APPLICATION REVIEW CHECKLIST

LAND PROTECTION DIVISION
HAZARDOUS WASTE PROGRAM

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

Facility Name: _____

Facility ID No.: _____ ODEQ Permit No.: _____ Reference No.: _____

Application Type: _____ Date: _____
(New/Modify/Renewal)

Administrative Reviewer: _____ Start Date: _____ Completion Date: _____

Technical Reviewer: _____ Start Date: _____ Completion Date: _____

Issuance Deadline: _____

40 CFR 264 Subpart AA

AIR EMISSION STANDARDS FOR PROCESS VENTS

ODEQ Form Number
XXX - XXX

Shaded areas for ODEQ use only

ITEM #	FEDERAL REGULATIONS 40 CFR	STATE REGULATIONS OAC 252:205	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE YES/NO/NA	TECHNICALLY COMPLETE YES/NO/NA	REMARKS
APPLICABILITY - 264.1030							
AA 1	264.1030(a)		**Applies to facilities that treat, store, or dispose of hazardous wastes (except as provided in 264.1)**				

ITEM #	FEDERAL REGULATIONS 40 CFR	STATE REGULATIONS OAC 252:205	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE	TECHNICALLY COMPLETE	REMARKS
					YES/NO/NA	YES/NO/NA	

AA 2	264.1030(b)		• **Except for 264.1034 (d) and (e), applies to**
			  • **process vents associated with distillation,**
			  • **fractionation,**
			  • **thin-film evaporation,**
			  • **solvent extraction, or**
			  • **air or steam stripping operations**
			that manage hazardous wastes with organic concentrations of at least 10-ppmw, if these operations are conducted in:				

AA 3	264.1030(b)(1)		Permitted units under 270, or				
AA 4	264.1030(b)(2)		Hazardous waste recycling units located on permitted hazardous waste management facilities under 270.				
(AA 5) **DEFINITIONS - 264.1031** [see definitions at the end of this module].							
STANDARDS: PROCESS VENTS - 264.1032							
AA 6	264.1032(a)		**A facility with process vents associated with** • **distillation,** • **fractionation,** • **thin-film evaporation,** • **solvent extraction, or** • **air or steam stripping operations** **managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:**				

Facility Name _____
Reference No. _____

A. Reviewer's Initials _____ Tracking Date _____

T. Reviewer's Initials _____ Tracking Date _____

ITEM #	FEDERAL REGULATIONS 40 CFR	STATE REGULATIONS OAC 252:205	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE	TECHNICALLY COMPLETE	REMARKS
					YES/NO/NA	YES/NO/NA	
AA 7	264.1032(a)(1)		Reduce total organic emissions from affected process vents below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or				
AA 8	264.1032(a)(2)		Reduce, by use of a control device, total organic emissions from affected process vents by 95 weight percent.				
AA 9	264.1032(b)		**If the facility installs a closed-vent system and control device to comply with paragraph (a) of this section the closed-vent system and control device must meet the requirements of 264.1033.**				
AA 10	264.1032(c)		**Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests.** **The performance tests must conform to the requirements of 264.1034(c).**				
AA 11	264.1032(d)		**When a facility and the Agency do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in 264.1034(c) shall be used to resolve the disagreement.**				
STANDARDS: CLOSED-VENT SYSTEMS AND CONTROL DEVICES - 264.1033							
AA 12	264.1033(a)(1)		A facility with closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.				

Facility Name _____
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A. Reviewer's Initials _____ Tracking Date _____

T. Reviewer's Initials _____ Tracking Date _____

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AA 13	264.1033(a)(2)		An existing facility which cannot install a closed-vent system and control device on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed ASAP, but the implementation schedule may allow up to 18 months after the effective date for installation and startup. All units that begin operation after December 21, 1990, must comply immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 2-year implementation schedule does not apply to these units.				
AA 14	264.1033(b)		**A vapor recovery control device (e.g., a condenser or adsorber) is to recover the vented organic vapors at a minimum 95 weight percent efficiency unless the total organic emission limits of 264.1032(a)(1) for all affected process vents are attained with less than 95 weight percent efficiency.**				
AA 15	264.1033(c)		**An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) is** • **to reduce the organic emissions by at least 95 weight percent;** • **to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or** • **to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 'C.** **If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.**				

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					YES/NO/NA	YES/NO/NA	
AA 16	264.1033(d)(1)		A flare shall have no visible emissions as determined by the methods in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.				
AA 17	264.1033(d)(2)		A flare shall be operated with a flame present at all times, as determined by the methods in paragraph (f)(2)(iii) of this section.				
AA 18	264.1033(d)(3)		A flare shall be used only • if the net heating value of the combusted gas is 11.2 MJ/scm (300 Btu/scf) or greater for steam-assisted or air-assisted flare; or • if the net heating value of the combusted gas is 7.45 MJ/ scm (200 Btu/scf) or greater for non-assisted flare. The net heating value of the gas being combusted shall be determined by the methods in paragraph (e)(2) of this section.				
AA 19	264.1033(d)(4)		A steam-assisted or non-assisted flare shall have an exit velocity less than 18.3 m/s (60 ft/s), as determined by the methods in paragraph (e)(3) of this section, except as provided in paragraphs (d)(4) (ii) and (iii) of this section. A steam-assisted or non-assisted flare with an exit velocity between 18.3 m/s (60 ft/s) and 122 m/s (400 ft/s), as determined by the methods in paragraph (e)(3) of this section, is allowed if the net heating value of the combusted gas is greater than 37.3 MJ/scm (1,000 Btu/scf), A steam-assisted or non-assisted flare with an exit velocity less than V_{max} and less than 122 m/s (400 ft/s) is allowed. The exit velocity is determined by the methods in paragraph (e)(3) of this section and V_{max} is determined by the method in paragraph (e)(4) of this section.				

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					YES/NO/NA	YES/NO/NA	
AA 20	264.1033(d)(5)		An air-assisted flare shall have an exit velocity less than V_{max} as determined by the method in paragraph (e)(5) of this section.				
AA 21	264.1033(d)(6)		A flare used to comply with this section shall be steam-assisted, air-assisted, or non-asssisted.				
AA 22	264.1033(e)(1)		Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.				

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AA 23	264.1033(e)(2)		The net heating value of the combusted gas in a flare shall be calculated using the following equation: $$H_T = K \left[\sum_{i=1}^{n} C_i H_i \right]$$ where: H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 ^oC and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 ^oC; K= Constant, $1.74 x 10^{-7}$ (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 ^oC; C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in 260.11); H_i = Net heat of combustion of sample component i, kcal/9 mol at 25 ^oC and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in §260.11) if published values are not available or cannot be calculated.				

Facility Name _____
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T. Reviewer's Initials _____ Tracking Date _____

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					YES/NO/NA	YES/NO/NA	
AA 24	264.1033(e)(3)		The actual exit velocity of a flare shall be the volumetric flow rate divided by the unobstructed (free) cross-sectional area of the flare tip. The volumetric flow rate is in units of standard temperature and pressure, as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate.				
AA 25	264.1033(e)(4)		The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation: $\text{Log}_{10}(\text{Vmax}) = (H_T + 28.8)/31.7$ where: 28.8 = Constant 31.7 = Constant H_T = The net heating value as determined in paragraph (e)(2) of this section.				
AA 26	264.1033(e)(5)		The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation: $V_{max} = 8.706 + 0.7084 (H_T)$ where: 8.706 = Constant 0.7084 = Constant H_T = The net heating value as determined in paragraph (e)(2) of this section.				

Facility Name _____
Reference No. _____

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T. Reviewer's Initials _____ Tracking Date _____

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AA 27	264.1033(f)		**The facility shall monitor and inspect each control device required to comply with this section by implementing the following requirements:**				
AA 28	264.1033(f)(1)		Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.				
AA 29	264.1033(f)(2)		Install, calibrate, maintain, and operate, according to the manufacturer's specifications, a device to continuously monitor control device operation as specified below: (i) For a thermal vapor incinerator, a temperature monitoring device must be equipped with a continuous recorder with an accuracy of ±l percent or ±0.5 ^{o}C, whichever is greater. The sensor shall be in the combustion chamber downstream of the combustion zone. (ii) For a catalytic vapor incinerator, a temperature-monitoring device must be equipped with a continuous recorder. The device shall monitor temperature at two locations and have an accuracy of ±l percent or ±0.5 ^{o}C, whichever is greater. One sensor shall be in the vent stream nearest to the catalyst bed inlet and a second sensor shall be in the vent stream nearest to the catalyst bed outlet. (iii) For a flare, a heat sensing monitoring device must be equipped with a continuous recorder that indicates the continuous ignition of the pilot flame. (iv) For a boiler or process heater with a heat input capacity less than 44 MW, a temperature monitoring device				

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AA 29 cont.	264.1033(f)(2) cont.		must be equipped with a continuous recorder with an accuracy of ±l percent or ±0.5 °C, whichever is greater. The sensor shall be in the furnace downstream of the combustion zone. (v) For a boiler or process heater with a heat input capacity greater than or equal to 44 MW, a monitoring device must be equipped with a continuous recorder to indicate good combustion operating practices. (vi) For a condenser, either: (A) A monitoring device equipped with a continuous recorder to measure the concentration of the organic compounds in the exhaust vent stream from the condenser, or (B) A temperature-monitoring device equipped with a continuous recorder. The device shall monitor temperature at two locations with accuracy of ±l percent or ±0.5 °C, whichever is greater. One sensor shall be in the exhaust vent stream from the condenser, and a second sensor shall be in the coolant fluid exiting the condenser. (vii) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either: (A) A monitoring device equipped with a continuous recorder to measure the concentration of the organic compounds in the exhaust vent stream from the carbon bed, or (B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular pre-determined time cycle.				

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AA 30	264.1033(f)(3)		Inspect the readings from each monitoring device required by paragraphs (f)(1) and (2) of this section at least once each operating day and, if necessary, immediately implement the corrective measures to operate in compliance with the requirements of this section.				
AA 31	264.1033(g)		**A facility using a carbon adsorption system, such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of 264.1035(b)(4)(iii)(F).**				
AA 32	264.1033(h)		**A facility using a carbon adsorption system, such as a carbon canister that does <u>not</u> regenerate the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:**				
AA 33	264.1033(h)(1)		Monitor the concentration of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established in 264.1035(b)(4)(iii)(G), whichever is longer.				
AA 34	264.1033(h)(2)		Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established in 264.1035(b)(4)(iii)(G).				

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AA 35	264.1033(i)		**An alternative operational or process parameter may be monitored if the alternative parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.**				
AA 36	264.1033(j)		**An affected facility using a control device other than** • **a thermal vapor incinerator,** • **catalytic vapor incinerator,** • **flare,** • **boiler,** • **process heater,** • **condenser, or** • **carbon adsorption system** **is required to develop information on the control device operation and identify the process parameter(s) that indicate proper operation and maintenance.**				
AA 37	264.1033(k)(1)		Closed-vent systems shall have no detectable emissions, by an instrument reading of less than 500 ppm above background and by visual inspections, as determined by the methods in 264.1034(b).				
AA 38	264.1033(k)(2)		Closed-vent systems shall be monitored during the initial leak detection monitoring, which shall be conducted by the date that the facility becomes subject to the provisions of this section, annually, and at other times as requested by the Agency.				
AA 39	264.1033(k)(3)		Detectable emissions, as indicated by a reading greater than 500 ppm and visual inspections, shall be controlled as soon as practicable but not later than 15 calendar days after the emission is detected.				

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					YES/NO/NA	YES/NO/NA	
AA 40	264.1033(k)(4)		A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.				
AA 41	264.1033(l)		**Closed-vent systems and control devices shall be operated at all times when emissions may be vented to them.**				
TEST METHODS AND PROCEDURES - 264.1034							
AA 42	264.1034(a)		**A facility subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.**				
AA 43	264.1034(b)		**When a closed-vent system is tested for compliance with no detectable emissions, as required in 264.1033(k), the test shall comply with the following requirements:**				
AA 44	264.1034(b)(1)		Monitoring shall comply with Reference Method 21 in 40 CFR part 60.				
AA 45	264.1034(b)(2)		The detection instrument shall meet the performance criteria of Reference Method 21.				
AA 46	264.1034(b)(3)		The instrument shall be calibrated before use on each day of its use by the procedures in Reference Method 21.				
AA 47	264.1034(b)(4)		Calibration gases shall be: (i) Zero air (less than 10 ppm of hydrocarbon in air). (ii) A mixture of methane or n-hexane and air at a concentration approximating but less than 10,000 ppm methane or n-hexane.				
AA 48	264.1034(b)(5)		The background level shall be determined as set forth in Reference Method 21.				
AA 49	264.1034(b)(6)		The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.				

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AA 50	264.1034(b)(7)		The difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.				
AA 51	264.1034(c)		**Performance tests to determine compliance with 264.1032(a) and with the total organic concentration limit of 264.1033(c) shall comply with the following:**				
AA 52	264.1034(c)(1)		Performance tests to determine total organic concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced as follows: (i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate. (ii) Method 18 in 40 CFR part 60 for organic content. (iii) Each test shall consist of three separate runs; each run is at least 1 hour under the operating conditions at the expected highest load or capacity. To determine total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis. (iv) Total organic mass flow rates shall be determined by the following equation: $E_h = Q_{sd} \{\sum_{i=1}^{n} C_i MW_i\}[0.0416 \times 10^{-6}]$ where: E_h = Total organic mass flow rate, kg/h; Q_{sd} = Volumetric flow rate of gases entering or exiting				

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AA 52 (cont.)	264.1034(c)(1) (cont.)		control device, as determined by Method 2, dscm/h; n = Number of organic compounds in the vent gas; C_i = Organic concentration in ppm, dry basis of compound i in the vent gas, as determined by Method 18; MW_i = molecular weight of organic compound i in the vent gas, kg/kg-mol; 0.0416 = Conversion factor for molar volume, kg-mol/m3 (@ 293 K and 760 mm Hg); 10^{-6} = Conversion from ppm, ppm^{-1}. (v) The annual total organic emission rate shall be determined by the following equation: $$E_A = (E_h)(H)$$ where: E_A = Total organic mass emission rate, kg/y; E_h = Total organic mass flow rate for the process vent, kg/h; H = Total annual hours of operations for the affected unit, h. (vi) Total organic emissions shall be determined by summing E_h and by summing E_A for all affected process vents at the facility.				
AA 53	264.1034(c)(2)		The facility shall record process information to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions of a performance test.				

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AA 54	264.1034(c)(3)		The facility shall provide performance testing facilities as follows: (i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section. (ii) Safe sampling platforms. (iii) Safe access to sampling platforms. (iv) Utilities for sampling and testing equipment.				
AA 55	264.1034(c)(4)		For compliance determination, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or other circumstances beyond the facility's control, compliance may, upon the Agency's approval, be determined using the average of the results of the two other runs.				
AA 56	264.1034(d)		To show that a process vent associated with a hazardous waste • distillation, • fractionation, • thin-film evaporation, • solvent extraction, or • air or steam stripping operation is not subject to the requirements of this subpart, the facility must make an initial determination that the time-weighted, annual average total organic concentration is less than 10 ppmw using one of the following two methods:				

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AA 57	264.1034(d)(1)		Direct measurement of the organic concentration of the waste using the following procedures: (i) The facility must take a minimum of four grab samples for each waste stream under process conditions expected to cause the maximum waste organic concentration. (ii) For waste generated onsite, the grab samples must be collected before the waste is exposed to the atmosphere. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit, provided the waste has been transferred to the facility in a closed system and the waste is not diluted or mixed with other waste. (iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8240 of SW-846. (iv) The arithmetic mean of the analysis results of the four samples shall apply for each waste stream in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream.				

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AA 58	264.1034(d)(2)		If using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw, documentation of the waste determination is required. Examples of documentation to support a determination under this provision include • production process information documenting that no organic compounds are used, • information that the waste is identical to one at another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 ppmw, or • prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.				
AA 59	264.1034(e)		**The determination that** • **distillation,** • **fractionation,** • **thin-film evaporation,** • **solvent extraction, or** • **air or steam stripping operations** **manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:**				
AA 60	264.1034(e)(1)		By the effective date that the facility becomes subject to Subpart AA or by the date when the waste is first managed, whichever is later, and				

ITEM #	FEDERAL REGULATIONS 40 CFR	STATE REGULATIONS OAC 252:205	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE	TECHNICALLY COMPLETE	REMARKS
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AA 61	264.1034(e)(2)		For continuously generated waste, annually, or				
AA 62	264.1034(e)(3)		Whenever there is a change in the waste or a change in the process.				
AA 63	264.1034(f)		**When the facility and the Agency do not agree on whether** • **a distillation,** • **fractionation,** • **thin-film evaporation,** • **solvent extraction, or** • **air or steam stripping operation** **manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8240 may be used to resolve the dispute.**				
RECORD KEEPING REQUIREMENTS - 264.1035							
AA 64	264.1035(a)(1)		A facility subject to this subpart shall comply with the record-keeping requirement of this section.				
AA 65	264.1035(a)(2)		A facility with more than one hazardous waste management unit may comply with the record-keeping requirements in one record-keeping system if the system identifies each record by each hazardous waste management unit.				
AA 66	264.1035(b)		**The facility must record the following information in the operating record:**				

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AA 67	264.1035(b)(1)		For facilities complying with 264.1033(a)(2), an implementation schedule with dates that the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the operating record by the effective date.				
AA 68	264.1035(b)(2)		Up-to-date documentation of compliance with the process vent standards in 264.1032, including: (i) Information and data identifying all affected process vents, annual throughput and operating hours of each unit, estimated emission rates for each vent and for the overall facility, and the location within the facility of each affected unit. (ii) Information and data on vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For compliance, determinations of vent emissions and emission reductions must be made using operating values representing the maximum organic emission conditions, such as at the expected highest load or capacity level. If the facility takes any action that would result in an increase in total organic emissions, then a new determination is required.				
AA 69	264.1035(b)(3)		Where the facility chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include: (i) A description on how the planned test is going to be conducted when operating at the expected highest load				

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AA 69 cont.	264.1035(b)(3) cont.		or capacity level. This shall include the estimated or design flow rate and organic content and define the operating ranges of key process and control device parameters during the test. (ii) A detailed engineering description of the closed-vent system and control device including: (A) Manufacturer's name and model number of control device. (B) Type of control device (C) Dimensions of the control device. (D) Capacity. (E) Construction materials. (iii) A detailed description of sampling and monitoring procedures, including locations, equipment, frequency, and analytical procedures.				
AA 70	264.1035(b)(4)		Documentation of compliance with 264.1033 shall include the following information: (i) References and sources used in preparing the documentation. (ii) Records, including the dates, of each compliance test required by 264.1033(k). (iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on "APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as in 260.11) or other acceptable engineering texts that present basic control device design information. Manufacturer's documentation that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement.				

ITEM #	FEDERAL REGULATIONS 40 CFR	STATE REGULATIONS OAC 252:205	GENERAL DESCRIPTION	INFO LOCATION	ADMIN. COMPLETE YES/NO/NA	TECHNICALLY COMPLETE YES/NO/NA	REMARKS
AA 70 cont.	264.1035(b)(4) cont.		The design analysis shall address the vent stream characteristics and control device operation parameters as specified below. (A) For a thermal vapor incinerator: the vent stream composition, constituent concentrations, flow rate, minimum and average temperature in the combustion zone, and the combustion zone residence time. (B) For a catalytic vapor incinerator: the vent stream composition, constituent concentrations, flow rate, minimum and average temperatures across the catalyst bed inlet and outlet. (C) For a boiler or process heater: the vent stream composition, constituent concentrations, flow rate, minimum and average flame zone temperatures, combustion zone residence time, and method and location of the vent stream introduction into the combustion zone. (D) For a flare: the vent stream composition, constituent concentrations, flow rate, and requirements in 264.1033(d). (E) For a condenser: the vent stream composition, constituent concentrations, flow rate, relative humidity, temperature, outlet organic compound concentration level, average temperature of the exhaust vent stream, and average temperatures of the coolant fluid at the condenser inlet and outlet. (F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device: the vent stream composition, constituent concentrations, flow rate, relative humidity, temperature, exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, total steam flow over the period of each complete carbon bed regeneration cycle,				

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AA 70 cont.	264.1035(b)(4) cont.		duration of the carbon bed steaming and cooling/drying cycles, carbon bed temperature after regeneration, carbon bed regeneration time, and service life of carbon. (G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device: the vent stream composition, constituent concentrations, flow rate, relative humidity, temperature, outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule. (iv) A signed and dated certification by the facility that the operating parameters used in the design analysis represent the expected highest load or capacity level. (v) A signed and dated certification by the facility that the control device is designed to operate at an efficiency of 95% or greater, unless • the total organic concentration limit of 264.1032(a) is achieved at less than 95 weight % efficiency or • the total organic emission limits of 264.1032(a) can be attained by a vapor recovery control device at less than 95 weight % efficiency. A manufacturer's certification that the control equipment meets the design specs may be used to comply with this requirement. (vi) If performance tests are used to demonstrate compliance, all test results.				

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					YES/NO/NA	YES/NO/NA	
AA 71	264.1035(c)		**Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device shall be recorded and kept up-to-date in the operating record. The information shall include:**				
AA 72	264.1035(c)(1)		Description and date of each modification made to the closed-vent system or control device design.				
AA 73	264.1035(c)(2)		Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with 264.l033 (f)(1) and (f)(2).				
AA 74	264.1035(c)(3)		Monitoring, operating, and inspection information required by paragraphs (f) through (k) of 264.1033.				
AA 75	264.1035(c)(4)		Date, time, and duration of each period while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below: (i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760 ^{o}C, period when the combustion temperature is below 760 ^{o}C. (ii) For a thermal vapor incinerator designed to operate with a minimum organic emission reduction efficiency of 95 weight %, when the combustion zone temperature is more than 28 ^{o}C below the design average combustion zone temperature as a requirement of paragraph (b)(4)(iii)(A) of this section. (iii) For a catalytic vapor incinerator, period when: (A) Temperature at the catalyst bed inlet is more than 28 ^{o}C below the average temperature of the inlet as required by paragraph (b)(4)(iii)(B) of this section, or				

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AA 75 cont.	264.1035(c)(4) cont.		(B) Temperature difference across the catalyst bed is less than 80% of the design average temperature difference as required by paragraph(b)(4)(iii)(B) of this section. (iv) For a boiler or process heater, period when: (A) Flame zone temperature is more than 28 ^{o}C below the design average flame zone temperature as required by paragraph (b)(4)(iii)(C) of this section, or (B) Position changes where the vent stream is introduced to the combustion zone from the location required by paragraph (b)(4)(iii)(C) of this section. (v) For a flare, period when the pilot flame is not ignited. (vi) For a condenser complying with 264.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust from the condenser are more than 20 percent greater than the design outlet organic compound concentration level as required by paragraph (b)(4)(iii)(E) of this section. (vii) For a condenser complying with 264.1033(f)(2)(vi)(B), period when: (A) Temperature of the exhaust from the condenser is more than 6 ^{o}C above the design average exhaust temperature as required by paragraph (b)(4)(iii)(E) of this section; or (B) Temperature of the coolant fluid exiting the condenser is more than 6 ^{o}C above the design average coolant fluid temperature at the condenser outlet as required by paragraph (b)(4)(iii)(E) of this section. (viii) For a carbon adsorption system such as a fixed-bed				

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AA 75 cont.	264.1035(c)(4) cont.		carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with §264.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust from the carbon bed are more than 20% greater than the design exhaust organic compound concentration level as required by paragraph (b)(4)(iii)(F) of this section. (ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with §264.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time as required by paragraph (b)(4)(iii)(F) of this section.				
AA 76	264.1035(c)(5)		Explanation for each period recorded under paragraph (4) of the cause for exceeding the design value and the measures implemented to correct the control device operation.				
AA 77	264.1035(c)(6)		For carbon adsorption system subject to 264.1033(g) or 264.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.				
AA 78	264.1035(c)(7)		For a carbon adsorption system subject to 264.1033(h)(1), a log that records: Date and time when control device is monitored for carbon breakthrough and the monitoring device reading. Date when existing carbon in the control device is replaced with fresh carbon.				
AA 79	264.1035(c)(8)		Date of each control device startup and shutdown.				
AA 80	264.1035(d)		**Records of the monitoring, operating, and inspection information required by paragraphs (c)(3)-(c)(8) of this section need be kept only 3 years.**				

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					YES/NO/NA	YES/NO/NA	
AA 81	264.1035(e)		**For a control device other than** • **a thermal vapor incinerator,** • **catalytic vapor incinerator,** • **flare,** • **boiler,** • **process heater,** • **condenser, or** • **carbon adsorption system,** **the Agency will specify the appropriate record-keeping requirements.**				
AA 82	264.1035(f)		**Up-to-date information and data used to determine whether or not a process vent is subject to 264.1032, including supporting documentation as required by 264.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the operating record.**				
REPORTING REQUIREMENTS - 264.1036							
AA 83	264.1036(a)		The facility shall submit a semiannual report by dates specified by the Agency. The report shall include the following information:				
AA 84	264.1036(a)(1)		EPA ID number, name, and address of the facility.				

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					YES/NO/NA	YES/NO/NA	
AA 85	264.1036(a)(2)		For each month during the semi-annual reporting period, dates when the control devise exceeded the design specs. as defined in 264.1035(c)(4) and as indicated by the control device monitoring required by §264.1033(f) when such exceedances were not corrected within 24 hours, or dates that a flare operated with visible emissions as defined in 264.1033(d) and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.				
AA 86	264.1036(b)		**If, during the semi-annual reporting period, there is no exceedance as defined in 264.1035(c)(4) for more than 24 hours or a flare does not operate with visible emissions as defined in 264.1033(d), a report to the Agency is not required.**				

(AA 5) **DEFINITIONS - 264.1031**

All terms not defined herein shall have the meaning given them in the Act and parts 260 -266.

Air stripping operation A desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid.
Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

Bottoms receiver A container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

Closed-vent system A system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

Condenser A heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

Connector Flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment.
For the purposes of reporting and record-keeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

Continuous recorder A data-recording device recording an instantaneous data value at least once every 15 minutes.

Control device An enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser, on a solvent recovery unit) is not a control device.

Control device shutdown The cessation of operation of a control device for any purpose.

Distillate receiver A container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

Distillation operation Operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

Double block & bleed system Two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment Each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange, and any control devices or systems required by this subpart.

Flame zone The portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator A device that indicates whether gas flow is present in a vent stream.

First attempt at repair To take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fractionation operation A distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

Hazardous waste management unit shutdown A work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

Hot well A container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

In gas/vapor service The piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

In heavy liquid service The piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service The piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than 0.3 kilopascals (kPa) at 20 ^{o}C, the total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 ^{o}C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

In situ sampling systems Nonextractive samplers or in-line samplers.

In vacuum service Equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

Malfunction Any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

Open-ended valve or line Any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release The emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

Process heater A device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

Process vent Any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

Repaired Equipment is adjusted, or otherwise altered, to eliminate a leak.

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

Separator tank A device used for separation of two immiscible liquids.

Solvent extraction operation	An operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.
Startup	The setting in operation of a hazardous waste management unit or control device for any purpose.
Steam stripping operation	A distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.
Surge control tank	A large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.
Thin-film evaporation operation	A distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wallby a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.
Vapor incinerator	Any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.
Vented	Discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by eating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.