

equipment without stopping production are not process unit shutdowns.

*Repaired* means that equipment is adjusted, or otherwise altered, to eliminate a leak.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

*Semiannual* means a 6-month period; the first semiannual period concludes on the last day of the last month during the 180 days following initial start-up for new sources; and the first semiannual period concludes on the last day of the last full month during the 180 days after the effective date of a specific subpart that references this subpart for existing sources.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

*Stuffing box pressure* means the fluid (liquid or gas) pressure inside the casing or housing of a piece of equipment, on the process side of the inboard seal.

*Surge control vessel* means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit when in-process storage, mixing, or management of flow rates of volumes is needed on a recurring or ongoing basis to assist in production of a product.

*Volatile hazardous air pollutant* or *VHAP* means a substance regulated under this part for which a standard for equipment leaks of the substance has been proposed and promulgated. Benzene is a VHAP. Vinyl chloride is a VHAP.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 51 FR 34915, Sept. 30, 1986; 54 FR 38076, Sept. 14, 1989; 65 FR 62158, Oct. 17, 2000; 65 FR 78280, Dec. 14, 2000]

**§61.242-1 Standards: General.**

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§61.242-1 to 61.242-11 for each new and existing source as re-

quired in 40 CFR 61.05, except as provided in §§61.243 and 61.244.

(b) Compliance with this subpart will be determined by review of records, review of performance test results, and inspection using the methods and procedures specified in §61.245.

(c)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 and 61.242-11 as provided in §61.244.

(2) If the Administrator makes a determination that a means of emission limitation is at least a permissible alternative to the requirements of §61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 or 61.242-11, an owner or operator shall comply with the requirements of that determination.

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of §61.242-2, to §61.242-11 if it is identified as required in §61.246(e)(5).

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984]

**§61.242-2 Standards: Pumps.**

(a)(1) Each pump shall be monitored monthly to detect leaks by the methods specified in §61.245(b), except as provided in §61.242-1(c) and paragraphs (d), (e), (f) and (g) of this section.

(2) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242-10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

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(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) and (b) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 61.242-11; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.

(2) The barrier fluid is not in VHAP service and, if the pump is covered by standards under 40 CFR part 60, is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(i) If there are indications of liquid dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in § 61.245 to determine the presence of VOC and VHAP in the barrier fluid.

(ii) If the monitor reading (taking into account any background readings) indicates the presence of VHAP, a leak is detected. For the purpose of this paragraph, the monitor may be calibrated with VHAP, or may employ a gas chromatography column to limit the response of the monitor to VHAP, at the option of the owner or operator.

(iii) If an instrument reading of 10,000 ppm or greater (total VOC) is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is checked daily or is equipped with an audible alarm.

(6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency

of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in § 61.242-10.

(iv) A first attempt at repair shall be made no later than five calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 61.245(c), and

(3) Is tested for compliance with paragraph (e)(2) initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of § 61.242-11, it is exempt from the requirements of paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 61.246(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of

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complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

[49 FR 23513, June 6, 1984, as amended at 49 FR 38946, Oct. 2, 1984; 55 FR 28349, July 10, 1990; 65 FR 78281, Dec. 14, 2000]

**§61.242-3 Standards: Compressors.**

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to atmosphere, except as provided in §61.242-1(c) and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §61.242-11; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.

(c) The barrier fluid shall not be in VHAP service and, if the compressor is covered by standards under 40 CFR part 60, shall not be in VOC service.

(d) Each barrier fluid system as described in paragraphs (a)-(c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be

checked daily or shall be equipped with an audible alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242-10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §61.242-11, except as provided in paragraph (i) of this section.

(i) Any Compressor that is designated, as described in §61.246(e)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a)-(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §61.245(c); and

(2) Is tested for compliance with paragraph (i)(1) initially upon designation, annually, and at other times requested by the Administrator.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 65 FR 78281, Dec. 14, 2000]

**§61.242-4 Standards: Pressure relief devices in gas/vapor service.**

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500