

feet) above a support surface, or it is not accessible in a safe manner when it is in regulated material service.

(3) *Identification of unsafe or difficult-to-monitor equipment.* The owner or operator shall record the identity of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section and the planned schedule for monitoring this equipment. The owner or operator shall record the identity of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section, the planned schedule for monitoring this equipment, and an explanation why the equipment is difficult-to-monitor.

(4) *Written plan requirements.* (i) The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical 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 §65.105 if a leak is detected.

(ii) The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year and repair of the equipment according to the procedures in §65.105 if a leak is detected.

(d) *Special equipment designations: Equipment that is unsafe to repair.—(1) Designation and criteria.* Connectors subject to the provisions of §65.105(e) may be designated unsafe to repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit shutdown as specified in §63.105(e).

(2) *Identification of equipment.* The identity of connectors designated as unsafe to repair and an explanation why the connector is unsafe to repair shall be recorded.

(e) *Special equipment designations: Compressors operating with an instrument reading of less than 500 parts per million.* Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million under the provisions of §65.112(f).

(f) *Special equipment designations: Equipment in heavy liquid service.* The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (f)(1) or (2) of this section as provided in paragraph (f)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of “in light liquid service.” Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

§ 65.104 Instrument and sensory monitoring for leaks.

(a) *Monitoring for leaks.* The owner or operator of a regulated source subject to this subpart shall monitor regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

(1) *Instrument monitoring for leaks.* (i) Valves in gas/vapor service and in light liquid service shall be monitored pursuant to §65.106(b).

(ii) Pumps in light liquid service shall be monitored pursuant to §65.107(b).

(iii) Connectors in gas/vapor service and in light liquid service shall be monitored pursuant to §65.108(b).

(iv) Agitators in gas/vapor service and in light liquid service shall be monitored pursuant to §65.109(b).

(v) Pressure relief devices in gas/vapor service shall be monitored pursuant to § 65.111(b) and (c).

(vi) Compressors designated to operate with an instrument reading less than 500 parts per million as described in § 65.103(e) shall be monitored pursuant to § 65.112(f).

(2) *Sensory monitoring for leaks.* (i) Pumps in light liquid service shall be observed pursuant to § 65.107(b)(4) and (e)(1)(v).

(ii) Agitators in gas/vapor service and in light liquid service shall be observed pursuant to § 65.109(b)(3) or (e)(1)(v).

(b) *Instrument monitoring methods.* Instrument monitoring as required under this subpart shall comply with the requirements specified in paragraphs (b)(1) through (6) of this section.

(1) *Monitoring method.* Monitoring shall comply with Method 21 of appendix A of 40 CFR part 60, except as otherwise provided in this section.

(2) *Detection instrument performance criteria.* (i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of appendix A of 40 CFR part 60, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the representative composition of the process fluid not each individual organic compound in the stream. For process streams that contain nitrogen, air, water, or other inerts that are not organic hazardous air pollutants or volatile organic compounds, the response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted. Maintain the record specified by § 65.119(b)(8).

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) *Detection instrument calibration procedure.* The detection instrument shall be calibrated before use on each day of its use by the procedures speci-

fied in Method 21 of appendix A of 40 CFR part 60.

(4) *Detection instrument calibration gas.* Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air) and the gases specified in paragraph (b)(4)(i) of this section except as provided in paragraph (b)(4)(ii) of this section.

(i) Mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(ii) A calibration gas other than methane in air may be used if the instrument does not respond to methane 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 of the 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 (5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in § 65.106(a)(2), (b)(3), or (b)(4) for valves or § 65.108(b)(3) for connectors, provided the departures from the criteria or from the specified monitoring frequency of § 65.106(b)(3) or (4) 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 6

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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 using a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) *Instrument monitoring readings and 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 (5) of this section. In such cases, 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 § 65.111(b) (pressure relief devices) or § 65.112(f) (alternative compressor standard). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the following procedures:

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

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

(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 appendix A of 40 CFR part 60.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 65.111(b) (pressure relief devices) or § 65.112(f) (alternative compressor standard).

(d) *Sensory monitoring methods.* Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

(e) *Leaking equipment identification and records.* (1) When each leak is detected, a weatherproof and readily visible identification shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in paragraphs (e)(2)(i) and (ii) of this section shall be recorded and kept pursuant to § 65.4(a), except the information for valves complying with the 2-year monitoring period allowed under § 65.106(b)(3)(v), and connectors complying with the 8-year monitoring period allowed under § 65.108(b)(3)(iii) shall be kept 5 years beyond the date of the last use of the information to set a monitoring period.

(i) The instrument, the equipment identification, and the instrument operator's name, initials, or identification number if a leak is detected or confirmed by instrument monitoring.

(ii) The date the leak was detected.

§ 65.105 Leak repair.

(a) *Leak repair schedule.* The owner or operator shall repair each leak detected as soon as practical but not later than 15 calendar days after it is detected except as provided in paragraph (d) or (e) of this section. A first attempt at repair as defined in subpart A of this part 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) [Reserved]

(c) *Leak identification removal.* (1) *Valves and connectors.* The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in § 65.106(d)(2) 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 § 65.108(b)(3)(iv) and no leak