



*UO Standard S4350*

ISSUING DEPARTMENT: **GSM&TS**  
UO SPONSOR: **VP - CGT**

EFFECTIVE DATE: **9-04**  
REVIEW DATE: **9-09**  
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**TITLE: Odorization of Natural Gas**

**Purpose** This UO standard defines responsibilities and procedures for proper odorization of natural gas in Pacific Gas and Electric Company’s (the Company’s) gas transmission and distribution system to ensure compliance with applicable federal and state laws and regulations. The standard covers the odorants approved for use by the Company and specifies the maintenance, operation, and recordkeeping procedures for odorizers and odorant monitoring instruments.

**Recision** This UO Standard replaces and supersedes UO Standard S4350, “Odorization of Natural Gas,” effective December 2000.

**Safety** Improper odorization can expose employees, customers, and the public to unsafe conditions, result in noncompliance with federal and state regulations, and create negative publicity for the Company. Failure to comply with mandatory federal and state regulations may subject the Company to regulatory fines or disciplinary actions by the enforcing agencies.

**Implementation Responsibilities** The vice president (VP) of California Gas Transmission (CGT) is responsible for reviewing, approving, and distributing this standard.  
The VP delegates authority to the manager of Gas System Maintenance and Technical Support (GSM&TS) Station Engineering to revise and reissue attachments to this standard, or to approve variances from the procedures in this standard on an exception basis.  
The directors, managers, superintendents, and supervisors of Transmission and Distribution (T&D) and GSM&TS departments are responsible for ensuring that the provisions of this standard are followed.

**Compliance** Implementation and effectiveness are measured by responsible managers and superintendents. In addition, periodic audits may be conducted by internal Company departments and the California Public Utilities Commission (CPUC) to verify compliance with this UO standard, the requirements of CPUC General Order 112E, and the Department of Transportation (DOT) 49 CFR Part 192.625.

- Procedure** The procedures of this standard are detailed in Attachment 1.
- Definition of Terms**
- CFR:** Code of Federal Regulations.
  - CGT Gas Quality On-Call Group:** A technical resource, which is available to GSO when corrective measures to gas quality system emergencies are needed. This group is comprised of GSM&TS and GSO members who understand the Company's gas quality and odorization programs and have received training covering the gas quality incident reporting process, emergency notification, and contingency procedures.
  - CPUC:** California Public Utilities Commission.
  - DOT:** Department of Transportation.
  - GD&TS:** Gas Distribution and Technical Services.
  - GSM:** Gas System Maintenance.
  - GSO:** Gas System Operations.
  - Lower Explosive Limit (L.E.L.):** The lowest concentration of gas in air that will support combustion. For the Company's natural gas, the L.E.L. is approximately 5 % gas-in-air.
  - Odor Intensity test instrument** (commonly called "odorometer"): An instrument used to allow a person to determine the odor intensity at various gas-in-air concentrations.
  - Odorant:** A chemical compound that is added to natural gas to give it its characteristic "smell" which warns of its presence.
  - Odorizer:** The equipment used to add odorant to natural gas.
  - T&D:** Transmission and Distribution.
  - TBM:** Tertiary Butyl Mercaptan.
  - THT:** Tetrahydrothiophene.
  - UO:** Utility Operations.

**Date Issued/Updated**

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Signed,

Michael A. Katz  
Vice President  
California Gas Transmission

- Reference Documents**
- 49 Code of Federal Regulations, Part 192.625
  - CPUC General Order 112E (and subsequent revisions)
  - CGT Recommended Practice 4351.1, "Bulk Odorant Deliveries, Maintenance and Operation Procedures"
  - CGT Engineering Guideline 4351, "Typical Odorant Injection System Specifications"
  - GS Interim Standard 465-2, "Management of Natural Gas Odorants"

- Attachments**
- Attachment 1, "Procedures for Odorization of Natural Gas"
  - Attachment 2, "Monthly Odorization Report," Form 62-4650
  - Attachment 3, "Odor Intensity Report," Form 62-3480
  - Attachment 4, "Odor Intensity Test Schedule for Gas Transmission and Distribution Systems"