

Proposed Boilerplate Condition for Fugitives (28BACT previously named 28VHP)

The following requirements apply to piping, valves, connectors, pumps, agitators, and compressors in contact with liquid and/or gas with greater than 0.1 weight percent volatile organic compounds (VOC) unless they operate at a pressure at least 5 kilopascals (0.725 psi) below ambient pressure or the VOC is open to atmosphere directly or through an open system. Equipment excluded from this condition shall be identified in a list or by one of the following methods: piping and instrumentation diagram (PID); a written or electronic database or electronic file; color-coding; a form of weatherproof identification; or designation of exempted process unit boundaries. (28BACT)

- A. The requirements of paragraphs F and G shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F, (2) the component is in pipeline quality sweet natural gas service, or (3) instrumentation systems. Equipment/components subject to this condition shall be identified in a list which specifies whether it is subject to paragraphs F and G and why. Components in pipeline quality sweet natural gas service or in instrumentation systems do not need to be identified individually.
- B. The following apply to new and reworked components, equipment, and piping.
 - (1) Construction of piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
 - (2) Underground piping shall contain no buried valves such that fugitive emission monitoring is rendered impractical. Buried connectors shall be welded.
 - (3) To the extent that good engineering practice will permit, valves and piping connections shall be so located to be reasonably accessible for leak checking during plant operation.
 - (4) Piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter.
- C. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), subject to monitoring per paragraphs F and G, shall be identified in the component list specified in paragraph A above. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.
- D. Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for maintenance or the removal of a component for repair or replacement results in an open ended line

or valve, the date and component identifier shall be recorded and the open-ended line is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must record the completion of either of the following actions within that time period;

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or
- (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit shutdown lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72-hour period following the creation of the open-ended line and monthly thereafter with an approved gas analyzer and the results recorded. Leaks are indicated by readings of greater than 500 parts per million by volume (ppmv) and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

- E. Components not subject to paragraphs F and G shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through and any leaking components shall be recorded and action taken in accordance with paragraphs H and I of this condition.
- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored.

If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The detection instrument shall meet the performance criteria of Method 21 of 40 CFR Part 60, Appendix A, except the instrument response factor criteria in section 8.1.1 of Method 21 shall be for the representative composition of the process fluid, not each individual VOC in the stream. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with any other VOC so long as the instrument has a response factor of less than 10 for the VOC mixture to be measured.

- G. All pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may

include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

H. Valves or connectors found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.

I. Tagged components shall be repaired as soon as practicable, but no later than 15 days after the leak is found. Leaking components that are repaired or replaced and any connectors that have been broken shall be re-monitored with an approved gas analyzer within 15 days of being placed back into service. Connectors that have been broken and components not subject to paragraphs F and G of this condition may be gas or hydraulic tested at no less than operating pressure prior to returning the components to service in lieu of instrument monitoring. The performance and results of the testing shall be recorded. Adjustments shall be made as necessary to obtain leak-free performance.

If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list.

The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. The emissions necessary to complete the repair shall be estimated as the expected emissions from a process unit shutdown, clearing, and subsequent startup of the unit, including the basis for the calculation and all assumptions made. If the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown exceeds the greater of 1000 pounds or the expected emissions necessary to accomplish the repair, the TCEQ Regional Manager and any local programs shall be notified and the Executive Director may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of paragraphs F and G of this condition. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.