



Testing and Maintaining Compressor Station Emergency Shutdown Systems	SCG:	223.0255
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PURPOSE The purpose of this Gas Standard is to establish the interval and policies for testing and maintaining compressor station Emergency Shutdown (ESD) systems.

1. POLICY AND SCOPE

- 1.1. Compressor Stations conduct ESD testing annually, an interval not exceeding 15 months, but at least once each calendar year, in compliance with established anniversary dates. An actual ESD event or early testing of the system may be used to establish a new anniversary date.
- 1.2. Each Compressor Station schedules and implements testing and maintenance of the Emergency Shutdown System (ESD) to insure that during an actual ESD incident:
 - 1.2.1. Main unit fuel is isolated.
 - 1.2.2. Main gas lines into and out of the compressor station are isolated.
 - 1.2.3. Gas is discharged from blowdown piping at a location which will not create a hazard.
 - 1.2.4. Gas compression equipment, gas fires, and non-emergency electrical facilities in the vicinity of gas headers and in the compressor building are shut down.
 - 1.2.5. The ESD system is operable from at least two locations.
 - 1.2.6. Fire suppression systems remain operational.

2. RESPONSIBILITIES AND QUALIFICATIONS

- 2.1. **Transmission and Storage Operations** are responsible for testing and maintaining Emergency Shutdown (ESD) systems at compressor stations and storage fields.

3. DEFINITIONS

- 3.1. **Compressor Station** – for the purposes of this Gas Standard, includes line stations and underground storage fields

4. PROCEDURE

- 4.1. All pressurized ESD piping is regularly maintained as follows:
 - 4.1.1. All accessible aboveground piping is visually inspected annually.



Testing and Maintaining Compressor Station Emergency Shutdown Systems	SCG:	223.0255
---	------	----------

- 4.1.2. All buried or inaccessible steel piping is cathodically protected using one of the following criteria:
- -0.85V pipe-to-soil criterion (see [GS 186.0035](#), *Criteria for Cathodic Protection*), **or**
 - 100mV polarization (see [GS 186.0036](#), *100mV Polarization Criteria*).
- 4.1.3. All buried or inaccessible copper piping is either:
- Cathodically protected using the 100mV polarization criteria (see [GS 186.0036](#), *100mV Polarization Criteria*), **or**
 - Is annually tested at operating pressure for 5 minutes.
- 4.1.4. Cathodic protection on pressurized ESD system piping is monitored annually. See [GS 186.0135](#), *Operation and Maintenance of Cathodic Protection Facilities*.
- 4.2. ESD System Testing
- 4.2.1. Routine Compressor Station ESD tests are scheduled in cooperation with **Gas Control**.
- 4.2.2. ESD systems are tested as found. However, efforts are made to reduce the venting of gas. Block valves in blowdown piping may be closed during testing to lock in the gas. A complete system blowdown is not required.
- 4.2.3. Each device designed to initiate an ESD event shall be tested.
- 4.2.4. Compressor Stations develop and update schematics and local instructions for ESD system testing and maintenance for each compressor station and include the instructions in the on-line Station Binder.
- 4.2.5. Appropriate station personnel are trained in ESD operation, testing, and maintenance for their respective facilities.
- 4.3. ESD Remote Control Devices
- 4.3.1. Each remote control shutdown device (ones which manually initiates station blowdown, i.e., uses handles, valves, etc. to activate the ESD system) must be inspected and tested at intervals not exceeding 15 months, but at least once each calendar year, to determine that it functions properly.
5. EXCEPTION PROCEDURE(See [Standard 182.0004](#), *Exception Procedure for Company Operations Standards*)



Gas Standard Measurement, Regulation & Control

Testing and Maintaining Compressor Station Emergency Shutdown Systems	SCG:	223.0255
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- 5.1. An exception to this standard shall be considered only after all practicable solutions have been exhausted. All proposed exceptions to this standard must take safety issues into primary consideration and must comply with all relevant governing codes, before approval of any proposed exception may be granted.
- 5.2. An exception to this standard shall be permitted only if [Standard 182.0004](#), *Exception Procedure for Company Operations Standards*, is followed, and approval is granted by those required by 182.0004.

6. OPERATOR QUALIFICATION COVERED TASKS
(See [Standard 167.0100](#), *Operator Qualification Program*, Appendix A, *Covered Task List*)

- **Task 11.1** – 49 CFR 192.731(c) – Inspection/testing of remote control shutdown devices in compressor stations.

7. RECORDS

- 7.1. Compressor Stations schedule, track, and document periodic testing and maintenance on all ESD system components using an approved, computerized maintenance management system (e.g., MAXIMO).
- 7.2. Records for high pressure Distribution pipelines shall be retained for the life of the pipeline. Records for Transmission pipelines fall under the Record Series Code OPS-60-06 (*Pipeline Testing – General*) in the Corporate Records Retention Schedule and must be retained for ACTIVE + 75 years.

8. PROTECTED SECTIONS AND WORDING

The following sections and wording in this document cannot be altered or deleted without prior approval from Pipeline Safety & Compliance and Legal:

Section	Protected Wording (Underlined ONLY)	Justification	Date Wording Added
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SoCalGas Gas Standard Measurement, Regulation & Control

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NOTE: Do not alter or add any content from this page down; the following content is automatically generated.			
Brief: 192.731(c): Entire Doc	192.731(a): Entire Doc	192.605(b)(6): Entire Doc	192.167(a): 1, 2
145.1: Entire Doc			

Document Profile Summary	
Responsible Person:	Kunemoto, Sam
Published On:	7/31/2020
Last Full Review Completed On:	8/29/2021
Document Status:	Active
Doc Type:	GAS
Category (Prior FCD system only):	
If Merged, Merged To Document Number:	
Utility:	SoCalGas
Department:	Measurement, Regulation & Control
Number of Common Document (if applicable):	T8148
Confidential Sections:	
Contains OPQUAL Covered Task:	Yes
Part of SoCalGas O&M Plan:	Yes
Part of SDG&E O&M Plan:	No
Last O&M Review date:	8/15/2022
Writer:	Kunemoto, Sam
O&M 49 CFR Codes & Impacted Sections of Document:	192.731(c): Entire Doc 192.731(a): Entire Doc 192.605(b)(6): Entire Doc
Part of Non-O&M Parts 191-193 Plan:	Yes
Non-O&M 49 CFR Codes & Impacted Sections of Document:	192.167(a): 1, 2
Part of Distribution IMP (DIMP):	No
Part of Transmission IMP (TIMP):	No
Part of Storage IMP (SIMP):	No
Impacts GO112F:	Yes
GO112F Codes & Impacted Sections of Document:	145.1: Entire Doc
Impacts GO58A:	No
GO58A Codes & Impacted Sections of Document:	
Impacts GO58B:	No
GO58B Codes & Impacted Sections of Document:	
Part of CA PUC:	No
CA PUC Codes & Impacted Sections of Document:	
Impacts New Business Construction:	Yes
Indices/Binders in Which Document is Filed:	STOR, TRAN, TRNG, TRNG, TRNG, TRNG
NOP Learning Module (LM) Training Code:	NOP00633