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methane in air or n-hexane in air may be used if the instrument does not respond to methane or n-hexane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more compounds to be measured in air.

(5) *Monitoring performance.* Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

(6) *Monitoring data.* Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may still be used to initially qualify for less frequent monitoring under the provisions in § 63.1006(a)(2), (b)(3) or (b)(4) for valves provided the departures from the criteria specified or from the specified monitoring frequency of § 63.1006(b)(3) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in the referencing subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) *Instrument monitoring using background adjustments.* The owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(5) of this section. In such case, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1011(b) (pressure relief devices in gas and vapor service) or

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§ 63.1012(f) (compressors). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b)(1) through (b)(5) of this section shall apply.

(2) The background level shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible (as described in Method 21 of 40 CFR part 60, appendix A).

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definitions for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1011(b) (pressure relief devices in gas and vapor service) or § 63.1012(f) (compressors).

(d) *Sensory monitoring methods.* Sensory monitoring, as required under this subpart, shall consist of detection of a potential leak to the atmosphere by visual, audible, olfactory, or any other detection method.

(e) *Leaking equipment identification and records.* (1) When each leak is detected pursuant to the monitoring specified in paragraph (a) of this section, a weatherproof and readily visible identification, marked with the equipment identification, shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in § 63.1005(e) shall be recorded and kept pursuant to the referencing subpart.

[64 FR 34886, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1005 Leak repair.

(a) *Leak repair schedule.* The owner or operator shall repair each leak detected no later than 15 calendar days after it is detected, except as provided in paragraphs (c) and (d) of this section. A first attempt at repair shall be made no later than 5 calendar days

after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

(b) *Leak identification removal*—(1) *Valves in gas/vapor and light liquid service.* The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in § 63.1006(b), and no leak has been detected during that monitoring. The leak identification on a connector in gas/vapor or light liquid service may be removed after it has been monitored as specified in § 63.1008(b) and no leak has been detected during that monitoring.

(2) *Other equipment.* The identification that has been placed, pursuant to § 63.1004(e), on equipment determined to have a leak, except for a valve in gas/vapor or light liquid service, may be removed after it is repaired.

(c) *Delay of repair.* Delay of repair can be used as specified in any of paragraphs (c)(1) through (c)(5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.

(1) Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a process unit or affected facility shutdown within 15 days after a leak is detected. Repair of this equipment shall occur as soon as practical, but not later than by the end of the next process unit or affected facility shutdown, except as provided in paragraph (c)(5) of this section.

(2) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in regulated material service.

(3) Delay of repair for valves, connectors, and agitators is also allowed if

the criteria specified in paragraphs (c)(3)(i) and (c)(3)(ii) are met.

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are effected, the purged material is collected and destroyed, or recovered in a control or recovery device, or routed to a fuel gas system or process complying with § 63.1015 or § 63.1002(b) of this part.

(4) Delay of repair for pumps is allowed if the criteria specified in paragraphs (c)(4)(i) and (c)(4)(ii) are met.

(i) Repair requires replacing the existing seal design with a new system that the owner or operator has determined will provide better performance or one of the specifications of paragraphs (c)(4)(i)(A) through (c)(4)(i)(C) of this section are met.

(A) A dual mechanical seal system that meets the requirements of § 63.1007(e)(1) will be installed,

(B) A pump that meets the requirements of § 63.1007(e)(2) will be installed; or

(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of § 63.1007(e)(3) will be installed.

(ii) Repair is to be completed as soon as practical, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

(d) *Unsafe-to-repair connectors.* Any connector that is designated, as described in § 63.1003(d), as an unsafe-to-

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repair connector is exempt from the requirements of § 63.1008(c), and paragraph (a) of this section.

(e) *Leak repair records.* For each leak detected, the information specified in paragraphs (e)(1) through (e)(5) of this section shall be recorded and maintained pursuant to the referencing subpart.

(1) The date of first attempt to repair the leak.

(2) The date of successful repair of the leak.

(3) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.

(4) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in paragraphs (e)(4)(i) and (e)(4)(ii) of this section.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan, as required by the referencing subpart for the source, or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on site before depletion and the reason for depletion.

(5) Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

[64 FR 34886, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1006 Valves in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* (1) The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(2) The use of monitoring data generated before the regulated source became subject to the referencing subpart to initially qualify for less fre-

quent monitoring is governed by the provisions of § 63.1004(b)(6).

(b) *Leak detection.* Unless otherwise specified in § 63.1002(b), or § 63.1016, or in paragraph (e) of this section, or the referencing subpart, the owner or operator shall monitor all valves at the intervals specified in paragraphs (b)(3) through (b)(6) of this section and shall comply with all other provisions of this section.

(1) *Monitoring method.* The valves shall be monitored to detect leaks by the method specified in § 63.1004(b) and (c).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is 10,000 parts per million or greater.

(3) *Monitoring period.* (i) Each valve shall be monitored monthly to detect leaks, except as provided in paragraphs (b)(3)(ii), (e)(1), (e)(2), and (e)(4) of this section. An owner or operator may otherwise elect to comply with one of the alternative standards in paragraphs (b)(5) or (b)(6) of this section as specified in paragraph (b)(4) of this section.

(ii)(A) Any valve for which a leak is not detected for 2 successive months may be monitored the same month (first, second, or third month) of every quarter, beginning with the next quarter, until a leak is detected. The first quarterly monitoring shall occur less than 3 months following the last monthly monitoring.

(B) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(C) For purposes of paragraph (b) of this section, quarter means a 3-month period with the first quarter concluding on the last day of the last full month during the 180 days following initial startup.

(4) *Allowance of alternative standards.* An owner or operator may elect to comply with one of the alternatives specified in either paragraph (b)(5) or (b)(6) of this section if the percentage of valves leaking is equal to or less than 2.0 percent as determined by the procedure in paragraph (c) of this section. An owner or operator must notify