description
   - ☐ Localized pitting
   - ☐ General corrosion
   - ☐ Other _____
3. Cause
   - ☐ Galvanic
   - ☐ Other _____
4. Pipe coating information
   - ☐ Bare ☐ Coated
5. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident?
   - ☐ Yes Year protection started /__/__/__/__/
   - ☐ No
6. Additional Information:

PART B - DAMAGE BY OUTSIDE FORCES

1. Primary cause of incident
   - ☐ Damage resulted from action of operator or his agent.
   - ☐ Damage resulted from action by outside party/third party.
   - ☐ Damage by earth movement
     - ☐ Subsidence
     - ☐ Landslide/washout
     - ☐ Frost
     - ☐ Other _____
   - ☐ Damage by lightning or fire
2. Locating information (for damage resulting from action of outside party/third party)
   a. Did operator get prior notification that equipment would be used in the area?
      - ☐ Yes Date received /__/__/ mo. /__/__/ day /__/__/ yr.
      - ☐ No
   b. Was pipeline location marked either as a result of notification or by markers already in place?
      - ☐ Yes ☐ Permanent markers ☐ Temporary stakes ☐ Other _____
      - ☐ No
   c. Does statute or ordinance require the outside party to determine whether underground facility (ies) exist?
      - ☐ Yes
      - ☐ No
3. Additional Information:

PART C - CONSTRUCTION DEFECT

1. Cause
   - ☐ Poor workmanship during construction
   - ☐ Physical damage during construction
   - ☐ Operating procedure inappropriate
   - ☐ Other _____
   - ☐ Error in operating procedure application
2. Additional Information:

PART D - OTHER

Brief Description:

INSTRUCTIONS FOR COMPLETING FORM RSPA F 7100.1 (3-84)
INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

GENERAL INSTRUCTIONS

Each operator of a gas distribution system including petroleum gas systems (§192.11) shall file Form RSPA F 7100.1 for any incident which meets the criteria specified in §191.3 as soon as practicable but not more than 30 days following the occurrence of the incident. Refer to §192.3 for definitions of operator, distribution line, gathering line, and transmission line.

Master meter and LNG facilities are exempt from filing a report per §191.9(c).

Release of gas for the purpose of maintenance or other routine activities need not be reported if the only reportable criteria met is loss of gas of $50,000 or more as defined in §191.3 "Incident" (1)(ii).

Damage from secondary ignition need not be reported unless the damage to facilities subject to Part 192 exceeds $50,000. Secondary ignition is a gas fire where the cause is unrelated to the gas facilities such as electrical fires, arson, etc.

Submit reports according to §191.7.

If you have any questions concerning this report or these instructions, or copies of Form RSPA F 7100.1, please write to the Information Resources Manager or call (202)366-4569. All forms and instructions are available over the Internet at the OPS home page, http://ops.dot.gov.

SPECIAL INSTRUCTIONS

An entry should be made in each block. If the data are unavailable, enter "Unknown". However, avoid "Unknown" entries if possible. Estimated data are preferable to unknown data. If "Unknown" or estimated data entries are made, a supplemental report should follow if the data should become known by the operator. If the block is not applicable, enter "N/A".

In blocks requiring numbers, all blocks should be filled in using zeroes when appropriate. When decimal points are required, the decimal point should be placed in a separate block.

Examples:

Nominal Pipe Size /0/0/2/4/ inches
/1/./2/5/ inches

Wall Thickness /./5/0/0/ inches
/1/./4/5/ inches

If OTHER is checked in any part of the report, include an explanation or description on the line adjacent to the item checked.

SPECIFIC INSTRUCTIONS

PART 1 - GENERAL REPORT INFORMATION

ITEM 1
The operator's five digit identification number is assigned by RSPA. If the identification number is not available this entry should be left blank.

The entry in 1.C is the office originating the incident report.

ITEM 2
Data on the location of the incident should be as complete as possible, including the street address and nearest city or town, and the county, parish, township, borough, section, and/or range. Provide latitude and longitude, if available, and any other data that would assist in locating the incident on a map or chart.

The class location should be the class location at the incident site as defined in §192.5.

For reporting of leaks, FEDERAL LAND means all land owned by the United States, including military reservations, except land in national parks, and land held in trust for native Americans. Incidents occurring at federal buildings, such as federal court houses, custom houses and other federal office buildings and warehouses are not to be reported as being on federal lands.

ITEM 3
The time of the incident should be indicated by 24-hour clock notation.

Examples:
1. (0000) = midnight = /0/0/0/0/
2. (0800) = 8:00 a.m. = /0/8/0/0/
3. (1200) = Noon = /1/2/0/0/
4. (1715) = 5:15 p.m. = /1/7/1/5/

5. (2200) = 10:00 p.m.= /2/2/0/0/

ITEM 4
When a person dies within 30 days of the initial accident date, report as a fatality. When a person dies subsequent to an injury more than 30 days past the accident date, report as an injury. This aligns with the Department of Transportation's general guidelines for all modes for reporting deaths and injuries.

IN-PATIENT HOSPITALIZATION means hospital admission and at least one overnight stay.

Property damage/loss includes but is not limited to costs due to property damage to the operator's facilities and to the property of others; gas lost; restoration of service and relighting; facility repair and replacement; leak locating; right-of-way cleanup; and environmental cleanup and damage. Facility repair, replacement, or change that is not related to the incident but is done by the operator as a matter of convenience (for example, to take advantage of access to facilities unearthed because of the incident) is not to be included. Litigation and other legal expenses related to the incident are not reportable.

If this is a follow up report, check SUPPLEMENTAL REPORT and complete Part 1, Item 1 and Part 6. All other data on a Supplemental Report is to be revised or additional information. Do not repeat previously submitted information.

ITEM 5
ELAPSED TIME UNTIL THE AREA WAS MADE SAFE means the elapsed time from the time of the occurrence of the incident until the incident is brought under control and does not present a significant threat to public safety. This does not necessarily mean that the flow of gas has been stopped. If the time of occurrence is unknown, the time when the operator is first notified or made aware of the incident should be utilized to calculate elapsed time.

PART 2 - APPARENT CAUSE

Refer to the instructions for Parts A, B, & C for a detailed explanation of CORROSION, DAMAGE BY OUTSIDE FORCES, and CONSTRUCTION/OPERATING ERROR. The OTHER category should be used only when the cause can not be otherwise identified. When OTHER is designated, complete Part 3.

ACCIDENTLY CAUSED BY OPERATOR - includes damage resulting from an inappropriate procedure, or a wrong application of a procedure by

the operator or an employee of the operator's contractor in the performance of operation and maintenance activities. It does not include damage by outside forces.

PART 3 - NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT

A narrative is needed only to clarify or explain unusual conditions. It should be a concise description of the incident, including the probable cause, and the facts, circumstances, and conditions which may have contributed either directly or indirectly to the cause of the incident. Explanations of estimated data also may be included in the narrative. If the OTHER block was checked in Part 2, the narrative should describe the incident in detail, including the known or suspected cause.

PART 4 - ORIGIN OF THE INCIDENT

ITEM 1 METER SET ASSEMBLY is that portion of the service line extending from the service line riser valve (stop cock) to the connection to the customer's piping, including the meter, regulator, and relief vent line. In the absence of a service line riser valve, the meter set assembly starts at the first above ground fitting.

ITEM 2
Check only one box in either the first or second column.

If the failure is in the JOINT, insert type of joint, such as mechanical, compression, threaded, or fusion.

If the failure is in the WELD, insert the type of weld, such as girth, longitudinal, or fillet.

> GIRTH weld means a butt weld around the circumference of the pipe.
>
> LONGITUDINAL weld means a butt weld in the longitudinal direction of the pipe. This includes the longitudinal weld joining the two halves of a repair sleeve.
>
> FILLET weld means a weld joining two surfaces at an angle to each other in a lap joint, tee joint, or corner joint. This includes the circumferential weld which joins a repair sleeve to the pipe.

ITEM 3
If OTHER is checked, state the type of material. For example, copper, aluminum, wrought iron, etc.

WALL THICKNESS is required only if there is a pipe wall failure.

ITEM 4
This applies to the component checked in Item 2. In the event that more than one item failed, use Part D to complete Item 4 for the additional components.

The specification is the one to which the pipe or component was manufactured (such as API 5L or ASTM A106) .

YEAR INSTALLED means the year of installation at incident location.

PART 5 - ENVIRONMENT

Check one box only. Use Part D for additional description and explanation.

UNDER PAVEMENT includes under streets, sidewalks, playgrounds, paved roads, driveways, and parking lots.

PART 6 - PREPARER AND AUTHORIZED SIGNATURE

PREPARER is the name of the person most knowledgeable about the information submitted in the report or the person to be contacted for additional information. Please include preparer's E-mail address if available.

AUTHORIZED SIGNATURE may be the "preparer" or an officer or other person whom the operator has designated to review and sign reports of this nature.

PART A - CORROSION

CORROSION - includes a leak or failure which is caused by galvanic, bacterial, chemical, stray current, or other corrosive action.

Examples:

Graphitization of cast iron pipe is classified as CORROSION.

Corrosion leaks are not limited to holes in pipe. If the bonnet or packing gland on a valve, or a flange on piping, becomes loose and leaks due to corrosion and failure of bolts, it is classified as CORROSION. If the bonnet gasket, packing

or another gasket has deteriorated and caused a leak or failure, it is classified as OTHER.

If cast iron pipe is weakened by graphitization and then fractures in the winter due to frost action, and the graphitization is the underlying cause of the fracture, the leak is classified as CORROSION. If the graphitization is not the underlying cause of the fracture, the leak should be classified as OUTSIDE FORCES.

If a bell and spigot joint has previously been clamped, and the clamp bolts rust out causing a leak, the leak is classified as CORROSION. If the joint leaks due to poor workmanship, the leak is classified as CONSTRUCTION DEFECT.

ITEM 3
For bacterial, chemical, stray current, or other corrosive action, check OTHER and indicate cause.

ITEM 4
Galvanized pipe with no dielectric coating is considered "bare".

ITEM 5
"Under cathodic protection" means cathodic protection in accordance with the requirements in Part 192, Appendix D.

PART B - DAMAGE BY OUTSIDE FORCES

OUTSIDE FORCES - include leaks or failures caused by contact of the pipeline with earth moving or other equipment, tools, or vehicles, or movement of the earth, such as due to landslides. This includes damage caused by the operator's personnel, the operator's contractor, persons not associated with the operator, and occurrences such as fire, lightning, frost, snow, wind, and vandalism.

Examples:

Any damage that is attributable to personnel other than the operator or a contractor performing work for the operator should be classified as OUTSIDE PARTY/THIRD PARTY.

A Pipeline damaged by a third party that later leaks due to corrosion or earth movement is reported as OUTSIDE PARTY/THIRD PARTY.

A contractor performing work for the operator exposes the operator's pipeline, which is subsequently damaged by a cave-in at the excavation site. If the pipeline leaks, the leak

should be classified as OPERATOR OR HIS AGENT. If the contractor had been performing work for other than the operator in this situation, the leak should be classified as OUTSIDE PARTY/THIRD PARTY. In both situations, the leak should not be attributed to EARTH MOVEMENT.

Pipeline leaks resulting from vehicular traffic loading or pullout of a mechanical fitting due to the repeated action of freezing should be classified as OUTSIDE FORCE.

A bell joint in good condition that leaks due to earth movement, third party, or operator action is reported as OUTSIDE FORCE. However, if the bell joint sealing material is deteriorated, report as OTHER.

"Damage by the operator, his agent or third party" includes leaks caused by settlement in the zone influenced by construction.

ITEM 1
DAMAGES RESULTED FROM ACTION OF OPERATOR OR HIS AGENT includes damages caused by the operator's contractor or any party performing work for the operator.

DAMAGES RESULTED FROM ACTION BY OUTSIDE PARTY/THIRD PARTY includes damages caused by personnel other than the operator or his agent. This classification includes acts of vandalism.

DAMAGE BY EARTH MOVEMENT includes damages resulting from earth movement not caused by man, such as earthquakes, washouts where excavation activity was not a factor, landslides, and frost.

ITEM 2a
PRIOR NOTIFICATION means that the operator had been notified that excavation or construction work was to be done in the vicinity of the pipeline prior to the time the incident occurred. If notification was received, but the operator believes the notice made was inadequate, improper or incomplete, check NO and explain under Item 3.

ITEM 2b
MARKED means accurately marked. If the facility was inaccurately marked, NO should be checked and explained under Item 3.

ITEM 3
Additional information should include a description of any steps taken by the operator to protect the facility against damage by outside forces. A description of an act of vandalism should be included here.

PART C - CONSTRUCTION DEFECT

CONSTRUCTION DEFECT includes leaks in or failures of original sound material due to force being applied during field construction that caused a dent, gouge, excessive stress, or some other defect, which eventually resulted in failure. Also included are leaks in or failures of faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site.

ITEM 1

"Poor Workmanship during Construction" includes improper mechanical application of the correct procedure, including misalignment.

"Operating Procedure Inappropriate" includes use of a procedure that was not intended for use in the application.

"Error in Operating Procedure Application" includes misinterpretation of a procedure during field application.

4. "Physical Damage During Construction" includes damage such as gouges, dents, and misalignment, or improper support of existing or newly installed facilities during construction activities which are caused by the operator or the operator's contractor.

PART D - OTHER

To be completed when "Other" is checked in Part 2, and when specifically directed by these instructions to be used for additional information.

DIST-INC.DOC

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
Research and Special Programs 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
○ Class 1 ○ Class 2 ○ Class 3 ○ Class 4

f. Incident on Federal Land ○ Yes ○ No

4. Type of leak or rupture

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

○ Puncture, diameter or cross section *(inches)*____

○ Rupture (if applicable):

○ 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. ☐ Gas ignited ○ Explosion ○ No Explosion

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

f. ☐ Evacuation *(general public only)* /__/__/__/__/__/ people

Evacuation Reason:
○ Unknown
○ 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:
○ Test Pressure _____ psig
○ 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

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: /__/__/__/__/__/

2. ☐ Internal Corrosion

e. Was pipe previously damaged in the area of corrosion?
○ No ○ Yes ○ Unknown 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/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

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)*

INSTRUCTIONS FOR COMPLETING FORM RSPA F 7100.1 (03-04)
INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

All references are to Title 49 of the Code of Federal Regulations. Each operator of a gas distribution system, including petroleum gas systems (§ 192.11), shall file Form RSPA F 7100.1 for any incident described in §191.3 as soon as practicable but not more than 30 days following the occurrence of the incident. See §192.3 for definitions of operator, distribution line, gathering line, and transmission line.

Master meter and LNG facilities need not file a report per §191.9(c).

Release of gas, for the purpose of maintenance or other routine activities, need not be reported if the only reportable criterion is loss of gas of $50,000 or more as described in §191.3 under "Incident" (1)(ii).

Submit reports to:

Office of Pipeline Safety
Information Resources Manager
DPS-13
400 7th St. S.W.
Washington, D.C. 20590

If you have any questions concerning this report or these instructions, or copies of Form RSPA F 7100.1, please write to the Information Resources Manager or call (202)366-3731. All forms and instructions are available over the Internet at the OPS home page, http://ops.dot.gov in the OPS FORMS section of the ONLINE LIBRARY.

GENERAL INSTRUCTIONS

1. An entry should be made in each space.
2. Please try to obtain the information necessary to accurately and completely answer each question.
3. If the data is unavailable, enter “unknown.”
4. If possible, provide an estimate in lieu of answering a question with "unknown."
5. For unknown or estimated data entries, the operator should file a supplemental report when additional information becomes available.
6. If the block is not applicable, please enter N/A.

In blocks requiring numbers, all blocks should be filled in using zeroes when appropriate. When decimal points are required, the decimal point should be placed in a separate block.

Examples:

Nominal Pipe Size	/0/0/2/4/ inches
	/1/./2/5/ inches
Wall Thickness	/./5/0/0/ inches
	/1/./4/5/ inches

If OTHER is checked, include an explanation or description on the line next to the item checked.

SPECIFIC INSTRUCTIONS

PART A - GENERAL REPORT INFORMATION

Initial, Supplemental, Final Report Section - Check the appropriate box:

□ Original Report □ Supplemental Report □ Final Report.

If this is the initial report filed for this incident, check the box for "Original Report." If all of the information requested is known and provided at the time the initial report is filed, including final property damages and failure cause information, check the box for Final Report as well as the box for Original Report, indicating that no further information will be forthcoming.

If this is an update or revision to an Original Report but all information requested is still not known, check "Supplemental Report."

If all requested relevant information has been provided, and there will be no further updates to reported property damages or incident cause information, check the box for "Final Report."

If you are filing a supplemental or final report, please check the Supplemental Report or Final Report box and complete Part A, Items 1, 2 and 3, and Part B. Please do not enter previously submitted information.

A 1. The Research and Special Programs Administration (RSPA) assigns the **operator's** five digit identification number. If you do not know the identification number, please contact the Information Resources Manager at 202-366-3731. If you wish to file the report immediately, you may leave the field blank. The operator address entry in 1.d. is the office filing the incident report. If the operator does not own the pipeline, enter the owner's five digit identification number in 1.b., if known.

A 2. The time of the incident should be shown by 24-hour clock notation.

Examples:
1. (0000) = midnight = /0/0/0/0/
2. (0800) = 8:00 a.m. = /0/8/0/0/
3. (1200) = Noon = /1/2/0/0/
4. (1715) = 5:15 p.m. = /1/7/1/5/
5. (2200) = 10:00 p.m.= /2/2/0/0/

A 3. Incident location information should be as complete as possible, including the nearest City, Town, Township, County or Parish, Borough, Section, and Range. In addition to the general location information, provide latitude and longitude in block 3d. Latitude and longitude should be stated in decimal degrees (no projection). A minimum of five decimal places is required. Western Hemisphere longitude should be a negative value. Acceptable values are -180.00000 to 0.00000. Northern Hemisphere latitude should be a positive value. Acceptable values are 0.00000 to 90.00000.

If latitude and longitude of the incident are unknown, the U.S. Census Bureau provides a tool, located at: http://tiger.census.gov/cgi-bin/mapbrowse-tbl , for determining them. Many similar tools are available that will provide adequate latitude/longitude information. The filer can use the online tool to identify the geographic location of the incident. The tool displays the latitude and longitude below the map. These coordinates are in a decimal degree format (e.g. Lat: 38.89664 Long: -77.04327 are for the Washington Monument) but do not have to be converted to degree/minute/second. If a filer has questions about the use of this tool, or does not have Internet access, please contact Sam Hall at 202-493-0591. RSPA/OPS will provide the filer with a base map that can be used in identifying the incident location.

The class location should be the class location at the incident site as defined in §192.5.

Federal Lands: As defined in 30 U.S.C. §185, federal lands means “all lands owned by the United States except lands in the National Park System, lands held in trust for an Indian or Indian tribe, and lands on the Outer Continental Shelf.”

A 4. Leak - an unintentional release of gas from a pipeline requiring repair of the pipeline. The source of the leak may be holes, cracks (including propagating and non-propagating, longitudinal and circumferential cracks), separation or pull-out, and loose connections.

Note: Do not report leaks that are either inconsequential or incidental to the operation of a pipeline and which can be repaired under routine daily maintenance. Examples of such leaks include gas escaping through valve stem packing, compressor rod packing, loosened connections or relief valves. Such leaks do not meet the reporting criteria for natural gas distribution incidents.

Only report information about the one leak the operator determined to be the proximate cause of the incident.

Pinhole - a leak that is hard to see with the naked eye characterized as being a small hole made as by a pin. We do not request a diameter or length measurement for a pinhole leak.

Puncture – a leak which can readily be measured as to diameter or representational cross section in inches, such as average length or width.

Rupture - a complete failure of a portion of the pipeline.

Propagation - the extension of the original opening in the pipeline in an area of nominal wall thickness resulting from the internal forces on the pipeline.

Tear - an extension of the original opening in the pipeline resulting from an externally applied force, such as a bulldozer, backhoe, or grader.

A 5b. In-patient hospitalization means hospital admission and at least one overnight stay.

A 5c. Estimate costs/losses for the items provided in this section. Include property damage or loss due to property damage to the operator's facilities; to others' property; gas lost; facility repair and replacement; leak locating; right-of-way cleanup; environmental cleanup and damage, and cost of relighting. Do not report costs incurred for facility repair, replacement, or change that is not related to the incident and performed solely for convenience. An example of doing work for the operator's convenience is working on facilities unearthed because of the incident. Do not report litigation and other legal expenses related to the incident.

A 5d. Check this box if gas ignited and indicate whether or not there was an explosion by checking the appropriate circular radio button.

A 5e. Check this box if gas did not ignite, and indicate whether or not there was an explosion by checking the appropriate circular radio button.

An explosion is a sudden violent burst as an effect of sudden release of pressure.

Estimate the number of persons (not including employees or contractors) evacuated in item 5e, and check off the reason for evacuation. Provide an estimate to closest order of magnitude (i.e., closest 1, 10, closest hundred if less than 1,000, closest thousand if less than 10,000, etc.)

A 6. "Elapsed time until the area was made safe" means the amount of time starting from the incident occurrence until the time that the incident is brought under control and does not significantly threaten public safety. This does not necessarily mean that the flow of product has been stopped. If the time of occurrence is unknown, the time when the operator was first notified or made aware of the incident should be used to calculate elapsed time.

PART B - PREPARER AND AUTHORIZED SIGNATURE

Preparer is the name of the person who prepared the responses to the form and who is to be contacted for more information (preferably the person most knowledgeable about the information in the report).

Authorized Signature may be the preparer, an officer, or other person whom the operator has designated to review and sign reports. Please enter the preparer's e-mail address if the preparer has one.

PART C - ORIGIN OF INCIDENT

C 1. METER SET ASSEMBLY is that portion of the service line extending from the service line riser valve (stop cock) to the connection to the customer's piping, including the meter, regulator, and relief vent line. In the absence of a service line riser valve, the meter set assembly starts at the first above ground fitting.

C 2. If the failure occurred on an item not provided in this section, check the "OTHER" box and specify the item in the space provided. A sample list of possible "OTHERs" is included in the appendix under Part C, Item 2, Other.

C 3. If OTHER is checked, state the type of material. For example, copper, aluminum, etc.

C 4. "Year the pipe or component which failed was installed" means the year installed at the

incident location.

PART D - MATERIAL SPECIFICATION

Complete section D (D1 through D6) if a pipe or valve failed.

D 1. Nominal Pipe Size is the diameter in inches used to describe the pipe size; for example, 2-inch, 4-inch, 8-inch, 12-inch.

D 2. Enter pipe wall thickness in inches. Use decimals as necessary.

D 3. Specification is the specification to which the pipe or component was manufactured, such as API 5L or ASTM A106. When more than one item has failed, and the origin of the failure is not clear, complete Part C Item 2 to explain the additional item(s).

D 4. See the appendix section of these instructions under Part D, Item 4, Seams for a list of common seam types.

D 5. Enter valve type (flange-welded, bell-plug, etc.) See the appendix section of these instructions under Part D, Item 5, Valves for a list of common valve types.

D 6. Provide the pipe or valve manufacturer if failure was on pipe or valve. Enter year pipe or valve was manufactured. See the appendix section of these instructions under Part D, Item 6, Pipe Manufacturers for a list of common pipe manufacturers.

PART E - ENVIRONMENT

"Under pavement" includes under streets, sidewalks, paved roads, driveways and parking lots.

Provide depth of cover in inches where incident involved buried pipe or component.

PART F - APPARENT CAUSE

There are 25 numbered causes in Part F. The 25 causes are divided into seven categories in sections F1 through F7. Check the box indicating the general cause of the incident and check the circle indicating the specific cause.

PART F1 - CORROSION

Corrosion includes a leak or failure caused by galvanic, bacterial, chemical, stray current, or other corrosive action. Examples: A corrosion leak is not limited to a hole in the pipe. If the bonnet or packing gland on a valve or flange on piping becomes loose and leaks due to corrosion and failure of bolts, it is classified as "Corrosion." If the bonnet, packing, or other gasket has deteriorated before the end of its expected life and caused a leak or failure and a new gasket is required, it is classified as a Material Defect. Leaks resulting from material deteriorating after the expected life of the materials are classified as "Other." Leaks due to deterioration from corrosion, however, are classified as "Corrosion."

Complete F1 parts a - e if applicable.

Subpart a - Pipe Coating
Galvanized pipe with no dielectric coating is considered bare.

Subpart d - Cathodic Protection
"Under cathodic protection" means cathodic protection in accordance with Part 192, Appendix D. Recognizing that older pipelines may have had cathodic protection added over a number of years, provide an estimate if exact year cathodic protection started is unknown.

PART F2 - NATURAL FORCES

F2 3 - 7: This includes all outside forces attributable to causes not involving humans. "Earth Movement" refers to failures caused by land shifts such as earthquakes, landslides, or subsidence.

"Heavy rains and floods" refer to all water related failure causes such as washouts, flotation, mudslides, or water scouring. While mudslides involve earth movement, report them here since typically they are an effect of heavy rains or floods.

"Temperature" refers to those causes that are related to temperature effects, or where temperature was the initial cause; for example, thermal stress, frost heave, or frozen component failures.

F3 - EXCAVATION

F3 8 Operator Excavation Damage/Not Third Party - Check this item if the failure was caused by the operator or the operator's contractor or agent or other party working for the operator as a result of excavation.

F3 9 Third Party Excavation Damage - check this item if failure cause was from excavation damages resulting from action by outside party/third party caused by personnel or other party other than the operator or his agent.

F3 9c - "Prior notification" means that the operator had been notified that excavation or construction work was to be done near the pipeline before the incident occurred. If the operator was notified, but the operator believes the notice was inadequate, improper, or incomplete, check NO and explain in Part G, Narrative Description Of Factors Contributing to the Event.

Examples: A contractor working for the operator gouges the operator's pipeline and buries it without repair. If the pipeline leaks at a later date, the leak should be classified as damage resulting from item F3.8 - Operator Excavation Damage (including their contractors)/Not Third Party if the operator can determine the leak resulted from the contractor's actions. If the contractor had been working for someone other than the operator, the leak should be classified as F3.9 - Third Party Excavation Damage.

A contractor working for the operator excavates near the operator's pipeline, which is later damaged by earth movement in the zone the excavation affects. The damage should be classified as F3.8 - Operator Excavation Damage (including their contractors)/Not Third Party. If the contractor had been working for other than the operator in this situation, F3.9 - Third Party Excavation Damage. In both situations, the damage should not be attributed to damage by moving earth.

Pipeline leaks resulting from vehicular traffic loading should be classified as "Car, truck or other vehicle not relating to excavation activity damaging pipe."

Pipeline leaks resulting from pullout of a mechanical fitting due to the repeated action of freezing should be classified as "Temperature, Frost heave."

A pipeline or coating that an outside party or third party damages that later leaks due to corrosion or outside force should be reported under F3.9 - Third Party Excavation Damage.

A pipeline or coating that the operator or a contractor working for the operator damages that causes later leaks due to corrosion or outside force should be reported under F3.8 - Operator Excavation Damage (including their contractors)/Not Third Party.

PART F4 - OTHER OUTSIDE FORCE DAMAGE

ITEMS 10- 13 cover other failures caused by damages to pipelines by external forces other than excavation or natural forces.

Fire/explosion as primary cause of failure implies that fire/explosion occurred prior to failure and not as a result of failure. If a fire/explosion occurred as a result of the failure not as primary cause of the failure, do not check item 10, but check Part A 5d or 5e.

If the primary failure cause was damage by a vehicle other than a vehicle involved in excavation, check item 11. If a vehicle involved in excavation caused the damage, check the appropriate item under the Excavation Damage section (items 8 and 9).

PART F5 - MATERIAL OR WELDS

"Fitting" means a device, usually metal, for joining lengths of pipe into various piping systems. It includes couplings, ells, tees, crosses, reducers, unions, caps and plugs.

F5 14 - 16, Material. This section includes leaks or failures from a defect within the material of the pipe, component or joint due to faulty manufacturing procedures. Leaks or failures from material deterioration and not resulting from an original defect or corrosion are reported under "Other." Complete subparts a - f if any cause was checked in Part F5.

F5 17 - 19, Welds.
Acronyms used in this section:
LF ERW : low frequency electro-resistance weld
HF ERW : high frequency electro-resistance weld
DSAW : double-submerged arc weld
SAW : submerged arc weld

"Weld-related material defects" includes leaks or failures from a defect within the material of the pipe, component or longitudinal weld or seam due to faulty welding or weld-related manufacturing procedures. Leaks or failures from material deterioration in service that do not result from an original defect or corrosion are reported under "Other".

Sub-Elements a - f.
"Construction defect" force applied during field construction results in a dent, gouge, excessive stress, or some other defect to originally sound material that leads to eventual failure of the pipe. Includes leaks due to wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site.

PART F6 - EQUIPMENT OR OPERATIONS

This section includes malfunctions of control and relief equipment (typically the result of failed and leaking valves), failures of threaded components and broken pipe couplings, and seal failures such as compressor pump packing failures. Incidents resulting from incorrect operations or inadequate procedures are also included in this category. Report gasket or o-ring failures under Part F5, item 16, Joints, by checking the appropriate circle for gasket or o-ring.

F6 20 - Malfunction of Control/Relief Equipment

Examples of this type of failure cause include overpressurizations resulting from malfunction of control or alarm device, relief valve malfunction, and valves failing to open or close on command; or which opened or closed when not commanded to do so.

F6 21 - Threads stripped, broken pipe coupling

Examples of this type of failure include failures on compressors, meters, or regulator stations where the failure resulted from a crack in a component or threads of a component such as nipples, flanges, valve connections, line pipe collars, etc.

F6 22 – Leaking Seals

F6 23 - Incorrect Operation

Incorrect operation failures typically result from faulty or inadequate procedures. These types of failures most often occur during maintenance activities. Some examples of this type of failure are unintentional product ignition during a welding or maintenance activity; other reportable incidents causing a fire; or failures where human error, employee fatigue, and/or lack of experience may have played a role.

Part F7 - OTHER

This section is provided for failure causes that do not fit in any category in Sections F1 through F6. If the failure cause is unknown at time of filing this report, check item 25. If the failure cause is known but doesn't fit in any category in sections F1 through F6, check item 24 and describe the cause. Continue in Part G, narrative description, if more space is needed.

PART G - NARRATIVE DESCRIPTION
OF FACTORS CONTRIBUTING TO THE EVENT

Concisely describe the incident, including the facts, circumstances, and conditions that may have contributed directly or indirectly to causing the incident. You may explain any estimated data in the narrative. If you checked the OTHER block in Part F7 item 24 or 25, the narrative should describe the incident in detail, including the timeline, sequence of events, and all known or suspected causes. Use this section to clarify or explain unusual conditions.

APPENDIX

Part C, Item 2, Other

NIPPLE FITTING
FLANGE FITTING
COMPRESSOR/TURBINE
GASKET
DRIP/RISER
GIRTH WELD
LONGITUDINAL WELD
FILLET WELD

Part C, Item 3, Other Material

PACKING
ALUMINUM
ASBESTOS
FIBER GLASS
GALVANIZED RUBBER
REINFORCED RUBBER
UNKNOWN

Part D, Item 4, Seam Types

ELECTRIC RESISTANCE WELD
SUBMERGED ARC WELD
DOUBLE SUBMERGED ARC WELD
BUTT WELD
FURNACE LAP WELD
SEAMLESS WELD
FLASH WELD

Part D, Item 5, Valve Types

BALL
CHECK
BLEEDING
PRESSURE REDUCING
RECIPROCATING
GATE
PLUG
UNKNOWN

Part D, Item 6, Pipe Manufacturers

ACME NEWPORT
AMER. MANNEX CO
ANDERSON GREENWOOD
AO SMITH
ARMCO STEEL
BETHLEHEM STEEL
CONSOLIDATED WESTERN
GROVE
INGERSOL_RAND
JONES & LAUGHLIN
KAISER STEEL CO.
LONE STAR STEEL
NATIONAL TUBE
REPUBLIC STEEL
ROCKWELL
U S STEEL
YOUNGSTOWN
YOUNGSTOWN SHEET&TUBE
Unknown

Part F1, Subpart c, Cause of Corrosion - “Other”

ATMOSPHERIC CORROSION
CHEMICAL CORROSION
SOUR GAS
INTERGRANULAR CORROSION

Incident Report
Gas Transmission and Gathering Systems

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
Research and Special Programs 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 Parrish, 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 Parrish

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: O Class 1 O Class 2 O Class 3 O Class 4
Offshore: O Class 1 *(complete rest of this item)*
Area _____ Block # _____
State /___/___/ or Outer Continental Shelf ☐

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

i. Is pipeline Interstate O Yes O No

4. Type of leak or rupture

O Leak: O Pinhole O Connection Failure *(complete sec. F5)*
O Puncture, diameter *(inches)* _____
O Rupture: 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. ☐ Release Occurred in a 'High Consequence Area'

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

g. ☐ Evacuation *(general public only)* /___/___/___/___/___/ people
Reason for Evacuation:
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 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? O Yes O 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

PART C - ORIGIN OF THE INCIDENT

1. Incident occurred on
   - O Transmission System
   - O Gathering System
   - O Transmission Line of Distribution System
2. Failure occurred on
   - O Body of pipe O Pipe Seam
   - O Joint
   - O Component
   - O Other:_____
3. Material involved *(pipe, fitting, or other component)*
   - O Steel
   - O Plastic (If plastic, complete all items that apply in a-c)
     Plastic failure was: ☐ a.ductile ☐ b.brittle ☐ c.joint failure
   - O Material other than plastic or steel: _____
4. Part of system involved in incident
   - O Pipeline O Regulator/Metering System
   - O Compressor Station O 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
   - O Under pavement
   - O Under ground
   - O Inside/under building
   - O In open ditch
   - O Above ground
   - O Under water
   - O 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
- O Bare
- O Coated

b. Visual Examination
- O Localized Pitting
- O General Corrosion
- O Other: _____

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

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

e. Was pipe previously damaged in the area of corrosion?
- O No O Yes, How long prior to incident: /__/__/__/ *years* /__/__/ *months*

F2 – NATURAL FORCES

3. ☐ Earth Movement ⇒ O Earthquake O Subsidence O Landslide O Other: _____
4. ☐ Lightning
5. ☐ Heavy Rains/Floods ⇒ O Washouts O Flotation O Mudslide O Scouring O Other:_____
6. ☐ Temperature ⇒ O Thermal stress O Frost heave O Frozen components O 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
      O General Public O Government O Excavator other than Operator/subcontractor
   b. Type: O Road Work O Pipeline O Water O Electric O Sewer O Phone/Cable O Landowner O Railroad
      O Other: _____
   c. Did operator get prior notification of excavation activity?
      O No O Yes: Date received: /__/__/ mo. /__/__/ day /__/__/ yr.
      Notification received from: O One Call System O Excavator O Contractor O Landowner
   d. Was pipeline marked?
      O No O Yes *(If Yes, check applicable items i – iv)*
      i. Temporary markings: O Flags O Stakes O Paint
      ii. Permanent markings: O Yes O No
      iii. Marks were *(check one)* O Accurate O Not Accurate
      iv. Were marks made within required time? O Yes O No

F4 – OTHER OUTSIDE FORCE DAMAGE

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

F5 – MATERIAL AND WELDS

Material

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

Weld

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

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

a. Type of failure:

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

☐ Material Defect

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

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

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

e. Test medium: O Water O Natural Gas O Inert Gas O 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 ⇒ O Valve O Instrumentation O Pressure Regulator O Other: _____
21. ☐ Threads Stripped, Broken Pipe Coupling ⇒ O Nipples O Valve Threads O Mechanical Couplings O Other: _____
22. ☐ Ruptured or Leaking Seal/Pump Packing

23. ☐ Incorrect Operation

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

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

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

F7 – OTHER

24. ☐ Miscellaneous, *describe:* _____
25. ☐ Unknown

O Investigation Complete O 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)*

INSTRUCTIONS FOR FORM RSPA F 7100.2 (01-2002)
INCIDENT REPORT - GAS TRANSMISSION AND GATHERING SYSTEMS

GENERAL INSTRUCTIONS

Each gas transmission or gathering system operator shall file Form RSPA F 7100.2 for an incident that meets the criteria in §191.3 as soon as practicable but not more than 30 days after the incident. Operator, distribution line, gathering line, and transmission line are defined in §191.3 Code of Federal Regulations (CFR). Liquid natural gas (LNG) facility operators are exempt from filing reports in §191.15(c). Releasing gas during maintenance or other routine activities need not be reported if the only reportable criteria met is losing gas of $50,000 or more as defined in §191.3 (1)(ii).

Damage from secondary ignition need not be reported unless the damage to facilities subject to Part 192 exceeds $50,000. Secondary ignition is a gas fire where the cause is unrelated to the gas facilities, such as electrical fires, arson, etc. Please submit reports according to §191.7. If you have questions about this report or these instructions or need copies of Form RSPA F 7100.2, please write to Roger Little, Information Resources Manager, or call (202)366-4569. All forms and instructions are on the OPS home page, http://ops.dot.gov.

SPECIAL INSTRUCTIONS

An entry should be made in each block. If the data is unavailable, please enter Unknown. Please avoid Unknown entries if possible. Estimated data is preferable to unknown data. If Unknown or estimated data entries are made, a supplemental report should follow if the operator learns the answers to the questions. If the block is not applicable, please enter N/A.

In blocks requiring numbers, all blocks should be filled in using zeroes when appropriate. When decimal points are required, the decimal point should be placed in a separate block.

Examples: (Part 5) Nominal Pipe Size	/0/0/2/4/	inches
	/1/./5/0/	inches
Wall Thickness	/./5/0/0/	inches
	/1/./2/5/	inches

If OTHER is checked, include an explanation or description on the line next to the item checked.

SPECIFIC INSTRUCTIONS

PART A - GENERAL REPORT INFORMATION

Initial, Supplemental, Final Report Section

Check boxes are provided as follows for:
☐ Original Report ☐ Supplemental Report ☐ Final Report.

Check the box for Original Report if this is the initial report filed for this incident. If all of the information requested is known and provided at the time the initial report is filed, including final property damages and failure cause information, check the box for Final Report as well as the box for Original Report, indicating that no further information will be forthcoming.

If all of the information requested on the form is not known or provided at the initial report filing, check only Original Report. If this is an update to an Original Report but all information requested is still not known, check Supplemental Report.

Check Final Report if all requested relevant information has been provided, and there will be no further updates to reported property damages or causal information.

If you are filing a supplemental or final report, please check the Supplemental Report or Final Report box. Please complete parts A(1), A(2) and A(3). You must also complete Part B. When filling in the supplemental, only enter the data that has changed. Please do not enter previously submitted information that hasn't changed, other than the parts specified in this instruction that are needed to provide us with a way to identify your previous filed report.

ITEM 1. The Research and Special Programs Administration (RSPA) assigns the operator's five-digit identification number. If you do not know the identification number, please leave the operator identification number blank. The operator address entry in 1.c. is the office filing the incident report. If the operator does not own the pipeline, enter the Owner's five-digit identification number in 1.d. Contact us at (202) 366-8075 if you need assistance with an identification number for 1.d.

ITEM 2. The time of the incident should be shown by 24-hour clock notation.

Examples:
1.(0000)= midnight = /0/0/0/0/
2.(0800)= 8:00 a.m. = /0/8/0/0/
3.(1200)= Noon = /1/2/0/0/
4.(1715)= 5:15 p.m. = /1/7/1/5/
5.(2200)= 10:00 p.m.= /2/2/0/0/

ITEM 3. Incident location information should be as complete as possible, including the nearest City, Town, Township, County or Parish, Borough, Section, and Range. Offshore incident identification should be located by State or Outer Continental Shelf (OCS) identification and block identification. In addition to the general location information, provide latitude and longitude, if available, including projection and datum used in collecting the data.

If latitude and longitude of the incident are unknown, RSPA provides a tool located at: <http://tiger.census.gov/cgi-bin/mapbrowse-tbl>, for determining them. The filer can use the online tool to identify the geographic location of the incident. The tool displays the latitude and longitude below the map. These coordinates are in a decimal degree format (e.g. Lat: 38.89664 Long: -77.04327 are for the Washington Monument) but do not have to be converted to degree/minute/second. If a filer has questions about the use of this tool please contact Sam Hall at 202-493-0591. If a filer does not have Internet access, please contact Steve Fischer at 202-366-4595. RSPA will provide the filer with a base map that can be used in identifying the incident location.

The class location should be the class location at the incident site as defined in §192.5. Federal Land other than Outer Continental Shelf means all lands the United States owns, including military reservations, except lands in National Parks and lands held in trust for Native Americans. Incidents at Federal buildings, such as Federal Court Houses, Custom Houses, and other Federal office buildings and warehouses, are not to be reported as being on Federal Lands.

ITEM 4. Leak - an event that involves the unintentional release of gas from a pipeline that requires immediate or scheduled repair. The source of the leak may be holes, cracks (which include propagating and non-propagating, longitudinal and circumferential), separation or pullout, and loose connections. Leaks that are either inconsequential or incidental to the operation of a pipeline and which can be checked or repaired under routine daily maintenance are not reportable leaks. Examples of such nonreportable leaks include escape of gas through valve stem packing, through compressor rod packing, loosened connections and relief valves.

Rupture - a complete failure of a portion of the pipeline.

Propagation - the extension of the original opening in the pipeline in an area of nominal wall thickness resulting from the internal forces on the pipeline.

Tear - an extension of the original opening in the pipeline resulting from an externally applied force, such as a bulldozer, backhoe, or grader.

ITEM 5. When a person dies within 30 days of the initial accident date, report as a fatality. When a person dies subsequent to an injury more than 30 days past the accident date, report as an injury. This aligns with the Department of Transportation's general guidelines for all modes for reporting deaths and injuries.

In-patient hospitalization means hospital admission and at least one overnight stay.

Property damage or loss includes costs due to property damage to the operator's facilities and to others' property; gas lost; facility repair and replacement; leak locating; right-of-way cleanup; and environmental cleanup and damage. Facility repair, replacement, or change that is not related to the incident but the operator does for convenience is not to be included. An example of doing work for the operator's convenience is to work on facilities unearthed because of the incident. Litigation and other legal expenses related to the incident are not reportable.

High consequence area means:
1. A commercially navigable waterway, which means a waterway where a substantial likelihood of commercial navigation exists;
2. A high population area, which means an urbanized area as defined and delineated by the Census Bureau that contains 50,000 or more people and has a population density of at least 1,000 people per square mile;
3. An other populated area, which means a place as defined and delineated by the Census Bureau that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area;
4. An unusually sensitive area, as defined in 195.6

If gas ignited, but there was no explosion, check box 5e. If an explosion occurred, check box 5f.

Enter estimated number of people in the general public evacuated, if any, in item 5g, and check off the reason for evacuation.

For item 6, "Elapsed time until the area was made safe" means the time from the incident occurrence until the incident is brought under control and does not significantly threaten public safety. This does not necessarily mean that the flow of gas has been stopped. If the time of occurrence is unknown, the time when the operator was first notified or made aware of the incident should be used to calculate elapsed time.

PART B - PREPARER AND AUTHORIZED SIGNATURE

Preparer is the name of the person most knowledgeable about the information in the report or the person to be contacted for more information.

Authorized Signature may be the preparer, an officer, or other person whom the operator has designated to review and sign reports. Please enter the preparer's e-mail address if the preparer has one.

PART C - ORIGIN OF INCIDENT

ITEM 1. If the incident occurred on a gathering line operated by a distribution company, please check gathering system.

ITEM 2. Check the appropriate item in this section. If the failure occurred on an item not provided in this section, check the "OTHER" box and specify in the space provided the item that the failure occurred on. A sample list of possible "OTHER's" is included in the appendix under Part C, Item 2, Other.

ITEM 3. If steel or plastic was involved, check the box provided for steel or for plastic. If material other than steel or plastic was involved, check the box for Other and specify the material involved. If plastic was involved, check applicable items 3a through 3c that pertain to plastic. Check item 3c (joint failure) if plastic pipe segments joined by heat-fusion (butt or socket), electrofusion or mechanically coupled connections were involved. A sample list of possible "Other"s is included in the appendix under Part C, Item 3, Other.

ITEM 4. Check the appropriate item in this section.

ITEM 5. "Year the pipe or component which failed was installed" means the year installed at the incident location.

PART D - MATERIAL SPECIFICATION

Complete sections D (1 through 6), if applicable, where incident failure involved a pipe or valve.

ITEM 1. Nominal pipe size is the diameter in inches used to describe the pipe size; for example, 2-inch, 4-inch, 8-inch, 12-inch, 30-inch.

ITEM 2. Enter pipe wall thickness in inches.

ITEM 3. Specification is the specification to which the pipe or component was manufactured, such as API 5L or ASTM A106. When more than one item has failed, and the origin of the failure is not clear, complete Part C ITEM 4 to explain the additional item(s).

ITEM 4. See the appendix section of these instructions under Part D, Item 4, Seams for a list of common seam types.

ITEM 5. Enter valve type (flange-welded, bell-plug, etc.) See the appendix section of these instructions under Part D, Item 5, Valves for a list of common valve types.

ITEM 6. Provide the pipe or valve manufacturer if failure was on pipe or valve. Enter year pipe or valve was manufactured. See the appendix section of these instructions under Part D, Item 6, Manufacturer for a list of common pipe manufacturers.

PART E - ENVIRONMENT

Under pavement includes under streets, sidewalks, paved roads, driveways and parking lots.

Provide depth of cover in inches where incident involved buried pipe or component.

PART F - APPARENT CAUSE

There are 25 numbered causes in Part F. Check the box to the left of the cause of the incident and complete all of the sub-element items to the right of or below the cause you indicate.

The 25 causes are broken into 5 categories in sections F1 through F5. General descriptions of the 5 categories followed by more detailed instructions for each section and for specific causes are provided below.

General description of sections F1 through F5:

Section F1: Corrosion. If the cause was Corrosion (internal or external), indicate whether the corrosion was internal or external and check appropriate sub-elements from F1 a through e.

Section F2: Natural Forces. This includes all outside forces attributable to causes not involving humans.

Section F3: Excavation. This section covers excavation causes.

Section F4: Other Outside Force Damage. This section covers outside force causes not readily attributable to Sections F2 and F3., including previously damaged pipe and vandalism.

Section F5: Material and Welds. This section covers Material and Weld failure causes. Complete sub-elements a-g in section F5 if any cause in section F5 is indicated. "Fitting" means a device, usually metal, for joining lengths of pipe into various piping systems; includes couplings, ells, tees, crosses, reducers, unions, caps and plugs.

Section F6: Equipment and Operations. This section covers failures of malfunctions of relief/control devices and equipment, failed or broken couplings, including thread failures, failures in seal/pump packing, and failures caused by incorrect operations by operator personnel. Note: Report gasket or o-ring failures under Section F5, item 16, Joints, by checking the appropriate circle for gasket or o-ring.

Section F7:Other. This section is provided for failure causes that do not fit in any other area provided in Sections F1 through F6. If the failure cause is unknown at time of filing this report, check item 24 and indicate whether the investigation is complete or still under investigation. If the failure cause is known but doesn't fit in any category in sections F1 through F6, check item 25 and describe the cause. Continue in Part G, narrative description, if more space is needed.

Specific instructions for sections F1 through F7

PART F1 - CORROSION

Corrosion includes a leak or failure that galvanic, bacterial, chemical, stray current, or other corrosive action causes. Examples: A corrosion leak is not limited to a hole in the pipe. If the bonnet or packing gland on a valve or flange on piping becomes loose and leaks due to corrosion and failure of bolts, it is classified as Corrosion. If the bonnet, packing, or other gasket has deteriorated before the end of its expected life and caused a leak or failure and a new gasket is required, it is classified as a Material Defect. An incident at a facility that corrosion weakens and that fails with outside force as a contributing factor is classified as Corrosion. Except for deterioration due to corrosion, leaks resulting from materials deteriorating after the expected life are classified as Other.

If either item F1-1 (external corrosion) or F1-2 (internal corrosion) are checked, complete subparts a - e to the right of the items, pointed to by the arrow.

Subpart a - Pipe Coating
Galvanized pipe with no dielectric coating is considered bare.

Subpart b - Visual Examination
If the Visual Examination method is not listed here, indicate "Other" and give a description of method used. A list of example "Other" descriptions is included in the appendix under Part F1, Subpart b, Visual Examination.

Subpart c - Cause of Corrosion
If the Cause of Corrosion is not listed here, indicate "Other" and give a description. A list example "Other" causes is included in the appendix under Part F1, Subpart c, Cause of Corrosion.

Subpart d - Cathodic Protection
"Under cathodic protection" means cathodic protection in accordance with Part 192, Appendix D. Recognizing that older pipelines may have had cathodic protection added over a number of years, provide an estimate if exact year cathodic protection started is unknown.

PART F2 - NATURAL FORCES

The Natural Forces category includes all outside forces attributable to causes not involving humans.

Item 3: 'Earth Movement' refers to failures caused by land shifts such as earthquakes, landslides, or subsidence.

Item 5: 'Heavy rains and floods' refer to all water related failure causes such as washouts, flotation, mudslides, or water scouring. While mudslides involve earth movement, report them here since typically they are an effect of heavy rains or floods.

Item 6: 'Temperature' refers to those causes that are related to temperature effects, or where temperature was the initial cause; for example, thermal stress, frost heave, or frozen component failures.

PART F3 - EXCAVATION

The Excavation category includes leaks or failures caused by earth-moving or other equipment, tools or vehicles, or other excavation activities.

Item 8: Damages resulted from an Operator (including their contractors): check this item if the failure was caused by the operator or the operator's contractor or agent or other party working for the operator as a result of excavation.

Item 9: Third Party Damage- check this item if failure cause was from excavation damages resulting from action by outside party/third party caused by personnel or other party other than the operator or his agent.

Subpart 9.c- 'Prior notification' means that the operator had been notified that excavation or construction work was to be done near the pipeline before the incident occurred. If the operator was notified, but the operator believes the notice was inadequate, improper, or incomplete, check NO and explain in Part G, Narrative Description Of Factors Contributing to the Event.

Subpart 9.d- 'Was pipeline marked?': Indicate whether the pipeline was marked or not. If the pipeline was marked, complete all items i through iv that apply.

Examples: A contractor working for the operator gouges the operator's pipeline and buries it without repair. If the pipeline leaks at a later date, the leak should be classified as damage resulted from item **F3.8- Operator Excavation Damage (*including their contractors*)/Not Third Party** if the operator can determine the leak resulted from the contractor's actions. If the contractor had been working for someone other than the operator, the leak should be classified as **F3.9- Third Party Excavation Damage**. A contractor working for the operator excavates near the operator's pipeline, which is later damaged by earth movement in the zone the excavation affects. The damage should be classified as **F3.8- Operator Excavation Damage (*including their contractors*)/Not Third Party.** If the contractor had been working for other than the operator in this situation, **F3.9- Third Party Excavation Damage**. In both situations, the damage should not be attributed to damage by moving earth. Pipeline leaks resulting from vehicular traffic loading should be classified as "Car, truck or other vehicle not relating to excavation activity damaging pipe". Pipeline leaks resulting from pullout of a mechanical fitting due to the repeated action of freezing should be classified as "Temperature, Frost heave". A pipeline or coating that an outside party or third party damages that later leaks due to corrosion or outside force should be reported under **F3.9- Third Party Excavation Damage**. A pipeline or coating that the operator or a contractor working for the operator damages that causes later leaks due to corrosion or

outside force should be reported under **F3.8- Operator Excavation Damage (*including their contractors*)/Not Third Party.**

ITEMS 10 - 13, Other Outside Force Damage Causes.

This section covers outside force causes that do not fit the other two categories (Natural forces, Excavation). Fire/explosion as primary cause of failure implies that fire/explosion occurred prior to failure and not as a result of failure. If a fire/explosion occurred as a result of the failure and not prior to the failure as cause of failure, do not check item 10, but check item A.5.e. If the primary cause of damage was caused by a vehicle other than a vehicle involved in excavation, check item 11. If a vehicle involved in excavation caused the damage, check the appropriate item under the Excavation Damage section (items 8 and 9). If the primary cause of failure was a rupture of previously damaged pipe, check item 12. An act of vandalism may be described here by checking item 13.

PART F5 - MATERIAL AND WELDS

Report both material defects and construction defects or failures in this section. If a material or construction defect was on the body of the pipe, component or joint, check appropriate boxes under items 14-16. If a weld failure was involved, check appropriate boxes under items 17 - 19. Complete subparts a - h if any cause was checked in Part F5. Identify if the failure was from a material failure or construction defect by checking the appropriate item in subpart F5.a.

ITEMS l4 - 16, Material.

This section includes leaks or failures from a defect within the material of the pipe, component or joint due to faulty manufacturing procedures. Leaks or failures from material deterioration in service that do not result from an original defect or corrosion are reported under Other.

ITEMS l7 - 19, Welds.

Acronyms used in this section:
LF ERW : low frequency electro-resistance weld
HF ERW : high frequency electro-resistance weld
DSAW : double-submerged arc weld
SAW : submerged arc weld

Weld-related material defects includes leaks or failures from a defect within the material of the pipe, component or longitudinal weld or seam due to faulty welding or weld-related manufacturing procedures. Leaks or failures from material deterioration in service that do not result from an original defect or corrosion are reported under Other.

Sub-Elements a - h

Construction defect includes leaks in or failures of original sound material due to force being applied during field construction, that caused a dent, gouge, excessive stress, or some other defect that eventually resulted in failure. Included are leaks in or failures of faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site.

PART F6 - EQUIPMENT AND OPERATIONS

This section includes malfunctions of control and relief equipment (typically the result of failed and leaking valves), failures of threaded components and broken pipe couplings, and seal failures such as compressor pump packing failures. Incidents resulting from incorrect operations or inadequate procedures are also included in this category.

Item 20- Malfunction of Control/Relief Equipment

Examples of this type of failure cause include overpressurizations resulting from malfunction of control or alarm device, relief valve malfunction, and valves failing to open or close on command or which opened or closed when not commanded to do so. Note: if an overpressurization occurred, please check item Part A.8.d.

Item 21 - Threads stripped, broken pipe coupling

Examples of this type of failure include failures on compressors, meters, or regulator stations where the failure resulted from a crack in a component or threads of a component such as nipples, flanges, valve connections, line pipe collars, etc.

Item 22 - Ruptured or Leaking Seal/Pump Packing

Examples of this type of failure generally include failures where compressor pump packing or other pump seals fail.

Item 23 - Incorrect Operation

Incorrect operation failures are typically those where better procedures may have prevented an incident from occurring. These types of failures most often occur during maintenance activities. Some examples of this type of failure are unintentional gas ignition during a welding or maintenance activity or other reportable incidents where a fire occurred not intentionally started by the operator, where an employee removes the wrong bolts from an assembly, leaves a valve open or closed at the wrong time, or failures where human error, employee fatigue, and/or lack of experience may have played a role.

PART F7 - OTHER

This section is provided for failure causes that do not fit in any category in Sections F1 through F6. If the failure cause is unknown at time of filing this report, check item 25. If the failure cause is known but doesn't fit in any category in sections F1 through F6, check item 24 and describe the cause. Continue in Part G, narrative description, if more space is needed.

PART G - NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT

The narrative is needed only when it is useful to clarify or explain unusual conditions. It should be a concise description of the incident, including the probable cause, and the facts, circumstances, and conditions that may have contributed directly or indirectly to causing the incident. Explanations of estimated data may be included in the narrative. If the OTHER block was checked in Part F7 item 24 or 25, the narrative should describe the incident in detail, including the known or suspected cause.

APPENDIX

Part C, Item 2, Other

NIPPLE FITTING
FLANGE FITTING
COMPRESSOR/TURBINE
GASKET
DRIP/RISER
GIRTH WELD
LONGITUDINAL WELD
FILLET WELD

Part C, Item 3, Other

GASKET
O-RING
PACKING
ALUMINUM
CAST IRON
WROUGHT IRON
ASBESTOS
FIBER GLASS
GALVANIZED RUBBER
REINFORCED RUBBER
UNKNOWN

Part D, Item 4, Seams

ELECTRIC RESISTANCE WELD
SUBMERGED ARC WELD
DOUBLE SUBMERGED ARC WELD
BUTT WELD
FURNACE LAP WELD
SEAMLESS WELD
FLASH WELD

Part D, Item 5, Valves

BALL
CHECK
BLEEDING
PRESSURE REDUCING
RECIPROCATING
GATE
PLUG
UNKNOWN

Part D, Item 6, Pipe Manufacturers

ACME NEWPORT
AMER. MANNEX CO
ANDERSON GREENWOOD
AO SMITH
ARMCO STEEL
BETHLEHEM STEEL
CONSOLIDATED WESTERN

GROVE
INGERSOL_RAND
JONES & LAUGHLIN
KAISER STEEL CO.
LONE STAR STEEL
NATIONAL TUBE
REPUBLIC STEEL
ROCKWELL
U S STEEL
YOUNGSTOWN
YOUNGSTOWN SHEET&TUBE
Unknown

Part F1, Subpart b, Visual Examination

FINE CRACKS
PIN HOLE LEAK
GENERAL INTERNAL PITTING

Part F1, Subpart c, Cause of Corrosion

ATMOSPHERIC CORROSION
CHEMICAL CORROSION
EROSION/CORROSION
SOUR GAS
WATER/LIQUID
CO2 & WATER
INTERGRANULAR CORROSION