

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AIR QUALITY DIVISION

AIR POLLUTION CONTROL

Filed with the secretary of state on April 18, 2023

These rules take effect immediately upon filing with the secretary of state unless adopted under section 33, 44, or 45a(9) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. Rules adopted under these sections become effective 7 days after filing with the secretary of state.

(By authority conferred on the director of the department of environment, Great Lakes, and energy by sections 5503 and 5512 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5503 and 324.5512, and Executive Reorganization Order Nos. 1995-16, 2009-31, and 2011-1, MCL 324.99903, 324.99919, and 324.99921)

R 336.1601, R 336.1602, R 336.1606, R 336.1607, R 336.1608, R 336.1609, R 336.1610, R 336.1611, R 336.1618, R 336.1620, R 336.1621, R 336.1622, R 336.1623, R 336.1624, R 336.1625, R 336.1627, R 336.1628, R 336.1629, R 336.1630, R 336.1631, R 336.1632, and R 336.1660 of the Michigan Administrative Code are amended, R 336.1610a, R 336.1620a, R 336.1621a, R 336.1624a, R 336.1633, R 336.1634, R 336.1635, R 336.1636, R 336.1637, R 336.1638, R 336.1639, R 336.1640, R 336.1641, R 336.1642, R 336.1643, R 336.1644, and R 336.1662 are added, and R 336.1661 is rescinded, as follows:

PART 6. EMISSION LIMITATIONS AND PROHIBITIONS--
EXISTING SOURCES OF VOLATILE ORGANIC COMPOUND EMISSIONS

R 336.1601 Definitions.

Rule 601. As used in this part:

(a) "2015 ozone nonattainment area" means Berrien, Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, Wayne, the western portion of Allegan, and the western portion of Muskegon Counties.

(b) "Eastern portion of Muskegon County" means the areas located in Muskegon County described as Casnovia Township, Cedar Creek Township, Egelston Township, Holton Township, Moorland Township, Ravenna Township, and Sullivan Township.

(c) "Existing source" means any process or process equipment that is subject to the rules listed in table 60 and has either has been placed into operation before the corresponding date listed in table 60, or for which an application for a permit to install, pursuant to the provisions of part 2 of these rules, was made to the department before the corresponding date listed in table 60. The term does not include a process or process

equipment operated for research, development, or pilot studies, if the operation is not for the purpose of producing saleable products or goods.

TABLE 60

Rules	Date
R 336.1604 to R 336.1605	July 1, 1979
R 336.1606 to R 336.1609	March 1, 2023
R 336.1610	July 1, 1979
R 336.1610a	March 1, 2023
R 336.1611 to R 336.1617	July 1, 1979
R 336.1618	March 1, 2023
R 336.1620	July 1, 1980
R 336.1620a	March 1, 2023
R 336.1621	July 1, 1980
R 336.1621a	March 1, 2023
R 336.1622 to R 336.1624	July 1, 1980
R 336.1624a	March 1, 2023
R 336.1625	July 1, 1980
R 336.1628	January 5, 1981
R 336.1629	January 20, 1984
R 336.1630 and R 336.1631	July 1, 1987
R 336.1632 to R 336.1644	March 1, 2023
Any process or process equipment not subject to the provisions of any rule in this part.	July 1, 1979

(d) “Heavier vehicles” means a self-propelled vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

(e) “Local distribution company custody transfer station” means a metering station where a local distribution company receives a natural gas supply from an upstream supplier, which may be an interstate transmission pipeline or a local natural gas producer, for delivery to customers through the local distribution company's intrastate transmission or distribution lines.

(f) “Natural gas distribution” means the distribution pipelines and metering and regulating equipment at metering-regulating stations that are operated by a local distribution company within a single state that is regulated as a separate operating company by a public utility commission or that is operated as an independent municipally owned distribution system.

(g) “Natural gas processing” means the process of separating and recovering certain hydrocarbons and fluids from the raw gas to produce pipeline quality natural gas and natural gas products.

(h) “Natural gas processing plant” means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural

gas products or both. Natural gas processing plant does not include a Joule-Thompson valve, a dew point depression valve, or an isolated or standalone Joule-Thompson skid.

(i) "Natural gas transmission and storage" means the transport or storage of natural gas prior to delivery to a local distribution company custody transfer station or to a final end user if there is no local distribution company custody transfer station. For the purposes of this part, natural gas enters the natural gas transmission and storage segment after the natural gas processing plant, when present.

(j) "Oil and natural gas industry" means the operations involved in the extraction and production of crude oil and natural gas, as well as the processing, transmission, storage, and distribution of natural gas. For the purposes of the rules in this part, oil and natural gas industry operations will be referred to in the following 4 segments:

- (i) Oil and natural gas production.
- (ii) Natural gas processing.
- (iii) Natural gas transmission and storage.
- (iv) Natural gas distribution.

(k) "Oil and natural gas production" means operations including the wells and all related processes used in the extraction, production, recovery, lifting, stabilization, and separation or treating of oil or natural gas, or both, including condensate.

(l) "Person responsible" means a person that owns, leases, controls, operates, or supervises a source of air contaminants.

(m) "Well site" means a site where any combination of the following occurs to petroleum or natural gas, including condensate, or both:

- (i) Extraction.
- (ii) Recovery.
- (iii) Lifting.
- (iv) Stabilization.
- (v) Separation.
- (vi) Treating.

(n) "Western portion of Allegan County" means the areas in Allegan County described as Casco Township, Cheshire Township, city of Douglas, city of Holland, city of Saugatuck, Clyde Township, Fillmore Township, Ganges Township, Heath Township, Laketown Township, Lee Township, Manlius Township, Overisel Township, Saugatuck Township, and Valley Township.

(o) "Western portion of Muskegon County" means the areas located in Muskegon County described as Blue Lake Township, city of Montague, city of Muskegon, city of Muskegon Heights, city of North Muskegon, city of Roosevelt Park, city of Whitehall, Dalton Township, including the village of Lakewood Club, Fruitland Township, Fruitport Township, including the village of Fruitport, Laketon Township, Montague Township, Muskegon Township, city of Norton Shores, White River Township, and Whitehall Township.

R 336.1602 Existing sources of volatile organic compound emissions generally.

Rule 602. (1) A person shall not cause or allow the emission of volatile organic compounds from any existing source in excess of the provisions of any rule of this part or the maximum allowable emission rate specified in any of the following, whichever results in the lowest maximum allowable emission rate:

- (a) A permit to install.
 - (b) A renewable operating permit issued under R 336.1210.
 - (c) A voluntary agreement.
 - (d) A performance contract.
 - (e) A stipulation.
 - (f) An order of the department.
- (2) Department approvals for the equivalent emission rates, alternate emission rates, or compliance methods that are authorized pursuant to any of the provisions listed in subdivision (a) of this subrule must comply with all of the following provisions:
- (a) The provisions of this subrule apply to approvals by the department pursuant to any of the following provisions:
 - (i) R 336.1610(5)(a) (More than 24-hour but less than 1-month averaging period).
 - (ii) R 336.1610(11) table 63 (Column B - transfer efficiency).
 - (iii) R 336.1610a(4)(d)(i) (More than 24-hour but less than 1-month averaging period).
 - (iv) R 336.1610a(4)(e)(vii) (Alternative compliance method).
 - (v) R 336.1610a(4) table 64-b and table 64-d (Column B – transfer efficiency).
 - (v) R 336.1611(1) (Equivalent control method).
 - (vi) R 336.1620(4)(a) (More than 24-hour but less than 1-month averaging period).
 - (vii) R 336.1621(4) (Transfer efficiency).
 - (viii) R 336.1621(4) (Baseline transfer efficiency less than 60%).
 - (ix) R 336.1621(6)(a) (More than 24-hour but less than 1-month averaging period).
 - (x) R 336.1621(9)(e) (Metallic-nonmetallic part).
 - (xi) R 336.1621a(2)(b)(ii) (Metallic-nonmetallic part).
 - (xii) R 336.1621a(3)(c) (Alternate emission limits).
 - (xiii) R 336.1621a(3)(h)(i) (More than 24-hour but less than 1-month averaging period).
 - (xiv) R 336.1622(1) (Equivalent control method).
 - (xv) R 336.1623(1) (Equivalent control method).
 - (xvi) R 336.1623(8)(d) (Equivalent compliance provisions).
 - (xvii) R 336.1624(1) (Equivalent emission rate).
 - (xviii) R 336.1624(5)(d) (More than 24-hour but less than 1-month averaging period).
 - (xix) R 336.1625(1) (Equivalent control method, except alternative to condenser in R 336.1625(2)(b)).
 - (xx) R 336.1625(2)(b) (Alternative control method).
 - (xxi) R 336.1625(8) (Alternative control system).
 - (xxii) R 336.1628(1) (Equivalent control method).
 - (xxiii) R 336.1629(1) (Equivalent control method).
 - (xxiv) R 336.1630(1) (Equivalent control method).
 - (xxv) R 336.1631(1) (Equivalent control method).
 - (xxvi) R 336.1631(5) (Alternate compliance method).
 - (xxvii) R 336.1632(6)(a) (More than 24-hour but less than 1-month averaging period).
 - (xxviii) R 336.1633(3)(f)(i) (More than 24-hour but less than 1-month averaging period).
 - (xxix) R 336.1636(4)(a) (Alternate emission limits).
 - (xxx) R 336.1636(6)(b)(i) (More than 24-hour but less than 1-month averaging period).

(xxxix) R 336.2004(4) (Alternate test method).

(xxxviii) R 336.2040(5)(a)(i)(A) (Alternate test method).

(xxxvii) R 336.2040(5)(a)(iv) (Alternate test method).

(xxxvi) R 336.2040(9) (Transfer efficiency test method).

(xxxv) R 336.2040(9)(j)(ii) (Alternate measurement procedure).

(xxxiv) R 336.2040(10) (Modified capture efficiency test method).

(xxxiii) R 336.2040(11)(a)(iv) (Alternate test method).

(xxxii) R 336.2040(11)(b)(ii) (Alternate test method).

(b) Upon application for a new permit or order, or revision to an existing permit or order, to request the approval of the provisions outlined in subdivision (a) of this subrule, the source shall submit a demonstration containing the following, as applicable:

(i) Reasons why the applicant is requesting an alternative.

(ii) Information demonstrating why the limitation or requirement as described in the applicable part 6 rule is not possible to attain.

(iii) Explanation of why alternative options, such as implementation of add-on controls or modifying coating formulations would not be sufficient to meet other part 6 rules.

(iv) A demonstration showing why the ozone National Ambient Air Quality Standard will not be affected.

(v) Additional pertinent information, as needed.

(c) At a minimum, the portion of or the whole proposed draft permit or order approval related to this rule is subject to a 30-day public comment period. When the proposed approval is noticed for a 30-day public comment period, a copy of the notice must also be sent to the United States Environmental Protection Agency.

(d) The proposed draft permit or order approval must offer a public hearing upon request immediately after the 30-day public comment period that is required in subdivision (c) of this subrule.

(e) The department approval becomes part of a legally enforceable order of the department or permit to install.

(f) Upon department issuance of the legally enforceable document identified in subdivision (e) of this subrule, it must be sent to the United States Environmental Protection Agency as a request for a revision of the state implementation plan, together with all of the other information that is required for the submittal of a complete state implementation plan revision request. Department approval and the legally enforceable document does not affect the federally approved state implementation plan until and unless the submitted state implementation plan revision request is formally approved by the United States Environmental Protection Agency.

(3) Department approval of a derivative authorized by the provision in R 336.1625(4) include the following actions:

(a) The department approval becomes part of a legally enforceable order of the department or permit to install.

(b) A copy of the legally enforceable document that is identified in subdivision (a) of this subrule is sent to the United States Environmental Protection Agency.

(4) A person responsible for a facility with allowed or potential volatile organic compound emissions equal to or greater than 100 tons per year located in the 2015 ozone nonattainment area for which no reasonably available control technology (RACT)

requirement has been established in R 336.1604 to R336.1644, shall meet the following requirements:

(a) Any source at a facility subject to this subrule that has an actual emission rate of volatile organic compounds of less than 2.7 tons per calendar year before consideration of controls does not apply to the provisions within this subrule and must obtain current information and keep records that are necessary for the determination of compliance with the provisions of this subrule, unless either of the following applies:

(i) The actual emission rate equals or is more than 2.7 tons per calendar year for a subsequent year, then this subrule permanently applies to these sources.

(ii) The total combined emission rate for sources applicable to this subdivision is more than 25 tons per year, then the provisions of this subrule permanently applies.

(b) Provide the department and United States Environmental Protection Agency with the following information within 3 months after final promulgation of this rule revision:

(i) Identification of each facility, including individual emission sources, to which this rule applies.

(ii) Determination of the total potential to emit and the actual emissions of volatile organic compounds for the most recent calendar year from each source at the facility using emission testing, mass balance, or a calculation method acceptable by the department.

(c) Provide the department and United States Environmental Protection Agency a proposal for RACT for each source of volatile organic compounds at a facility within 6 months after final promulgation of this rule revision, or an alternative timeframe approved by the department. The RACT proposal must include, at a minimum, the following information:

(i) A list of each source subject to the RACT requirements.

(ii) The size or capacity of each affected source and the types and quantities of materials processed or produced in each source.

(iii) A physical description of each source and its operating characteristics.

(iv) Estimates of the potential and actual volatile organic compound emissions from each affected source and associated supporting documentation.

(v) A RACT analysis that meets the requirements of subdivision (c) of this subrule, including technical and economic support documentation for each affected source.

(vi) A schedule for completing implementation of the RACT proposal as expeditiously as practicable but not later than 6 months after department approval of the proposal, including interim dates for the issuance of purchase orders, start and completion of process, technology and control technology changes, and the completion of compliance testing.

(vii) The testing, monitoring, recordkeeping, and reporting procedures proposed to demonstrate compliance with RACT.

(viii) Any additional information requested by the department necessary for the evaluation of the RACT proposal.

(d) The RACT analysis required under subdivision (b)(v) of this subrule must include all of the following:

(i) A ranking of the available control options for the affected source in descending order of control effectiveness. Available control options are air pollution control technologies or techniques with a reasonable potential for application to the source. Air pollution control technologies and techniques include the application of production process or control methods that reduce volatile organic compound emissions. The control technologies and techniques must include existing controls for the source category and technology transfer controls applied to similar source categories.

(ii) An evaluation of the technical feasibility of the available control options identified in paragraph (i) of this subdivision. The evaluation of technical feasibility must be based on physical, chemical, and engineering principles. A determination of technical infeasibility must identify technical difficulties that would preclude the successful use of the control option on the affected source.

(iii) A ranking of the technically feasible control options in descending order of overall control effectiveness for volatile organic compound emissions. The list must present the array of control options and include, at a minimum, the following information:

(A) The baseline emissions of volatile organic compounds before implementation of each control option.

(B) The estimated emission reduction potential or the estimated control efficiency of each control option.

(C) The estimated emissions after the application of each control option.

(D) The economic impacts and cost effectiveness of each control option.

(iv) An evaluation of cost effectiveness of each control option consistent with the "EPA Air Pollution Control Cost Manual (Sixth Edition)," EPA-452/B-02-001, adopted by reference in R 336.1902. The evaluation must be conducted in accordance with the following requirements:

(A) The cost effectiveness must be evaluated in terms of dollars per ton of volatile organic compound emissions reduction.

(B) The cost effectiveness must be calculated as the annualized cost of the control option, divided by the baseline emission rate, minus the control option emission rate, as shown by the following equation:

$$\text{Average cost effectiveness} = \frac{\text{Control option total annualized cost (\$/yr)}}{\text{Baseline emission rate} - \text{Control option rate (tons/yr)}} \\ (\$/\text{ton removed})$$

(C) For purposes of this subparagraph, baseline emission rate represents the maximum emissions before the implementation of the control option. The baseline emission rate is established using either test results or approved emission factors and historic operating data.

(e) The department shall approve, deny, or modify each RACT proposal.

(f) Upon receipt of notice of the department's approval of the RACT proposal, the facility shall begin implementation of the measures necessary to comply with the approved or modified RACT proposal. Implementation of the RACT program must be completed according to the schedule established in the approved RACT proposal and be as expeditious as practicable, but no later than 6 months after department approval of the RACT proposal or in an alternative timeframe approved by the department.

(g) The department shall submit each approved RACT program to the United States Environmental Protection Agency for approval as a revision to the state implementation plan.

R 336.1606 Loading gasoline into existing stationary vessels of more than 2,000-gallon capacity at dispensing facilities.

Rule 606. (1) It is unlawful for a person to load or allow the loading of gasoline from a delivery vessel into any existing stationary vessel of more than 2,000-gallon capacity located at a gasoline dispensing facility unless the stationary vessel is equipped with a permanent submerged fill pipe for either of the following:.

(a) A facility with a throughput of 250,000 or more gallons per year, and the stationary vessel was installed before July 1, 1979.

(b) The stationary vessel was installed after July 1, 1979, and before March 1, 2023.

(2) It is unlawful for a person to load or allow the loading of gasoline from a delivery vessel into any existing stationary vessel of more than 2,000-gallon capacity located at a gasoline-dispensing facility unless the stationary vessel is controlled by a vapor balance system or an equivalent control system approved by the department for the following:

(a) Any stationary vessel installed before July 1, 1979, located in the area listed in table 61 and which has a throughput of 250,000 or more gallons per year, except those served exclusively by gasoline loading facilities that have a throughput of less than 1,000,000 gallons of gasoline per year.

(b) Any stationary vessel installed or modified after July 1, 1979, and before March 1, 2023, and located in an area listed in table 61 or in the 2015 ozone nonattainment area.

(3) Proper operation of the vapor balance system as required in subrule (2) of this rule is when displaced gasoline vapor and air are captured by means of a vapor tight collection line and is designed to return not less than 90%, by weight, of the displaced gasoline vapor from the stationary vessel to the delivery vessel.

(4) Any stationary vessel that is subject to the provisions of subrule (2) of this rule must be equipped, maintained, or controlled with both of the following:

(a) An interlocking system or procedure to ensure that the vapor tight collection line is connected before any gasoline can be loaded.

(b) A device to ensure that the vapor tight collection line is closed upon disconnection to prevent the release of gasoline vapor.

(5) Any delivery vessel that is subject to the provisions of subrule (2) of this rule must be vapor tight and filled only at a loading facility that is equipped with a system as required by R 336.1608(2) and (5), and R 336.1609(2) and (4).

(6) An existing stationary vessel installed or modified after July 1, 1979, and before March 1, 2023, at a gasoline dispensing facility that is not subject to the provisions of subrule (2) of this rule must be constructed in a manner that allows the vessel to be retrofitted according to subrules (2) and (4) of this rule.

(7) Tables 61 and 61-a read as follows:

TABLE 61
List of major metropolitan areas.
(Subject to R 336.1606, R 336.1607, and R 336.1608)

Metropolitan Area	County	Affected area ¹
1) Detroit	Macomb	T3N, R12E, Sections 3-10, 15-22, & 27-34 T3N, R13E, Sections 25, 35, & 36 T3N, R14E, Sections 11-14 & 19-32 T3N, R15E, Sections 7 and 18 T4N, R12E, Sections 27-34 Macomb County south of the T2N north township line
	Oakland	T1N, R8E, Sections 1-36 T1N, R9E, Sections 1-36 T1N, R10E, Sections 1-36 T1N, R11E, Sections 1-36 T2N, R8E, Sections 1-3, 10-16, & 19-36 T2N, R9E, Sections 1-36 T2N, R10E, Sections 1-36 T2N, R11E, Sections 1-36 T3N, R8E, Sections 13-15, 20-29, & 33-36 T3N, R9E, Sections 1-36 T3N, R10E, Sections 2-36 T3N, R11E, Sections 1-5 & 7-36 T4N, R9E, Sections 17, 19-22, & 26-36 T4N, R10E, Sections 1-3, 10-12, 14-16, 20-23, 25-29, & 31-35 T5N, R10E, Sections 22, 26-29, 34, & 35
	Washtenaw	T2S, R5E, Sections 12-27 & 36 T2S, R6E, Sections 7-11 & 13-36 T2S, R7E, Sections 18, 19, & 29-36 T3S, R6E, Sections 1-6, 8-17, 23, & 24 T3S, R7E, Sections 1-26

	Wayne	All areas except the following: T1S, R8E, Sections 5-8, 17-20, 30, & 31 T2S, R8E, Sections 5-9, 16-21, & 28-30 T3S, R8E, Sections 31-35 T4S, R8E, Sections 2-36 T4S, R9E, Sections 1-5 & 9-36 T4S, R10E, Sections 7, 8, 17, & 18
2)Flint	Genesee	T6N, R5E, Sections 1-3 T6N, R6E, Sections 1-6, 11-14, 24, & 25 T6N, R7E, Sections 1-30 T7N, R5E, Sections 34-36 T7N, R6E, Sections 1-36 T7N, R7E, Sections 1-36 T7N, R8E, Sections 3-11, 14-19, 21, 22, and 30 T8N, R5E, Sections 13-15, 22-27, & 34-36 T8N, R6E, Sections 1, 2, 11-14, & 19-36 T8N, R7E, Sections 5-11 & 13-36 T9N, R6E, Sections 11, 14, 15, 22-27, 35, and 36 T9N, R7E, Sections 31 & 32
3)Grand Rapids	Kent	T5N, R11W, Sections 4-8, 17, & 18 T5N, R12W, Sections 1, 12, & 13 T6N, R10W, Sections 3-10, 15-21, & 28-33 T6N, R11W, Sections 1-36 T6N, R12W, Sections 1-36 T7N, R10W, Sections 28-35 T7N, R11W, Sections 3-10, 15-23, & 25-36 T7N, R12W, Sections 1-36 T8N, R11W, Sections 13-16, 19-23, & 26-34
	Ottawa	T5N, R13W, Sections 4 & 5 T6N, R13W, Sections 9-16, 21-29, 32, & 33
4)Lansing	Clinton	T5N, R2W, Sections 4, 5, 7-9, 15-18, 20-23, 26-29, & 31-35
	Eaton	T3N, R3W, Sections 1-3 & 9-12 T4N, R3W, Sections 1-4, 9-16, 20-26, 35, and 36
	Ingham	T3N, R2W, Sections 1-12 14-16, 22, & 23 T4N, R1W, Sections 2-11, 14-23, 26-29, & 33 T4N, R2W, Sections 1-36

¹Maps of affected areas described in table 61 are available upon request.

TABLE 61-a

List of counties referenced in R 336.1609

Allegan	Ingham	Muskegon
Barry	Ionia	Oakland
Bay	Jackson	Ottawa
Berrien	Kalamazoo	Saginaw
Branch	Kent	St. Clair
Calhoun	Lapeer	St. Joseph
Cass	Lenawee	Sanilac
Clinton	Livingston	Shiawassee
Eaton	Macomb	Tuscola
Genesee	Marquette	Van Buren
Gratiot	Midland	Washtenaw
Hillsdale	Monroe	Wayne
Huron	Montcalm	

R 336.1607 Loading gasoline into existing stationary vessels of more than 2,000-gallon capacity at loading facilities.

Rule 607. (1) It is unlawful for a person to load or allow the loading of gasoline from a delivery vessel into any existing stationary vessel of more than 2,000-gallon capacity located at a gasoline-loading facility, unless the stationary vessel is equipped with a permanent submerged fill pipe.

(2) It is unlawful for a person to load, or allow the loading of, gasoline from a delivery vessel into any existing stationary vessel of more than 2,000-gallon capacity located at the following loading facilities, unless the stationary vessel is controlled by a vapor balance system, or an equivalent control system approved by the department:

(a) A loading facility located in any area listed in table 61.

(b) A loading facility located in the 2015 ozone nonattainment area.

(c) A loading facility located outside both the 2015 ozone nonattainment area and any area listed in table 61 that delivers gasoline to a gasoline-dispensing facility subject to R 336.1606(2).

(3) Proper operation of the vapor balance system as required in subrule (2) of this rule is when gasoline vapors and air are captured by means of a vapor tight collection line that is designed to return not less than 90%, by weight, of the displaced gasoline vapor from the stationary vessel to the delivery vessel.

(4) Any stationary vessel that is subject to the provisions of subrule (2) of this rule must be equipped, maintained, or controlled with all of the following:

(a) An interlocking system or procedure to ensure that the vapor tight collection line is connected before any gasoline can be loaded.

(b) A device to ensure that the vapor tight collection line must close upon disconnection so as to prevent the release of gasoline vapor.

(c) Pressure-vacuum relief valves on above ground stationary vessels with a minimum pressure valve setting of 8 ounces if that setting does not exceed the container's maximum pressure rating.

(5) Any delivery vessel subject to subrule (2) of this rule must be vapor tight.

(6) A person who is responsible for the operation of all control measures required by this rule shall develop written procedures for the operation of all control measures. The procedures must be posted in an accessible, conspicuous location near the stationary vessel.

(7) An existing stationary vessel installed or modified after July 1, 1979, and before March 1, 2023, at a gasoline loading facility that is not subject to the provisions of subrule (2) of this rule, must be constructed in a manner that allows the vessel to be retrofitted, according to subrules (2) and (4) of this rule.

R 336.1608 Loading gasoline into delivery vessels at existing loading facilities handling less than 5,000,000 gallons per year.

Rule 608. (1) It is unlawful for a person to load, or allow the loading of, gasoline from a stationary vessel into any delivery vessel located at an existing gasoline-loading facility, which has a throughput of less than 5,000,000 gallons of gasoline per year, unless the delivery vessel is filled by a submerged fill pipe.

(2) It is unlawful for a person to load, or allow the loading of, gasoline from a stationary vessel into any delivery vessel located at any of the following loading facilities having a throughput of less than 5,000,000 gallons per year, unless the delivery vessel is controlled by a vapor balance system, or an equivalent control system approved by the department:

(a) An existing loading facility located in any area listed in table 61.

(b) An existing loading facility located in the 2015 ozone nonattainment area.

(c) An existing loading facility located outside both the 2015 ozone nonattainment area and any area listed in table 61 that delivers gasoline to a gasoline-dispensing facility subject to R 336.1606(2).

(3) The provisions of subrule (2) of this rule do not apply to the following gasoline-loading facilities, provided the facility was installed before July 1, 1979, and has a throughput of less than 1,000,000 gallons of gasoline per year:

(a) An existing loading facility located in any area listed in table 61.

(b) An existing loading facility located outside any area listed in table 61 which delivers gasoline to a gasoline-dispensing facility subject to R 336.1606(2).

(4) Proper operation of the vapor balance system as required in subrule (2) of this rule is when gasoline vapor and air are captured by means of a vapor tight collection line that is designed to return not less than 90%, by weight, of the displaced gasoline vapor from the delivery vessel to the stationary vessel.

(5) Any delivery vessel that is loaded at a facility subject to subrule (2) of this rule must be equipped, maintained, or controlled with all of the following:

(a) An interlocking system or procedure to ensure that the vapor tight collection line is connected before any gasoline can be loaded.

(b) A device to ensure that the vapor tight collection line closes upon disconnection to prevent the release of gasoline vapor.

(c) A device or procedure to accomplish complete drainage before the loading device is disconnected or to prevent liquid drainage from the loading device when not in use.

(d) Pressure-vacuum relief valves that are vapor tight and set to prevent the emission of displaced gasoline vapor during the loading of the delivery vessel, except under emergency conditions.

(e) Hatch openings that are kept closed and vapor tight during the loading of the delivery vessel.

(6) Any stationary vessel at a facility subject to subrule (2) of this rule must be vapor tight.

(7) A person who is responsible for the operation of all control measures required by this rule shall develop written procedures for the operation of all such control measures. The procedures must be posted in an accessible, conspicuous location near the loading device.

R 336.1609 Loading delivery vessels with organic compounds having true vapor pressure of more than 1.5 psia at existing loading facilities handling 5,000,000 or more gallons of the compounds per year.

Rule 609. (1) After June 30, 1981, it is unlawful for a person to load, or allow the loading of, any organic compound that has a true vapor pressure of more than 1.5 psia at actual conditions from any stationary vessel into any delivery vessel located at the following existing loading facilities that are outside any county listed in table 61-a and have a throughput of 5,000,000 or more gallons of the compounds per year, unless the delivery vessel is filled by a submerged fill pipe:

(a) An existing facility installed outside the counties listed in table 61-a before July 1, 1979.

(b) An existing facility installed or modified in this state after July 1, 1979, and before March 1, 2023.

(2) It is unlawful for a person to load, or allow the loading of, any organic compound that has a true vapor pressure of more than 1.5 psia at actual conditions from any stationary vessel into any delivery vessel located at the following existing loading facilities which have a throughput of 5,000,000 or more gallons of the compounds per year, unless the delivery vessel is controlled by a vapor recovery system as described in subrule (3) of this rule:

(a) An existing facility installed in counties listed in table 61-a before July 1, 1979.

(b) An existing facility installed or modified in this state after July 1, 1979, and before March 1, 2023.

(3) Proper operation of the vapor recovery system as required by subrule (2) of this rule is when all displaced organic vapor and air are captured by means of a vapor tight collection line and the system recovers the organic vapor such that emissions to the atmosphere do not exceed 0.7 pounds of organic vapor per 1,000 gallons of organic compounds loaded.

(4) Any delivery vessel located at a facility that is subject to the provisions of subrule (2) of this rule must be equipped, maintained, or controlled with all of the following:

(a) An interlocking system or procedure to ensure that the vapor tight collection line is connected before any organic compound can be loaded.

(b) A device to ensure that the vapor tight collection line closes upon disconnection to prevent the release of organic vapor.

(c) A device to accomplish complete drainage before the loading device is disconnected, or a device to prevent liquid drainage from the loading device when not in use.

(d) Pressure-vacuum relief valves that are vapor tight and set to prevent the emission of

displaced organic vapor during the loading of the delivery vessel, except under emergency conditions.

(e) Hatch openings that are kept closed and vapor tight during the loading of the delivery vessel.

(5) A person who is responsible for the operation of all control measures required by this rule shall develop written procedures for the operation of all such control measures. The procedures must be posted in an accessible, conspicuous location near the loading device.

(6) The provisions of this rule do not apply to the loading of the following:

(a) Crude oil or condensate into delivery vessels at production facilities if loading is accomplished with a submerged fill pipe.

(b) Butane, isobutane, propane, propylene, butylene, C3-C4 mixtures, and mixtures of these organic compounds that comply with the following specified requirements:

(i) Utilizes a pressurized loading system that does not allow organic vapor to be discharged from the delivery vessel during loading.

(ii) Utilizes a device to ensure the loading line closes upon disconnection to prevent release of organic vapor.

(iii) Ensures that all pressure-vacuum relief valves are vapor-tight and set to prevent the emission of organic vapor during the loading of the delivery vessel, except under emergency conditions.

(iv) All hatch openings are kept closed and vapor-tight during the loading of the delivery vessel.

(v) Written procedures for the operation of the loading device are posted in an accessible, conspicuous location near the loading device.

R 336.1610 Existing coating lines; emission of volatile organic compounds from existing automobile, light-duty truck, and other product and material coating lines.

Rule 610. (1) A person shall not cause or allow the emission of volatile organic compounds from the coating of automobiles and light-duty trucks, from any existing coating line, in excess of the applicable emission rates shown in table 62.

(2) A person shall not cause or allow the emission of volatile organic compounds from the coating of any of the following, from an existing coating line, in excess of the applicable emission rates shown in column A of table 63 or the equivalent emission rates in column B of table 63:

(a) Cans.

(b) Coils.

(c) Large appliances.

(d) Metal furniture.

(e) Magnet wire.

(f) The nonmetallic surfaces of fabrics, vinyl, or paper.

(3) Subrule (2) of this rule notwithstanding, and as an alternative to the allowable emission rate established by table 63, the existing paper coating lines at Fletcher Paper Company of Alpena may comply with subrule (2) of this rule by not exceeding a volatile organic compound emission rate of 180 tons per calendar year and 30 tons per calendar month.

(4) A person who is responsible for the operation of a coating line that is subject to this rule shall obtain current information and keep records necessary for the determination of compliance with this rule, as required in R 336.2041.

(5) For each coating line, compliance with the emission limits specified in table 62 and table 63 must be based upon all of the following provisions:

(a) For prime coat operations that utilize an electrodeposition process in automobile and light-duty truck coating lines that are regulated under table 62, compliance must be based upon all coatings that belong to the same coating category that is used during each calendar month averaging period. For all other coatings, compliance must be based upon the volume-weighted average of all coatings that belong to the same coating category and are used during each calendar day averaging period. The department may specifically authorize compliance to be based upon a longer averaging period, which must not be more than 1 calendar month.

(b) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(c) The information and records as required by subrule (4) of this rule.

(6) Compliance with the emission limits specified in this rule must be determined using 1 of the following methods, as applicable:

(a) For the prime-electrodeposition process and for the final repair emission limits specified in table 62, the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(b) For the primer surfacer and topcoat emission limits specified in table 62, compliance must be determined by the methodology described in the publication entitled "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-duty Truck Topcoat Operations", EPA-453/R-08-002, adopted by reference in R 336.1902. References to topcoat operations in this publication also apply to primer surfacer lines, with the following added provisions:

(i) Unless specifically included in the adopted publication, if an anti-chip, color-in-prime, blackout, or spot primer coating is applied as part of either a primer surfacer or topcoat coating operation, then the anti-chip, color-in-prime, blackout, or spot primer coating must be included in the transfer efficiency tests for that coating operation, conducted according to section 18 or 19 of the adopted publication, and the transfer efficiency values in section 20 of the adopted publication must not be used.

(ii) If spot primer is applied as part of a primer surfacer coating operation, then the daily usage of spot primer, as calculated in section 8 of the adopted publication, may be derived from monthly usage of spot primer based upon the number of vehicles processed in the primer surfacer operation each day. If an add-on emissions control device is used on the coating line application area to achieve compliance with the primer surfacer or topcoat emission limits specified in table 62, then the capture efficiency must be determined in accordance with R 336.2040(10).

(c) For the emission limits specified in column B of table 63, the method described in either R 336.2040(12)(e) if the coating line does not have an add-on emissions control device or R 336.2040(12)(f) if the coating line has 1 or more add-on emissions control devices.

(d) For the emission limits specified in column A of table 63, the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(7) The provisions of this rule, except for the provisions in subrule (4) of this rule, do not apply to coating lines that are within a stationary source and that have a combined actual emission rate of volatile organic compounds of less than 100 pounds per day or 2,000 pounds per month as of November 4, 1999. If the combined actual emission rate equals or is more than 100 pounds per day for a subsequent day or 2,000 pounds per month for a subsequent month, then this rule permanently applies to the coating lines.

(8) A person may exclude low-use coatings that total 55 gallons or less per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (4) of this rule.

(9) Between November 1 and March 31, a person may discontinue the operation of a natural gas-fired afterburner that is used to achieve compliance with the emission limits in this rule, unless the afterburner is used to achieve compliance with, or is required by, any of the following:

- (a) Another provision of these rules.
- (b) A permit to install.
- (c) A permit to operate.
- (d) A voluntary agreement.
- (e) A performance contract.
- (f) A stipulation.
- (g) An order of the department.

(10) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 under subrule (9) of this rule, then both of the following provisions apply between November 1 and March 31:

- (a) All other provisions of this rule, except for the emission limits, remain in effect.
- (b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.

(11) Tables 62 and 63 read as follows:

TABLE 62

Volatile organic compound emission limits for existing automobile and light-duty truck coating lines

Coating Category	Emission Limit
Prime-electrodeposition process	1.2 ¹
Primer surfacer ³	14.9 ²
Topcoat	14.9 ²
Final repair	4.82 ¹

¹Pounds of volatile organic compounds per gallon of coating, minus water, as applied.

²Pounds of volatile organic compounds per gallon of applied coating solids.

³The primer surfacer or topcoat coating category would include an anti-chip, blackout, or spot primer coating if this coating is applied as part of the primer surfacer or topcoat coating operation.

TABLE 63

Volatile organic compound emission limits for existing coating lines

Coating Category	Column A ¹	Column B ²
Metallic surfaces		
Coating of cans		
Sheet basecoat (exterior and interior and overvarnish; 2-piece Can exterior (basecoat and overvarnish)	2.8	
2- and 3-piece can interior body spray; 2-piece can interior end (spray or roll coat)	4.2	
3-piece can side-seam	5.5	
End sealing compound	3.7	
Coating of coils	2.6	
Coating of large appliances ³	2.8	7.5
Coating of metal furniture ³	3.0	8.4
Insulation of magnet wire	1.7	
Nonmetallic surfaces		
Coating of fabric	2.9	
Coating of vinyl	3.8	
Coating of paper	2.9	

¹Pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied.

²Pounds of volatile organic compounds emitted per gallon of applied coating solids. The purpose of column B emission limits is to allow credit for transfer efficiencies greater than the baseline transfer efficiency. Note: department approval of the transfer efficiency test method is required.

³The allowable emission rate does not apply to coatings that are used for the repair of scratches and nicks.

(12) A coating line subject to R 336.1610a does not need to meet the provisions of R 336.1610.

R 336.1610a Existing coating lines; emission of volatile organic compounds from existing automobile, light-duty truck; and paper, film, and foil; cans, coils, and fabrics;

insulation of magnet wire; metal furniture coating lines in 2015 ozone nonattainment areas.

Rule 610a. (1) As used in this rule:

- (a) “Automobile” means a motor vehicle designed to carry up to 8 passengers. Automobile does not include vans, sport utility vehicles, or motor vehicles designed primarily to transport light loads of property.
- (b) “Coatings of paper, film, and foil” means materials applied onto or impregnated into a substrate for decorative, protective, or functional purposes, including, but not limited to, solvent-borne coatings, water-borne coatings, adhesives, wax coatings, wax laminations, extrusion laminations, 100% solid adhesives, UV cured coatings, electron beam cured coatings, hot melt coatings, and cold seal coatings.
- (c) “Occurrence” means the application of the combination of coatings that constitute a final repair coat for a single automobile or light-duty truck.

(2) Except as provided in subrule (3) of this rule, the provisions of this rule apply to a person causing or allowing the emission of any volatile organic compound from the following existing coating lines at a facility located in the 2015 ozone nonattainment areas:

(a) Automobile and light-duty truck assembly coatings product category, as defined in R 336.1103.

(b) The coating of bodies or body parts, or both, for new heavier vehicles at an automobile and light-duty truck assembly facility or a heavier vehicle assembly facility, that meets the applicability requirements of R 336.1621a and has elected to comply with the requirements of this rule instead of the requirements of R 336.1621a.

(c) Metal furniture coating operations.

(d) Paper, film, and foil surface coating operations.

(3) The provisions of this rule, as specified, do not apply to the following:

(a) With the exception of the requirements in subrule (6) of this rule, the following coating lines at a stationary source that have a combined actual emission rate of volatile organic compounds, including related cleaning activities, of less than 15 pounds per calendar day before consideration of controls. If the combined actual emission rate equals or is more than 15 pounds per calendar day for a subsequent day, then this rule permanently applies to these coating lines:

(i) Automobile and light-duty truck assembly coating lines that are within an automobile and light-duty truck assembly facility.

(ii) Metal furniture coating lines at a stationary source.

(iii) Cans, coils, fabrics, and insulation of magnet wire coating lines at a stationary source.

(b) With the exception of the requirements in subrule (6) of this rule, low-use coatings that have a combined total of less than 55 gallons per rolling 12-month period at a stationary source.

(c) Automobile and light-duty truck coatings used at plastic or composites molding facilities.

(d) The limits in table 64-a of this rule do not apply to automobile and light-duty truck coating materials that are supplied in containers with a net volume of 16 ounces or less, or a net weight of 1 pound or less.

(e) The coating of metallic surfaces that are subject to R 336.1621 or R 336.1621a.

(f) With the exception of the requirements in subrules (5) and (6) of this rule, paper, film, and foil surface coating lines within a stationary source that have a potential to emit less than 25 tons per year of volatile organic compounds before controls. If the potential to emit equals or is more than 25 tons per year of volatile organic compounds from paper, film, and foil coatings for a subsequent year, then this rule permanently applies to the paper, film, and foil surface coating lines.

(g) Facilities subject to R 336.1624 or R 336.1635.

(h) Coatings performed on, in, or off-line with any screen or digital printing press.

(i) Size presses and on-machine coaters on paper making machines applying sizing or water-based clays.

(j) Paper, film, or foil materials used to form unsupported substrates, such as calendaring of vinyl, blown film, cast film, extruded film, and co-extruded film.

(k) Coatings performed at research and development or prototype facilities.

(4) A person subject to this rule shall not cause or allow the emission of any volatile organic compound, unless the following provisions are met:

(a) An automobile and light-duty truck coating facility must not cause or allow the emission of volatile organic compounds from the coating of automobiles and light-duty trucks or miscellaneous materials, as outlined within table 64-a, from any existing coating line as defined in R 336.1103, in excess of the applicable emission rates shown in table 64-a.

(b) A person subject to this rule shall not cause or allow the emission of volatile organic compounds from the coating of metal furniture, from an existing coating line, in excess of the applicable emission rate as shown in column A of table 64-b or the equivalent emission rates in column B of table 64-b.

(c) A person subject to this rule shall meet an overall volatile organic compound control efficiency of 90% for each existing coating line at a paper, film, and foil stationary source. Alternatively, a person shall not cause or allow the emission of volatile organic compounds from the coating of paper, film, and foil, from an existing coating line, in excess of the applicable emission rate as shown in column A of table 64-d or the equivalent emission rates in column B of table 64-d.

(d) For each coating line, compliance with the emission limits specified in table 64-a, table 64-b, and table 64-d is based upon all of the following provisions:

(i) For prime coat operations that utilize an electrodeposition process in automobile and light-duty truck coating lines that are regulated under table 64-a, compliance is based on all coatings that belong to the same coating category that is used during each calendar month averaging period. For all other coatings, compliance is based on the volume-weighted average of all coatings that belong to the same coating category and are used during each calendar day averaging period. Under R 336.1602(2), the department may specifically authorize compliance to be based on a longer averaging period, not to exceed more than 1 calendar month.

(ii) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance is determined separately for each coating category.

(iii) The information and records as required by subrule (5) of this rule.

(e) Compliance with the emission limits specified in this rule must be determined using the applicable method described in the following paragraphs:

(i) For the prime-electrodeposition process emission limit specified in table 64-a, the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(ii) For the primer surfacer, topcoat, and combined primer surfacer and topcoat coating category emission limits specified in table 64-a, compliance must be determined by the methodology described in the publication entitled “Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-duty Truck Topcoat Operations,” EPA-453/R-08-002, adopted by reference in R 336.1902. References to topcoat operations in this publication also apply to primer surfacer lines, with the following added provisions:

(A) Unless specifically included in the adopted publication, if an anti-chip, color-in-prime, blackout, or spot primer coating is applied as part of either a primer surfacer or topcoat coating operation, then the anti-chip, color-in-prime, blackout, or spot primer coating is included in the transfer efficiency tests for that coating operation, conducted according to section 18 or 19 of the adopted publication, and the transfer efficiency values in section 20 of the adopted publication must not be used.

(B) When spot primer is applied as part of a primer surfacer coating operation, then the daily usage of spot primer, as calculated in section 8 of the adopted publication, may be derived from monthly usage of spot primer based upon the number of vehicles processed in the primer surfacer operation each day. If an add-on emissions control device is used on the coating line application area to achieve compliance with the primer surfacer or topcoat emission limits specified in table 64-a, then the capture efficiency must be determined in accordance with R 336.2040(10).

(iii) For the final repair coating category emission limit specified in table 64-a, compliance must be on an occurrence weighted average basis, calculated in accordance with the following equation, in which clear coatings have a weighting factor of 2 and all other coatings have a weighting factor of 1:

$$VOC_{tot} = \frac{2VOC_{cc} \sum_{i=1}^n VOC}{n+2}$$

Where:

VOC_{tot} = Total volatile organic compound content of all coating, as applied, on an occurrence weighted average basis, and used to determine compliance with this paragraph.

i = subscript denoting a specific coating applied.

n = Total number of coatings applied in the final repair operation, other than clear coatings

VOC_{cc} = The volatile organic compound content, as applied, of the clear coat used in the final repair operation.

VOC_i = The volatile organic compound content of each coating used in the final repair operation, as applied, other than clear coatings.

(iv) For determining the volatile organic compounds content of coatings, other than reactive adhesives, used at automobile and light-duty truck coating assembly facilities

specified in table 64-a, compliance must be determined in accordance with R 336.2040(5).

(v) For determining the volatile organic compounds content of reactive adhesives used at automobile and light-duty truck coating assembly facilities, specified in table 64-a, compliance must be determined by the procedure described in appendix A of 40 CFR part 63, subpart PPPP, adopted by reference in R 336.1902.

(vi) As an alternative for the compliance methods in paragraphs (iv) and (v) of this subdivision, automobile and light-duty truck coating assembly facilities may use the manufacturer's formulation data. If there is a disagreement between the manufacturer's formulation data and the results of a subsequent test, the department shall use the test method results unless the facility can make a determination approved by the department that the manufacturer's formulation data are correct.

(vii) For the emission limits specified in column A of table 64-b, table 64-c, and table 64-d, the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices, or an alternative method as approved by the department under R 336.1602(2).

(viii) For the emission limits specified in column B of table 64-b and table 64-d, the method described in either R 336.2040(12)(e) if the coating line does not have an add-on emissions control device or R 336.2040(12)(f) if the coating line has 1 or more add-on emissions control devices.

(f) A person responsible for the following coating lines shall make a determination of compliance with these emission limits using the method specified in subrule (3)(e) of this rule and submit a copy of this determination and supporting data to the department by the following specified date, as applicable:

(i) For primer surfacer and topcoat coating lines, no later than 6 months after the effective date of this rule.

(ii) Metal furniture coating lines that are subject to the equivalent emission rates in column B of table 64-b, no later than 6 months after the effective date of this rule.

TABLE 64-a

Volatile organic compound emission limits for existing automobile and light-duty truck coating lines and miscellaneous materials used at automobile and light-duty truck assembly coating facilities.

Coating Category	VOC Emission Limit		
Prime-electrodeposition process (EDP) (including application area, spray/rinse stations, and curing oven)	When solids turnover ratio (R_T) ≥ 0.16 :	When $0.040 \leq R_T \leq 0.160$:	When $R_T \leq 0.040$:
	0.7^1	$(0.084 \times 350^{0.160-R_T} \times 8.34)^1$	No VOC emission limit.
Primer surfacer ⁴ (including application area, flash-off area, and oven)	12.0^2		

Topcoat (including application area, flash-off area, and oven)	12.0 ²	
Final repair operations	4.8 ³	
Combined primer-surfacer and topcoat	12.0 ²	
Miscellaneous Materials Used at Automobile and Light-Duty Truck Assembly Coating Facilities		
Coating Category	lb VOC/gal coating (minus water, as applied)	g VOC/L of coating (minus water and exempt compounds, as applied)
Glass Bonding Primer ⁵	7.5 ³	900
Adhesive ⁵	2.1 ³	250
Cavity Wax ⁵	5.4 ³	650
Sealer ⁵	5.4 ³	650
Deadener ⁵	5.4 ³	650
Gasket/Gasket sealing material ⁵	1.7 ³	200
Underbody Coating ⁵	5.4 ³	650
Trunk interior coating ⁵	5.4 ³	650
Bedliner ⁵	1.7 ³	200
Weatherstrip adhesive ⁵	6.3 ³	750
Lubricating wax/compound ⁵	5.8 ³	700

¹ Pounds of volatile organic compounds per gallon of applied coating solids.

² Pounds of volatile organic compounds per gallon of applied coating solids on a daily weighted average basis as determined by following the procedures in the "Protocol for determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" (EPA-453/R-08-002).

³ Pounds of volatile organic compounds per gallon of coating, minus water, as applied.

⁴ The primer surfacer or topcoat coating category would include an anti-chip, blackout, or spot primer coating if this coating is applied as part of the primer surfacer or topcoat coating operation.

⁵ VOC emission limits must not be applied to materials supplied in containers with a net volume of 16 ounces or less, or a net weight of 1 pound or less.

TABLE 64-b

Volatile organic compound emission limits for existing metal furniture coating lines.

Coating Type	Column A ¹		Column B ²	
	Baked	Air Dried	Baked	Air Dried
General, 1 Component	2.3	2.3	3.3	3.3
General, Multi-Component	2.3	2.8	3.3	4.5
Extreme High Gloss	3.0	2.8	5.1	4.5
Extreme Performance	3.0	3.5	5.1	6.7
Heat Resistant	3.0	3.5	5.1	6.7
Metallic	3.5	3.5	6.7	6.7
Pretreatment Coatings	3.5	3.5	6.7	6.7

Solar Absorbent	3.0	3.5	5.1	6.7
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¹ Pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied.

² Pounds of volatile organic compounds emitted per gallon of applied coating solids. The purpose of column B emission limits is to allow credit for transfer efficiencies greater than the baseline transfer efficiency. Note: department approval under R 336.1602(2) of the transfer efficiency test method is required.

TABLE 64-c

Volatile organic compound emission limits for existing cans, coils, fabrics, and insulation of magnet wire coating lines.

Coating Category	Column A ¹
Coating of cans	
Sheet basecoat (exterior and interior) and overvarnish; 2-piece Can exterior (basecoat and overvarnish)	2.8
2- and 3-piece can interior body spray; 2-piece can interior end (spray or roll coat)	4.2
3-piece can side-seam	5.5
End sealing compound	3.7
Coating of coils	2.6
Coating of fabric	2.9
Insulation of magnet wire	1.7

¹ Pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied.

TABLE 64-d

Volatile organic compound emission limits for paper, film, and foil surface coating and pressure sensitive tape and label surface coating.

Coating Category	Column A ¹	Column B ²
Paper, Film, and Foils Surface Coating (not including pressure sensitive type and label)	0.08	0.40
Pressure Sensitive Tape and Label Surface Coating	0.067	0.20

¹ Pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied.

² Pounds of volatile organic compounds emitted per gallon of applied coating solids. The purpose of column B emission limits is to allow credit for transfer efficiencies greater than the baseline transfer efficiency. Note: department approval of the transfer efficiency test method is required.

(5) A person subject to this rule shall comply with the following work practices for each coating line subject to this rule, unless the source has an equivalent work practice plan established for coatings in a post-1990 federal standard found in 40 CFR part 63 with an equivalent subpart approved by the department. The person responsible for a surface coating operation subject to this rule shall develop written procedures for compliance with the following provisions:

- (a) Store all volatile organic compound-containing coatings, thinners, and cleaning materials, including used shop towels, in closed containers.
- (b) Minimize spills of volatile organic compound-containing coatings, thinners, and cleaning materials.
- (c) Clean up spills immediately.
- (d) Convey any coatings, thinners, and cleaning materials in closed containers or pipes.
- (e) Close mixing vessels that contain volatile organic compound coatings and other materials except when specifically in use.
- (f) Minimize usage of solvents during cleaning of storage, mixing, and conveying of equipment.
- (6) A person responsible for the operation of a coating line that is subject to this rule shall obtain current information and keep records that are necessary for the determination of compliance with the provisions of this rule, as required in R 336.2041.

R 336.1611 Existing cold cleaners.

Rule 611. (1) A person shall not operate an existing cold cleaner unless all of the provisions of subrules (2) to (4) of this rule are met or unless an equivalent control method is approved by the department under R 336.1602(2).

(2) A person shall not operate an existing cold cleaner unless all of the following conditions are met:

- (a) A cover must be installed and must be closed when parts are not being handled in the cleaner.
- (b) A device must be available for draining cleaned parts, and the parts must be drained for not less than 15 seconds or until dripping ceases.
- (c) Waste organic solvent must be stored only in closed containers, unless the stored solvent is demonstrated to be a safety hazard and is disposed of so that not more than 20%, by weight, is allowed to evaporate into the atmosphere.
- (3) A person who is responsible for the operation of a cold cleaner shall develop written procedures for compliance with the provisions of this rule. The procedures must be posted in an accessible, conspicuous location near the cold cleaner.
- (4) The provisions of this rule do not apply to cold cleaners that are subject to the provisions of "National Emission Standards for Halogenated Solvent Cleaning", 40 CFR part 63, subpart T, adopted by reference in R 336.1902.

R 336.1618 Use of cutback or emulsified paving asphalt.

Rule 618. (1) A person shall not manufacture, mix, store, use, or apply cutback or emulsified paving asphalt, from March 1 to October 31, unless the cutback or emulsified paving asphalt contains no greater than 3% volatile organic compounds by volume, which is equivalent to 6.0 milliliters of oil distillate, from a 200 milliliters sample, at 500 degrees Fahrenheit as determined by a test method in subrule (2) of this rule. This rule applies to both existing and new sources as defined by the dates in R 336.1601(c) and R 336.1701.

(2) Compliance with subrule (1) of this rule must be determined by 1 of the following test methods:

- (a) ASTM Method D6997, Standard Test Methods and Practice for Distillation of Emulsified Asphalts, adopted by reference in R 336.1902.

(b) AASHTO T59 Standard Method of Test for Emulsified Asphalts, adopted by reference in R 336.1902.

(c) ASTM Method D402, Standard Test Method for Distillation of Cutback Asphaltic (Bituminous) Products, adopted by reference in R 336.1902.

(d) AASHTO T78, Standard Method of Test for Cutback Asphaltic Products, adopted by reference in R 336.1902.

(3) Any person subject to this rule shall maintain records of the manufacture, mixing, storage, use, or application of any cutback or emulsified paving asphalt containing volatile organic compounds during the period March 1 to October 31. The records must include information on the volatile organic compound content documented in the product data sheets or material safety data sheets. The records must be available to any representative of the department during normal business hours, and copies must be provided to the department upon request.

(4) As used in this rule:

(a) "Asphalt" means a dark brown to black solid, liquid, or semisolid cementitious material composed primarily of bitumens that occur naturally or are obtained as a residue of petroleum refining.

(b) "Cutback paving asphalt" means asphalt that has been liquefied by blending with an organic solvent and that is used for the purpose of paving or repairing, or paving and repairing, a road surface.

(c) "Emulsified paving asphalt" means asphalt that has been liquefied by mixing with water and an emulsifying agent and that is used for the purpose of paving or repairing, or paving and repairing, a road surface.

R 336.1620 Emission of volatile organic compounds from existing interior flat wood paneling coating lines.

Rule 620. (1) As used in this rule, "coating of interior flat wood paneling" means the factory-finished coating of flat products that are constructed of wood and are intended for use as interior paneling. Coating of interior flat wood paneling does not include the coating of flat wood products intended for use as exterior siding, tileboard, cabinets, or furniture components.

(2) A person shall not cause or allow the emission of volatile organic compounds from the coating of interior flat wood paneling from any existing coating line in excess of the applicable emission rates as follows:

(a) Six pounds per 1,000 square feet of coated finished product from printed interior panels made of hardwood, plywood, or thin particle board, regardless of the number of coats applied.

(b) Twelve pounds per 1,000 square feet of coated finished product from natural finish hardwood plywood panels, regardless of the number of coats applied.

(c) Ten pounds per 1,000 square feet of coated finished product from class II finishes on hardboard panels, regardless of the number of coats applied.

(3) A person who is responsible for the operation of a coating line that is subject to this rule shall obtain current information, and keep daily records necessary for the determination of compliance with this rule, as required in R 336.2041.

(4) For each coating line, compliance with the emission limits specified in this rule must be based upon all of the following:

(a) The volume-weighted average of all coatings that belong to the same coating category and are used during each calendar day averaging period. The department may specifically authorize compliance to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(b) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(c) The information and records as required by the provisions of subrule (2) of this rule.

(5) Compliance with the limits specified in subrule (1) of this rule must be determined using the method described in either R 336.2040(12)(i) if the coating line does not have an add-on emissions control device or R 336.2040(12)(j) if the coating line has 1 or more add-on emissions control devices.

(6) This rule, with the exception of subrule (2) of this rule, does not apply to flat wood paneling coating lines that are within a stationary source and have a combined actual emission rate of volatile organic compounds of less than 100 pounds per day or 2,000 pounds per month as of the effective date of this amendatory rule. If the combined actual emission rate equals or exceeds 100 pounds per day for a subsequent day or 2,000 pounds per month for a subsequent month, then this rule permanently applies to the coating lines.

(7) A person may exclude low-use coatings that total 55 gallons or less per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (2) of this rule.

(8) A person may discontinue the operation of a natural gas-fired afterburner, which is used to achieve compliance with the emission limits in this rule, between November 1 and March 31, unless the afterburner is used to achieve compliance with, or is required by, any of the following:

(a) Another provision of these rules.

(b) A permit to install.

(c) A permit to operate.

(d) A voluntary agreement.

(e) A performance contract.

(f) A stipulation.

(g) An order of the department.

(9) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 under subrule (8) of this rule, then both of the following provisions apply between November 1 and March 31:

(a) All other provisions of this rule, except the emission limits, remain in effect.

(b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.

(10) A flat wood paneling coating line subject to R 336.1620a does not need to meet the provisions of R 336.1620.

R 336.1620a Emission of volatile organic compounds from existing flat wood paneling coating lines in 2015 ozone nonattainment areas.

Rule 620a. (1) As used in this rule, “coating of flat wood paneling” means the factory-finished coating of flat products that are constructed of wood and intended for use as interior paneling, exterior siding, tileboard, cabinets, or furniture components.

(2) Unless all of the applicable provisions this rule are met, a person shall not cause or allow the emission of any volatile organic compound from the coating of flat wood paneling on existing lines located in the 2015 ozone nonattainment area for the following materials:

- (a) Printed interior panels made of hardwood, plywood, or thin particleboard.
- (b) Natural finish hardwood plywood panels.
- (c) Class 2 finishes on hardboard panels.
- (d) Tileboard.
- (e) Exterior siding.

(3) Except as provided in subrule (7), the provisions of this rule do not apply to the following:

(a) Flat wood paneling coating lines that are within a stationary source and have a combined actual emission rate of volatile organic compounds, including related cleaning activities, of less than 15 pounds per day before consideration of controls. If the combined actual emission rate equals or is more than 15 pounds per day for a subsequent day, then this rule permanently applies to these coating lines.

(b) Low-use coatings that total 55 gallons or less per rolling 12-month period at a stationary source.

(4) A person subject to subrule (2) of this rule shall not cause or allow the emission of any volatile organic compound from flat wood paneling coating, unless 1 of the following provisions are met:

(a) Surface coatings, inks, or adhesives are less than 2.1 pounds per gallon coating, excluding water and exempt solvents.

(b) Surface coatings, inks, or adhesives are less than 2.9 pounds per gallon solids.

(c) Add-on control is operated and maintained and has an overall control efficiency of volatile organic compounds of 90% or more.

(5) For each coating line, compliance with the emission limits specified in this rule must be based upon all of the following:

(a) The volume-weighted average of all coatings that belong to the same coating category and are used during each calendar day averaging period.

(b) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(c) The information and records as required by the provisions of subrule (7) of this rule.

(6) Compliance with the limits specified in subrule (4) of this rule, as appropriate, must be determined using the methods described in R 336.2040(12), as applicable.

(7) A person who is responsible for the operation of a coating line that is subject to this rule shall obtain current information and keep daily records necessary for the determination of compliance with this rule, as required in R 336.2041.

R 336.1621 Emission of volatile organic compounds from existing metallic surface coating lines.

Rule 621. (1) A person shall not cause or allow the emission of volatile organic compounds from the coating of metallic surfaces from any existing coating line in excess of the applicable emission rates as follows:

(a) Four and three-tenths pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for clear coatings.

(b) Three and one-half pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for air-dried coatings.

(c) Three and one-half pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for extreme performance coatings.

(d) Four and eight-tenths pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for truck final repair coatings.

(e) Four and nine-tenths pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for glass adhesion body primer. As used in this subdivision, "glass adhesion body primer" means the prime coating that is applied to automobile or truck bodies as part of the glass bonding system.

(f) Four and three-tenths pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for steel pail and drum interior coatings.

(g) Three pounds of volatile organic compounds emitted per gallon of coating, minus water, as applied for all other coatings.

(2) If the provisions of more than 1 subdivision of subrule (1) of this rule are applicable for a specific coating, then the least stringent provision applies.

(3) To take credit for improved transfer efficiency, upon written request and approval by the department, a person may achieve the emission limits specified in subrule (1) of this rule by an equivalent emission limit expressed in pounds of volatile organic compounds emitted per gallon of applied coating solids. The equivalent emission limit is established by the following equation:

$$A = \frac{E}{S \frac{(TE)_b}{100}}$$

Where:

A = Allowable equivalent emission limit, pounds of volatile organic compounds per gallon of applied coating solids.

E = Applicable emission limit as specified in subrule (1) of this rule, pounds of volatile organic compounds per gallon of coating, minus water, as applied.

S = Solids volume fraction representative of a compliance coating, gallon of solids per gallon of coating, minus water, as applied.

The value of "S" must be determined by using the following equation:

$$S = 1 - \frac{E}{7.36}$$

(TE)_b = Overall baseline transfer efficiency of the coating line as specified in subrule (4) of this rule, percent. If multiple application methods are used on the coating line, the overall baseline transfer efficiency must be determined using the method described in R 336.2040(9). Department approval of the transfer efficiency test method is required.

(4) For the purpose of establishing an equivalent emission limit under subrule (3) of this rule, the value of (TE)_b, the overall baseline transfer efficiency of the coating line must

be 60%. Notwithstanding this provision, a person may request, in writing to the department, and the department may approve, a value for (TE)b that is less than 60%, but not less than 40%. A request for a value for (TE)b of less than 60% must include a demonstration that the lower requested value is representative of the overall transfer efficiency achieved by similar coating lines which use the most efficient type of application equipment that is reasonably available for the similar coating lines.

(5) A person that is responsible for the operation of a coating line that is subject to this rule shall obtain current information, and keep daily records necessary, for the determination of compliance with the provisions of this rule, as required in R 336.2041.

(6) For each coating line, compliance with the emission limits specified in this rule must be based upon all of the following:

(a) The volume-weighted average of all coatings that belong to the same coating category, and are used during each calendar day averaging period. The department may specifically authorize compliance to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(b) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(c) The information and records required by subrule (5) of this rule.

(7) Compliance with the emission limits specified in this rule must be determined using the applicable method described in 1 of the following:

(a) For coating lines that are subject to the emission limits specified in subrule (1) of this rule, the method described in either R 336.2040(12)(a) if the coating line has no add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(b) For coating lines subject to the equivalent emission limits specified in subrule (3) of this rule, the method described in either R 336.2040(12)(e) if the coating line has no add-on emissions control device or R 336.2040(12)(f) if the coating line has 1 or more add-on emissions control device.

(8) This rule does not apply to the coating of metallic surfaces that are subject to R 336.1610.

(9) This rule does not apply to any of the following:

(a) Automobile refinishing.

(b) Customized topcoating of less than 35 automobiles or trucks, or both, per day.

(c) Coating of the exterior of airplanes when the part to be coated has already been assembled on the airplane.

(d) Coating of the exterior of marine vessels when the part to be coated has already been assembled on the marine vessel.

(e) Coating of a part consisting of both metallic and nonmetallic components if a demonstration is made, to the satisfaction of the department, that the limits of this rule cannot be met due to the presence of the nonmetallic component. In this case, and if the nonmetallic component of the part is plastic and used as an automobile, truck, or business machine plastic part, R 336.1632 applies to the coating of the part.

(10) This rule, except for subrule (5) of this rule, does not apply to a metallic surface coating line that complies with both of the following provisions:

(a) The coating line has an actual emission rate of volatile organic compounds equal to or less than 2,000 pounds per month and 10.0 tons per year as of November 4, 1999. If the actual rate of emissions from an exempted metallic surface coating line exceeds 2,000 pounds per month for a subsequent month or 10.0 tons per year for a subsequent year, then the provisions of this rule permanently applies to the metallic surface coating line for as long as the applicable equipment is in operation.

(b) Volatile organic compound emissions from the coating line, when combined with the total emissions of volatile organic compounds from all other metallic surface coating lines at the stationary source that are exempted by this subrule, do not exceed 30.0 tons per year.

(11) A person may exclude low-use coatings that total 55 gallons or less per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (5) of this rule.

(12) A person may discontinue the operation of a natural gas-fired afterburner, which is used to achieve compliance with the emission limits in this rule, between November 1 and March 31, unless the afterburner is used to achieve compliance with, or is required by, any of the following:

- (a) Another provision of these rules.
- (b) A permit to install.
- (c) A permit to operate.
- (d) A voluntary agreement.
- (e) A performance contract.
- (f) A stipulation.
- (g) An order of the department.

(13) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 under subrule (12) of this rule, then both of the following provisions apply between November 1 and March 31:

(a) All other provisions of this rule, except the emission limits, remain in effect.

(b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.

(14) A metallic surface coating line subject to R 336.1621a does not need to meet the provisions of this rule.

R 336.1621a Emission of volatile organic compounds from existing metal parts, metal products, and motor vehicle material surface coating lines in 2015 ozone nonattainment areas.

Rule 621a. (1) A person shall not cause or allow the emission of any volatile organic compound from an existing metallic surface coating line at a facility located in the 2015 ozone nonattainment areas in excess of the applicable emission rates provided in subrule (3) of this rule.

(2) This rule does not apply to the following:

(a) Except as provided in subrule (5) of this rule, metallic surface coating lines that are within a stationary source and have a combined actual emission rate of volatile organic compounds, including related cleaning activities, of less than 15 pounds per calendar day before consideration of controls. If the combined actual emission rate equals or is more

than 15 pounds per calendar day for a subsequent day, then this rule permanently applies to these coating lines.

(b) Metallic surface coating lines that meet any of the following processes:

(i) The portion of a metallic surface coating process that is addressed in R 336.1610, R 336.1610a, R 336.1620, R 336.1620a, R 336.1635, R 336.1636, R 336.1637, R 336.1638, and R 336.1639.

(ii) Coating of a part consisting of both metallic and nonmetallic components if a demonstration is made to the satisfaction of the department, under R 336.1602(2), that the limits of this rule cannot be met due to the presence of the nonmetallic component. In this case, and if the nonmetallic component of the part is plastic and used as an automobile, truck, or business machine plastic part, R 336.1632 applies to the coating of the part, as applicable.

(iii) Aerosol coatings.

(iv) Architectural coatings, and automobile refinish coatings that are used for architectural coating or automobile refinish coating purposes as defined by their respective national volatile organic compound rules.

(v) Coatings that are applied to test panels and coupons as part of research and development, quality control, or performance testing activities at paint research or manufacturing facilities.

(vi) Customized top coating of less than 35 automobiles or trucks, or both, per calendar day.

(vii) Coating of the exterior of airplanes when the part to be coated has already been assembled on the airplane.

(viii) Coating of the exterior of marine vessels when the part to be coated has already been assembled on the marine vessel.

(ix) Coatings used on a non-production basis.

(x) Rubber to metal bonding.

(c) The following metal parts coating processes are exempt from subrule (3) of this rule:

(i) Stencil coatings.

(ii) Safety-indicating coatings.

(iii) Solid-film lubricants.

(iv) Electric-insulating and thermal-conducting coatings.

(v) Magnetic data storage disk coatings.

(vi) Plastic extruded onto metal parts to form a coating.

(d) The coating of bodies or body parts for new heavier vehicles at an automobile and light-duty truck assembly facility or a heavier vehicle assembly facility where the person responsible elects to comply with the provisions of R 336.1610a under the classification of automobile and light-duty truck coating lines.

(e) The application methods required by subrule (3)(b) of this rule do not apply to airbrush operations using 5 gallons or less per year of coating.

(f) A person subject to this rule may exclude low-use coatings that have a combined total less than 55 gallons per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (5) of this rule.

(3) A person shall not cause or allow the emission of volatile organic compounds from metallic surface coating operations, unless the following provisions are met:

(a) A person responsible for a coating line engaged in the surface coating of metallic surfaces, with the exception of motor vehicle materials as listed in table 64-g, shall limit volatile organic compounds emissions from all volatile organic compound-containing materials, such as coatings, thinners, and other additives, used by each metallic surface coating line by complying with either subdivision (c), (d), or (e) of this subrule, as applicable.

(b) A person subject to this rule shall not apply volatile organic compound-containing coatings to metal parts and products subject to the provisions of this rule, unless the coating is applied with properly operating equipment according to an operating procedure specified by the equipment manufacturer or the executive officer, or designee, and by the use of 1 of the following methods:

- (i) Electrostatic application.
- (ii) Flow coat.
- (iii) Dip coat (including electrodeposition).
- (iv) Roll coater.
- (v) High-volume, low-pressure (HVLP) spray.
- (vi) Airless spray.
- (vii) Air-assisted airless spray.

(viii) Alternative coating application methods that demonstrate equal or better transfer efficiency capability than HVLP spraying. Written departmental approval is required for alternative coating application methods.

(c) A metallic surface coating operation must not cause or allow the emission of volatile organic compounds from the coating of metallic surfaces from any existing metal parts coating line in any of the 2015 ozone nonattainment areas, in excess of the applicable content limits expressed in terms of mass of volatile organic compounds per volume of coating excluding water and exempt compounds, as applied, as specified in table 64-e, or emission rates expressed in terms of mass of volatile organic compounds per volume of solids as applied, as specified in table 64-f, unless a demonstration is made to the satisfaction of the department, under R 336.1602(2).

TABLE 64-e

Metal Parts and Products low-VOC Coating Content Limits

Coating Category	Air Dried	Baked
	lb VOC/gal coating (excluding water), as applied	lb VOC/gal coating (excluding water), as applied
General 1 Component	2.8	2.3
General Multi Component	2.8	2.3
Camouflage	3.5	3.5
Electric-Insulating Varnish	3.5	3.5
Etching Filler	3.5	3.5

Extreme High-Gloss	3.5	3.0
Extreme Performance	3.5	3.0
Heat-Resistant	3.5	3.0
High Performance Architectural	3.5	3.5
High Temperature	3.5	3.5
Metallic	3.5	3.0
Military Specification	2.8	2.3
Mold-Seal	3.5	3.0
Pan Backing	3.5	3.5
Prefabricated Architectural Multi-Component	3.5	2.3
Prefabricated Architectural One-Component	3.5	2.3
Pretreatment Coatings	3.5	3.5
Repair and Touch Up	3.5	3.0
Silicone Release	3.5	3.5
Solar-Absorbent	3.5	3.0
Vacuum-Metalizing	3.5	3.0
Drum Coating, New, Exterior	2.8	2.8
Drum Coating, New, Interior	3.5	3.5
Drum Coating, Reconditioned, Exterior	3.5	3.5
Drum Coating, Reconditioned, Interior	4.2	4.2

TABLE 64-f

Metal Parts and Products VOC Emission Rate Limits (VOC per Volume Solids)

Coating Category	Air Dried	Baked
	lb VOC/gal solids, as applied	lb VOC/gal solids, as applied
General 1 Component	4.52	3.35
General Multi Component	4.52	3.35
Camouflage	6.67	6.67
Electric-Insulating Varnish	6.67	6.67
Etching Filler	6.67	6.67
Extreme High-Gloss	6.67	5.06
Extreme Performance	6.67	5.06
Heat-Resistant	6.67	5.06
High Performance Architectural	6.67	6.67
High Temperature	6.67	6.67
Metallic	6.67	5.06
Military Specification	4.52	3.35
Mold-Seal	6.67	5.06
Pan Backing	6.67	6.67
Prefabricated Architectural Multi-Component	6.67	3.35
Prefabricated Architectural One-Component	6.67	3.35

Pretreatment Coatings	6.67	6.67
Silicone Release	6.67	6.67
Solar-Absorbent	6.67	5.06
Vacuum-Metalizing	6.67	5.06
Drum Coating, New, Exterior	4.52	4.52
Drum Coating, New, Interior	6.67	6.67
Drum Coating, Reconditioned, Exterior	6.67	6.67
Drum Coating, Reconditioned, Interior	9.78	9.78

(d) A metallic surface coating operation applicable to this rule, except for motor vehicle materials, may choose to use an equivalent volatile organic compound emission rate limit based on the use of a combination of low-volatile organic compound coatings specified in tables 64-e and table 64-f, specified methods of application specified under subdivision (b) of this subrule, and add-on controls. The overall emission reduction efficiency needed to demonstrate compliance is determined each day as follows:

(i) Obtain the emission limitation from table 64-e or table 64-f. If using the lb volatile organic compounds/gal coating, excluding water, as applied limit from table 64-e, then calculate the emission limitation in a solids basis according to the following equation:

$$S = C / 1 - (C/7.36 \text{ lb/gal})$$

Where:

S = The volatile organic compound emission limitation in terms of lb volatile organic compounds/gal of coating solids.

C = The volatile organic compound emission limitation in terms of lb volatile organic compounds/gal of coating, excluding water, as applied.

(ii) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = [(VOC_a - S)/VOC_a] \times 100$$

Where:

E = The required overall emission reduction efficiency of the control system for the day.

VOC_a = The maximum volatile organic compound content of the coatings, as applied, used each day on the subject coating line, in units of lb volatile organic compounds/gal of coating solids, as determined by the applicable test methods and procedures specified in subdivision (h) of this subrule.

S = The volatile organic compound emission limitation in terms of lb volatile organic compounds/gal of coating solids.

(e) A metallic surface coating operation applicable to this rule, with the exception of motor vehicle materials, can choose to use add-on control equipment that must have an overall control efficiency of 90% or higher. The coating operation would not have to limit the volatile organic compound content of the coating materials and would not need to use any particular coating application method.

(f) A person subject to this rule shall not cause or allow the emissions of volatile organic compounds from existing motor vehicle material coating operations in any of the 2015 ozone nonattainment areas in excess of the emission rates as specified in table 64-g, as applicable.

TABLE 64-g

Volatile organic compound emission limitation for existing motor vehicle materials

Coating category	lb VOC/gal coating (excluding water), as applied
Motor vehicle cavity wax	3.5
Motor vehicle sealer	3.0
Motor vehicle deadener	3.0
Motor vehicle gasket/gasket sealing material	1.7
Motor vehicle underbody coating	3.5
Motor vehicle trunk interior coating	3.0
Motor vehicle bedliner	1.7
Motor vehicle lubricating wax/compound	3.5

(g) If the provisions of more than 1 coating category of this subrule are applicable for a specific coating, then the least stringent provision may be applied.

(h) For each coating line, compliance with the emission limits specified in this rule must be based upon all of the following:

(i) The volume-weighted average of all coatings that belong to the same coating category, and are used during each calendar day averaging period. Under R 336.1602(2), the department may specifically authorize compliance to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(ii) If coatings that belong to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(iii) The information and records required by subrule (5) of this rule.

(i) Compliance with the emission limits specified in this rule must be determined using the applicable method described in the following subdivisions:

(i) For coating lines that are subject to the emission limits specified in subdivision (c) of this subrule, the method described in either R 336.2040(12)(a) if the coating line has no add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(ii) For coating lines that are subject to the emission limits specified in subrule (3)(d) of this rule, the method described in either R 336.2040(12)(c) if the coating line has no add-on emissions control device or R 336.2040(12)(d) if the coating line has 1 or more add-on emissions control devices.

(4) The following work practices are required for storage, mixing operations, and handling operations for coatings, thinners, cleaning, and coating-related waste materials.

The person responsible for a metallic parts surface coating operation shall develop written procedures to comply with the following provisions:

(a) Store all volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials are kept closed at all times, except when depositing or removing these materials.

(c) Minimize spills of volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials.

(d) Convey volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials from 1 location to another in closed containers or pipes.

(e) Minimize volatile organic compound emission from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(5) A person who is responsible for the operation of a coating line that is subject to this rule shall obtain current information, and keep daily records necessary for the determination of compliance with the provisions of this rule, and as required in R 336.2041.

R 336.1622 Emission of volatile organic compounds from existing components of petroleum refineries; refinery monitoring program.

Rule 622. (1) A person shall not cause or allow the emission of any volatile organic compound from any existing component, as listed in subrule (2) of this rule, of a petroleum refinery, including topping plants, unless all of the provisions of this rule are satisfied or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented. An alternate acceptable control method is described in “Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006,” 40 CFR part 60, subpart GGG adopted by reference in R 336.1902.

(2) A person shall not operate an existing petroleum refinery unless a monitoring program and schedule approved by the department is implemented. This monitoring program and schedule must provide for, and identify by type and refinery unit, by quarter, all of the following:

(a) An annual inspection of all of the following components:

(i) Pump seals.

(ii) Process valves in liquid volatile organic compound service.

(iii) Process drains.

(iv) Components that are difficult to monitor.

(b) A quarterly inspection of all of the following components:

(i) Compressor seals.

(ii) Process valves in gaseous volatile organic compound service.

(iii) Pressure-relief valves in gaseous volatile organic compound service.

(c) A weekly visual inspection of all pump seals from which volatile organic compounds could leak.

(d) An immediate inspection of any pump seal from which a liquid, including a volatile organic compound, is observed dripping.

(e) An inspection of any relief valve from which a volatile organic compound could discharge within 2 normal business days after it begins venting to the atmosphere.

(f) An inspection as soon as is practical, but not later than 2 normal business days, after the repair of any component that was found leaking.

(3) Except for the visual inspections required by subrule (2)(c) of this rule, all inspections must be performed using equipment and procedures as specified in 40 CFR part 60, appendix A, method 21, adopted by reference in R 336.1902. A component is leaking when a concentration of more than 10,000 ppm, by volume, as methane or hexane, is measured by method 21.

(4) If implementation of the quarterly leak detection program as specified in subrule (2)(b) of this rule shows that 2% or less of the process valves in a given refinery unit are leaking for 2 consecutive quarters, then the inspections of process valves in that refinery unit may be skipped for 1 quarter. If 2% or less of the process valves in a given refinery unit are leaking for 5 consecutive quarters, then the inspections may be done annually. If a subsequent inspection shows that if more than 2% of the process valves are leaking, then quarterly inspections of valves shall again be required.

(5) The percent of valves leaking on a refinery unit, as referenced in subrule (4) of this rule, must be determined by dividing the total number of valves found to be leaking on the refinery unit during the specified monitoring period by the total number of valves on the refinery unit that are required to be monitored by this rule.

(6) This rule does not apply to any of the following:

(a) Pressure-relief valves that vent to an operating flare header, fuel gas system, or vapor control device.

(b) Components that are unsafe to monitor, until monitoring personnel would no longer be exposed to immediate danger.

(c) Storage tank valves.

(d) Valves that are not externally regulated.

(e) Components that process, transfer, or contain 1 or more volatile organic compounds in the liquid phase under actual conditions, all of which have a true vapor pressure of less than 1.55 psia.

(7) Notwithstanding the provisions of subrule (2) of this rule, the monitoring of components, such as process drains and valves, that are used solely in effecting a refinery unit turnaround, is required only within the quarter following the turnaround.

(8) A leak that is detected pursuant to the monitoring program provisions of subrule (2) of this rule or for another reason must be repaired. Except as provided in subrule (10) of this rule, this leak must be repaired as soon as possible, but not more than 15 days after the leak is detected. Until the time that the leak is repaired and retested verifying a successful repair, the component causing the leak must bear a weather-resistant, numbered, identifying tag that indicates the date the leak was discovered.

(9) A log of all leaks detected pursuant to the provisions of subrules (2), (3), (5), and (6) of this rule or by another method must be maintained by the operator of the petroleum refinery. This log must identify all of the following:

(a) The leaking component by type and location.

(b) The number of the identifying tag.

- (c) The date the leak was discovered.
- (d) The date the leak was repaired.
- (e) The date the component was retested after the repair with an indication of the testing results.

(f) The person or persons who performed the inspections. The log must be made available to any representative of the department during normal business hours of the refinery and be maintained for a minimum of 2 years.

(10) If a leak cannot be repaired within 15 days due to circumstances beyond the control of the operator of the petroleum refinery or because the leaking component cannot be repaired unless a significant portion of the refinery unit is shut down for turnaround, then the operator shall maintain a separate log of the non-repair. The log must identify all of the following:

- (a) The leaking component by type, location, and refinery unit.
- (b) The date the leak was discovered.
- (c) The reason why the leak cannot be repaired within 15 days.
- (d) The estimated date of repair.

(11) Within 25 days after the end of the previous quarter, the operator shall submit to the department a report that contains all of the following information for that quarter:

- (a) The total number of components tested, by type.
- (b) The total number of components found leaking and repaired, by type.
- (c) The accumulative total number of components, by refinery unit and type, found to be leaking and not repaired within the required time period and the reason for non-repair.
- (d) The type or types of monitoring equipment utilized during the quarter. The report required by this subrule must be made on a form approved by the department.

(12) The department may require the early shutdown for turnaround of a refinery unit if the department feels that there are a significant number of leaks that would justify this action.

(13) Except for safety pressure-relief valves, a person shall not operate existing petroleum refinery equipment that has a valve at the end of a pipe or line that contains a volatile organic compound, unless the pipe or line is sealed with a second valve, blind flange, plug, or cap. The sealing device may be removed only when a sample is being taken or during maintenance operations. A current, written description detailing routine sampling procedures and listing the sealing devices involved must be maintained and be submitted to the department in an acceptable format upon request.

R 336.1623 Storage of petroleum liquids having a true vapor pressure of more than 1.0 psia, but less than 11.0 psia, in existing external floating roof stationary vessels of more than 40,000-gallon capacity.

Rule 623. (1) A person shall not store any petroleum liquid having a true vapor pressure of more than 1.0 psia, but less than 11 psia, at actual storage conditions in any existing external floating roof stationary vessel of more than 40,000-gallon capacity, unless subrules (2) to (11) of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented.

(2) Any stationary vessel subject to this rule must be equipped with a floating roof to which a continuous rim-mounted secondary seal has been attached.

(3) The secondary seal, as required by subrule (2) of this rule, must meet all of the following requirements:

(a) There must be no visible holes, tears, or other nonfunctional openings in the seal or seal fabric.

(b) The seal must be intact and uniformly in place around the circumference of the floating roof between the floating roof and the vessel wall.

(c) For vessels equipped with vapor-mounted primary seals, the accumulated area of gaps exceeding 1/8 of an inch in width between the secondary seal and the vessel wall shall not exceed 1.0 square inch per foot of tank diameter.

(4) All openings in the external floating roof in any stationary vessel subject to the provisions of this rule, except for automatic bleeder vents, rim space vents, and leg sleeves, must be equipped with both of the following:

(a) Covers, seals, or lids that must remain in the closed position, except when the openings are in actual use.

(b) Projections into the vessel that remain below the liquid surface at all times.

(5) All automatic bleeder vents in any stationary vessel subject to the provisions of this rule must be closed at all times, except when the floating roof is floated off or landed on the roof leg supports.

(6) All rim vents in any stationary vessel subject to the provisions of this rule must be set to open only when the floating roof is being floated off the leg supports or at the manufacturer's recommended setting.

(7) All emergency floating roof drains in any stationary vessel subject to the provisions of this rule must be provided with slotted membrane fabric covers, or equivalent covers, that cover not less than 90% of the area of the opening.

(8) A person who is responsible for the operation of a stationary vessel subject to the provisions of this rule shall comply with all of the following requirements:

(a) Perform a semiannual routine inspection to ensure compliance with all provisions of subrules (2) to (7) of this rule, with the exception of subrule (3)(c) of this rule.

(b) For vessels equipped with a vapor-mounted primary seal, perform an annual inspection to document compliance with the provisions of subrule (3)(c) of this rule.

(c) Maintain a record of the results of the inspections performed as required by this subrule. This record must be made available to any representative of the department and be maintained for a minimum of 2 years.

(d) The provisions of this subrule may, upon written notice, be modified by the department under R 336.1602(2), if considered necessary to accomplish the purpose of this rule.

(9) The provisions of subrules (2) and (3) of this rule do not apply to any of the following external floating roof stationary vessels:

(a) Vessels that are used to store waxy, heavy-pour crude oil.

(b) Vessels of less than 420,000-gallon capacity that are used to store produced crude oil and condensate before lease custody transfer.

(c) Vessels of welded construction that are equipped with a primary seal consisting of a metallic-type shoe seal, a liquid-mounted foam seal, or a liquid-mounted, liquid-filled-type seal and contain a petroleum liquid that has a true vapor pressure of less than 4.0 psia.

(d) Vessels that are used to store jet naphtha (jet b or jp-4).

(10) A person that is responsible for the operation of a stationary vessel that meets 1 of the exemption provisions of subrule (9) of this rule shall maintain records that include all of the following information:

(a) The type of vessel and, for a stationary vessel that meets the exemption provisions of subrule (9)(c) of this rule, the type of primary seal.

(b) The capacity of the stationary vessel.

(c) The contents of the stationary vessel.

(d) For a stationary vessel that meets the exemption provisions of subrule (9)(c) of this rule, the true vapor pressure of the petroleum liquid in the stationary vessel.

(11) The provisions of subrules (2) to (8) of this rule do not apply to any existing floating roof stationary vessel that contains a petroleum liquid that has a true vapor pressure of less than 1.5 psia. A person that is responsible for such stationary vessel shall maintain a record that includes all of the following information:

(a) Average monthly stored liquid temperature.

(b) Type of petroleum liquid.

(c) Reid vapor pressure of the petroleum liquid. The record that is required by this subrule must be made available to any representative of the department and be maintained for a minimum of 2 years.

R 336.1624 Emission of volatile organic compounds from existing graphic arts lines.

Rule 624. (1) A person shall not cause or allow the emission of any volatile organic compound from an existing graphic arts line, unless all of the provisions of this rule are met or unless an equivalent emission rate, as approved by the department, is achieved. As used in this rule, "graphic arts" applies to rotogravure and flexographic operations only.

(2) For the purpose of this rule, both of the following provisions apply:

(a) In calculating the calendar day averaging period percent reduction of volatile organic compound emissions from a graphic arts line that is subject to the emission limits specified in subrule (3)(c) of this rule, the starting level must be the total amount of volatile organic compounds used on the graphic arts line during the calendar day averaging period. This level must be expressed as pounds of volatile organic compounds.

(b) It is assumed that all volatile organic compounds applied to the substrate are emitted, unless captured and controlled by control equipment.

(3) A person shall not cause or allow the emission of any volatile organic compound from an existing graphic arts line, unless the provisions of 1 or more of the following subdivisions are met:

(a) The volatile fraction of all inks and coatings used on a graphic arts line as applied to the substrate must contain a maximum of 25%, by volume, of volatile organic compounds, based upon a calendar day averaging period.

(b) The nonvolatile fraction of all inks and coatings used on a graphic arts line as applied to the substrate, minus water, must be a minimum of 60%, by volume, based upon a calendar day averaging period.

(c) The overall reduction in volatile organic compound emissions, based on pounds of volatile organic compounds from a graphic arts line for which compliance is to be achieved through the use of 1 or more add-on emissions control devices must be 1 of the following, based upon a calendar day averaging period:

(i) For publication rotogravure printing, a minimum of 75%.

- (ii) For packaging rotogravure printing, a minimum of 65%.
- (iii) For flexographic printing, a minimum of 60%.
- (4) A person that is responsible for the operation of a graphic arts line that is subject to this rule shall obtain current information, and keep records necessary, for a determination of compliance with this rule, as follows:
 - (a) As required in subrule (12) of this rule for sources subject to subrule (3)(a) or (b) of this rule.
 - (b) As required in R 336.2041(10)(d) and (e) for sources subject to subrule (3)(c) of this rule.
- (5) Compliance with the emission limits specified in this rule must be based upon all of the following provisions, as applicable:
 - (a) Compliance with the emission limit specified in subrule (3)(a) or (b) of this rule must be based upon all inks and coatings that are used during each calendar day averaging period.
 - (b) Compliance with the applicable calendar day averaging period overall reduction provision specified in subrule (3)(c) of this rule must be based upon all inks and coatings that are used during each calendar day averaging period.
 - (c) If more than 1 compliance option listed in subrule (3) of this rule is used on a graphic arts line during a calendar day averaging period, then compliance must be determined separately for each option used and be based upon all inks and coatings used for each option during each calendar day averaging period.
 - (d) The department may specifically authorize compliance to be based upon a longer averaging period than the calendar day averaging period specified in subdivision (a), (b), or (c) of this subrule, not to exceed more than 1 calendar month.
 - (e) The information and records as required by subrule (4) of this rule.
- (6) Compliance with subrule (3)(a) and (b) of this rule must be determined using the method described in subrule (11) of this rule. Compliance with subrule (3)(c) of this rule must be determined using the method described in R 336.2040(11).
- (7) This rule, except for subrule (4) of this rule, does not apply to graphic arts lines that are within a stationary source and have a total combined actual emission rate of volatile organic compounds of less than 100 pounds per day or 2,000 pounds per month as of November 4, 1999. If the combined actual emission rate equals or is more than 100 pounds per day for a subsequent day or 2,000 pounds per month for a subsequent month, then this rule permanently applies to the graphic arts lines.
- (8) A person may exclude low-use inks or coatings that total 55 gallons or less per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (4) of this rule.
- (9) A person may discontinue the operation of a natural gas-fired afterburner that is used to achieve compliance with the emission limits in this rule between November 1 and March 31, unless the afterburner is used to achieve compliance with, or is required by, any of the following:
 - (a) Another provision of these rules.
 - (b) A permit to install.
 - (c) A permit to operate.
 - (d) A voluntary agreement.
 - (e) A performance contract.

- (f) A stipulation.
- (g) An order of the department.
- (10) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 under subrule (9) of this rule, then both of the following provisions apply between November 1 and March 31:
 - (a) All other provisions of this rule, except the emission limits, remain in effect.
 - (b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.
- (11) Compliance with subrule (3)(a) and (b) of this rule must be determined as follows:
 - (a) The following equation must be used to determine if the volatile fraction of all inks and coatings used on a graphic arts line, as applied, meets the volatile organic compound limitation specified in subrule (3)(a) of this rule:

$$VOC = \frac{\sum_{I=1}^N L_I V_{VOCI}}{\sum_{I=1}^N L_I V_{VCI}} \times 100$$

Where:

VOC = Volatile organic compound fraction of the volatile fraction of all inks and coatings used on a graphic arts line, as applied, each calendar day averaging period, percent.

I = Individual ink or coating, as applied.

N = Number of different inks and coatings used on a graphic arts line, as applied, each calendar day averaging period.

LI = Volume of each ink or coating, as applied, used on the calendar day averaging period, gallons.

VVOCI = Volume fraction of volatile organic compounds in each ink or coating, as applied, percent.

VVCI = Volume fraction of volatiles in each ink or coating, as applied, percent. The provisions of subrule (3)(a) of this rule must be met if the value for "VOC" in the equation is less than or equal to 25%.

(b) The following equation must be used to determine if the nonvolatile fraction of all inks and coatings used on a graphic arts line, as applied, meets the limitation specified in subrule (3)(b) of this rule:

$$NV = \frac{\sum_{I=1}^N L_I V_{VOCI}}{\sum_{I=1}^N L_I V_{VCI}} \times 100$$

Where:

NV = Nonvolatile fraction of all inks and coatings used on a graphic arts line, as applied, minus water and exempt compounds, by volume, on a calendar day averaging period, percent.

I = Individual ink or coating, as applied.

N = Number of different coatings and inks used on a graphic arts line, as applied, each calendar day averaging period.

LI = Volume of each ink or coating, as applied, used on the calendar day averaging period, gallons.

VI = Volume fraction of non-volatiles in each ink or coating, as applied, percent.

VVOCI = Volume fraction of volatile organic compounds in each ink or coating, as applied, percent.

The provisions of subrule (3)(b) of this rule must be met if the value for "NV" in the equation is equal to or greater than 60%.

(12) A person subject to subrule (3)(a) or (b) of this rule shall keep the following records:

(a) For graphic arts lines subject to subrule (3)(a) of this rule:

(i) The name, identification number, and volume "LI" of each ink or coating used each calendar day averaging period.

(ii) The volume fraction of volatile organic compounds in each ink or coating, as applied, each calendar day averaging period.

(iii) The volume fraction of volatiles in each ink or coating, as applied, during each calendar day averaging period.

(iv) The volatile organic compound fraction of the volatile fraction of all inks and coatings used on a graphic arts line, as applied, each calendar day averaging period.

(b) For graphic arts lines subject to subrule (3)(b) of this rule:

(i) The name, identification number, and volume "LI" of each ink or coating used each calendar day averaging period.

(ii) The volume fraction of non-volatiles in each ink or coating, as applied, each calendar day averaging period.

(iii) The volume fraction of non-volatiles in all inks and coatings used each calendar day averaging period.

(13) A graphic art line subject to R 336.1624a does not need to meet the provisions of this rule except as specified in R 336.1624a.

R 336.1624a Emission of volatile organic compounds from existing flexographic printing lines located in the 2015 ozone nonattainment areas.

Rule 624a. (1) As used in this rule:

(a) "Flexible packaging" means packaging that is not rigid and whose shapes can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, liners, and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

(b) "Flexible packaging printing" means the subset of graphic arts lines used in the printing of packages or parts of packages.

(c) "Graphic arts" means rotogravure and flexographic printing operations only.

(2) A person shall not cause or allow the emission of any volatile organic compound from inks, coatings, adhesives, and cleaning material from an existing flexible package printing line located in the 2015 ozone nonattainment areas, unless all of the applicable provisions of this rule are met.

(3) Except as provided in subrule (8) of this rule, the provisions of this rule do not apply to flexible package printing lines that are within a stationary source and have a combined actual emission rate of volatile organic compounds, including related cleaning activities, of less than 3 tons per year on a 12-month rolling basis before consideration of controls. If the combined actual emission rate equals or is more than 3 tons per year on a 12-month

rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to these printing lines.

(4) Each printing press line with a potential to emit less than 25 tons per year of volatile organic compounds must meet the overall reduction of volatile organic compound emissions in R 336.1624(3), as applicable.

(5) Each printing press line with a potential to emit of 25 tons per year or more of volatile organic compounds must meet the overall reduction of volatile organic compound emissions in subdivisions (a), (b) or (c) of this subrule, as applicable:

(a) The volatile fraction of all inks, coatings, and adhesives used on a flexible package printing line as applied to the substrate must contain a maximum of 0.8 pounds volatile organic compounds per pound of solids applied.

(b) The volatile fraction of all inks, coatings, and adhesives used on a flexible package printing line as applied to the substrate must contain a maximum of 0.16 pounds volatile organic compounds per pound of materials applied per line.

(c) The overall reduction in volatile organic compound emissions, based on pounds of volatile organic compounds from a flexible package printing line for which compliance is to be achieved through the use of 1 or more add-on emissions control devices, must be 1 of the following, based upon a monthly averaging period:

(i) A minimum of 65% control efficiency if the press was first installed before March 14, 1995, and control installed before March 1, 2023.

(ii) A minimum of 70% control efficiency if the press was first installed before March 14, 1995, and control installed on or after March 1, 2023.

(iii) A minimum of 75% control if the press was installed on or after March 14, 1995, and control installed before March 1, 2023.

(iv) A minimum of 80% control if the press was installed on or after March 14, 1995, and control installed on or after March 1, 2023.

(d) An overall reduction in volatile organic compound emissions equivalent to the reductions in subdivision (c) of this subrule, using a combination of control efficiency and low volatile organic compound content materials.

(6) Facilities must conduct the following work practice standards for cleaning materials:

(a) Keep cleaning materials and used shop towels in closed containers.

(b) Convey cleaning materials from 1 location to another in closed containers or pipes.

(7) Compliance with the emission limits specified in this rule must be based upon all of the following provisions, as applicable:

(a) Compliance with the emission limit specified in subrule (5)(a) or (b) of this rule must be based upon all inks, coatings, and adhesives that are used during each calendar month by using manufactures formulation data for pounds of material, pounds of solids, and volatile organic compounds in each product.

(b) Compliance with the overall reduction specified in subrule (5)(c) of this rule must be based upon all inks, coatings, and adhesives that are used during each month, calculated using methods described in R 336.2040(11).

(c) Compliance with the emission limit specified in subrule (4) of this rule must be determined as described in R 336.1624(5), (6) and (11).

(d) Sources demonstrating compliance with a control efficiency as required in subrule (5)(c) of this rule shall submit a stack testing protocol for approval by the department.

(e) If more than 1 control option or limit listed in subrule (5) of this rule is used on a graphic arts line during a monthly averaging period, compliance must be determined separately for each option used and be based upon all inks, coatings, and adhesives used for each option during each monthly averaging period.

(8) A person that is responsible for the operation of a graphic arts line shall obtain current information and keep records necessary for a determination of compliance with this rule, as follows:

(a) For lines subject to subrule (5)(a) of this rule:

(i) The volume fraction of volatile organic compounds in each ink, coating, and adhesive as applied, each month.

(ii) The pounds of solids as applied, each month.

(b) For lines subject to subrule (5)(b) of this rule:

(i) The volume fraction of volatile organic compounds in each ink, coating, or adhesive, as applied, each month.

(ii) The pounds of materials as applied, each month.

(c) For lines subject to subrule (5)(c) of this rule, follow requirements as described in R 336.2041(10)(d) and (e).

(d) For lines subject to subrule (4) of this rule, follow requirements as described in R 336.1624(4) and (12).

(e) For cleaning operations, maintain a record of all cleaning materials utilized and their volume fraction of volatile organic compounds on a monthly basis. When shop towels are properly stored and conveyed as required by subrule (6) of this rule, the affected source may use a retention factor from cleaning solutions of up to 50% for VOCs with a composite vapor pressure of no more than 10 mmHg at 20 degrees Celsius.

(f) For flexible package printing lines that are exempt as allowed by subrule (3) of this rule, keep adequate records of actual emission rates on a 12-month rolling average basis.

R 336.1625 Emission of volatile organic compound from existing equipment utilized in manufacturing synthesized pharmaceutical products.

Rule 625. (1) A person shall not cause or allow the emission of any volatile organic compound from existing equipment utilized in the manufacturing of synthesized pharmaceutical products, unless all of the provisions of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented.

(2) A person shall not operate an existing reactor, distillation operation, crystallizer, centrifuge, or vacuum dryer, unless the emissions from this equipment are controlled by either of the following:

(a) A condenser, such that the outlet gas temperature does not exceed the following levels:

(i) Minus 25 degrees Celsius (minus 13 degrees Fahrenheit) when the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream, as measured at 20 degrees Celsius (68 degrees Fahrenheit), is greater than 300 millimeters of mercury (5.8 pounds per square inch).

(ii) Minus 15 degrees Celsius (5 degrees Fahrenheit) when the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream,

as measured at 20 degrees Celsius (68 degrees Fahrenheit), is greater than 150 millimeters of mercury (2.9 pounds per square inch).

(iii) Zero degrees Celsius (32 degrees Fahrenheit) when the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream, as measured at 20 degrees Celsius (68 degrees Fahrenheit), is greater than 75 millimeters of mercury (1.5 pounds per square inch).

(iv) Ten degrees Celsius (50 degrees Fahrenheit) when the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream, as measured at 20 degrees Celsius (68 degrees Fahrenheit), is greater than 52.5 millimeters of mercury (1.0 pounds per square inch).

(v) Twenty-five degrees Celsius (77 degrees Fahrenheit) when the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream, as measured at 20 degrees Celsius (68 degrees Fahrenheit), is greater than 26.2 millimeters of mercury (0.5 pounds per square inch).

(b) An alternative control technology approved by the department under R 336.1602(2), the use of which results in an emission level no greater than would occur by meeting the provisions of subdivision (a) of this subrule. For purposes of comparing the actual emission level from an alternative control technology to the allowable emission level resulting from meeting the provisions of subdivision (a) of this subrule, the actual emission level must be determined using the methods described in 40 CFR part 60, appendix A and the allowable emission level must be determined using the calculation methods described in appendix B of "Control of Volatile Organic Emissions From Manufacture of Synthesized Pharmaceutical Products," EPA-450/2-78-029, both adopted by reference in R 336.1902.

(3) For the purpose of this rule, the sum of the partial pressure or pressures of the volatile organic compound or compounds in the gas stream is to be determined as follows:

Where:

$$P_t = \sum_{i=1}^n (P_i)(X_i)$$

P_t = Sum of the partial pressures of all volatile organic compounds.

P_i = Vapor pressure of volatile organic compounds at 20 degrees Celsius (68 degrees Fahrenheit).

X_i = Mole fraction of volatile organic compounds in liquid mixture.

n = Number of different volatile organic compounds in liquid mixture.

i = Individual volatile organic compound.

The mole fraction, X_i , is determined as follows:

X_i = moles of "i" in liquid mixture total moles of liquid mixture

The total moles of liquid mixture must include both the moles of volatile organic compounds and volatile inorganic compounds, such as water, in the liquid mixture.

(4) Notwithstanding the provisions of subrule (2)(a) of this rule, a person shall not be required to reduce the temperature of a gas stream below the freezing point of a condensable component in that gas stream if it can be demonstrated, using intrinsic

chemical data, to the satisfaction of the department under R 336.1602(3), that in doing so, the condenser would be rendered ineffective. In this case, the temperature of the gas stream must be reduced as low as can be achieved without freezing of the condenser occurring.

(5) The provisions of this rule do not apply to any single existing reactor, distillation operation, crystallizer, centrifuge, or vacuum dryer that has a maximum uncontrolled volatile organic compound emission rate of less than 15 pounds per day.

(6) A person shall not operate an existing air dryer or production equipment exhaust system unless the volatile organic compound emissions from this equipment are reduced by not less than 90% if the uncontrolled volatile organic compound emissions are 330 pounds per day or more or are reduced to less than or equal to 33 pounds per day if the uncontrolled volatile organic compound emissions are less than 330 pounds per day.

(7) A person shall not load or allow the loading of a volatile organic compound that has a vapor pressure of more than 210 millimeters of mercury (4.1 pounds per square inch), as measured at 20 degrees Celsius (68 degrees Fahrenheit), from a truck or railcar into an existing stationary vessel of more than a 2,000-gallon capacity, unless a vapor balance system or an alternate control system that provides not less than 90% control of loading emissions is utilized.

(8) A person shall not store a volatile organic compound that has a vapor pressure of more than 75 millimeters of mercury (1.5 pounds per square inch), as measured at 20 degrees Celsius (68 degrees Fahrenheit), in an existing above ground stationary vessel, unless the stationary vessel is equipped with a pressure/vacuum conservation vent set at plus or minus 1.5 millimeters of mercury (0.03 pounds per square inch) or an alternate control system at least as effective, under R 336.1602(2). For purposes of comparing the actual emission level from an alternative control technology to the allowable emission level resulting from the use of a pressure/vacuum conservation vent meeting this requirement, the actual emission level must be determined using the methods described in 40 CFR part 60, appendix A, and the allowable emission level must be determined using the calculation methods described in appendix B of "Control of Volatile Organic Emissions From Manufacture of Synthesized Pharmaceutical Products", EPA-450/2-78-029, both adopted by reference in R 336.1902.

(9) A person shall not operate an existing centrifuge, rotary vacuum filter, or other filter that has an exposed liquid surface, if the liquid contains a volatile organic compound or compounds and the sum of the partial pressure or pressures of volatile organic compound or compounds is 26.2 millimeters of mercury (0.5 pounds per square inch) or more, as measured at 20 degrees Celsius (68 degrees Fahrenheit), unless the equipment is enclosed.

(10) A person shall not operate an existing in-process tank that may contain a volatile organic compound at any time, unless the tank is equipped with a cover and the cover remains closed, except when production, sampling, maintenance, or inspection procedures require operator access.

(11) A person shall not operate any existing equipment utilized in the manufacturing of synthesized pharmaceutical products from which a liquid containing a volatile organic compound or compounds can be observed dripping or running, unless the leak is repaired

immediately, if possible, but not later than the first time the equipment is off-line for a period of time that is long enough to complete the repair.

(12) A person who is responsible for the operation of a synthesized pharmaceutical process subject to the provisions of this rule shall obtain current information and maintain records that are necessary for a determination of compliance with the provisions of this rule. The information must include all of the following:

(a) For operations subject to subrule (2) of this rule, all of the following information:

(i) A list of all volatile organic compounds in each gas stream.

(ii) The vapor pressure, as measured at 20 degrees Celsius (68 degrees Fahrenheit), of each volatile organic compound.

(iii) The mole fraction of each volatile organic compound in the liquid mixture.

(iv) Continuous records of the gas outlet temperature of each condenser or of a parameter that ensures proper operation of an equivalent control device used pursuant to subrule (2)(b) of this rule.

(b) For operations that comply with subrule (5) of this rule, the amount of material entering and exiting each reactor, distillation operation, crystallizer, centrifuge, and vacuum dryer.

(c) For air dryers subject to subrule (6) of this rule, the amount of material entering and exiting each air dryer.

(d) For operations subject to subrule (7) of this rule, the following information:

(i) The date when each stationary vessel is loaded.

(ii) The type and vapor pressure, as measured at 20 degrees Celsius (68 degrees Fahrenheit), of each volatile organic compound loaded into each stationary vessel.

(e) For operations subject to subrule (9) of this rule, all of the following information:

(i) A list of all volatile organic compounds in the liquid.

(ii) The vapor pressure, as measured at 20 degrees Celsius (68 degrees Fahrenheit), of each volatile organic compound.

(iii) The mole fraction of each volatile organic compound in the liquid mixture.

(f) For operations subject to subrule (11) of this rule, the following information:

(i) The date each leak was detected.

(ii) The date each leak was repaired.

R 336.1627 Delivery vessels; vapor collection systems.

Rule 627. (1) A person shall not operate any delivery vessel that is subject to control by a vapor collection system, either vapor balance or recovery system, required by R 336.1606, R 336.1607, R 336.1608, or R 336.1609 unless all of the provisions of this rule are met.

(2) Delivery vessels must comply with all requirements described in the 40 CFR part 60, appendix A, method 27, adopted by reference in R 336.1902.

(3) The owner of any delivery vessel that is subject to subrule (1) of this rule shall test the delivery vessel in accordance with 40 CFR part 60, appendix A, method 27, within 1 year after the date of the previous test. Notification of the exact time and location of the test must be given to the department, in writing, not less than 7 days before the actual test. If the time or location of the test changes for any reason, then the owner or operator shall notify the department as soon as practical.

(4) The test must comply with documentation requirements described in 40 CFR part 60, appendix A, method 27 and be submitted to the department within 30 days after the test completion and in a form acceptable to the department. Upon successful completion of the required testing, the vessel is provisionally certified providing the department does not invalidate the certification by issuing disapproval within 45 days after receipt of the results.

(5) There must be no visible liquid leaks from the vessel or collection system, except when the disconnection of dry breaks in liquid lines produces a few drops of liquid.

(6) A person shall not operate any vapor collection system, either vapor balance or recovery system, required by R 336.1606, R 336.1607, R 336.1608, and R 336.1609 unless the provisions of subrules (7) to (11) of this rule are met.

(7) There must be no gas detector reading greater than or equal to 100% of the lower explosive limit at a distance of 1 inch from the location of the potential leak in the vapor collection system. Leaks must be detected by a combustible gas detector using the test procedure described in R 336.2005.

(8) There must be no visible leaks, except from the disconnection of bottom loading dry breaks and from raising top loading vapor heads, where a few drops are allowed.

(9) The vapor collection system must be designed and operated to prevent gauge pressure in the delivery vessel from exceeding 0.6 pounds per square inch and to prevent vacuum from exceeding -0.2 pounds per square inch gauge.

(10) The department may require the owner or operator of any vapor collection system subject to the provisions of subrule (6) of this rule to test the system in accordance with R 336.2005. The tests must be conducted within 60 days following receipt of written notification from the department. Notification of the exact time and location of the test must be given to the department, in writing, not less than 7 days before the actual test. Documentation of the test that states the date and location of the test, test procedures, the type of equipment used, and the results of the test must be submitted to the department within 60 days following the last date of the test. If the time or location of the test changes for any reason, then the owner or operator shall notify the department as soon as practical.

(11) Any delivery vessel or component of a vapor collection system that fails to meet any provision of this rule must not be operated until the necessary repairs have been made, the vessel or collection system has been retested, and the test results have been submitted to the department.

R 336.1628 Emission of volatile organic compounds from components of existing process equipment used in manufacturing synthetic organic chemicals and polymers; monitoring program.

Rule 628. (1) A person shall not cause or allow the emission of a volatile organic compound from a component of existing manufacturing process equipment at a synthetic organic chemical and polymer manufacturing plant located in any of the following counties, unless the provisions of subrules (2) to (16) of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), including the control method described in "Standards of Performance for Equipment

Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006,” 40 CFR part 60, subpart VV adopted by reference in R 336.1902, is implemented:

- (a) Western portion of Allegan.
 - (b) Berrien.
 - (c) Kent.
 - (d) Livingston.
 - (e) Macomb.
 - (f) Monroe.
 - (g) Muskegon.
 - (h) Oakland.
 - (i) Ottawa.
 - (j) St. Clair.
 - (k) Washtenaw.
 - (l) Wayne.
- (2) A person shall not operate existing manufacturing process equipment at a synthetic organic chemical and polymer manufacturing plant unless a monitoring program is implemented. The monitoring program must provide for all of the following:
- (a) A quarterly inspection of all components in light liquid or gaseous volatile organic compound service that are not designated as difficult-to-monitor components.
 - (b) An annual inspection of all difficult-to-monitor components in light liquid or gaseous volatile organic compound service. Annual inspections must take place during the period of April 1 to June 30.
 - (c) A weekly visual inspection of all seals of pumps in light liquid service.
 - (d) An immediate inspection of all components from which a liquid, including a volatile organic compound, is observed dripping or from which a gaseous volatile organic compound is observed venting to the atmosphere.
 - (e) Within 2 normal business days after it begins venting to the atmosphere, an inspection of each relief valve from which a volatile organic compound could discharge.
 - (f) An inspection, as soon as is practical, but not later than 5 calendar days, after the repair of a component that was found leaking.
- (3) Except for the visual inspections required by the provisions of subrule (2)(c) of this rule, all inspections must be performed using equipment and procedures as specified in 40 CFR part 60, appendix A, method 21, adopted by reference in R 336.1902. A component is leaking when a concentration of more than 10,000 ppm, by volume, as methane or hexane, is measured by method 21.
- (4) If implementation of the quarterly leak detection program as specified in subrule (2)(a) of this rule shows that 2% or less of the process valves in a given process unit are leaking for 2 consecutive quarters, then the inspections of process valves in that unit are not required for 1 quarter. If 2% or less of the process valves in a given process unit are leaking for 5 consecutive quarters, then the inspections may be performed annually. If a

subsequent inspection shows that more than 2% of the process valves are leaking, then quarterly inspections of valves shall again be required.

(5) The percentage of valves leaking on a process unit, as referenced in subrule (4) of this rule, must be determined by dividing the total number of valves found to be leaking on the process unit during the specified monitoring period by the total number of valves on the process unit that are required to be monitored by this rule.

(6) The provisions of subrule (2) of this rule do not apply to either of the following:

(a) A component that is equipped with a closed vent system that is capable of capturing and transporting a leakage from the component to a control device that is designed and operated to reduce the volatile organic compound emissions vented to it by 95% or more.

(b) An unsafe-to-monitor component, until conditions would no longer expose monitoring personnel to immediate danger.

(7) The provisions of this rule do not apply to any of the following:

(a) A component that contains or contacts a gaseous stream with a volatile organic compound concentration of less than 10% by weight. Procedures that conform to the general methods in the following ASTM standards, adopted by reference in R 336.1902, must be used to determine the percentage of volatile organic compound contents in the process fluid that is contained in or contacts a piece of equipment:

(i) Standard Practice for General Techniques of Infrared Quantitative Analysis, ASTM E168.

(ii) Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis, ASTM E169.

(iii) Standard Practice for Packed Column Gas Chromatography, ASTM E260.

(b) A component that operates under a vacuum.

(c) Components of synthetic organic chemical and polymer manufacturing process units that produce 1,100 tons per calendar year or less of light liquid or gaseous volatile organic compounds.

(d) A relief valve that has an upstream rupture disc.

(8) A person shall seal open-ended lines with a second valve, a blind flange, a cap, or a plug, except when the open end is in use, as with relief valves, double block and bleed valves, and composite samplers. In the case of a second valve, the upstream valve must be closed first after each use.

(9) A component that is found to be leaking pursuant to the monitoring program provisions of subrule (2) of this rule or for another reason must be repaired. Except as provided in subrule (11) of this rule, the leak must be repaired as soon as possible, but not more than 15 days after the leak is detected. Until the leak is repaired and retested verifying a successful repair, the component that is causing the leak must bear a weather-resistant, numbered identifying tag that indicates the date the leak was discovered.

(10) A log of all leaks that are detected under subrule (2) of this rule must be maintained by the person who operates the synthetic organic chemical and polymer manufacturing plant. The log must list all of the following information:

(a) The leaking component and synthetic organic chemical and polymer manufacturing process unit.

(b) The number of the identifying tag.

(c) The date the leak was discovered.

(d) The date the leak was repaired.

(e) The date the component was retested after the repair, with an indication of the testing results.

(f) The person or persons who performed the inspections.

(11) All of the following provisions apply to delays in the repair of leaking components:

(a) If a leak cannot be repaired within 15 calendar days because the leaking component cannot be repaired unless the synthetic organic chemical and polymer manufacturing process unit is shut down, then the person who operates the synthetic organic chemical and polymer manufacturing plant shall maintain a log of the non-repair and the leak must be repaired at the next unit turnaround.

(b) If a leak cannot be repaired within 15 calendar days due to circumstances beyond the control of the person who operates the synthetic organic chemical and polymer manufacturing plant, then the person shall notify the department of the circumstances causing the delay in repair before the end of the fifteenth day and maintain a log of the non-repair. The leak must be repaired in an expeditious manner, which must be within 6 months after the date the leak was detected.

(c) The log specified in subdivisions (a) and (b) of this subrule must list all of the following information:

(i) The leaking component and synthetic organic chemical and polymer manufacturing process unit.

(ii) The date the leak was discovered.

(iii) The reason why the leak cannot be repaired within 15 days.

(iv) The estimated date of repair.

(v) The number of the identifying tag.

(12) A log of all unsafe-to-monitor components that are not part of the written program as required by subrule (14) of this rule must be maintained by the person that operates the synthetic organic chemical and polymer manufacturing plant. This log must list all of the following information:

(a) The unsafe-to-monitor component and synthetic organic chemical and polymer manufacturing process unit.

(b) The number of the identifying tag.

(c) The reason why the component was unsafe to monitor.

(d) The date or dates the component was unsafe to monitor.

(13) Not later than 25 calendar days after the end of the previous quarter, the person that operates the synthetic organic chemical and polymer manufacturing plant shall submit, to the department, a report that contains all of the following information for that quarter:

(a) The total number of components tested, by type.

(b) The total number of components which are found leaking and which are repaired, by type.

(c) The total number of components, by synthetic organic chemical and polymer manufacturing process unit and type, which are found to be leaking and are not repaired within the required time period and the reason for non-repair.

(d) The type or types of monitoring equipment utilized during the quarter.

(e) The total number of unsafe-to-monitor components that are logged as required by subrule (12) of this rule. The report required by this subrule must be made on a form that is provided by the department.

(14) A person that is subject to the provisions of this rule shall develop a written program detailing how the provisions of this rule will be implemented. The program must include listings, by type and synthetic organic chemical and polymer manufacturing process unit, of all of the following:

(a) All components that are regularly inspected as required in subrule (2) of this rule.

(b) All components that are equipped with a closed vent system subject to the provisions of subrule (6)(a) of this rule.

(c) All components that are exempted from the provisions of this rule pursuant to the provisions of subrule (7)(b), (c), and (d) of this rule.

(d) All difficult-to-monitor components in light liquid or gaseous volatile organic compound service.

(e) All components that are located outside a building, which can only be monitored by elevating the monitoring personnel more than 6 feet above ground level, and are unsafe to monitor during the period of November 1 to March 31.

(15) The written program required by the provisions of subrule (14) of this rule and the logs required by the provisions of subrules (10), (11), and (12) of this rule must be made available, to any representative of the department, on Monday through Friday between 9 a.m. and 5 p.m., at the synthetic organic chemical and polymer manufacturing plant. The logs must be maintained for a minimum of 2 years.

(16) If a synthetic organic chemical and polymer manufacturing process unit that was previously exempt pursuant to the provisions of subrule (7)(c) of this rule produces light liquid or gaseous volatile organic compounds in excess of 1,100 tons in a calendar year, then the provisions of this rule apply. Inspections begin no later than 6 months after the end of that calendar year and are maintained for as long as the applicable equipment is in operation.

R 336.1629 Emission of volatile organic compounds from components of existing process equipment used in processing natural gas; monitoring program.

Rule 629. (1) A person shall not cause or allow the emission of a volatile organic compound from a component of existing process equipment at a natural gas processing plant located in any of the following counties, unless all of the provisions of subrules (2) to (16) of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented:

(a) Western portion of Allegan.

(b) Berrien.

(c) Kent.

- (d) Livingston.
- (e) Macomb.
- (f) Monroe.
- (g) Muskegon.
- (h) Oakland.
- (i) Ottawa.
- (j) St. Clair.
- (k) Washtenaw.
- (l) Wayne.

(2) A person shall not operate existing process equipment at a natural gas processing plant unless a monitoring program is implemented. The monitoring program must provide for all of the following:

- (a) A quarterly inspection of all components in gaseous or liquid volatile organic compound service that are not designated as difficult-to-monitor components.
- (b) An annual inspection of all difficult-to-monitor components in gaseous or liquid volatile organic compound service. Annual inspections must take place during the period of April 1 to June 30.
- (c) A weekly visual inspection of all pump seals from which volatile organic compounds could leak.
- (d) An immediate inspection of all components from which a liquid, including a volatile organic compound, is observed dripping or from which a gaseous volatile organic compound is observed venting to the atmosphere.
- (e) Within 2 normal business days after it begins venting to the atmosphere, an inspection of each relief valve from which a volatile organic compound could discharge.
- (f) An inspection, as soon as is practical but no later than 5 calendar days after the repair, of a component that was found leaking.

(3) Except for the visual inspections required by the provisions of subrule (2)(c) of this rule, all inspections must be performed using equipment and procedures as specified in 40 CFR part 60, appendix A, method 21, adopted by reference in R 336.1902. A component is leaking when a concentration of more than 10,000 ppm, by volume, as methane or hexane, is measured by method 21.

(4) If implementation of the quarterly leak detection program as specified in subrule (2)(a) of this rule shows that 2% or less of the process valves in a given process unit are leaking for 2 consecutive quarters, then the inspections on process valves in that process unit are not required for 1 quarter. If 2% or less of the process valves in a given process unit are leaking for 5 consecutive quarters, then the inspection may be performed annually. If a subsequent inspection shows that more than 2% of the process valves are leaking, then quarterly inspections of valves shall again be required.

(5) The percentage of valves leaking on a process unit, as referenced in subrule (4) of this rule, must be determined by dividing the total number of valves that are found to be leaking on the process unit during the specified monitoring period by the total number of valves on the process unit that are required to be monitored by this rule.

(6) A relief valve that is located in a nonfractionating plant that is inspected only by nonplant personnel may be inspected after a pressure release the next time that the inspecting personnel are at the plant, instead of within 5 days as specified in subrule

(2)(e) of this rule. A relief valve must not be allowed to operate for more than 30 days after a pressure release without an inspection.

(7) The provisions of subrule (2) of this rule do not apply to any of the following:

(a) A component that is equipped with a closed vent system that is capable of capturing and transporting a leakage from the component to a control device that is designed and operated to reduce the volatile organic compound emissions vented to it by 95% or more.

(b) A pump that is equipped with a dual seal system that includes a barrier fluid and is equipped with a sensor that will detect a failure of the seal system.

(c) An unsafe-to-monitor component, until conditions do not expose monitoring personnel to immediate danger.

(8) The provisions of this rule do not apply to any of the following:

(a) A component, except any in field gas service, that contains or contacts a process stream that has a volatile organic compound concentration of less than 1.0% by weight.

A component in field gas service is excluded from the provisions of this subrule.

Procedures that conform to the general methods in the following ASTM standards, adopted by reference in R 336.1902, must be used to determine the percentage of volatile organic compound contents in the process fluid that is contained in or contacts a piece of equipment:

(i) Standard Practice for General Techniques of Infrared Quantitative Analysis, ASTM E168.

(ii) Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis, ASTM E169.

(iii) Standard Practice for Packed Column Gas Chromatography, ASTM E260.

(b) A component that operates under a vacuum.

(c) A component in heavy liquid service.

(d) A reciprocating compressor in field gas service.

(e) A natural gas processing plant which has a capacity of less than 10,000,000 cubic feet per day and which does not fractionate natural gas liquids.

(f) A relief valve that has an upstream rupture disc.

(9) A person shall seal open-ended lines with a second valve, blind flange, cap, or plug, except when the open end is in use, as with relief valves and double block and bleed valves. In the case of a second valve, the upstream valve must be closed first after each use.

(10) A component that is found to be leaking pursuant to the monitoring program provisions of subrule (2) of this rule or for another reason must be repaired. Except as provided in subrule (12) of this rule, the leak must be repaired as soon as possible, but not more than 15 days after the leak is detected. Until the leak is repaired and retested verifying a successful repair, the component that is causing the leak shall bear a weather-resistant, numbered identifying tag that indicates the date the leak was discovered.

(11) A log of all leaks that are detected pursuant to the provisions of this rule must be maintained by the person that operates the natural gas processing plant. The log must list all of the following information:

(a) The leaking component and natural gas process unit.

(b) The number of the identifying tag.

(c) The date the leak was discovered.

- (d) The date the leak was repaired.
 - (e) The date the component was retested after the repair, with an indication of the testing results.
 - (f) The person or persons who performed the inspections.
- (12) All of the following provisions apply to delays in the repair of leaking components:
- (a) If a leak cannot be repaired within 15 calendar days because the leaking component cannot be repaired unless the natural gas process unit is shut down, then the person that operates the natural gas processing plant shall maintain a log of the non-repair and the leak must be repaired at the next unit turnaround.
 - (b) If a leak cannot be repaired within 15 calendar days due to circumstances beyond the control of the person that operates the natural gas processing plant, then the person shall notify the department of the circumstances causing the delay in repair before the end of the fifteenth day and maintain a log of the non-repair. The leak must be repaired in an expeditious manner, which must not be more than 6 months after the date the leak was detected.
 - (c) The log specified in subdivisions (a) and (b) of this subrule must list all of the following information:
 - (i) The leaking component and natural gas process unit.
 - (ii) The date the leak was discovered.
 - (iii) The reason why the leak cannot be repaired within 15 days.
 - (iv) The estimated date of repair.
 - (v) The number of the identifying tag.
- (13) A log of all unsafe-to-monitor components that are not part of the written program as required by the provisions of subrule (15) of this rule must be maintained by the person that operates the natural gas processing plant. The log must list all of the following information:
- (a) The unsafe-to-monitor component and natural gas process unit.
 - (b) The number of the identifying tag.
 - (c) The reason why the component was unsafe to monitor.
 - (d) The date or dates the component was unsafe to monitor.
- (14) No later than 25 calendar days after the end of the previous quarter, the person that operates the natural gas processing plant shall submit, to the department, a report that contains all of the following information for that quarter:
- (a) The total number of components tested, by type.
 - (b) The total number of components that are found leaking and are repaired, by type.
 - (c) The total number of components, by natural gas process unit and type that are found to be leaking and are not repaired within the required time period and the reason for non-repair.
 - (d) The type or types of monitoring equipment utilized during the quarter.
 - (e) The total number of unsafe-to-monitor components that are logged as required by the provisions of subrule (13) of this rule. The report required by this subrule must be made on a form that is provided by the department.
- (15) A person that is subject to the provisions of this rule shall develop a written program detailing how the provisions of this rule will be implemented. The program must include listings, by type and natural gas process unit, of all of the following:
- (a) All components that are regularly inspected as required in subrule (2) of this rule.

(b) All components that are subject to the provisions of subrule (7)(a) and (b) of this rule.

(c) All components that are exempted from the provisions of this rule pursuant to the provisions of subrule (8) of this rule.

(d) All difficult-to-monitor components in gaseous or liquid volatile organic compound service.

(e) All components which are located outside a building, which can only be monitored by elevating the monitoring personnel more than 6 feet above ground level, and which are unsafe to monitor during the period of November 1 to March 31.

(16) The written program required by the provisions of subrule (15) of this rule and the logs required by the provisions of subrules (11), (12), and (13) of this rule must be made available, to any representative of the department, on Monday through Friday between 9 a.m. and 5 p.m., at the natural gas processing plant. The logs must be maintained for a minimum of 2 years.

R 336.1630 Emission of volatile organic compounds from existing paint manufacturing processes.

Rule 630. (1) A person shall not cause or allow the emission of a volatile organic compound from existing equipment utilized in paint manufacturing located in any of the following counties, unless all of the provisions of subrules (2) to (4) of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented:

- (a) Western portion of Allegan.
- (b) Berrien.
- (c) Kent.
- (d) Livingston.
- (e) Macomb.
- (f) Monroe.
- (g) Muskegon.
- (h) Oakland.
- (i) Ottawa.
- (j) St. Clair.
- (k) Washtenaw.
- (l) Wayne.

(2) All stationary and portable mixing tanks and high-speed dispersion mills must be equipped with covers that completely cover the tank or mill opening, except for an opening which is no larger than necessary to allow for safe clearance for the mixer shaft. The tank opening must be covered at all times, except when operator access is necessary.

(3) The cleaning of paint manufacturing equipment and paint shipping containers must be done by methods and materials that minimize the emission of volatile organic compounds.

These methods and materials must include 1 of the following:

- (a) Hot alkali or detergent cleaning.
- (b) High-pressure water cleaning.

(c) Cleaning by use of an organic solvent if the equipment being cleaned is completely covered or enclosed, except for an opening that is no larger than necessary to allow for safe clearance considering the method and materials being used.

(4) Wash solvent must be stored only in closed containers.

(5) The provisions of this rule do not apply to tanks or equipment which, pursuant to the provisions of this subrule that were in effect on April 19, 1989, was exempt from the provisions of this rule that were in effect on April 19, 1989, but which are now subject to the provisions of this rule, until 1 year after the effective date of this rule.

R 336.1631 Emission of volatile organic compounds from existing process equipment utilized in manufacture of polystyrene or other organic resins.

Rule 631. (1) A person shall not cause or allow the emission of volatile organic compounds from existing process equipment that is utilized in the manufacturing of polystyrene or other organic resins located in any of the following counties, unless all of the provisions of subrules (2) to (10) of this rule are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented:

(a) Western portion of Allegan.

(b) Berrien.

(c) Kent.

(d) Livingston.

(e) Macomb.

(f) Monroe.

(g) Muskegon.

(h) Oakland.

(i) Ottawa.

(j) St. Clair.

(k) Washtenaw.

(l) Wayne.

(2) The emission of volatile organic compounds from existing material recovery equipment that is utilized in the manufacture of polystyrene resin by a continuous process must not be more than 0.12 pounds per 1,000 pounds of polystyrene resin produced.

(3) A person shall not operate an existing reactor, thinning tank, or blending tank that is utilized in the manufacture of a completed organic resin unless either of the following provisions is complied with:

(a) All volatile organic compounds emitted from existing reactors, thinning tanks, and blending tanks must be vented to control equipment that is designed and operated to reduce the quantity of volatile organic compounds by not less than 95 weight percent. Reflux condensers that are essential to the operation of the resin reactor are not considered to be control equipment.

(b) The total volatile organic compounds emitted to the atmosphere from the reactors, thinning tanks, and blending tanks do not exceed 0.5 pounds per 1,000 pounds of completed organic resin produced.

(4) Notwithstanding the provisions of subrule (3) of this rule, a person shall not operate an existing reactor, thinning tank, or blending tank utilized in the manufacture of a dry organic resin at the Solutia, Inc. of Trenton unless 1 of the following provisions is complied with:

(a) All volatile organic compounds emitted from existing reactors, thinning tanks, and blending tanks must be vented to control equipment that is designed and operated to reduce the quantity of volatile organic compounds by not less than 95 weight percent. Reflux condensers that are essential to the operation of the resin reactor are not considered to be control equipment.

(b) The total volatile organic compounds emitted to the atmosphere from the reactors, thinning tanks, and blending tanks do not exceed 2.6 pounds per 1,000 pounds of dry organic resin produced.

(5) Compliance with the emission limits specified in subrules (2), (3), and (4) of this rule must be determined using the method described in R 336.2060 or an alternate method acceptable to the department. Upon request by the department, a person that is responsible for processes that are subject to the provisions of subrule (2), (3), or (4) of this rule shall submit, to the department, test data necessary for a determination of compliance.

(6) Compliance with the emission limits specified in subrules (2), (3), and (4) of this rule must be determined using the method described in R 336.2060 or an alternate method acceptable to the department under R 336.1602(2). Upon request by the department, a person that is responsible for processes that are subject to the provisions of subrule (2), (3), or (4) of this rule shall submit, to the department, test data necessary for a determination of compliance including, but not limited to, the following:

- (a) Emissions test data.
- (b) Material balance calculations.
- (c) Process production rates.
- (d) Control equipment specifications and operating parameters.

(7) A person that is responsible for the operation of existing process equipment that is subject to the provisions of this rule shall submit, to the department, a written program for compliance with this rule or evidence of compliance with this rule. The written program for compliance must be submitted to the department before October 19, 1989.

(8) The program required by subrule (7) of this rule must include the method by which compliance with this rule must be achieved, a description of new equipment to be installed or modifications to existing equipment to be made, and a timetable that specifies, at a minimum, all of the following dates:

- (a) The date or dates equipment must be ordered.
- (b) The date or dates construction, modification, or process changes must begin.
- (c) The date or dates initial start-up of equipment must begin.
- (d) The date or dates final compliance must be achieved.

(9) A person may discontinue the operation of a natural gas-fired afterburner that is used to achieve compliance with the emission limits in this rule, between November 1 and March 31, unless the afterburner is used to achieve compliance with, or is required by, any of the following:

- (a) Another provision of these rules.
- (b) A permit to install.
- (c) A permit to operate.
- (d) A voluntary agreement.
- (e) A performance contract.
- (f) A stipulation.

(g) An order of the department.

(10) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 pursuant to the provisions of subrule (9) of this rule, then both of the following provisions apply during this time period:

(a) All other provisions of this rule, except for the emission limits, remain in effect.

(b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.

R 336.1632 Emission of volatile organic compounds from existing automobile, truck, and business machine plastic part coating lines.

Rule 632. (1) A person shall not cause or allow the emission of volatile organic compounds from an automobile, truck, or business machine plastic part coating line in any of the following counties unless all of the provisions of subrules (2) to (14) of this rule are met, as applicable:

(a) Western portion of Allegan.

(b) Berrien.

(c) Kent.

(d) Livingston.

(e) Macomb.

(f) Monroe.

(g) Muskegon.

(h) Oakland.

(i) Ottawa.

(j) St. Clair.

(k) Washtenaw.

(l) Wayne.

(2) The following provisions must be met:

(a) A person shall not cause or allow the emission of volatile organic compounds from the coating of plastic parts of automobiles and trucks from any existing coating line in excess of the applicable emission rates as specified in table 66.

(b) Except as provided for in subrule (10) of this rule, any coating that is subject to an emission rate specified in table 66 must not be applied with conventional air-atomizing spray equipment. All spray equipment must be installed, maintained, and operated in accordance with the recommendations and design of the equipment manufacturer.

(c) A person shall not cause or allow the emission of volatile organic compounds from the coating of plastic parts of business machines from any existing coating line in excess of the applicable emission rates as specified in table 67.

(d) Except as provided for in subrule (10) of this rule, any prime or topcoat coating that is subject to the emission rate specified in table 67 must not be applied with air-atomizing spray equipment. All spray equipment must be installed, maintained, and operated in accordance with the recommendations and design of the equipment manufacturer.

(3) If a part consists of both plastic and metal surfaces and is exempted from the provisions of R 336.1621 or R 336.1621a based on the provisions of R 336.1621(9)(e) and R 336.1621a(2)(b)(ii) respectively, the part is subject to this rule.

(4) If a coating line is subject to the provisions of R 336.1610, R 336.1610a, R 336.1621, or R 336.1621a, the coating line is exempt from this rule.

(5) A person that is responsible for the operation of a coating line that is subject to this rule shall obtain current information and maintain daily records necessary for a determination of compliance with the provisions of this rule, as required in R 336.2041.

(6) For each coating line, compliance with the emission limits specified in this rule is based upon all of the following:

(a) The volume-weighted average of all coatings that belong to the same coating category and are used during each calendar day averaging period. The department may specifically authorize compliance, under R 336.1602(2), to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(b) If coatings belonging to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(c) The information and records as required by subrule (5) of this rule.

(7) Compliance with the emission limits specified in subrule (2) of this rule, the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(8) A modification of coating applicator equipment for the primary purpose of achieving compliance with subrules (2)(b) and (d) of this rule, to the extent that the modification does not increase the potential to emit, must not be subject to the provisions of R 336.1220 and R 336.1702.

(9) The provisions of this rule, with the exception of the provisions of subrule (5) of this rule, do not apply to any of the following:

(a) Automobile, truck, or business machine plastic part coating lines which are within a stationary source located within the 2015 ozone nonattainment areas and have a combined actual emission rate of volatile organic compounds of less than or equal to 15 pounds per calendar day.

(b) Automobile, truck, or business machine plastic coating lines within any stationary source located in Ottawa, the eastern portion of Muskegon as defined in R 336.1601, or Kent Counties and that have a total combined emission rate of volatile organic compounds from plastic coating lines of less than 30 tons per calendar year. The total combined emission rate must include emissions from coatings and coating operations exempted from this rule. If the total combined emissions equal or exceed 30 tons in any subsequent year, the provisions of this rule permanently applies to these plastic coating lines for as long as the applicable equipment is in operation.

(c) The application of adhesion primes.

(d) The application of electrostatic prep coats.

(e) The application of resist coats.

(f) The application of stencil coats.

(g) The application of texture coats to automobile or truck parts.

(h) The application of vacuum metalizing coatings.

(i) The application of gloss reducer.

(j) An automobile, truck, or business machine plastic part coating operation located in Ottawa, the eastern portion of Muskegon, or Kent Counties consisting of an applicator and any subsequent flash-off area or oven, or both, from which the total emission rate of volatile organic compounds is equal to or less than 2,000 pounds per calendar month

and 10.0 tons per calendar year. The total combined emission rate of volatile organic compounds from these exempted operations at a stationary source must not be more than 30.0 tons per calendar year. If the total emission rate for an operation is more than 2,000 pounds in any subsequent month or 10 tons per year in a subsequent year, the provisions of this rule permanently apply to these automobile, truck, or business machine plastic part coating operations for as long as the applicable equipment is in operation.

(k) Low-use coatings that total 55 gallons or less per rolling 12-month period at a stationary source.

(10) The provisions of subrule (2)(b) and (d) of this rule do not apply to the equipment used in any of the following:

(a) The application of the final coat of metallic topcoat.

(b) The application of waterborne coatings.

(c) The application of touch-up and repair coatings.

(d) Coating operations controlled by add-on emission controls.

(e) Coating operations for which an acceptable demonstration has been made that conventional air-atomizing spray equipment is the only technically feasible application method.

(f) Other coating operations that together account for a total of 20% or less of the total volume of coatings applied by nonexempt coating application equipment calculated on a calendar day basis.

(11) A person may discontinue the operation of a natural gas-fired afterburner, that is used to achieve compliance with the emission limits in this rule, between November 1 and March 31 unless the afterburner is used to achieve compliance with, or is required by, any of the following:

(a) Another provision of these rules.

(b) A permit to install.

(c) A permit to operate.

(d) A voluntary agreement.

(e) A performance contract.

(f) A stipulation.

(g) An order of the department.

(12) If the operation of a natural gas-fired afterburner is discontinued between November 1 and March 31 pursuant to the provisions of subrule (11) of this rule, then both of the following provisions apply during this time period:

(a) All other provisions of this rule, except for the emission limits, remain in effect.

(b) All other measures that are used to comply with the emission limits in this rule between April 1 and October 31 must continue to be used.

(13) Table 66 reads as follows:

TABLE 66

Volatile organic compound emission limitations for existing
automobile and truck plastic parts coating lines

Coating category	Pounds of volatile organic compounds allowed to be emitted per gallon of coating (minus water) as applied
1. High bake coating--exterior and interior parts ^{1,2}	
(a) Prime	
(i) Flexible coating	4.5
(ii) Nonflexible coating	3.5
(b) Topcoat	
(i) Basecoat	4.3
(ii) Clearcoat	4.0
(iii) Non-basecoat/clearcoat	4.3
2. Air-dried coating--exterior parts ^{1,3}	
(a) Prime	4.8
(b) Topcoat	
(i) Basecoat	5.0
(ii) Clearcoat	4.5
(iii) Non-basecoat/clearcoat	5.0
3. Air-dried coating—interior parts ^{1,3}	5.0
4. Touch-up and repair ³	5.2

¹For red and black coatings, the emission limitation must be determined by multiplying the appropriate limit in this table by 1.15.

²When 40 CFR part 60, appendix A, method 24 is used to determine the volatile organic compound content of a coating, the applicable emission limitation must be determined by adding 0.5 to the appropriate limit in this table.

³When 40 CFR part 60, appendix A, method 24 is used to determine the volatile organic compound content of a coating, the applicable emission limitation must be determined by adding 0.1 to the appropriate limit in this table.

(14) Table 67 reads as follows:

TABLE 67
Volatile organic compound emission limitations for existing business machine plastic parts coating lines

Coating category	Pounds of volatile organic compounds allowed to be emitted per gallon of coating (minus water) as applied
1. Prime	2.9
2. Topcoat	2.9
3. Texture coat	2.9
4. Fog coat	2.2
5. Touch-up and repair	2.9

R 336.1633 Emission of volatile organic compounds from existing plastic parts and products surface coating; and pleasure craft coating operations in 2015 ozone nonattainment areas.

Rule 633. (1) As used in this rule:

(a) “Pleasure craft” means vessels that are manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person for recreation purposes. The person responsible for the vessels is responsible for certifying that the intended use is for recreational purposes.

(b) “Pleasure craft surface coating” means any marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller, or other means to a pleasure craft.

(2) A person shall not cause or allow the emission of any volatile organic compound from the surface coating of miscellaneous plastic parts and products, or pleasure craft coatings in excess of the limitations of this rule in miscellaneous plastic parts and products operations or pleasure craft operations from any existing source located within the 2015 ozone nonattainment area, in excess of the applicable emission rates provided in subrule (4) of this rule.

(3) The provisions of this rule do not apply to the following:

(a) With the exception of the requirements in subrule (6) of this rule, miscellaneous plastic parts or pleasure craft coating lines within any stationary source and that have a total combined actual emission rate of volatile organic compounds, including related cleaning activities, of less than 15 pounds per day before consideration of controls. If the combined actual emission rate equals or is more than 15 pounds per day for a subsequent day, then this rule permanently applies to these coating lines.

(b) The portion of a plastic parts and products surface coating and pleasure craft coating operations that is addressed in R 336.1610, R 336.1610a, R 336.1620, R 336.1620a, R 336.1635, R 336.1636, R 336.1637, R 336.1638, and R 336.1639.

(c) Gel coats applied to fiber-reinforced plastic (fiberglass composite) products.

(d) Body fillers and putties used to repair surface defects in fiberglass composite parts, or putties used to bond fiberglass composite parts together.

(e) The following plastic parts coatings processes are exempt from subrule (4) of this rule:

(i) Touch-up and repair coatings.

(ii) Stencil coatings applied on clear or transparent substrates.

(iii) Clear or translucent coatings.

(iv) Coatings applied at a paint manufacturing facility while conducting performance tests on the coatings.

(v) Any individual coating category used in volumes less than 50 gallons in any 1 year, if substitute compliant coatings are not available, if the total usage of all coatings does not exceed 200 gallons per year, per facility.

(vi) Reflective coating applied to highway cones.

(vii) Mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches.

(viii) Electromagnetic interference/radio frequency interference shielding coatings.

(ix) Heparin-benzalkonium chloride containing coatings applied to medical devices, if the total usage of all such coatings does not exceed 100 gallons per year, per facility.

(4) A person shall not cause or allow the emission of any volatile organic compound from surface coatings from plastic parts and product operations or from surface coatings from pleasure craft operations, unless the following provisions are met:

(a) A person responsible for the coating line engaged in the surface coating of existing miscellaneous plastic parts and products, and surface coating of pleasure crafts in the 2015 ozone nonattainment areas shall limit volatile organic compound emissions from all volatile organic compound-containing materials, such as coatings, thinners, and other additives, used by each miscellaneous plastic parts and products, and pleasure craft surface coating line by complying with either subdivision (c), (d), or (e) of this subrule.

(b) A person subject to this rule shall not apply volatile organic compound-containing coatings to existing miscellaneous plastic parts and products, or pleasure craft surfaces subject to the provisions of this rule, unless the coating is applied with properly operating equipment according to an operating procedure specified by the equipment manufacturer, executive officer, or designee, and by the use of 1 of the following methods:

- (i) Electrostatic attraction.
- (ii) Flow coat.
- (iii) Dip coat.
- (iv) Roll coater.
- (v) High-Volume, Low-Pressure (HVLP) Spray.
- (vi) Airless spray.
- (vii) Air-assisted airless spray.

(viii) A person subject to this rule may request, in writing to the department, and the department may approve, other coating application methods that demonstrate the capability of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying.

(c) A miscellaneous plastic parts coating and pleasure craft coating operation must not cause or allow the emission of volatile organic compounds from the coating of metallic surfaces from any plastic parts or pleasure craft coating line in any of the 2015 ozone nonattainment areas in excess of the applicable content limits, expressed in terms of mass of volatile organic compound per volume of coating excluding water and exempt compounds, as applied, as specified in table 68 and table 68-a, or emission rates expressed in terms of mass of volatile organic compound per volume of solids as applied, as specified in table 68-b and table 68-c:

TABLE 68

Plastic Parts and Products Volatile Organic Compound Content Limits

Coating Category	lbs VOC/gal coating
General 1 Component	2.3
General Multi Component	3.5
Electric Dissipating Coatings and Shock-Free Coatings	6.7
Extreme Performance	3.5 (2-pack coatings)
Metallic	3.5
Military Specification	2.8 (1-pack) 3.5 (2-pack)

Mold-Seal	6.3
Multi-colored Coatings	5.7
Optical Coatings	6.7
Vacuum-Metalizing	6.7

TABLE 68-a

Pleasure Craft Surface Coating Volatile Organic Compound Content Limits

Coating Category	lbs VOC/gal coating Before January 1, 2026	lbs VOC/gal coating On or after January 1, 2026
Extreme High Gloss Topcoat	5.0	4.1
High Gloss Topcoat	3.5	3.5
Pretreatment Wash Primers	6.5	6.5
Finish Primer/Surfacer	5.0	3.5
High Build Primer Surfacer	2.8	2.8
Aluminum Substrate Antifoulant Coating	4.7	4.7
Other Substrate Antifoulant Coating	3.4	2.8
All other pleasure craft surface coatings for metal or plastic	3.5	3.5

TABLE 68-b

Plastic Parts and Products Volatile Organic Compound Emission Rate Limits

Coating Category	lbs VOC/gal solids
General 1 Component	3.35
General Multi Component	6.67
Electric Dissipating Coatings and Shock-Free Coatings	74.7
Extreme Performance	6.67 (2-pack coatings)
Metallic	6.67
Military Specification	4.52 (1-pack) 6.67 (2-pack)
Mold-Seal	43.7
Multi-colored Coatings	25.3
Optical Coatings	74.7
Vacuum-Metalizing	74.7

TABLE 68-c

Volatile organic compound emissions limitations for existing pleasure craft surface coating lines.

	lbs VOC/gal solids	lbs VOC/gal solids
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Coating Category	Before January 01, 2026	On or after January 01, 2026
Extreme high gloss topcoat	15.5	9.2
High gloss topcoat	6.7	6.7
Pretreatment wash primers	55.6	55.6
Finish primer/surfacer	15.5	6.7
High build primer surfacer	4.6	4.6
Aluminum substrate antifoulant coating	12.8	12.8
Other substrate antifoulant coating	6.3	4.4
All other pleasure craft surface coatings for metal or plastic	6.7	6.7

(d) A miscellaneous plastic parts coating and pleasure craft coating operation applicable to this rule can choose to use an equivalent volatile organic compound emission rate limit based on the use of a combination of low-volatile organic compound coatings specified in table 68 to table 68-c, specified methods of application specified under subdivision (b) of this subrule, and add-on controls. The overall emission reduction efficiency needed to demonstrate compliance is determined each day as follows:

(i) Obtain the emission limitation from table 68 to table 68-c. If using the pound of volatile organic compound per gallon of coating, excluding water, as applied limit from table 68 or table 68-b, then calculate the emission limitation in a solids basis according to the following equation:

$$S = C / [1 - (C/7.36 \text{ lb/gal})]$$

Where:

S = The volatile organic compound emission limitation in terms of pound of volatile organic compound per gallon of coating solids.

C = The volatile organic compound emission limitation in terms of pound of volatile organic compound per gallon of coating, (excluding water) as applied.

(ii) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = [(VOC_a - S)/VOC_a] \times 100$$

Where:

E = The required overall emission reduction efficiency of the control system for the day.

VOC_a = The maximum VOC content of the coatings, as applied, used each day on the subject coating line, in units of lb VOC/gal coating solids, as determined by the applicable test methods and procedures specified in subdivision (h) of this subrule.

S = The volatile organic compound emission limitation in terms of pound of volatile organic compound per gallon of coating solids.

(e) Should product performance requirements or other needs dictate the use of higher-volatile organic compound materials than those that would meet the recommended emission limits, a facility can choose to use add-on control equipment that must have an overall control efficiency of 90% or higher instead of using low-volatile organic compound coatings and specified application methods.

(f) For each coating line, compliance with the emission limits specified in this rule is based upon all of the following:

(i) The volume-weighted average of all coatings that belong to the same coating category, and are used during each calendar day averaging period. The department may specifically authorize compliance, under R 336.1602(2), to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(ii) If coatings belonging to more than 1 coating category are used on the same coating line during the specified averaging period, then compliance must be determined separately for each coating category.

(iii) The information and records as required by subrule (6) of this rule.

(g) Compliance with the emission limits specified in subrule (4) of this rule, must be determined using the method described in either R 336.2040(12)(a) if the coating line does not have an add-on emissions control device or R 336.2040(12)(b) if the coating line has 1 or more add-on emissions control devices.

(5) The following work practices are required for storage, mixing operations, and handling operations for coatings, thinners, cleaning, and coating-related waste materials. The person responsible for a miscellaneous plastic parts coating and pleasure craft coating operation shall develop written procedures for compliance with the following provisions:

(a) Store all volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials are kept closed at all times, except when depositing or removing these materials.

(c) Minimize spills of volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials.

(d) Convey volatile organic compound-containing coatings, thinners, coating-related waste, and cleaning materials from 1 location to another in closed containers or pipes.

(e) Minimize volatile organic compound emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(6) A person that is responsible for the operation of a coating line that is subject to this rule shall obtain current information and maintain daily records necessary for the determination of compliance with the provisions of this rule, as required in R 336.2041.

R 336.1634 Emissions of volatile organic compounds from existing industrial solvent cleaning in 2015 ozone nonattainment areas.

Rule 634. (1) As used in this rule, “composite partial vapor pressure” means the sum of the partial pressures of the VOC compounds in a solvent.

(2) A person shall not cause or allow the emission of any volatile organic compound from the use of solvent materials in excess of the limitations of this rule in solvent cleaning operations, which are described as follows:

(a) Released during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment or in general work areas including storage or disposal of these solvent materials.

(b) Located in the 2015 ozone nonattainment area.

(3) With the exception of subrule (6) of this rule, the provisions of this rule do not apply to the following activities:

(a) Janitorial cleaning.

(b) Stripping of cured coatings, cured ink, or cured adhesives.

(c) Cleaning operations in printing pre-press or graphic areas including lithographic, letterpress, flexographic, screen printing, and rotogravure printing operations.

(d) Cleaning operations associated with digital printing.

(e) Cleaning operations for which limits or work practice standards are contained within R 336.1610, R 336.1610a, R 336.1620, R 336.1620a, R 336.1621, R 336.1621a, R 336.1624, R 336.1624a, R 336.1632, R 336.1633, R 336.1635, R 336.1636, R 336.1637, R 336.1638, and R 336.1639.

(f) Cleaning operations at a facility with emissions less than 3 tons per rolling 12-month period for all cleaning activity, before consideration of controls. If the combined actual emission rate equals or is more than 3 tons per year on a 12-month rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to the cleaning operations at that facility.

(4) A person that generates volatile organic compound from the use of industrial cleaning solvent shall meet the following provisions:

(a) The volatile organic compound emissions from the process must meet 1 of the following:

(i) The solvent or solvent solutions must have a volatile organic compound composite partial vapor pressure of less than or equal to 8 mm of Hg at 20 degrees Celsius.

(ii) The process must have an emission rate of 0.42 pounds of volatile organic compounds per gallon as applied, except as described for the solvent cleaning operations listed in table 68-d.

TABLE 68-d

Solvent Cleaning Operation	Pounds of volatile organic compounds allowed to be emitted per gallon as applied
(i.) Product cleaning during manufacturing process or surface preparation for coating, adhesive, or ink application:	
1. Electrical apparatus components and electronic components	0.83
2. Medical devices and pharmaceuticals	6.7

(ii.) Repair and maintenance cleaning: 1. Electrical apparatus components and electronic components 2. Medical devices and pharmaceuticals: (i.) Tools, equipment, and machinery (ii.) General work surfaces	0.83 6.7 5.0
(iii.) Cleaning of ink application equipment: 1. Publication gravure printing 2. Screen printing 3. Ultraviolet ink and electron beam ink application equipment, except screen printing 4. Specialty flexographic printing	0.83 4.2 5.4 0.83
(iv.) Exemptions from emissions limits in this subdivision: 1. Cleaning conducted as part of the following: performance laboratory tests on coatings, adhesives, or inks; research and development programs; and laboratory tests in quality assurance laboratories. 2. Medical device and pharmaceutical facilities using up to 1.5 gallons per day of solvents. 3. Cleaning with aerosol products if the source uses 1.25 gallons or less per day	N/A

(b) A person subject to this rule shall utilize all of the following cleaning devices and methods as applicable:

(i) Wipe cleaning.

(ii) Closed containers or hand-held spray bottles from which solvents are applied without a propellant-induced force.

(iii) Cleaning equipment that has a solvent container that can be, and is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself.

(iv) Remote reservoir cleaner if the operator of the cleaner complies with all of the following:

(A) Prevents solvent vapors from escaping from the solvent container by using such devices as a cover or valve when the remote reservoir is not being used, cleaned, or repaired.

(B) Directs solvent flow in a manner that prevents liquid solvent from splashing outside of the remote reservoir cleaner.

(C) Does not clean porous or absorbent materials, such as cloth, leather, wood, or rope.

(D) Uses only solvent containers and auxiliary equipment free of all liquid leaks, visible tears, or cracks.

(v) Non-atomized solvent flow method where the cleaning solvent is collected in a container or a collection system that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container.

(vi) Solvent flushing method where the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air.

(c) Instead of complying with subdivisions (a) and (b) of this subrule for a solvent cleaning operation, a person that is subject to this rule may comply by installing and operating volatile organic compound emission control equipment for the solvent cleaning operation. The volatile organic compound emission control equipment must have an overall control efficiency of 85%.

(d) Instead of complying with subdivisions (a) and (b) of this subrule, a manufacturer of coatings, inks, resins, or adhesives may comply with subdivision (e) of this subrule or the following:

(i) Clean portable tables or stationary mixing vats, high dispersion mills, grinding mills, tote tanks, and roller mills by 1 or more of the following methods:

(A) Use a cleaning solvent that either contains less than 1.67 pounds per gallon of volatile organic compound or has a composite vapor pressure no more than 8 mm of Hg at 20 degrees Celsius.

(B) Comply with the following work practices:

(1) Equipment being cleaned must be maintained leak free.

(2) Volatile organic compound-containing cleaning materials must be drained from the cleaned equipment upon completion of cleaning.

(3) Volatile organic compound-containing cleaning materials, including waste solvent, must not be stored or disposed of in a manner that causes or allows evaporation into the atmosphere.

(4) Store all volatile organic compound-containing cleaning materials in closed containers.

(C) Collect and vent the emissions from equipment cleaning to a volatile organic compound emission control system that has an overall capture and control efficiency of not less than 85%, by weight, for the volatile organic compound emissions. If such a reduction is achieved by incineration, not less than 90% of the organic carbon must be oxidized to carbon dioxide.

(D) Use organic solvents other than those allowed in subdivision (f)(i) of this subrule provided no more than 60 gallons of fresh solvent must be used per month. Organic solvent that is reused or recycled, either on-site or off-site, for further use in equipment cleaning or the manufacture of coating, ink, or adhesive must not be included in this limit. Also, store all volatile organic compound-containing cleaning materials in closed containers.

(ii) When using solvent for wipe cleaning, a person shall cover open containers used for the storage or disposal of cloth or paper impregnated with organic compounds that have been used for cleanup, or coating, ink, or adhesive removal.

(e) Work practices must be used to minimize volatile organic compound emissions from the use, handling, storage, and disposal of cleaning solvents and shop towels. Work practices must include, at a minimum, but not limited to, the following:

(i) All volatile organic compound-containing solvents used in solvent cleaning operations must be stored in non-absorbent, non-leaking containers which must be kept closed at all times except when filling or emptying.

(ii) Cloth and paper moistened with volatile organic compound-containing solvents must be stored in closed, non-absorbent, non-leaking containers.

(iii) Air circulation around cleaning operations must be minimized.

(f) Except as allowed by this subrule, a person shall not atomize any solvent unless the emissions are vented to volatile organic compound emission control equipment that meets subdivision (c) of this subrule. The following activities are allowed to atomize solvent without use of a control:

(i) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems.

(ii) Cleaning with spray bottles or containers described in subdivision (b)(ii) of this subrule.

(iii) Printing operations where the roller or blanket wash is applied automatically.

(5) Compliance with this rule must be determined as follows:

(a) For limits specified in subrule (4)(a) of this rule, compliance must be based upon all volatile organic containing compounds using manufacturers formulation data, United States Environmental Protection Agency method 24 analysis, safety data sheets, an alternate method, or combination of the methods stated within this subdivision, as approved by the department and in sufficient detail to demonstrate compliance with the limitations described in subrule (4) of this rule.

(b) If a person responsible for a solvent cleaning operation that is subject to this rule employs volatile organic compound emission control equipment to comply with this rule, pursuant to subrule (4)(c) of this rule:

(i) Compliance with required control efficiency limits must be determined by performing emission tests in accordance with a stack testing protocol approved by the department.

(ii) Additional testing of the volatile organic compound emission control equipment for a solvent cleaning operation in accordance with this rule may be required by the department to ensure continued compliance.

(c) As appropriate, the composite partial vapor pressure of solvents must be determined by using generally acceptable methods including, but not limited to, ASTM standards, commonly published materials and references, or standard chemical laws and calculations.

(6) A person operating a solvent cleaning operation shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance and make the records available to the department upon request. The following methods must be used:

(a) The person operating a solvent cleaning operation that is subject to 1 or more of the volatile organic compound-content limitations or exemptions specified in subrule (4) of this rule shall collect and record the following information for each cleaning material subject to a volatile organic compound-content limitation as necessary to determine compliance with that limitation:

(i) The name and identification of each cleaning material and the associated solvent cleaning activity.

(ii) The volatile organic compound content, of each cleaning material, as determined in subrule (5) of this rule, in pounds per gallon of material, as employed or the volatile organic compound composite partial vapor pressures of the solvents or solvent solutions used in the industrial cleaning operations.

(iii) The volume, in gallons, of each solvent employed in the solvent cleaning operation.

(iv) The total volume, in gallons, of all the solvents employed in the solvent cleaning operation.

(b) If a person operating a solvent cleaning operation employs a control device to achieve and maintain compliance, that person shall create and submit an approvable preventative maintenance and monitoring plan to the department which includes details about all appropriate parameters to be monitored and recordkeeping sufficient to determine compliance.

(c) A person exempting their solvent cleaning operations as allowed by subrule (3) of this rule shall maintain all information necessary to demonstrate, in sufficient detail, the applicability of those exemptions and must provide that information to the department upon request.

R 336.1635 Emission of volatile organic compounds from existing offset lithographic and letterpress printing lines in 2015 ozone nonattainment areas.

Rule 635. (1) As used in this rule:

(a) “Batch” means a supply of fountain solution that is prepared and used without alteration until completely used or removed from the printing process. Batch applies to solutions prepared in discrete batches or solutions that are continuously blended with automatic mixing units. A fountain solution that is continuously blended with an automatic mixing unit is considered to be the same batch until the recipe or mix ratio is changed.

(b) “Cleaning solution” means liquid solvents or solutions used to remove ink and debris from the operating surfaces of the printing press and its parts including blanket washes, roller washes, plate cleaners, metering roller cleaners, impression cylinder cleaners, rubber rejuvenators, and other cleaners used for cleaning a press, press parts, or to remove dried ink from the areas around a press. Cleaning solution does not include cleaners used on electronic components of a press, pre-press cleaning operations, post-press cleaning operations, cleaning supplies used to clean the floor of the area around a press, other than dried ink, or cleaning performed in parts washers or cold cleaners.

(c) “Letterpress printing line” means all operations of letterpress printing processes characterized by the image area being raised relative to the nonimage area and including, but not limited to, pre-press and post-press operations that support the activity. Varnishes, glues, and other coatings that are applied by a letterpress printing process are part of the letterpress printing operations and are not considered as a separate process, for example, paper coating.

(d) “Non-heatset” means a lithographic printing process where the printing inks are set without the use of heat and dry by absorption or oxidation, or both. For the purposes of

this rule, use of an infrared heater or printing conducted using ultraviolet-cured or electron beam-cured inks is considered non-heatset.

(e) “Offset lithographic printing line” means offset printing presses characterized by a planographic plate where the image and nonimage area are in the same geographical plane and the related processes necessary to directly support the operation of those offset lithographic printing processes including, but not limited to, pre-press and post-press operations. Varnishes, glues, and other coatings that are applied by an offset lithographic printing process are part of offset lithographic printing operations and are not considered as a separate process, for example, paper coating.

(f) “Printing process” means any equipment, operation, or system where printing ink or a combination of printing ink, surface coating, or adhesive is applied, dried, or cured. A printing process may include any equipment that applies, conveys, dries, or cures inks or surface coatings including, but not limited to, presses, digital output devices, fountain solutions, heaters, and dryers.

(2) A person shall not cause or allow the emission of any volatile organic compound from an offset lithographic and letterpress printing line located in the 2015 ozone nonattainment area, in excess of the applicable emission rates indicated in the following subrules, unless all of the applicable provisions of the following subrules are met.

(3) Except as provided in subrule (6) of this rule, the provisions of this rule do not apply to the following:

(a) All offset lithographic and letterpress printing operations, including cleaning activities, before consideration of controls, that have volatile organic compound emissions less than or equal to 3 tons per rolling 12-month period. If the actual rate of the emissions from an exempted cleaning operation exceeds 3 tons per 12-month rolling period for any subsequent 12-month rolling period, then the provisions of this rule permanently apply to the operations at that facility for as long the applicable equipment is in operation.

(b) One hundred and ten gallons of cleaning materials per rolling 12-month period used at the stationary source.

(c) The fountain solutions of sheet fed offset lithographic presses with a sheet size of 11 by 17 inches or smaller.

(d) The fountain solutions of any offset lithographic press with fountain solution reservoirs totaling less than 1 gallon.

(e) A person operating an offset lithographic and letter press printing line may exclude low-use inks or coatings that total 55 gallons or less per rolling 12-month period at a stationary source from the provisions of this rule, except for subrule (6) of this rule.

(f) The following operations are exempt from add-on control requirements described in subrule (4) of this rule:

(i) Any heatset web offset lithographic press or heatset web letterpress with potential volatile organic compound emissions less than 25 tpy before control from the dryer.

(ii) Any heatset web offset lithographic press or heatset web letterpress that is limited through a federally enforceable permit to actual volatile organic compound emissions from the dryer less than 25 tpy from the dryer.

(iii) Any heatset presses used for book printing or heatset presses with a web width of 22 inches or less.

(4) A person shall not cause or allow the emission of any volatile organic compound from an existing offset lithographic or letterpress printing line, unless the following provisions are met or unless an equivalent control method, as approved by the department under R 336.1602(2), is implemented:

(a) Except as described in subrule (3) of this rule, a control system is required for dryer operations of heatset web offset lithographic printing and heatset web letterpress printing operations. Each dryer must meet 1 of the following control requirements:

(i) 90% control efficiency for dryers installed before the effective date of this rule.

(ii) 95% control efficiency for dryers installed after the effective date of this rule.

(iii) Maintain a maximum outlet concentration of volatile organic compounds of 20 ppmv as hexane on a dry basis.

(b) The fountain solution used in a heatset web offset lithographic printing line has a volatile organic compound content that meets 1 of the following requirements:

(i) The fountain solution, as applied, must be at or below 1.6% alcohol by weight.

(ii) If refrigerated to below 60 degrees Fahrenheit, the fountain solution, as applied, must be at or below 3% alcohol by weight.

(iii) The fountain solution, as applied, must contain 5% or less of alcohol substitute and no alcohol.

(c) The fountain solution used in a sheet-fed offset lithographic printing line must have a volatile organic compound content that meets 1 of the following requirements:

(i) The fountain solution, as applied, must be at or below 5% alcohol by weight.

(ii) If refrigerated to below 60 degrees Fahrenheit, the fountain solution, as applied, must be at or below 8.5% alcohol by weight.

(d) Nonheatset web offset lithographic printing press must be less than 5% alcohol substitute by weight on press and no alcohol in the fountain solution.

(e) The cleaning solutions used with printing lines subject to this rule must meet 1 of the following requirements:

(i) The cleaning solutions must have a volatile composite vapor pressure of less than 10 mm Hg at 20 degrees Celsius or be less than 70% volatile organic compound by weight.

(ii) All cleaning materials and used shop towels must be kept in closed containers.

(5) Compliance with the emission limits specified in this rule must be based upon all of the following provisions, as applicable:

(a) Compliance with required control efficiency limits must be determined by performing emission tests in accordance with a stack testing protocol approved by the department.

(b) Compliance with the emission limits specified in subrule (4) of this rule must be based upon all volatile organic containing compounds used during each calendar month by using manufacturers' formulation data, United States Environmental Protection Agency method 24 analysis, safety data sheets, an alternate method, or combination of the methods stated within this subdivision, as approvable by the department and in sufficient detail to demonstrate compliance with the limitations described in subrule (4) of this rule.

(c) If more than 1 control option or emission limit listed in subrule (4) of this rule is used on a printing line, then compliance must be determined separately for each option used and be based upon all materials used for each option during each period.

(6) For the purpose of this rule, recordkeeping for all requirements and applicability demonstrations must be maintained in sufficient detail to demonstrate compliance with all applicable standards of the rule. Records must include, but are not limited to, the following:

(a) The volume and volatile organic compound content of each alcohol and alcohol substitute added to make the batch of fountain solution, based upon the approvable method described in subrule (5)(b) of this rule.

(b) The calculated volatile organic compound content of the final, mixed batch of solution, as applied.

(c) All cleaning solutions employed in all the offset lithographic and letterpress printing operations and quantities and volatile organic compound contents as necessary to demonstrate compliance with subrule (4) of this rule.

(d) Monthly volatile organic compound emissions and materials usage as needed to demonstrate the emissions are below thresholds described in subrule (3) of this rule.

(e) Approvable retention factors must be utilized for volatile organic compound content in absorptive printed substrates and shop towels used in cleaning and used in emission calculations and control efficiencies. For the purposes of determining VOC emissions from these operations, the following retention factors may be used if not otherwise established by the department:

(i) Twenty percent VOC retention for heatset inks printed on absorptive substrates.

(ii) Ninety-five percent VOC retention for sheet fed and non heatset web inks printed on absorptive substrates.

(iii) Fifty percent VOC retention for cleaning solution in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than 10 mmHg at 20 degrees Celsius (68 degrees Fahrenheit) if the contaminated shop towels are kept in closed containers.

(7) Any offset lithographic or letter printing press line that utilizes control requirements to meet standards in subrule (4) of this rule must have an approvable operation and preventative maintenance plan. The plan must include, at a minimum, the following, as applicable:

(a) A continuous temperature monitoring and recording system.

(b) A maintenance schedule for all control equipment with spare part list.

(c) A malfunction abatement plan to be implemented in the event of abnormal situations involving the control equipment.

R 336.1636 Emission of volatile organic compounds from existing miscellaneous industrial adhesives operations in 2015 ozone nonattainment areas.

Rule 636. (1) As used in this rule:

(a) “Electrodeposition” means a water-borne dip coating process in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the substrate due to the electrochemical potential difference that is created.

(b) “Flow coating” means a non-atomized technique of applying coating to a substrate with a fluid nozzle with no air supplied to the nozzle.

(2) A person shall not cause or allow the emission of any volatile organic compound from the use of adhesives in excess of the limitations of this rule in miscellaneous industrial adhesive operations from any existing source located within the 2015 ozone nonattainment area, in excess of the applicable emission rates provided in subrule (4) of this rule.

(3) The provisions of this rule do not apply to the following:

(a) Except as provided in subrule (7) of this rule, any miscellaneous industrial adhesive operations at a stationary source that has a total combined actual emission rate of volatile organic compounds equal to or less than 3 tons per 12-month rolling period, before consideration of control equipment. If the combined actual emission rate equals or is more than 3 tons per year on a 12-month rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to the applicable operations at that facility.

(b) The portion of an adhesive process that is addressed in R 336.1610, R 336.1610a, R 336.1620, R 336.1620a, R 336.1624, R 336.1624a, R 336.1635, or R 336.1637.

(c) The provisions of subrule (4) of this rule do not apply to the following:

(i) Adhesive or adhesive primers being tested or evaluated in any research and development operation or quality assurance or analytical laboratory.

(ii) Adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace or undersea-based weapon systems.

(iii) Adhesives or adhesives primers used in medical equipment manufacturing operations.

(iv) Aerosol adhesive and aerosol adhesive primer application operations.

(v) Operations using adhesives and adhesive primers that are supplied to the manufacturer in containers with a net volume of 16 ounces, or a net weight of 1 pound or less.

(vi) Cyanoacrylate adhesive application operations.

(vii) Operations using polyester bonding putties to assemble fiberglass parts at fiberglass boat manufacturing facilities and at other reinforced plastic composite manufacturing facilities.

(viii) Digital printing operations.

(4) A person shall not cause or allow the emission of volatile organic compounds from miscellaneous industrial adhesive application operations, unless the following provisions are met:

(a) A person with a source subject to the requirements of this rule shall comply with the limitations in subdivision (b) or (c) of this subrule unless a demonstration is made to the satisfaction of the department under R 336.1602(2).

(b) A person with adhesive application operations listed in table 69 shall comply with the following volatile organic compound emission limitations, minus water and exempt compounds, as applied, using 1 or more of the application methods listed within this subdivision. If an adhesive is used to bond dissimilar substrates together, the substrate category with the highest volatile organic compound emission limitation applies:

(i) Electrostatic spray.

(ii) High volume low pressure (HVLP) spray.

(iii) Flow coating.

- (iv) Roll coating or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application.
- (v) Dip coating, including electrodeposition.
- (vi) Airless spray.
- (vii) Air-assisted airless spray.
- (viii) An equivalent adhesive application method approved in writing by the department.

TABLE 69

Volatile organic compound emission limitations for existing general and specialty adhesive application operations.

Substrate Category	Pounds of volatile organic compounds allowed to be emitted per gallon of coating (minus water) as applied.
General Adhesive Application Operations	
Reinforced plastic composite	1.7
Flexible vinyl	2.1
Metal	0.3
Porous material (except wood)	1.0
Rubber	2.1
Wood	0.3
Other substrates	2.1
Specialty Adhesive Application Operations	
Ceramic tile installation	1.1
Contact adhesive	2.1
Cover base installation	1.3
Floor covering installation (indoor)	1.3
Floor covering installation (outdoor)	2.1
Floor covering installation (perimeter bonded sheet vinyl)	5.5
Metal to urethane/rubber molding or casting	7.1
Motor vehicle adhesive	2.1
Motor vehicle weatherstrip adhesive	6.3
Multipurpose construction	1.7
Plastic solvent welding (ABS)	3.3
Plastic solvent welding (except ABS)	4.2
Sheet rubber lining installation	7.1

Single-ply roof membrane installation/repair (except EPDM)	2.1
Structural glazing	0.8
Thin metal laminating	6.5
Tire repair	0.8
Waterproof resorcinol glue	1.4
Adhesive primer application operations	
Motor vehicle glass bonding primer	7.5
Plastic solvent welding adhesive primer	5.4
Single-ply roof membrane adhesive primer	2.1
Other adhesive primer	2.1

(c) As an alternative to meeting subdivisions (a) and (b) of this subrule, a person with a source subject to this rule shall employ a capture system and control device that provides not less than 85% reduction in the overall emissions of volatile organic compound from the application operation. The adhesive operation would not have to limit the volatile organic compound content of the adhesive materials and would not need to use any particular adhesive application method.

(5) A person subject to this rule shall develop written procedures for compliance with the following work practices for each miscellaneous adhesive application operation at the source:

(a) Store all volatile organic matter-containing adhesives, adhesive primers, process-related waste materials, cleaning materials, and used shop towels in closed containers.

(b) Ensure that mixing and storage containers used for volatile organic compound-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(c) Minimize spills of volatile organic compound-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials.

(d) Convey volatile organic compound-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials from 1 location to another in closed containers or pipes.

(e) Minimize volatile organic compound emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(6) Compliance with this rule is determined as follows:

(a) For the emission limits specified in this rule, use the following methods:

(i) For the emission limits specified in subrules (4)(b) of this rule, the method described in either R 336.2040(12)(a) if the adhesive line does not have an add-on emissions control device or R 336.2040(12)(b) if the adhesive line has 1 or more add-on emissions control devices.

(ii) For the overall control efficiency specified in subrule (4)(c) of this rule, the method described in R 336.2040(11).

(b) For each adhesive line, all of the following:

(i) The volume-weighted average of all adhesives that belong to the same adhesive category and are used during each calendar day averaging period. The department may specifically authorize compliance, under R 336.1602(2), to be based upon a longer averaging period, not to exceed more than 1 calendar month.

(ii) If adhesives that belong to more than 1 adhesive category are used on the same adhesive line during the specified averaging period, then compliance must be determined separately for each coating category.

(iii) The information and records required by subrule (7) of this rule.

(c) The manufacturer's specifications for volatile organic compound content for adhesives may be used if the specifications are based on results of tests of the volatile organic compound content conducted in accordance with methods specified in subdivisions (a) or (b) of this subrule, as applicable.

(d) For reactive adhesives, an acceptable compliance procedure is described in "Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives," 40 CFR, part 63, subpart PPPP, appendix A, adopted by reference in R 336.1902.

(7) A person that is responsible for the operation of a miscellaneous industrial adhesive application operation that is subject to this rule shall obtain current information and keep records necessary for the determination of compliance with this rule, as required in R 336.2041.

R 336.1637 Emissions of volatile organic compounds from existing fiberglass boat manufacturing in 2015 ozone nonattainment areas.

Rule 637. (1) As used in this rule, "fiberglass boat manufacturing" means the manufacturing of hulls or decks of boats from fiberglass or build molds to make fiberglass boat hulls or decks.

(2) A person shall not cause or allow the emission of any volatile organic compound from an existing fiberglass boat manufacturing facility located in the 2015 ozone nonattainment areas unless all of the provisions of the following subrules are met.

(3) The provisions of this rule do not apply to the following:

(a) Except as provided in subrule (6) of this rule, any fiberglass boat manufacturing operations that have an actual emission rate of volatile organic compounds less than 2.7 tons per 12-month rolling period, before consideration of control equipment. If the combined actual emission rate equals or is more than 2.7 tons per year on a 12-month rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to the fiberglass boat manufacturing operations at that facility.

(b) Miscellaneous industrial adhesives used in the assembly of fiberglass boats. Polyester resin putties used to assemble fiberglass parts are not considered industrial adhesives for the purposes of this exclusion and apply to this part.

(c) Surface coatings applied to fiberglass boats.

(d) Surface coating for fiberglass and metal recreational boats, for example, pleasure craft, addressed under R 336.1633.

(e) Facilities that manufacture solely parts of boats or boat trailers, but do not manufacture hulls or decks of boats from fiberglass or build molds to make fiberglass boat hulls or decks.

(f) Closed molding operations.

(g) Except as provided in subrule (6) of this rule, all of the following:

(i) Production resins that must meet specifications for use in military vessels or must be approved by the United States Coast Guard for use in the construction of lifeboats, rescue boats, and other life-saving appliances approved under 46 CFR subchapter Q, or the construction of small passenger vessels regulated by 46 CFR subchapter T.

(ii) Production and tooling resins, and pigmented, clear, and tooling gel coat used for part or mold repair and touch up. The total resin and gel coat materials that meet these criteria must not exceed 1% by weight of all resin and gel coat used at a facility on a 12-month rolling average basis.

(iii) Pure, 100% vinylester resin used for skin coats.

(4) A person shall not cause or allow the emission of any volatile organic compound from fiberglass boat manufacturing operations, unless the following provisions are met:

(a) A person with a source subject to the requirements of this rule shall comply with the limitations in subdivisions (b), (c), or (d) of this subrule. For sources complying pursuant to subdivision (b) or (c) of this subrule, if the non-monomer volatile organic compound content of a resin or gel coat exceeds 5%, by weight, the excess non-monomer volatile organic compound must be added to the monomer volatile organic compound of the resin or gel coat. The excess non-monomer volatile organic compound must be calculated in accordance with the following equation:

$$\text{Excess Non-Monomer VOC} = \text{Non-monomer VOC Content} - 5\%, \text{ by weight}$$

(b) A person shall not cause or allow the emission of volatile organic compounds from resin or gel coat from any existing source applicable to this rule in any of the 2015 ozone nonattainment areas as defined in R 336.1601, in excess of the applicable monomer requirements in table 69-a of this subrule.

TABLE 69-a

Alternative volatile organic compound content requirements for molding resin and gel coat operations.

Operation	Application Method	Weighted-Average Monomer VOC Content (weight percent)
Production resin	Atomized	28.0
Production resin	Nonatomized	35.0
Pigment gel coat	Any method	33.0
Clear gel coat	Any method	48.0
Tooling resin	Atomized	30.0
Tooling resin	Nonatomized	39.0
Tooling gel coat	Any method	40.0

(c) A person subject to the requirements of this rule may elect to include some or all of the subject resin and gel coat operations at the source in the emissions averaging alternative. All subject resin and gel coat operations that do not utilize the emissions averaging alternative must comply with the requirements in subdivision (b) or (d) of this subrule, as well as with all other applicable requirements in this rule. Resin and gel coat operations utilizing the emissions averaging alternative must comply with a source-specific monomer volatile organic compound mass emission limit on a 12-month rolling average basis, calculated at the end of each calendar month using the following equations:

(i) A person subject to subdivision (c) of this subrule shall use equation 6-1 to determine the source-specific monomer volatile organic compound mass emission limit for resin and gel coats included in the emissions average:

Equation 6-1:

$$\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where:

Monomer = Total allowable monomer volatile organic compound that can VOC be emitted from the open molding operations included in the limit average, expressed in kilograms per 12-month period.

M_R = Mass of production resin used in the past 12 months, excluding any materials that are exempt, expressed in megagrams (Mg).

M_{PG} = Mass of pigmented gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg.

M_{CG} = Mass of clear gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg.

M_{TR} = Mass of tooling resin used in the past 12 months, excluding any materials that are exempt, expressed in Mg.

M_{TG} = Mass of tooling gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg.

The numerical coefficients associated with each term on the righthand side of equation 6-1 are the allowable monomer volatile organic compound emission rates for that particular material in units of kg VOC/Mg of material used.

(ii) At the end of the first 12-month averaging period, and at the end of each subsequent month, the person with a source subject to this subdivision (c) shall use equation 6-2 to calculate the monomer volatile organic compound emissions from the resin and gel coat operations included in the emissions average. The monomer volatile organic compound emissions calculated using equation 6-2 must not exceed the monomer volatile organic compound limit calculated using equation 6-1.

EQUATION 6-2:

$$\text{Monomer VOC Emissions} = (PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$$

Where:

Monomer VOC Emissions= Monomer volatile organic compound emissions calculated using the monomer volatile organic compound emission equations for each operation included in the average, expressed in kilograms.

PV_R = Weighted-average monomer volatile organic compound emission rate for production resin used in the past 12 months, expressed in kg/Mg, calculated in accordance with equation 6-3 in subdivision (c)(iii) of this subrule.

M_R = Mass of production resin used in the past 12 months, expressed in Mg.

PV_{PG} = Weighted-average monomer volatile organic compound emission rate for pigmented gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to equation 6-3.

M_{PG} = Mass of pigmented gel coat used in the past 12 months, expressed in Mg.

PV_{CG} = Weighted-average monomer volatile organic compound emission rate for clear gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to equation 6-3.

M_{CG} = Mass of clear gel coat used in the past 12 months, expressed in Mg.

PV_{TR} = Weighted-average monomer volatile organic compound emission rate for tooling resin used in the past 12 months, expressed in kg/Mg, calculated pursuant to equation 6-3.

M_{TR} = Mass of tooling resin used in the past 12 months, expressed in Mg.

PV_{TG} = Weighted-average monomer volatile organic compound emission rate for tooling gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to equation 6-3.

M_{TG} = Mass of tooling gel coat used in the past 12 months, expressed in Mg.

(iii) For purposes of equation 6-2, the person with a source subject to this subdivision shall use equation 6-3 to calculate the weighted-average monomer volatile organic compound emission rate for the previous 12 months for each resin and gel coat operation included in the emissions average, except as provided in subdivision (f) of this subrule.

EQUATION 6-3:

$$PV_{OP} = \frac{\sum_{i=1}^n M_i PV_i}{\sum_{i=1}^n M_i}$$

Where:

PV_{OP} = Weighted-average monomer volatile organic compound emission rate for each open molding operation (PV_R , PV_{PG} , PV_{CG} , PV_{TR} , and PV_{TG}) included in the average, expressed in kg of monomer volatile organic compound per Mg of material applied.

M_i = Mass of resin or gel coat (i) used within an operation in the past 12 months, expressed in Mg.

n = Number of different open molding resins and gel coats used within an operation in the past 12 months.

PV_i = The monomer volatile organic compound emission rate for resin or gel coat (i) used within an operation in the past 12 months, expressed in kg of monomer volatile organic compound per Mg of material applied. The monomer volatile organic compound emission rate formulas in paragraph (iv) of this subdivision must be used to compute PV_i. If a source includes filled resins in the emissions average, the source must use the value of PVF, calculated using equation 6-4 in subdivision (f)(iii) of this subrule as the value of P_{vi} for those resins.

i = Subscript denoting a specific open molding resin or gel coat applied.

(iv) For purposes of equation 6-3 and subdivision (f)(iii) of this subrule, the following monomer volatile organic compound emission rate formulas applies. The formulas calculate monomer volatile organic compound emission rates in terms of kg of monomer volatile organic compound per Mg of resin or gel coat applied. "VOC%" means the monomer volatile organic compound content as supplied, expressed as a weight percent value between 0 and 100%.

TABLE 69-b

Monomer volatile organic compound emission rate formulas for molding operations.

Operation	Application Method	Formula to calculate the monomer VOC emission rate.
Production resin, tooling resin	Atomized	$0.014 \times (\text{Resin VOC}\%)^{2.425}$
Production resin, tooling resin	Atomized, plus vacuum bagging with roll-out	$0.01185 \times (\text{Resin VOC}\%)^{2.425}$
Production resin, tooling resin	Atomized, plus vacuum bagging without roll-out	$0.00945 \times (\text{Resin VOC}\%)^{2.425}$
Production resin, tooling resin	Nonatomized	$0.014 \times (\text{Resin VOC}\%)^{2.275}$
Production resin, tooling resin	Nonatomized, plus vacuum bagging with roll-out	$0.0110 \times (\text{Resin VOC}\%)^{2.275}$
Production resin, tooling resin	Nonatomized, plus vacuum bagging without roll-out	$0.0076 \times (\text{Resin VOC}\%)^{2.275}$
Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{Gel coat VOC}\%)^{1.675}$

(d) A person subject to the requirements of this rule may elect to employ an add-on control device with a minimum overall control efficiency that meets the monomer volatile organic compound emission limitations specified in table 69-a of this rule. All subject resin and gel coat operations that do not utilize the add-on control alternative must comply with the requirements in subdivision (b) or (c) of this subrule, as well as with all other applicable requirements in this rule.

(e) A person subject to subdivision (d) of this subrule shall meet the volatile organic compound emission limit determined using equation 6-1 in subdivision (c)(i) of this

subrule. In equation 6-1, however, instead of using the mass of each material used over the past 12 months to determine the emission limitation, the person shall use the mass of each material used during the applicable control device performance test. If the measured emissions at the outlet of the control device are less than the emission limit, then the facility is considered to have achieved compliance with the emission limit.

(f) For all filled production and tooling resins, the person subject to this subrule shall adjust the monomer volatile organic compound emission rates determined pursuant to subdivisions (b) and (c) of this subrule using equation 6-4 in paragraph (iii) of this subdivision. If complying pursuant to subdivision (c) of this subrule, the value of PV_F , calculated using equation 6-4, must be used as the value of PV_i in equation 6-3, as set forth in subdivision (c)(iii) of this subrule. If the non-monomer volatile organic compound content of a filled resin exceeds 5%, by weight, based on the unfilled resin, the excess non-monomer VOC must be added to the monomer volatile organic compound content in accordance with the equation set forth in subdivision (a) of this subrule. If complying pursuant to subdivision (b) of this subrule, the emission rate determined by equation 6-4 must not exceed any of the following limitations:

- (i) Tooling Resin: 119.1 lbs monomer VOC/Mg filled resin applied.
- (ii) Production Resin: 101.4 lbs monomer VOC/Mg filled resin applied.
- (iii) Equation 6-4.

$$PVF = (PVU)(100 - \text{percent filler}) / 100$$

Where:

PVF = The as-applied monomer volatile organic compound emission rate for a filled production resin or tooling resin, pounds of monomer volatile organic compound per ton of filled material.

PVU = The monomer volatile organic compound emission rate for the neat (unfilled) resin, before filler is added, as calculated using the formulas in table 69-b of this rule.

Percent filler = The weight-percent of filler in the as-applied filled resin system.

(5) A person subject to this rule, shall develop written procedures for compliance with the following work practices for each fiberglass boating manufacturing operation at the source:

(a) All resin or gel coat mixing containers with a capacity equal or greater than 55 gallons, including those used for on-site mixing of putties and polyputties, must have a cover with no visible gaps in place at all times. This subdivision does not apply when material is being manually added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

(b) No person subject to this rule shall use volatile organic compound-containing cleaning solutions to remove cured resins and gel coats from fiberglass boat manufacturing application equipment. Additionally, a person shall not use volatile organic compound-containing solutions for routine cleaning of application equipment unless 1 of the following applies:

(i) The volatile organic compound content of the cleaning solution is less than or equal to 5%, by weight.

(ii) The composite vapor pressure of the cleaning solution is less than or equal to 0.50 mmHg at 68 degrees Fahrenheit.

(6) A person that is responsible for the operation of a fiberglass boat manufacturing facility that is subject to this rule shall obtain current information, and keep records necessary, for a determination of compliance with this rule, including, but not limited to, all of the following:

(a) The total amounts, in pounds, of atomized molding production operations listed in table 69-a and table 69-b used per month and the weighted-average volatile organic compound contents for each operation, expressed as weight percent.

(b) All calculations performed pursuant to this rule.

(c) The volatile organic compound content of each non-monomer resin and gel coat employed.

(d) For each cleaning material employed for routine application equipment cleaning, either the volatile organic compound content, by weight percent or the composite vapor pressure, in mmHg, whichever is the applicable requirement selected to comply with the cleaning solvent requirements of subrule (5)(b) of this rule.

R 336.1638 Emissions of volatile organic compounds from existing wood furniture manufacturing in 2015 ozone nonattainment areas.

Rule 638. (1) As used in this rule:

(a) "Wood furniture" means any product made of wood, a wood product such as rattan or wicker, or an engineered wood product, such as particleboard.

(b) "Wood furniture component" means any part that is used in the manufacture of wood furniture, including, but not limited to, drawer sides, cabinet doors, seat cushions, and laminated tops. Wood furniture component does not include foam seat cushions manufactured and fabricated at a facility that does not engage in other wood furniture or wood furniture component manufacturing operations.

(c) "Wood furniture manufacturing operations" means the finishing, gluing, cleaning, and washoff operations associated with the production of wood furniture or wood furniture components.

(2) A person shall not cause or allow the emission of any volatile organic compound from an existing wood furniture manufacturing facility located in the 2015 ozone nonattainment areas unless all of the provisions of the following subrules are met.

(3) Except as provided in subrule (6) of this rule, the provisions of this rule do not apply to any wood furniture manufacturing operations that have a potential to emit for volatile organic compounds from all wood furniture finishing operations at the facility, including any related cleaning activities, of less than 25 tons per year. If the potential to emit equals or is more than 25 tons per year on a 12-month rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to the wood furniture finishing operations at that facility.

(4) A person shall not cause or allow the emission of any volatile organic compound from wood furniture manufacturing operations, unless the following provisions are met:

(a) A person with a source subject to the requirements of this rule shall comply with the limitations in subdivision (b), (c), (d), or (e) of this subrule.

(b) A person shall not cause or allow the emission of volatile organic compounds from any existing source applicable to this rule in any of the 2015 ozone nonattainment areas, in excess of the applicable requirements in table 69-c of this subrule.

TABLE 69-c

Volatile organic compound emission limitations for existing wood furniture manufacturing coating operations.

Coating Category	lb of VOC per lb of solids, as applied
Topcoat only	0.8
Topcoat (in combination with sealer)	1.8
Sealer (in combination with topcoat)	1.9
Acid-cured alkyd amino vinyl sealer	2.3
Acid-cured alkyd amino conversion varnish topcoat	2.0
Strippable spray booth coatings	0.8

(c) Using finishing materials where actual emissions are less than or equal to allowable emissions using 1 of the following averaging equations:

Equation 6-5:

$$0.9 (\sum_{i=1 \rightarrow N} (0.8)(TC_i)) \geq \sum_{i=1 \rightarrow N} ER_{TC_i} (TC_i)$$

Equation 6-6:

$$0.9 (\sum_{i=1 \rightarrow N} (1.8)(TC_i) + (1.9)(SE_i) + (9.0)(WC_i) + (1.2)(BC_i) + (0.791) (ST_i)) \geq \sum_{i=1 \rightarrow N} ER_{TC_i}(TC_i) + ER_{SE_i}(SE_i) + ER_{WC_i}(WC_i) + ER_{BC_i}(BC_i) + ER_{ST_i}(ST_i)$$

Where:

N = number of finishing materials participating in averaging.

TC_i = kilograms of solids of topcoat “i” used.

SE_i = kilograms of solids of sealer “i” used.

WC_i = kilograms of solids of washcoat “i” used.

BC_i = kilograms of solids of basecoat “i” used.

ST_i = liters of stain “i” used.

ER_{TC_i} = VOC content of topcoat “i” in kg VOC/kg solids, as-applied.

ER_{SE_i} = VOC content of sealer “i” in kg VOC/kg solids, as-applied.

ER_{WC_i} = VOC content of washcoat “i” in kg VOC/kg solids, as-applied.

ER_{BC_i} = VOC content of basecoat “i” in kg VOC/kg solids, as-applied.

ER_{ST_i} = VOC content of stain “i” in kg VOC/liter (kg/l), as-applied.

(d) Using a control system that achieves an equivalent reduction in emissions as the requirements of table 69-c, according to the following provisions:

(i) Determine the overall control efficiency needed to demonstrate compliance using the following equation:

$$O = ((V - E)/V)(100)$$

Where:

O = overall control efficiency of the capture system and control device as percentage.

V = actual volatile organic compound content of the finishing system material as-applied to the substrate in pounds of volatile organic compound per pound of solids (lbs VOC/lb solids), or, if multiple finishing materials are used, the daily weighted average.

E = equivalent volatile organic compound emission limits in lbs VOC/lb solids.

(ii) Document that the value of “V” in the equation under paragraph (i) of this subdivision is obtained from the volatile organic compounds and solids content of the as-applied finishing material.

(iii) Calculate the overall efficiency of the capture system and control device, using the procedures in R 336.2040.

(e) Using a combination of the methods presented in subdivisions (b), (c), and (d) of this subrule.

(5) A person subject to this rule, shall develop written procedures for compliance with the following work practices for each wood furniture manufacturing operation at the source:

(a) Use cleaning materials containing no more than 8.0% by weight volatile organic compound for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal or plastic filters.

(b) Store volatile organic compound-containing cleaning materials in closed containers.

(c) Collect all volatile organic compound-containing cleaning material used to clean spray guns and spray gun lines in a container and keep the container covered except when adding or removing material.

(d) Control emissions of volatile organic compound-containing cleaning material from washoff operations by doing both of the following:

(i) Equipping the tank used for washoff operations with a cover and keeping the cover closed when the tank is not being used.

(ii) Minimizing dripping by tilting or rotating the part to drain as much cleaning material as possible into the tank.

(e) Use strippable spray booth materials containing no more than 0.8 pound of volatile organic compound per pound of solids, as applied.

(f) Use of conventional air spray to apply finishing materials only under any of the following conditions:

(i) When applying finishing materials that have an as applied volatile organic compound content no greater than 1.0 pound per pound of solids.

(ii) When applying final touch-up and repair finishing materials.

(iii) When using a control device to meet the applicable requirements of this rule.

(6) For the purpose of this rule, recordkeeping for all requirements and applicability demonstrations must be maintained in sufficient detail to demonstrate compliance with

all applicable standards of the rule. Records must include, but are not limited, to the following:

- (a) All calculations performed pursuant to this rule.
- (b) Monthly volatile organic compound emissions and materials usage as needed to meet thresholds described in subrule (3) of this rule.
- (c) For each cleaning material employed for routine application equipment cleaning, either the volatile organic compound content, by weight percent or the composite vapor pressure, in mmHg, whichever is the applicable requirement selected to comply with the cleaning solvent requirements of subrule (5)(a) of this rule.

R 336.1639 Emission of volatile organic compounds from existing aerospace manufacturing and rework operations in 2015 ozone nonattainment areas.

Rule 639. (1) As used in this rule:

(a) “Aerospace vehicle or component” means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.

(b) “Aqueous cleaning solvents” means a solvent in which water is not less than 80% of the solvent as applied.

(2) A person shall not cause or allow the emission of any volatile organic compounds from any existing aerospace manufacturing or reworking sources located within the 2015 ozone nonattainment areas, in excess of the applicable emission rates provided in subrule (4) of this rule.

(3) With the exception of subrule (6) of this rule, any of the following aerospace manufacturing or reworking operations at a stationary source where aerospace components and vehicles are cleaned or coated is exempt from the limits established in this rule:

(a) Facilities with total potential to emit volatile organic compound of less than 25 tons per year for all operations combined.

(b) Facilities that use separate formulations in volumes of less than 50 gallons per year up to a maximum of 200 gallons total for formulations applied annually.

(c) Research and development operations.

(d) Quality control operations.

(e) Laboratory testing facilities.

(f) Electronic parts and assembly processes, except for cleaning and coating of completed assemblies.

(g) Rework operations performed on space vehicles or antique aerospace vehicles and components.

(h) Touchup, aerosol, and United States Department of Defense classified coating applications.

(4) A person shall not cause or allow the emission of volatile organic compounds from aerospace manufacture and rework operations, unless the following provisions are met:

(a) Except as allowed by subdivision (b) of this subrule, a person that applies specialty coatings to aerospace vehicles or components, including any volatile organic compound-containing materials added to the original coating supplied by the manufacturer, shall comply with the following volatile organic compound emission limitations, minus water

and exempt compounds, as applied using 1 or more of the coating types listed within table 69-d.

TABLE 69-d

Volatile organic compound content limits for aerospace manufacturing and rework (lbs of VOC/gallon coating)

Coating Type	Limit	Coating Type	Limit
Ablative coating	5.0	Flight-test coatings:	
Adhesion promoter	7.4	Missile or single use aircraft	3.5
Adhesive bonding primers:		All other	7.0
Cured at 250 degrees Fahrenheit or below	7.1	Fuel-tank coating	6.0
Cured above 250 degrees Fahrenheit	8.6	High-temperature coating	7.1
Adhesives:		Insulation covering	6.2
Commercial interior adhesive	6.3	Intermediate release coating	6.3
Cyanoacrylate adhesive	8.5	Lacquer	6.9
Fuel tank adhesive	5.2	Maskants:	
Nonstructural adhesive	3	Bonding maskant	10.3
Rocket motor bonding adhesive	7.4	Critical use and line sealer maskant	8.5
Rubber-based adhesive	7.1	Seal coat maskant	10.3
Structural autoclavable adhesive	0.5	Metallized epoxy coating	6.2
Structural nonautoclavable adhesive	7.1	Mold release	6.5
Antichafe coating	5.5	Optical anti-reflective coating	6.3
Bearing coating	5.2	Part marking coating	7.1
Caulking and smoothing compounds	7.1	Pretreatment coating	6.5
Chemical agent-resistant coating	4.6	Primer	2.9
Chemical milling maskant, type I	5.2	Primer for general aviation rework facility	4.5
Chemical milling maskant, type II	1.3	Rain erosion-resistant coating	7.1
Clear coating	6.0	Rocket motor nozzle coating	5.5
Commercial exterior aerodynamic structure primer	5.4	Scale inhibitor	7.3
Compatible substrate primer	6.5	Screen print ink	7.0
Corrosion prevention compound	5.9	Sealants:	
Cryogenic flexible primer	5.4	Extrudable/rollable/brushable sealant	2.3
Dry lubricative material	7.3	Sprayable sealant	5.0
Cryoprotective coating	5.0	Silicone insulation material	7.1
Electric or radiation-effect coating	6.7	Solid film lubricant	7.3
Electrostatic discharge and electromagnetic	6.7	Specialized function coating	7.4
Elevated-temperature skydrol-resistant commercial primer	6.2	Temporary protective coating	2.7
Epoxy polyamide topcoat	5.5	Thermal control coating	6.7
		Topcoat (incl self priming)	3.5
		Topcoat for general aviation rework facility (incl self priming)	4.5
		Wet fastener installation coating	5.6

Exterior primer for large commercial aircraft (components or assembled)	5.4	Wing coating	7.1
Fire-resistant (interior) coating	6.7		
Flexible primer	5.3		

(b) The content limits described in table 69-d can be met by using approved air pollution control equipment if the control system has combined volatile organic compound emissions capture and control equipment efficiency of not less than 81% by weight.

(c) A person shall use 1 or more of the following application techniques in applying any primer or topcoat to aerospace vehicles or components, except as allowed by subdivision (d) of this subrule:

- (i) Flow/curtain coat.
- (ii) Dip coat.
- (iii) Roll coating.
- (iv) Brush coating.
- (v) Cotton-tipped swab applications.
- (vi) Electrodeposition coating.
- (vii) High volume low pressure (HVLP) spraying.
- (viii) Electrostatic spray.
- (ix) Other coating application methods equivalent to HVLP or electrostatic spray applications that are equivalent to HVLP.

(d) A person is not required to meet application techniques listed in subdivision (c) of this subrule in the following situations:

- (i) Airbrush or extension on the spray gun to properly reach limited access spaces.
- (ii) Application of specialty coatings.
- (iii) Application of coating that contain fillers that adversely affect atomization with HVLP spray guns and cannot be applied by other means required in subdivision (c) of this subrule.
- (iv) Application of coatings that normally have a dried film thickness of less than 0.0013 centimeters and cannot be applied by other means required in subdivision (c) of this subrule.
- (v) Airbrush methods for stenciling, lettering, and other identification markings.
- (vi) Hand-held spray can application methods.
- (vii) Touch-up and repair operations.

(e) Cleaning using hand wiping must use an aqueous cleaning solvent or have a volatile organic compound composite vapor pressure less than or equal to 45 millimeters of mercury at 20 degrees Celsius except in the following situations:

- (i) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to breathing oxygen.
- (ii) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers.
- (iii) Cleaning and surface activation before adhesive bonding.
- (iv) Cleaning of electronics parts and assemblies containing electronics parts.

- (v) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air exchangers and hydraulic fluid systems.
 - (vi) Cleaning of fuel cells, fuel tanks, and confined spaces.
 - (vii) Surface cleaning of solar cells, coated optics, and thermal control surfaces.
 - (viii) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of aircraft.
 - (ix) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components.
 - (x) Cleaning of aircraft transparencies, polycarbonate, or glass substrates.
 - (xi) Cleaning and solvent usage associated with research and development, quality control, or laboratory testing.
 - (xii) Cleaning operations, using nonflammable liquids, conducted within 5 feet of energized electrical systems.
 - (xiii) Cleaning operations identified as essential under the Montreal Protocol for which the administrator has allocated essential use allowances or exemptions in 40 CFR section 82.4.
- (f) For cleaning solvents used in the flush cleaning of parts, assemblies, and coating unit components, the used cleaning solvent, except for semiaqueous cleaning solvents, must be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers, provided they comply with the housekeeping requirements of subdivision (g) of this subrule. Aqueous cleaning solvents are exempt from these requirements.
- (g) All spray guns must be cleaned by 1 or more of the following methods:
- (i) Enclosed spray gun cleaning system if it is kept closed when not in use and leaks are repaired within 14 days after the leak is first discovered, or the enclosed cleaner must be shut down until the leak is repaired.
 - (ii) Unatomized discharge of solvent into a waste container that is kept closed when not in use.
 - (iii) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.
 - (iv) Atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.
- (h) All fresh and used cleaning solvents, except aqueous and semiaqueous cleaning solvents, used in solvent cleaning operations must be stored in containers that are kept closed at all times except when filling or emptying. This includes cloth and paper, or other absorbent applicators, moistened with cleaning solvents except for cotton-tipped swabs used for very small cleaning operations.
- (i) A person shall implement handling and transfer procedures to minimize spills during filling and transferring the cleaning solvent to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or used cleaning solvents. Aqueous cleaning solvents are exempt from these requirements.
- (5) Compliance with this rule must be determined as follows:
- (a) Each person operating a control device for compliance with this rule shall submit a monitoring plan that specifies the applicable operating parameter value, or range of values, to ensure ongoing compliance with subrule (4)(b) of this rule. The monitoring

device must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, or an equivalent plan approvable by the department.

(b) Each person using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month in any calendar year in which it is used. Each inspection must occur while the spray gun cleaner is in operation.

(c) For coatings and cleaning solvents that are not waterborne or water-reducible, the volatile organic compound content of each formulation must be determined, less water and less exempt solvents, as applied using manufacturer's supplied data or method 24 of 40 CFR part 60, appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the method 24 analysis, compliance must be based on the results from the method 24 analysis. For water-borne, or water-reducible, coatings, and aqueous and semiaqueous cleaning solvents, manufacturer's supplied data alone can be used to determine the volatile organic compound content of each formulation.

(d) For hand-wipe cleaning solvents required in subrule (4)(e) of this rule, manufacturers' supplied data or standard engineering reference texts or other equivalent methods must be used to determine the vapor pressure or volatile organic compound composite vapor pressure for blended cleaning solvents.

(6) A person subject to this rule shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance, and must be made available to the department upon request. These records must include the following, as applicable:

(a) A list of coatings and usages as described in table 69-d must be maintained with category and volatile organic compound content as applied on a monthly basis.

(b) Each owner or operator using cleaning solvents as described in this rule shall maintain on a monthly basis a list of the following:

(i) For aqueous and semi aqueous hand-wipe cleaning solvents, materials used with corresponding water contents.

(ii) For vapor pressure compliant hand-wipe cleaning solvents, cleaning solvents with their respective vapor pressures or, for blended solvents, volatile organic compound composite vapor pressures.

(iii) For cleaning solvents with a vapor pressure greater than 45 mm Hg, a list of exempt hand-wipe cleaning processes.

(c) Each owner or operator using control equipment under subrule (4)(b) of this rule shall record monitoring parameters as specified in the monitoring plan required under subrule (5)(a) of this rule.

(d) Except for specialty coatings, any source that complies with the recordkeeping requirements of the Aerospace NESHAP, 40 CFR 63.752, complies with the requirements of this subrule.

R 336.1640 Emission of volatile organic compounds from existing storage vessels in the oil and natural gas industry located in the 2015 ozone nonattainment areas.

Rule 640. (1) As used in this rule, "storage vessel" means a tank or other vessel that contains an accumulation of oil and gas related liquids, and that is constructed primarily of non-earthen materials, such as wood, concrete, steel, fiberglass, or plastic that provide structural support.

(2) A person shall not cause or allow the emission of any volatile organic compound in excess of the limitations of this rule from the use of existing storage vessels utilized in the oil and natural gas production, natural gas processing, and natural gas transmission and storage segments of the oil and natural gas industry that meet both of the following criteria:

(a) A storage vessel located in the 2015 ozone nonattainment area.

(b) A storage vessel used for the storage of crude oil or condensates, intermediate hydrocarbon liquids, or produced water.

(3) Except as provided in subrule (6) of this rule, the provisions of this rule do not apply to the following:

(a) Storage vessels with a potential to emit volatile organic compounds of less than 6 tons per year. This potential to emit can be limited by a federally enforceable permit or order.

(b) Storage vessels with uncontrolled actual volatile organic compound emissions of less than 4 tons per 12-month rolling average. If the combined actual emission rate equals or is more than 4 tons per year on a 12-month rolling basis before consideration of controls, as determined in a subsequent month, then this rule permanently applies to the storage vessel.

(c) Vessels that are skid-mounted or permanently attached to a mobile source, such as trucks, railcars, barges, or ships, and are intended to be located at a site for less than 180 consecutive days.

(d) Process vessels, such as surge control vessels, bottoms receivers, or knockout vessels.

(e) Pressure vessels designed to operate in excess of 204.9 kilopascals (29.7 pounds per square inch) and that are not expected to have emissions to the atmosphere during normal operation.

(f) A storage vessel with a capacity greater than 100,000 gallons used to recycle water that has been passed through 2 stage separation.

(g) VOC emission control requirements do not apply to storage vessels subject and controlled in accordance with the requirements for storage vessels in “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984” 40 CFR part 60, “National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater” 40 CFR part 63, subpart G, “National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries” 40 CFR part 63, subpart CC, “National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities” 40 CFR part 63, subpart HH, or “National Emission Standards for Storage Vessels (Tanks) – Control Level 2” 40 CFR part 63, subpart WW. All regulations stated within this subdivision are adopted by reference in R 336.1902.

(4) A person subject to the requirements of this rule shall not cause or allow the emission of any volatile organic compound from storage vessels, unless emissions are reduced by 95% by weight or greater as determined by subrule (5) of this rule and the following provisions are met, as applicable:

(a) If utilized, an enclosed combustion control device for the volatile organic compound emissions from material storage must meet 1 of the following:

(i) Emissions must be less than 275 ppm by volume as propane on a wet basis corrected to 3% oxygen.

(ii) The control must be operated at a minimum temperature of 760 degrees Celsius, provided a valid performance test as required in subrule (5) of this rule is on file that demonstrated the combustion zone temperature is an indicator of sufficient destruction efficiency.

(iii) The vent stream must be introduced into the flame zone of the boiler or process heater.

(b) A person using a control device to reduce emissions shall meet the following requirements:

(i) Covers must satisfy all of the following:

(A) The covers and all openings on the cover must form a continuous impermeable barrier over the entire surface area of the liquid in the vessel.

(B) Each cover opening must be secured in a closed sealed position when material is in the unit except during time necessary to use the opening, such as adding, removing, sampling, or inspecting material in the unit, maintaining equipment, or venting through a closed vent system.

(C) Each storage vessel thief hatch must be maintained and operated with a mechanism to ensure that the lid remains properly seated and sealed under normal operating conditions.

(ii) Closed vent systems must satisfy all of the following, unless routed to a process:

(A) The closed vent system must route all gases, vapors, and fumes to the control device.

(B) The closed vent system must have no detectable emissions when using, at a minimum, olfactory, visual, and auditory inspections.

(C) Any bypass must have a properly operated and maintained flow indicator at the inlet with an alarm that is recorded when activated. Low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines and safety devices are not considered bypasses.

(D) The closed vent system must be properly designed and operated, as described in subrule (5) of this rule.

(iii) Control devices must satisfy all of the following, if applicable:

(A) The control device must be operated and maintained properly as described in subrule (5) of this rule.

(B) When using a combustion control device, it must have a continuous burning pilot flame or alternative approved by the department.

(C) When using a flare as a control device, it must be designed and operated in accordance with the requirements of 40 CFR 60.18(b), adopted by reference in R 336.1902.

(D) When using carbon absorption as a control device, the carbon must be regenerated or reactivated.

(c) If a floating roof is used to reduce emissions, the storage vessel must meet all relevant requirements of "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May

18, 1978, and Prior to July 23, 1984,” 40 CFR 60.112b(a)(1) or (2), and all relevant monitoring, inspection, recordkeeping, and reporting requirements in “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.” 40 CFR part 60, subpart Kb. Both are adopted by reference in R336.1902.

(5) Compliance with this rule must be determined as follows:

(a) Initial performance and compliance testing must be conducted in accordance with a stack testing protocol approved by the department.

(b) All control devices must have an approvable operation and maintenance plan that contains, at a minimum, the following:

(i) A schedule of maintenance for the control devices in use.

(ii) An inspection schedule at least once every calendar month.

(iii) Written instructions from the manufacturer.

(c) An analysis must be performed, documented, and maintained that the closed vent system is of sufficient design and capacity to ensure all emissions from the storage vessel is routed to the control device or process and that the control device is of sufficient design and capacity to accommodate all emissions from the storage vessel.

(d) The person subject to this rule for a closed vent system shall conduct and maintain records of annual visual inspections for defects that could result in air emissions.

(6) A person operating a storage vessel subject to this rule shall obtain current information and maintain records for all applicability and requirements in sufficient detail to determine compliance. The records must be made available to the department upon request. The records must include the following, as applicable:

(a) Records of each volatile organic compound emission determination for each storage vessel.

(b) Records of deviations in cases where the storage vessel was not operated in compliance with requirements.

(c) Records of the identification and location of each storage vessel subject to emission control requirements.

R 336.1641 Emission of volatile organic compounds from existing pneumatic controllers in the oil and natural gas industry located in the 2015 ozone nonattainment areas.

Rule 641. (1) As used in this rule:

(a) “Bleed rate” means the rate in standard cubic feet per hour at which natural gas is continuously vented, or bleeds, from a pneumatic controller.

(b) “Pneumatic controller” means an automated instrument used to maintain a process condition, such as liquid level, pressure, delta pressure and temperature.

(2) A person shall not cause or allow the emission of any volatile organic compound associated with the oil and natural gas production and natural gas processing segments of the oil and natural gas industry, in excess of the limitations of this rule from the use of existing single continuous bleed natural gas-driven pneumatic controllers, when the controllers are both of the following:

(a) Located inside the 2015 ozone nonattainment areas.

(b) Utilized at a natural gas processing plant or with equipment located from either the wellhead to the natural gas processing plant or to the point of custody transfer to an oil pipeline.

(3) Except as described in subrule (6) of this rule, the provisions of this rule do not apply to a pneumatic controller if there is a functional need for a bleed rate greater than the requirements as described in subrule (4) of this rule and it is properly tagged. A functional need includes, but is not limited to, response time, safety, and positive actuation.

(4) Except as allowed in subrule (3) of this rule, a person subject to the requirements of this rule shall not allow either of the following:

(a) Any continuous venting for any pneumatic controllers located at a natural gas processing plant.

(b) A bleed rate greater than 6 standard cubic feet per hour from equipment from the wellhead to the natural gas processing plant or point of custody transfer to an oil pipeline.

(5) Compliance with this rule must be determined by maintaining records as described in subrule (6) of this rule which includes, at a minimum, tagging all pneumatic controllers with an identifying number and the installation date, to allow traceability to the records for that controller.

(6) A person operating a pneumatic controller shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance. The records must be made available to the department upon request. This includes records and all other information needed to establish both of the following for each pneumatic controller, as applicable:

(a) The bleed rates.

(b) A description of its functional need if exempting the equipment from requirements in subrule (4) of this rule.

R 336.1642 Emission of volatile organic compounds from existing pneumatic pumps in the oil and natural gas industry located in the 2015 ozone nonattainment areas.

Rule 642. (1) As used in this rule, "pneumatic pump" means a positive displacement reciprocating unit driven by natural gas used for injecting precise amounts of chemicals into a process stream or for freeze protection glycol circulation.

(2) A person shall not cause or allow the emission of any volatile organic compound associated with oil and natural gas production and natural gas processing segments of the oil and natural gas industry in excess of the limitations of this rule from the use of existing single natural gas driven pneumatic pumps when the pumps are both of the following:

(a) Located inside the 2015 ozone nonattainment area.

(b) Utilized at a natural gas processing plant or well site.

(3) Except as required in subrule (6), the provisions of this rule do not apply to a pneumatic pump that is either of the following:

(a) If it is determined through an engineering assessment that routing a pneumatic pump to a control device or a process is technically infeasible due to insufficient gas pressure or control device capacity, including the event in which there is no control device or in which the control device or process is removed from the site, the following provisions must be met:

(i) An assessment of technical infeasibility must be conducted and must include, but is not limited to, safety considerations, distance from the control device, pressure losses and differentials in the closed vent system, and the ability of the control device to handle the pneumatic pump emissions which are routed to them. This assessment must be prepared under supervision of a qualified professional engineer as approved in 40 CFR 60.5393a.

(ii) The professional engineer shall sign and certify this prepared assessment.

(b) In operation less than 90 days per calendar year. For purposes of this rule, any period of operation during a calendar day counts toward the 90-day annual threshold.

(4) A person shall not cause or allow the emission of any volatile organic compound from pneumatic pumps, unless the following provisions are met:

(a) At natural gas processing plants, zero emissions or 100% control from each diaphragm pump by use of a control device or instrument air system in place of the natural gas-driven pump.

(b) At a well site, emissions from each existing diaphragm pump with control devices, must be reduced by 95% by weight or greater as determined by subrule (5) of this rule, or, if 95% control is not achievable, by the maximum control efficiency possible as described in subrule (6) of this rule.

(c) At a well site that installs a control device after March 1, 2023, the emissions from the pneumatic pump must be captured and routed to the control device.

(d) If reducing emissions by use of a control device or by routing to a process, the pneumatic pump must connect emissions through a closed vent system meeting the requirements of R 336.1640(4)(b)(ii).

(5) Compliance with this rule must be determined as follows:

(a) All pneumatic pumps must be tagged with an identifying marker to allow tracking for reporting as described in subrule (6) of this rule.

(b) Initial performance and compliance testing must be conducted in accordance with a stack testing protocol, or alternative testing protocol, approved by the department.

(c) All control devices must have an approvable operation and maintenance plan that contains, at a minimum, the following:

(i) A schedule of maintenance for the control devices in use.

(ii) An inspection schedule at least once every calendar month.

(iii) Written instructions from the manufacturer.

(6) A person operating a pneumatic pump subject to this rule shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance. The records must be made available to the department upon request and must include the following, as appropriate:

(a) Notes of all pumps with control, and the respective control efficiencies, as determined by the performance test used in subrule (5) of this rule, that may include a stack test, calibrated bag test, or engineering calculations.

(b) For all pumps with a control efficiency less than the control efficiency required by subrule (4) of this rule, infeasibility of meeting applicable criteria for capture and control for any uncontrolled pump which may include factors such as safety, distance, pressure losses and differentials, and the capacity of any available existing control device, to show that subrule (4) of this rule is not attainable.

(c) For all pumps at well sites without controls, a statement of confirmation that no control device has been installed.

(d) Before March 1, 2023, an initial report must be submitted to the department describing initial compliance.

(e) A report must be submitted to the department if a control device is installed on site after March 1, 2023.

R 336.1643 Emission of volatile organic compounds from existing compressors in the oil and natural gas industry located in the 2015 ozone nonattainment areas.

Rule 643. (1) As used in this rule:

(a) “Centrifugal compressor” means any machine for raising the pressure of a natural gas by drawing in low-pressure natural gas and discharging significantly higher-pressure natural gas by means of mechanical rotating vanes or impellers. Screw, sliding vane, and liquid ring compressors are not centrifugal compressors for the purposes of this rule.

(b) “Reciprocating compressor” means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.

(2) A person shall not cause or allow the emission of any volatile organic compound from the use of existing compressors utilized in oil and natural gas production and natural gas processing segments of the oil and natural gas industry, in excess of the limitations of this rule that are both:

(a) Located in the 2015 ozone nonattainment areas.

(b) Located between the wellhead and point of custody transfer to the natural gas transmission and storage segment, and are either of the following:

(i) A single centrifugal compressor using wet seals.

(ii) A reciprocating compressor.

(3) The provisions of this rule do not apply to the following:

(a) Individual reciprocating compressor, or an individual centrifugal compressor using wet seals located at a well site, or an adjacent well site, and is servicing more than 1 well site.

(b) Individual centrifugal compressor using dry seals.

(4) A person shall not cause or allow the emission of any volatile organic compound from the centrifugal compressors, unless the following provisions are met:

(a) Emissions from a centrifugal compressor wet seal fluid degassing system must be reduced by 95%.

(b) When emissions from a centrifugal compressor are controlled by a control device, the following requirements must be met:

(i) The wet seal fluid degassing system must be equipped with a cover that meets the following requirements:

(A) The cover and all openings on the cover must form a continuous impermeable barrier over the entire surface area of the liquid in the wet seal fluid degassing system.

(B) Each cover opening must be secured in a closed, sealed position, for example, covered by a gasketed lid or cap, except during those times when it is necessary to use an opening as follows:

(1) To inspect, maintain, repair, or replace equipment.

(2) To vent gases or fumes from the unit through a closed vent collection system that meets the cover requirements and closed vent system requirements of

R 336.1640.

(ii) The closed vent system must be routed to a process or a control device that is designed to route all gases, vapors, and fumes emitted from the volatile organic compound emissions source to a control device or to a process.

(iii) A continuous parameter monitoring system must be properly installed and operated to monitor all relevant control device operational variables.

(5) A person shall not cause or allow the emission of any volatile organic compound from reciprocating compressors, unless either of the following provisions are met:

(a) Compressor rod packing must be replaced within 36 months from the date of the most recent rod packing.

(b) Rod packing emissions must be routed to a process by using a closed vent collection system that operates under negative pressure and meets the cover requirements and closed vent system requirements of R 336.1640. The closed vent system must be designed to route all volatile organic compound containing gases, vapors, and fumes to the process.

(6) A person operating a compressor shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance, which must be made available to the department upon request. The following methods must be used:

(a) An identification of each existing centrifugal compressor using a wet seal system.

(b) Records of deviations where the centrifugal or reciprocating compressor was not operated in compliance with requirements.

(c) Inlet gas flow rate.

(d) Records of the maintenance and repair log.

(e) Records of the visible emissions test following return to operation from a maintenance or repair activity.

(f) Records of the cumulative number of hours of operation or number of months since the previous replacement of the reciprocating compressor rod packing.

(g) Records of any control device operational variables monitored as part of the required continuous parameter monitoring system.

R 336.1644 Emission of volatile organic compounds from fugitive emissions from the oil and natural gas industry located in the 2015 ozone nonattainment areas.

Rule 644. (1) A person shall not cause or allow the emission of any volatile organic compound from existing fugitive emissions in the oil and natural gas production and natural gas processing segments of the oil and natural gas industry, in excess of the limitations of this rule that are both:

(a) Located in the 2015 ozone nonattainment area.

(b) Either of the following:

(i) Well sites.

(ii) Gathering and boosting station located from the wellhead to the point of custody transfer to the natural gas transmission and storage segment or an oil pipeline.

(2) The provisions of this rule do not apply to well sites that meet any of the following:

(a) Produce on average, less than or equal to 15-barrel equivalents per day.

(b) Have gas to oil ratios of less than 300 standard cubic foot of gas per barrel of oil produced, except as described in subrule (4) of this rule.

(c) Only contain well heads.

(3) A person shall not cause or allow the emission of any volatile organic compound from fugitive emissions unless a leak detection and repair program is implemented, as described in subrule (4) of this rule.

(4) A leak detection and repair program must be developed and implemented for compliance with this rule and must contain the following components:

(a) For well sites the program must include the following:

(i) Semiannual monitoring using optical gas imaging (OGI) and repair of components that are found to be leaking.

(ii) Each fugitive emissions component repaired or replaced be resurveyed to ensure there is no leak after repair or replacement by the use of either 40 CFR, part 60, appendix A, method 21, adopted by reference in R 336.1902, or OGI, no later than 30 days after finding fugitive emissions.

(b) For gathering and boosting stations in the production segment the program must include the following:

(i) Quarterly monitoring using OGI and repair of components that are found to be leaking.

(ii) Each fugitive emissions component repaired or replaced be resurveyed to ensure there is no leak after repair or replacement by the use of either 40 CFR, part 60, appendix A, method 21, adopted by reference in R 336.1902, or OGI no later than 30 days after finding fugitive emissions.

(c) The department can allow 40 CFR, part 60, appendix A, method 21, adopted by reference in R 336.1902, with a repair threshold of 500 ppm as an alternative compliance means to OGI.

(5) A person operating a compressor shall obtain current information and maintain records for all requirements in sufficient detail to determine compliance, which must be made available to the department, upon request. These records must include the following, as applicable:

(a) To demonstrate continuous compliance with the fugitive emission standards the following provisions must be met, as applicable:

(i) A monitoring survey of each collection of fugitive emissions components at a well site must be conducted at least semiannually, not less than 4 months apart, after the initial survey.

(ii) A monitoring survey of the collection of fugitive emissions components at a gathering and boosting station must be conducted at least quarterly, not less than 60 days apart, after the initial survey.

(iii) A written plan must be developed to include the identification and location of each fugitive emissions component designated as difficult-to-monitor, an explanation of why each are designated as difficult to monitor, and a schedule for monitoring at least once per calendar year for the following:

(A) Fugitive emission components designated as difficult-to-monitor, meaning monitoring cannot occur without elevating the monitoring personnel more than 2 meters above the surface.

(B) Fugitive emissions components designated as unsafe-to-monitor, meaning monitoring cannot be completed without exposing the monitoring personnel to immediate danger while conducting a monitoring.

(b) Records maintained of the fugitive emissions monitoring plan as required under subrule (4) of this rule.

R 336.1660 Standards for volatile organic compounds emissions from consumer products.

Rule 660. (1) Except as provided in subrule (2) of this rule, the following provisions are adopted by reference in R 336.1902:

(a) Before January 1, 2023, the ozone transport commission's "OTC Model Rule for Consumer Products," 2006 (ver2006).

(b) After December 31, 2022, the ozone transport commission's "OTC Model Rule for Consumer Products," dated May 10, 2012, (ver2012).

(c) After December 31, 2022, the "Technical amendment to the Ozone Transport Commission Consumer Products Model Rule," dated May 21, 2013.

(2) The following exceptions apply to the adoptions by reference in subrule (1)(a) and (b) of this rule:

(a) Section (8)(b), variances.

(b) All references to public hearings in section (8)(d) and (f).

(c) In ver2006, where the date "January 1, 2005" appears in the section (3)(a), table of standards, (f)(1)(i), and (g)(3), the department shall instead recognize January 29, 2007:

(d) In ver2006, section 7(d)(2) and (3), where the date "2005" appears, the department shall instead recognize 2007 and the date "March 1, 2006" appears the department shall instead recognize March 1, 2008.

(e) In ver2012, where the date "January 1, 2005", "January 1, 2009", or "January 1, 2014" appears in the section (3)(a) table of standards, (f)(1)(i), and (g)(3), the department shall instead recognize January 1, 2023.

(f) In ver2012, the volatile organic compound limits in section (3)(a) table of standards and the prohibitions in section 3(n) as they apply to the following products containing 98% or more para-dichlorobenzene:

(i) Toilet/urinal care products.

(ii) Solid and semisolid air fresheners that are not intended for use inside residences or commercial establishments.

(3) As used in the model rule:

(a) "OTC state" means this state.

(b) "Volatile organic compound" or "VOC" means a compound as defined in 40 CFR 51.100. For the purpose of clarifying the definition, the provisions of 40 CFR 51.100 are adopted by reference in R 336.1902.

R 336.1661 Rescinded.

R 336.1662 Standards for volatile organic compounds emissions from architectural and industrial maintenance coatings.

Rule 662. (1) After December 31, 2022, the provisions in the ozone transport commission's "Model Rule for Architectural and Industrial Maintenance (AIM) Coatings," are adopted by reference in R 336.1902, with the following exceptions:

(a) “Table 1: VOC Content Limits for Architectural and Industrial Maintenance Coatings,” the column titled “VOC Content Limits (grams per liter) Effective Until December 31, 2013.”

(b) Except as provided in subrule (1)(c), where the date “January 1, 2014” appears in the following sections, the department shall instead recognize “January 1, 2023”:

(i) Section (2), Definitions.

(ii) Section (3), Standards.

(iii) Section (4), Container Labeling Requirements,

(iv) Table 1: VOC Content Limits for Architectural and Industrial Maintenance Coatings.

(c) For architectural coatings produced by a manufacturer whose total production level is less than 1 million gallons of coating in each calendar year from 2021 to 2026, where the date “January 1, 2014” appears in the following sections, the department shall instead recognize “January 1, 2027”:

(i) Section (2), Definitions.

(ii) Section (3), Standards.

(iii) Section (4), Container Labeling Requirements,

(iv) Table 1: VOC Content Limits for Architectural and Industrial Maintenance Coatings.

(2) As used in the model rule:

(a) “Jurisdiction of the state or local air pollution control agency” means the department.

(b) “Volatile Organic Compound” means the definition as promulgated in R 336.1122(f).