

RULE 467. PRESSURE RELIEF DEVICES

(a) Definitions

For purpose of this rule:

- (1) A Pressure Relief Valve (PRV) is an automatic pressure relieving device actuated by static pressure upstream of the device.
- (2) A Rupture Disc is a diaphragm held between flanges for the purpose of isolating a volatile organic compound from the atmosphere or from a PRV located downstream.
- (3) A Pressure Relief Device is either a PRV or a rupture disc.
- (4) A Volatile Organic Compound is any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, methane, 1,1,1-trichloroethane, methylene chloride, and trichlorotrifluoroethane, that has a Reid vapor pressure (RVP) greater than 80 mm Hg (1.55 pounds per square inch), or an absolute vapor pressure (AVP) greater than 36 mm Hg (0.7 psi) at 20°C.
- (5) A Working Day is any day except Saturday or Sunday or employee holiday.
- (6) A Leak is:
 - (A) The dripping of liquid volatile organic compounds at a rate of more than three drops per minute, or
 - (B) An indication of gaseous volatile organic compounds in excess of 10,000 ppm above background when measured at the source with a portable hydrocarbon detection instrument.
- (7) Background is the ambient concentration of volatile organic compounds determined at least three (3) meters upwind from the pressure relief device to be inspected.
- (8) A Refinery is an establishment that processes petroleum as defined in the Standard Industrial Classification Manual as Industry No. 2911, Petroleum Refining.
- (9) A Chemical Plant is any plant producing organic chemicals and/or manufacturing products by organic chemical processes.

(10) Thermal Protection means protection from overpressure due to variation in atmospheric temperature or other external heat.

(b) General Requirements

The operator of a refinery or chemical plant shall not use any pressure relief device on any equipment handling volatile organic compounds unless the pressure relief device is vented to a vapor recovery or disposal system or inspected and maintained in accordance with the requirements of this rule.

(c) Inspection Requirements

- (1) Visually inspect each PRV on each working day.
- (2) Inspect each pressure relief device handling volatile organic compounds quarterly with a portable hydrocarbon detection instrument, except that after four quarterly inspections in which no leakage is detected the inspection frequency shall be annually. Detection of a leak shall cause the inspection frequency to revert to quarterly after repairs are completed.
- (3) Where both a rupture disc and a PRV are used in series, the downstream device shall be inspected.
- (4) When a pressure relief device is known to have relieved, such device shall be subjected to an additional inspection with a portable hydrocarbon detection instrument within 15 working days of the date of the known pressure relief.
- (5) Inspect each pressure relief device removed from service for repair within 15 working days of the device's return to service.
- (6) Pressure relief devices which are found to be leaking and which are tagged or logged for repair at the turnaround need not be reinspected before the turnaround.

(d) Maintenance

Any pressure relief device determined to be leaking shall be:

- (1) Repaired within 15 days of the discovery of the leak to a no-leak condition,
or

- (2) Repaired or replaced at the next scheduled turnaround of the process unit if the pressure relief device cannot be isolated for maintenance without shutdown of the process unit.
 - (3) A leak shall not be subject to this section if the operator shows to the satisfaction of the Executive Officer that without the contribution of ethane and/or any compound which is not a VOC, the criterion for a leak would not be met.
- (e) Recordkeeping
- (1) Each operator of a pressure relief device shall maintain records of inspections required by sections (c)(2), (c)(4), and (c)(5) in a manner approved by the Executive Officer.
 - (2) Pressure relief devices which have been observed to leak shall be tagged for repair or shall be logged for repair in a central repair action log for the process unit.
- (f) Measurement Requirements
- (1) The instruments used for the measurement of gaseous volatile organic compounds shall be equated to calibrating with hexane while sampling at one liter per minute.
 - (2) Inspection sampling shall be performed at the center of the exhaust stack for a valve and at the center of the leakage path for other devices.
- (g) Exemptions
- (1) Pressure relief devices which are located such that their inspection would present a safety hazard to personnel.
 - (2) Pressure-vacuum vent valves on storage tanks.
 - (3) The functional operation of a pressure relief device to relieve an over-pressure condition.
 - (4) Pressure relief devices of one inch size or less which are installed for thermal protection.
- (h) Effective Date
- The provisions of this rule shall become effective on July 1, 1982. The provisions of Rule 467 as adopted on May 7, 1976, shall remain in effect until July 1, 1982.