

**NATURAL GAS
PART 192****GAS PIPELINE TRANSMISSION
OPERATION AND MAINTENANCE
MANUAL**

Subpart L**Operations****§ 192.601 Scope**

This subpart prescribes minimum requirements for the operation of pipeline facilities.

§ 192.603 General Provisions

- (a) No person may operate a segment of pipeline unless it is operated in accordance with this subpart.
- (b) Each operator shall keep records necessary to administer the procedures established under § 192.605.
- (c) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws, (49 U.S.C. 60101 *et seq.*) with respect to the pipeline facility governed by an operator's plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

Approved: Signature on file Date:
 Manager, Safety, Health, and Environmental

Approved: Signature on file Date:
 Environmental Manager

ESI RESPONSE TO § 192.603

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ESI shall prepare and follow written procedures for Company DOT regulated gas transmission pipelines as described in this section for conducting:

- (1) Normal operations and maintenance
- (2) Abnormal operations
- (3) Emergency Operations

The procedures and Plant engineering specifications: "Gas Transmission Pipelines" DOT-006, "Corrosion Control and Monitoring" DOT-005, "Protection of Pipeline During Construction and Repair Activities" DOT-008, "Pipeline Repair Procedure" DOT-007, "Maintenance for DOT Regulated Valves Procedure" DOT-004, "Louisiana One Call Procedure" DOT-001, "Pipeline Patrol/Leak Inspection" DOT-002, "Pipeline Pigging Procedure" DOT-003, "DOT Pipeline Abandonment/Inactivation Procedure" DOT-033, pipeline operating procedures, and ESI's Emergency Procedures shall be reviewed annually (not exceeding 15 months). Appropriate changes will be made to insure that the procedures are current in order to provide a reasonable level of safety. The annual review and revisions shall be documented and records kept in order to administer the plan. A documentation page which specifically cites the subject and date of any changes shall be included in each manual and updated annually.

<u>Documentation</u>		<u>Location Filed</u>
RKPG		
<u>Documentation Review Form</u>	<u>C-4</u>	<u>DOT Files</u>
RKPG		
<u>List of O, M & E Manuals</u>	<u>F-3</u>	<u>DOT Files</u>

§ 192.605 Procedural Manual for Operations, Maintenance, and Emergencies:

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- (a) *General.* Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.
- (b) *Maintenance and normal operations.* The manual required by § 192.605 (a) must include procedures for the following to provide safety during maintenance and operations:
- (1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.
 - (2) Controlling corrosion in accordance with the operations maintenance requirements of subpart I of this part.
 - (3) Making construction records, maps, and operating history available to appropriate operating personnel.
 - (4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.
 - (5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices.
 - (6) Maintaining compressor stations, including provisions for isolating units or sections of pipe and for purging before returning to service.
 - (7) Starting, operating, and shutting down gas compressor units.

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- (8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.
- (9) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.
- (10) Systematic and routine testing and inspection of pipe-type or bottle-type holders including:
 - (i) Provision for detecting external corrosion before the strength of the container has been impaired;
 - (ii) Periodic sampling and testing of gas in storage to determine the dew point of vapors contained in the stored gas which, if condensed, might cause internal corrosion or interfere with the safe operation of the storage plant; and
 - (iii) Periodic inspection and testing of pressure limiting equipment to determine that it is in safe operating condition and has adequate capacity.
- (c) *Abnormal operation.* For transmission lines, the manual required by § 192.605 (a) must include procedures for the following to provide safety when operating design limits have been exceeded:
 - (1) Responding to, investigating, and correcting the cause of:
 - (i) Unintended closure of valves or shutdowns;
 - (ii) Increase or decrease in pressure or flow rate outside normal operating limits;

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- (iii) Loss of communications;
 - (iv) Operation of any safety device; and
 - (v) Any other malfunction of a component, deviation from normal operation, or personnel error which may result in a hazard to persons or property.
- (2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.
- (3) Notifying responsible operator personnel when notice of an abnormal operation is received.
- (4) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.
- (d) *Safety-related condition reports.* The manual required by § 192.605 (a) must include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirement of § 191.23 of this subchapter.
- (e) *Surveillance, emergency response, and accident investigation.* The procedures required by §§§ 192.613(a), 192.615, and 192.617, must be included in the manual required by § 192.605(a).

ESI RESPONSE TO § 192.605

ESI has procedures for operations and maintenance personnel pertaining to each DOT pipeline (Reference C-6 in DOT files for specific operations procedures). Responsible design, construction, operation, and maintenance personnel must have the experience and

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training to adequately cover all work related problems. All work performed within the scope of ESI's DOT Program will meet or exceed the requirements in ASME/ANSI B31.8, "Gas Transmission and Distribution Piping Systems" and 49CFR192, "Transportation of Natural and Other Gas by Pipeline; Minimum Federal Safety Standards".

ESI's DOT Procedures and Plant Engineering Specifications:

Gas Transmission Pipelines Plant Engineering Specifications:

- 1.0 Scope and Intent**
- 2.0 References**
- 3.0 Piping Systems Definitions**
- 4.0 Design, Fabrication, Operation, and Testing Terms**
- 5.0 Materials and Equipment**
- 6.0 Welding**
- 7.0 Piping System Components and Fabrication Details**
- 8.0 Design, Installation, & Testing**
- 9.0 Operating and Maintenance Procedures**
- 10.0 Corrosion Control**

Corrosion Control and Monitoring Plant Engineering Specification:

- 1.0 Scope**
- 2.0 General**
- 3.0 References**
- 4.0 Service Conversions**
- 5.0 Personnel Requirements**

Corrosion Control and Monitoring Plant Engineering Specification:

- 6.0 Design Requirements, External**
- 7.0 Design Requirements, Internal**
- 8.0 Design Requirements, Atmospheric**
- 9.0 Installation**
- 10.0 Operations**

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11.0 Maintenance

DOT Procedures:

DOT-001-Louisiana One Call
DOT-002-Pipeline Patrol/Leak Insp.
DOT-003-Pipeline Pigging Operations
DOT-033-DOT Pipeline Abandonment/Inactivation

Pipeline Repair Procedures

- 1.0 Scope and Intent
- 2.0 References
- 3.0 Definitions
- 4.0 Imperfections & Damage
- 5.0 Weld Defects
- 6.0 Leaks
- 7.0 Test & Inspection of A, B, and C

Protection of Pipeline During Construction & Repair Activities

- 1.0 Scope and Intent
- 2.0 References
- 3.0 Definitions
- 4.0 General Requirements
- 5.0 Maintenance
- 6.0 Operations

ESI's Safety Procedures

- 1.04 Incident Investigation
- 1.05a General Work Permit Program
- 1.05b Hot Work Permit Program
- 1.05d Excavation Permit Program
- 1.12 Bypassing and Testing Protective Devices
- 1.25 Process Equipment Opening and Removal for Repair Procedure

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- 3.01 Emergency Response**
- 3.02 Hurricane Preparedness**
- 3.03 Fire Protection**
- 3.04 ESI Emergency Notification System**
- 3.05 Emergency Response Team**
- 3.06 Community Awareness and Emergency Response**
- 3.07 Southwest Louisiana Mutual Aid Association**
- 3.08 Emergency Head Count Procedure**
- 3.09 Incident Command System**
- 3.10 Emergency Telephone System**
- 3.11 ESI Site Topography**
- 4.0 Security Procedure**

The Plant Engineering Specifications and the DOT Procedures listed previously, will cover the following:

OPERATIONS AND MAINTENANCE PROCEDURES

**A. OPERATING & MAINTENANCE PROCEDURES AFFECTING THE SAFETY
OF GAS TRANSMISSION FACILITIES**

- 1. Basic Requirements**
- 2. Essential Features of the Operating and Maintenance Plan**
- 3. Essential Features of the Emergency Plan**
 - a) Written Emergency Procedures**
 - b) Training Program**
 - c) Liaison**
 - d) Educational Program**
- 4. Pipeline Failure Investigation**
- 5. Prevention of Accidental Ignition**
- 6. Blasting Affects**

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B. PIPELINE MAINTENANCE

1. Continuing Surveillance of Pipelines
2. Pipeline Patrolling
 - a) Maintenance of Cover at Road Crossings & Drainage Ditches
 - b) Maintenance of Cover in Cross-Country Terrain
3. Leakage Surveys
4. Repair Procedures for Steel Pipelines or Mains Operating at or Above 40% of the Specified Minimum Yield Strength
 - a) Permanent Field Repairs of Injurious Gouges, Grooves, & Dents
 - b) Permanent Field Repairs of Welds Having Injuries Defects
 - c) Permanent Field Repairs of Leaks & Nonleaking Corroded Areas
5. Testing Repairs to Steel Pipelines or Mains Operating at Hoop Stress Levels at or Above 40% of the Specified Minimum Yield Strength
 - a) Testing of Replacement Pipe Sections
 - b) Nondestructive Testing of Repairs, Gouges, Grooves, Dents & Welds
6. Pipeline Leak Records
7. Pipeline Markers
8. Abandoning of Transmission Facilities
9. Repositioning a Pipeline in Service

C. MISCELLANEOUS FACILITIES MAINTENANCE

1. Compressor Station Maintenance
 - a) Compressors and Prime Movers
 - b) Inspection & Testing of Relief Valves
 - c) Repairs to Compressor Station Piping
 - d) Isolation of Equipment for Maintenance or Alterations
 - e) Storage of Combustible Materials
2. Maintenance of Pressure Limiting & Pressure Regulating Stations
3. Valve Maintenance
 - a) Emergency valve inspection procedures
 - b) Valve Records
 - c) Prevention of Accidental Operation
4. Vault Maintenance

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FOR HUMAN OCCUPANCY****E. PIPELINE SERVICE CONVERSIONS**

- 1) General
- 2) Historical Records Study
- 3) Requirements for Conversion to Gas Service
- 4) Conversion Procedure
- 5) Records of the Conversion
- 6) Tables

<u>Documentation</u>	<u>Location Filed</u>
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RKPG		
<u>Pre-Dot Construction/Maintenance Records</u>	A-1	<u>DOT Files</u>

RKPG		
<u>Post-Dot Construction/Repair Records</u>	A-2	<u>DOT Files</u>

RKPG		
<u>Structural Crossing Reports</u>	A-3	<u>DOT Files</u>

RKPG		
<u>Plat Maps</u>	A-4	<u>DOT Files</u>

RKPG		
<u>Gas Pipeline Leak And Spill Report</u>	B-1	<u>DOT Files</u>

<u>Documentation</u>	<u>Location Filed</u>
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RKPG		
<u>Gas Safety Related Condition Files</u>	B-2	<u>DOT Files</u>

RKPG		
<u>Gas Telephonic Notice Of Certain Accidents</u>	B-3	<u>DOT Files</u>

RKPG		
<u>Gas Post Accident Review Forms</u>	B-4	<u>DOT Files</u>

RKPG		
<u>New Employee Orientation</u>	C-1	<u>DOT Files</u>

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<u>Employee Safety/Training Records</u>	<u>C-2</u>	<u>DOT Files</u>	
RKPG			
<u>Employee Performance/Qualification Records</u>	<u>C-3</u>	<u>DOT Files</u>	
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<u>Documentation Review Form</u>	<u>C-4</u>	<u>DOT Files</u>	RKPG
<u>Supervisor Knowledge Verification</u>	<u>C-5</u>	<u>DOT Files</u>	
RKPG			
<u>List Of O, M & E Manuals</u>	<u>C-6</u>	<u>DOT Files</u>	RKPG
<u>Rectifier Readings/Repair</u>	<u>D-1</u>	<u>DOT Files</u>	RKPG
<u>Pipe-To-Soil/Tank-To-Soil Potentials</u>	<u>D-2</u>	<u>DOT Files</u>	
RKPG			
<u>Casing Status Summary</u>	<u>D-3</u>	<u>DOT Files</u>	
RKPG			
<u>Corrosion Coupon Reports</u>	<u>D-4</u>	<u>DOT Files</u>	
RKPG			
<u>Interference Bonds</u>	<u>D-5</u>	<u>DOT Files</u>	RKPG
<u>Galvanic Anode Bed Readings</u>	<u>D-6</u>	<u>DOT Files</u>	
<u>Documentation</u>		<u>Location Filed</u>	
RKPG			
<u>Pipeline Patrol/Marker/Leak Inspection Reports</u>	<u>E-1</u>	<u>DOT Files</u>	
RKPG			
<u>Operator Log Pressure Charts</u>	<u>E-2</u>	<u>DOT Files</u>	
RKPG			
<u>Block Valve Inspection Reports</u>	<u>E-3</u>	<u>DOT Files</u>	
RKPG			
<u>System Pressure Test Records</u>	<u>E-4</u>	<u>DOT Files</u>	RKPG
<u>Pressure Limiting Device Inspections</u>	<u>E-5</u>	<u>DOT Files</u>	RKPG
<u>Trouble Reports/Safety Survey</u>	<u>E-6</u>	<u>DOT Files</u>	
RKPG			
<u>Fire Extinguisher Inspections</u>	<u>E-7</u>	<u>DOT Files</u>	
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<u>Dot Determination Study For Liquids/Gas</u>	<u>F-1</u>	<u>DOT Files</u>
<u>RKPG</u>		
<u>Correspondence (Regulatory)</u>	<u>F-2</u>	<u>DOT Files</u> <u>RKPG</u>
<u>Pipeline Data Reference Sheet</u>	<u>F-3</u>	<u>DOT Files</u> <u>RKPG</u>
<u>Pipeline Regulations Compliance Program</u>	<u>F-4</u>	<u>DOT Files</u>
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GENERAL FILES

<u>1. Annual Report</u>	<u>DOT Files</u>
<u>2. Public Education</u>	<u>DOT Files</u>
<u>3. Louisiana One Call</u>	<u>DOT Files</u>
<u>4. Contractor Orientation</u>	<u>DOT Files</u>
<u>5. Contractors Qualification Records</u>	<u>DOT Files</u>

§ 192.609 Change in Class Location: Required Study

Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at a hoop stress that is more than 40% of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine:

- (a) The present class location for the segment involved.
- (b) The design, construction, and testing procedures followed in the original construction, and a comparison of these procedures with those required for the present class location by the applicable provisions of this part.
- (c) The physical condition of the segment to the extent it can be ascertained from available records;
- (d) The operating and maintenance history of the segment;

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- (e) The maximum actual operating pressure and the corresponding operating hoop stress, taking pressure gradient into account, for the segment of pipeline involved; and
- (f) The actual area affected by the population density increase, and physical barriers or other factors which may limit further expansion of the more densely populated area.

ESI RESPONSE TO § 192.609

Annual inspection shall be made along the route of the existing gas transmission pipelines operating at a hoop stress in excess of 40% of the specified minimum yield strength of the pipe material in order to consider the possibility of class location changes as described. Reference 8.0 Design, Installation, and Testing in the “Gas Transmission Pipelines Plant Engineering Specification” DOT-006.

<u>Documentation</u>	<u>Location Filed</u>
RKPG <u>Pipeline Patrol/Marker/Leak Insp. Reports</u>	<u>E-1</u> <u>DOT Files</u>
RKPG <u>DOT Determination Study for Gas</u>	<u>F-1</u> <u>DOT Files</u>
RKPG <u>Pipeline Data Reference Sheet</u>	<u>F-3</u> <u>DOT Files</u>

§ 192.611 Change in Class Location: Confirmation or Revision of Maximum Allowable Operating Pressure

- (a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum

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allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:

- (1) If the segment involved has been previously tested in place for a period of not less than 8 hours, the maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72% of the SMYS of the pipe in Class 2 locations, 60% of SMYS in Class 3 locations, or 50% of SMYS in Class 4 locations.

ESI RESPONSE TO § 192.611

If a segment involved has been previously tested in place to at least 90 percent of its SMYS (maximum allowable) for a period of not less than eight hours, ESI will confirm or reduce the operating pressure so that the corresponding hoop stress will not exceed:

- (a) 72 percent of SMYS of the pipe in Class 2 locations,
 - (b) 60 percent of SMYS in Class 3 locations, or
 - (c) 50 percent of SMYS in Class 4 locations.
- (2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.

ESI RESPONSE TO § 192.611

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If the segment involved has not been previously tested in place as described in paragraph (a) of this section, the maximum allowable operating pressure will be reduced so that the corresponding hoop stress does not exceed that allowed by this part for new segments of pipelines in the existing class location.

- (3) The segment involved must be tested in accordance with the applicable requirements of subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:
 - (i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.
 - (ii) The corresponding hoop stress may not exceed 72% of the SMYS of the pipe in Class 2 locations, 60% of SMYS in Class 3 locations, or 50% of SMYS in Class 4 locations.
- (b) The maximum allowable operating pressure confirmed or revised in accordance with this section, may not exceed the maximum allowable operating pressure established before the confirmation or revision.

ESI RESPONSE TO § 192.611

If the segment of pipeline involved has not been qualified for operation under paragraph (a) or (b) of this section, it will be tested in accordance with the applicable requirements of subpart J of 49CFR192. Its maximum allowable operating pressure will be established equal to or less than the following:

- (1) The maximum allowable operating pressure after the requalification test, (a) 0.8 times the test pressure for Class 2 location, (b) 0.667 times the test pressure for Class 3 locations, and (c) 0.555 times the test pressure for Class 4 locations.

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- (2) The maximum allowable operating pressure confirmed or revised in accordance with this section as established before the confirmation or revision.
- (3) The corresponding hoop stress, (a) 72 percent of the SMYS of the pipe in Class 2 locations, (b) 60 percent of SMYS in Class 3 locations, or (c) 50 percent of the SMYS in Class 4 locations.
- (c) Confirmation or revision of the maximum allowable operating pressure of a segment of pipeline in accordance with this section does not preclude the application of §§ 192.553 and 192.555.
- (d) Confirmation or revision of the maximum allowable operating pressure that is required as a result of a study under § 192.609 must be completed within 18 months of the change in class location. Pressure reduction under paragraph (a)(1) or (2) of this section within the 18-month period does not preclude establishing a maximum allowable operating pressure under paragraph (a)(3) of this section at a later date.

ESI RESPONSE TO § 192.611

ESI will confirm or revise the maximum allowable operating pressure that is required as a result of a study required by § 192.609.

DocumentationLocation Filed

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DOT Determination Study For Gas F-1DOT Files

RKPG

Pipeline Data Reference Sheet F-3DOT Files

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§ 192.612 Underwater inspection and re-burial of pipelines in the Gulf of Mexico and its inlets

NOT APPLICABLE. ESI DOES NOT HAVE PIPELINES IN THE GULF OF MEXICO AND ITS INLETS.

§ 192.613 Continuing Surveillance

- (a) Each operator shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.
- (b) If a segment of pipeline is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, reduce the maximum allowable operating pressure in accordance with § 192.619 (a) and (b).

ESI RESPONSE TO § 192.613

ESI has a patrol system which inspects all DOT gas transmission pipelines. This inspection is done once every three months, not to exceed 4 ½ month intervals, at highway and railroad crossings and at least twice a year, not to exceed 7 ½ months, at other locations. The inspection includes the pipelines and any surrounding conditions which may have a bearing on the status or safety of any ESI pipeline. See ESI's "Gas Transmission Pipelines Engineering Specifications" DOT-006, and "Pipeline Patrol/Leak Inspection Procedure" DOT-002.

Continuing surveillance will be conducted so as to identify any pipeline facilities experiencing abnormal or unusual operating and maintenance conditions. This may be accomplished by the following:

- (a) **Periodic visual inspection of facilities such as:**

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- (1) Changes of population densities.
 - (i) ESI will conduct a study using 192.609 and 192.611 in order to consider a change in class location.
- (2) Effect of exposure or movement of pipeline facilities.
- (3) Changes in topography which may have an effect on pipeline facilities.
- (4) Potential for or evidence of tampering, vandalism, or damage.
- (5) Effects of encroachments of pipeline facilities.
- (b) Periodic review and analysis of records, such as the following:
 - (1) Patrols.
 - (2) Leakage surveys.
 - (3) Valve inspections.
 - (4) Pressure regulating, relieving and limiting equipment inspections.
 - (5) Corrosion control inspections.
 - (6) Facility failure investigations.

Documentation

Location Filed

RKPG

Gas Pipeline Leak and Spill Report B-1

DOT Files

RKPG

Safety Related Condition Files B-2

DOT Files

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Rectifier Readings D-1

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Pipeline Patrol/Marker/Leak Insp. Rpts.E-1DOT Files**§ 192.614** **Damage Prevention Program**

- (a) Except for pipelines listed in paragraph (c) of this section, each operator of a buried pipeline shall carry out in accordance with this section a written program to prevent damage to that pipeline by excavation activities. For the purpose of this section, "excavation activities" include excavation, blasting, boring, tunneling, backfilling, the removal of above ground structures by either explosive or mechanical means, and other earth moving operations. An operator may perform any of the duties required by paragraph (b) of this section through participation in a public service program, such as a "one-call" system, but such participation does not relieve the operator of responsibility for compliance with this section.
- (b) The damage prevention program required by paragraph (a) of this section must, at a minimum:
- (1) Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located.
 - (2) Provide for general notification of the public in the vicinity of the pipeline and actual notification of the persons identified in paragraph (b)(1) of the following as often as needed to make them aware of the damage prevention program:
 - (i) The program's existence and purpose; and
 - (ii) How to learn the location of underground pipelines before excavation activities are begun.
 - (3) Provide a means of receiving and recording notification of planned excavation activities.

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- (4) If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings.
- (5) Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as practical, the activity begins.
- (6) Provide as follows for inspection of pipeline that an operator has reason to believe could be damaged by excavation activities:
 - (i) The inspection must be done as frequently as necessary during and after the activities to verify the integrity of the pipeline; and
 - (ii) In the case of blasting, any inspection must include leakage surveys.
- (c) A damage prevention program under this section is not required for the following pipelines:
 - (1) Pipelines in a Class 1 or 2 location.
 - (2) Pipelines in a Class 3 location defined by § 192.5 (d)(2) that are marked in accordance with § 192.707.
 - (3) Pipelines to which access is physically controlled by the operator.
 - (4) Pipelines that are part of a petroleum gas system subject to § 192.11 or part of a distribution system operated by a person in connection with that person's leasing of real property or by a condominium or cooperative association.

ESI RESPONSE TO § 192.614

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ESI is a member of "LOUISIANA ONE CALL". This one call system will notify ESI of any planned excavations, installations, or construction in or around a ESI pipeline.

Prior to any foreign pipeline, cable or power line crossing or any other encroachment on Company right-of-way, an agreement will be prepared by the Company and shall be executed by the owner of the encroaching facility.

The agreement not only serves to grant permission for the encroachment, but also provides specifications and guidelines for any work within the Company's right-of-way. It will state liabilities and responsibilities which the grantee assumes resulting from the exercise of the permission granted.

All requests for this type of agreement shall be directed to the DOT Coordinator, the Legal Department and shall be handled according to "Louisiana One Call" procedure DOT-001.

Reference ESI "Louisiana One Call Procedure" DOT-001, "Protection of Pipeline During Construction and Repair Activities" DOT-008, and "Gas Transmission Pipelines Plant Engineering Specification" DOT-006 for more information.

<u>Documentation</u>		<u>Location Filed</u>
RKPG Plat Maps	A-4	<u>DOT Files</u>
RKPG Structural Crossing Report	A-3	<u>DOT Files</u>
RKPG Public Education Files	(General)	<u>DOT Files</u>
RKPG Liaison With Public Officials	(General)	<u>DOT Files</u>
RKPG Contractor Orientation	(General)	<u>DOT Files</u>

§ 192.615 Emergency Plans

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- (a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:
- (1) Receiving, identifying, and classifying notices of events which require immediate response by the operator.
 - (2) Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.
 - (3) Prompt and effective response to a notice of each type of emergency, including the following:
 - (i) Gas detected inside or near a building.
 - (ii) Fire located near or directly involving a pipeline facility.
 - (iii) Explosion occurring near or directly involving a pipeline facility.
 - (iv) Natural disaster.
 - (4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.
 - (5) Actions directed toward protecting people first and then property.
 - (6) Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.
 - (7) Making safe any actual or potential hazard to life or property.
 - (8) Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.

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- (9) Safely restoring any service outage.
- (10) Beginning action under § 192.617, if applicable, as soon after the end of the emergency as possible.
- (b) Each operator shall:
 - (1) Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.
 - (2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.
 - (3) Review employee activities to determine whether the procedures were effectively followed in each emergency.
- (c) Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:
 - (1) Learn the responsibility and resources of each government organization that may respond to a gas pipeline emergency;
 - (2) Acquaint the officials with the operator's ability in responding to a gas pipeline emergency;
 - (3) Identify the types of gas pipeline emergencies of which the operator notifies the officials; and
 - (4) Plan how the operator and officials can engage in mutual assistance to minimize hazards to life or property.

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ESI RESPONSE TO § 192.615

ESI is a 460.5 acre site. The Complex is comprised of the 7 distinct chemical production units and an Ethylene storage facility located in Sulphur, La. See 3.11 ESI Site Topography Procedure for location and site lay-out.

It is the policy of ESI to operate in a safe manner, with minimum risk to people, property or the environment, both on-site and in the surrounding community. ESI's 3.1 ESI Emergency Plan applies to all emergency situations which potentially impact operations at the Complex including but not limited to fires, explosions, liquid spills, gas releases, unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil, or surface water; hurricanes; tornadoes; flooding; and bomb threats.

ESI's objectives are:

- 1) Assure the safety and health of complex employees and the welfare of the general public and surrounding community during emergency situations to the best of their ability.
- 2) To minimize property damage in the complex as well as that of other companies or individuals and to provide for prompt resumption of operations.
- 3) Satisfy the legitimate concern of our employees, their families, and the general public by providing prompt, accurate information on the extent and effect of the emergency.

When an emergency exists, the affected Shift Supervisor will notify the Complex main gate guard and refer to 3.4 ESI Emergency Notification/Call-Out Procedure. The guard will activate the complex all call system. Appropriate personnel assigned on the key list personnel will respond. For more information refer to 3.4 ESI Emergency Notification/Call-Out Procedure.

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<u>Procedures</u>	<u>Location Filed</u>
RKPG <u>Liaison With Public Officials</u>	<u>General files</u> <u>S &H Manual & Dot Files</u>
RKPG <u>SARA Title III</u>	<u>Environmental Dept.</u>
RKPG <u>Safety & Health Procedure 3.5</u>	<u>Emergency</u> <u>Safety & Health Manual</u>
<u>Response Team</u>	
RKPG <u>Public Education Files</u>	<u>General files</u> <u>DOT Files</u>
RKPG <u>List of O, M & E Manuals</u>	<u>C-6</u> <u>DOT Files</u>
RKPG <u>Safety Survey</u>	<u>E-8</u> <u>DOT Files</u>
RKPG <u>Vista Chemical Complex Safety & Health Manual</u>	<u>DOT Files</u>

§ 192.616 Public Education

Each operator shall establish a continuing educational program to enable customers, the public, appropriate government organizations, and persons engaged in excavation related activities to recognize a gas pipeline emergency for the purpose of reporting it to the operator of the appropriate public officials. The program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.

ESI RESPONSE TO § 192.616

ESI has a continuing educational program to inform the public, appropriate government organizations, and persons engaged in excavation activities that include, but is not limited to:

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Participating in Louisiana One Call, members of CAER, SLMA, and API, including public service announcements, periodic mailing to public agencies; maps, brochures, and pertinent information about pipeline safety.

§ 192.617 Investigation of Failures

Each operator shall establish procedures for analyzing accidents and failures, including the selection of samples of the failed facility or equipment for laboratory examination, where appropriate for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.

ESI RESPONSE TO § 192.617

ESI will maintain a program to report all safety incidents and investigate those incidents and near miss incidents which resulted or could have resulted in significant accident, injury, fire, equipment damage or explosion using Safety and Health Procedure No. 1.4 Incident Investigation and Reporting Procedure. The purpose of this program will be to obtain knowledge and information which can be used to prevent similar incidents in the future, identify unsafe situations, conditions which may be a direct or contributing cause of the incident and to generate a report which will be used to communicate the events surrounding these incidents, communicate recommendations generated by the investigation and to provide a tracking system for those items.

A post accident review shall be conducted by an Incident Investigation Team, as outlined in the Incident Investigation & Report Procedure, Safety & Health Procedure No. 1.4, located in the Safety & Health Manual. This review shall describe the events or circumstances as best possible that were the cause of the accident if the cause is known. The Incident Investigation shall gather as much of the following data as is available:

1. Line pressure
2. Time of accident
3. Gas loss, if leak was involved
4. Any other information including any information from other operations
5. Any pertinent maintenance records
6. Accident Reports

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7. Any pictures or written statements
8. Metallurgical data, if relevant
9. Any recorded event log

These items shall be reviewed until the contributory events or circumstances are identified.

Corrective measures, if required, shall be developed and the implementation of these measures shall be assigned. (Reference ESI's "Gas Transmission Pipelines Plant Engineering Specification" DOT-006 section 9.1.4 Pipeline Failure Investigation.

DocumentationLocation Filed

RKPG

Post Accident Review Files B-4DOT Files**§ 192.619 Maximum Allowable Operating Pressure: Steel or Plastic Pipelines**

- (a) Except as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following:
 - (1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part. However, for steel pipe in pipelines being converted under § 192.14 or uprated under subpart K of the part, if any variable necessary to determine the design formula (§ 192.105) is unknown, one of the following pressures is to be used as design pressure:
 - (i) Eighty percent of the first test pressure that produces yield under section N5.0 of Appendix N of ASME B31.8, reduced by the appropriate factor in paragraph (a)(2)(ii) of this section; or

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- (ii) If the pipe is 324 mm (12 3/4 inches) or less in outside diameter and is not tested to yield under this paragraph, 1379 kPa (200 psig).
- (2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows:
 - (i) For plastic pipe in locations, the test pressure is divided by a factor of 1.5.
 - (ii) For steel pipe operated at 100 p.s.i.g. or more, the test pressure is divided by a factor determined in accordance with the following table

Class Location	Factors *, segment--		
	Installed before (Nov. 12, 1970)	Installed after (Nov. 11, 1970)	Converted under § 192.14
1	1.1	1.1	1.25
2	1.25	1.25	1.25
3	1.4	1.5	1.5
4	1.4	1.5	1.5

* For offshore segments installed, uprated or converted after July 31, 1977, that are not located on an offshore platform, the factor is 1.25.

For segments installed, uprated or converted after July 31, 1977, that are located on an offshore platform or on a platform in inland navigable waters, including a pipe riser, the factor is 1.5.

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- (3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970 (or in the case of offshore gathering lines, July 1, 1976), unless the segment was tested in accordance with paragraph (a)(2) of this section after July 1, 1965 (or in the case of offshore gathering lines, July 1, 1971), or the segment was uprated in accordance with subpart K of this part.
- (4) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressure.
- (b) No person may operate a segment to which paragraph (a)(4) of this section is applicable, unless overpressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with § 192.195.
- (c) Notwithstanding the other requirements of this section, an operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970, or in the case of offshore gathering lines, July 1, 1976, subject to the requirements of § 192.611.

ESI RESPONSE TO § 192.619

ESI will not operate a pipeline above the maximum allowable operating pressure as determined by the standards and guidelines set down in § 192.619, § 192.611, § 192.621, § 192.623, and § 192.715(b)(2) as determined by an engineering study. All pressure relief devices installed on ESI pipelines shall be set at a point below those determined by the engineering study. Reference “Gas Transmission Pipelines Plant Engineering Specification” DOT-006 section 8.0 Design, Installation, and Testing.

The MAOP shall be determined by hydrostatic testing of the pipeline. The MAOP shall be limited to the pressure obtained by dividing the test pressure by the appropriate test factor for Location Class 3, i.e., 2.0 (Company pipeline test pressure: 2.0). The test pressure at the

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high elevation point of the minimum strength test section and shall not be higher than the pressure required to produce a stress equal to the yield strength as determined by testing.

The MAOP shall not exceed the lesser of either:

- (1) The design pressure of the weakest element of the pipeline.
- (2) The pressure obtained by dividing the pressure to which the pipeline is tested after construction by the appropriate factor for the Location Class involved (for Company pipelines, test pressure divided by 1.40).
- (3) The maximum safe pressure for the pipeline based on its operating & maintenance history.

General Requirements:

- (a) All piping systems shall be pressure tested after construction to the requirements in ANSI B31.8 except for pretested fabricated assemblies and pretested tie-in connections. Radiography in lieu of hydrotesting may be substituted for circumferential welds of welded tie-in connections not pressure tested after construction.
- (b) All pipelines to be operated at a hoop stress of 30% or more of the SMYS shall be pressure tested to a minimum of 1.4 times the design pressure. The test duration shall be four (4) hours to prove strength after construction and before being placed in operation.
- (c) Testing fluid shall be water. Air and gas are not permissible test media for Company-operated Location Class 3 pipelines.
- (d) Company shall maintain records showing the hydrotest procedures and the data developed in establishing its MAOP. These records shall be filed for the useful life of each pipeline.

Documentation

Location Filed

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Post-DOT Construction/Maintenance Records A-2 DOT Records

RKPG

DOT Determination Study for Gas F-1 DOT Records

RKPG

Pipeline Data Reference Sheet F-3 DOT Records**§ 192.621 Maximum Allowable Operating Pressure: High-Pressure Distribution Systems**

NOT APPLICABLE. ESIDOES NOT OPERATE HIGH-PRESSURE DISTRIBUTION SYSTEMS.

§ 192.623 Maximum and Minimum Allowable Operating Pressure: Low-Pressure Distribution Systems

NOT APPLICABLE. ESIDOES NOT OPERATE LOW-PRESSURE DISTRIBUTION SYSTEMS.

§ 192.625 Odorization of Gas

NOT APPLICABLE. ESIDOES NOT OPERATE ANY DISTRIBUTION SYSTEMS.

§ 192.627 Tapping Pipelines Under Pressure

Each tap made on a pipeline under pressure must be performed by a crew qualified to make hot taps.

ESI RESPONSE TO § 192.627

All hot taps shall be installed by trained and experienced crews in accordance with Company Safety and Health Standards and written plant engineering specifications and procedures which are unique for each job.

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Post-DOT Construction/Maintenance Records A-2DOT Files

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Employee Performance Reviews C-3DOT Files**§ 192.629 Purging of Pipelines**

- (a) When a pipeline is being purged of air by use of gas, the gas must be released into one end of the line in a moderately rapid and continuous flow. If gas cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the gas.
- (b) When a pipeline is being purged of gas by use of air, the air must be released into one end of the line in a moderately rapid and continuous flow. If air cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the air.

ESI RESPONSE TO § 192.629

ESI will purge pipelines in accordance with safety procedure 1.25 Process Equipment Opening and Removal for Repair Procedure.

DocumentationLocation Filed

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Operator Log/Pressure Charts E-2DOT Files

RKPG

Block Valve Inspections Report E-3DOT Files

Engineering Services, LP