

REGULATION NO. 24

CONTROL OF VOLATILE ORGANIC COMPOUND EMISSIONS

Section 36 - Stage II Vapor Recovery.

[State effective date: 1/11/02]

a. Applicability.

1. This Section applies to any gasoline dispensing facility located in the State of Delaware, except:
 - i. Any gasoline dispensing facility, which never has a throughput of greater than 10,000 gallons of gasoline, shall be subject only to the requirements of paragraph (e)(2) of this Section. Any gasoline dispensing facility that ever exceeds this throughput shall be subject to all of the requirements of this Section, and shall remain subject to these requirements even if its throughput later falls below the exemption throughput.
 - ii. Any gasoline dispensing facility that is used exclusively for refueling marine vehicles, aircraft, farm equipment, and/or emergency vehicles.
2. On and after May 1, 2003, the requirements of paragraph (f) of this Section apply to any owner and/or operator of any company that performs compliance testing of Stage II Systems within the State of Delaware.
3. The requirements of this Section are in addition to all other State and Federal requirements, to include the permitting requirements of Regulation No. 2 of the State of Delaware "Regulations Governing the Control of Air Pollution." Any gasoline dispensing facility that is currently subject to any state or federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and shall remain subject to those provisions.

4. Compliance Schedule

Any gasoline dispensing facility subject to the requirements of this Section shall be in compliance as follows: Any facility that first commences operations:

- i. Before November 15, 1990 and that has any throughput of greater than 10,000 gallons but less than 100,000 gallons: by November 15, 1994 for facilities located in New Castle and Kent Counties, and by November 15, 1996 for facilities located in Sussex.
- ii. Before November 15, 1990 and that has any throughput of at least 100,000 gallons: by

November 15, 1993 for facilities located in New Castle and Kent Counties, and by November 15, 1995 for facilities located in Sussex County.

- iii. On or after November 15, 1990 and before January 11, 1993: by May 15, 1993 for facilities located in New Castle and Kent Counties, and by May 15, 1995 for facilities located in Sussex County.
 - iv. On or after January 11, 1993: upon commencement of operations.
5. Any Stage II vapor recovery system installed prior to November 15, 1992, and using dual vapor recovery hoses (not coaxial) shall be retrofitted with coaxial hoses no later than January 1, 1994, or upon any vapor system modification, whichever is first. Any system installed after November 15, 1992 shall be equipped with coaxial hoses.
 6. Remote vapor check valves in balance type systems installed prior to November 15, 1992, shall be retrofitted with check valves located in the nozzle no later than January 1, 1994, or upon any vapor system modification, whichever is first. Any system installed after November 15, 1992 shall be equipped with remote check valves located in the nozzle.

b. Definitions

"Assist System" means a system that creates a vacuum to assist the movement of vapors back into the storage tank.

"Balance System" means a system where pressure develops in the vehicle tank during fueling operations, and vacuum in the storage tank created when the fuel is removed, forces displaced vapors out the vehicle tank and back into the storage tank.

c. Standards

1. The owner and/or operator of any gasoline dispensing facility subject to the requirements of this Section shall:
 - i. Design, install, operate, and maintain one of the Stage Vapor Recovery Systems identified in paragraph (g) of this section.
 - ii. For systems with manifolded vapor lines, the liquid shall return into the lowest octane tank. For non-manifolded systems with separate vapor lines, the liquid shall return to the tank that has the same product as is dispensed at the nozzle where the liquid was introduced into the vapor lines.
 - iii. On and after May 1, 2003, install and maintain a vapor shear valve that functions similarly to the product shear valve.

- iv. Conspicuously post "Operating Instructions" on both sides of each gasoline dispenser. Such instructions shall include:
 - A. A clear description of how to correctly dispense gasoline.
 - B. A warning that repeated attempts to continue dispensing gasoline, after the system has indicated that the vehicle fuel tank is full (by automatically shutting off), may result in spillage or recirculation of gasoline.
 - C. A toll-free telephone number to report problems experienced with the vapor recovery system to the Department.
- 2. At least one representative (an owner, facility manager, or designated employee) from each facility, or facilities under common ownership, shall attend a training program on the operation and maintenance requirements of the Stage II equipment that is selected for installation and/or installed on their facility premises. Acceptable forms of training include equipment manufacturer's seminars, classes or workshops, or any other training approved by the Department.
 - i. Verification, such as a certificate of attendance from the training program, shall be obtained by the attendee within three (3) months of the installation of the Stage II system. The certificate shall display the name of the person who completed the training program.
 - ii. The representative that completed the training program is then responsible for informing all facility employees about conducting routine maintenance pursuant to paragraph (c)(3) of this section and about the operation and maintenance of the Stage II system. The representative shall maintain proof of training for all employees who will be conducting daily inspections. If such representative leaves that facility, or the company owning several facilities, another representative shall take and successfully complete the training within three (3) months.
 - iii. Training shall include, but not be limited to, the following subjects:
 - A. Purposes and effects of the Stage II Vapor Control Program.
 - B. Equipment operation and function specific to their facility's equipment.
 - C. Maintenance schedules and requirements for the facility's equipment.
 - D. Equipment warranties.
 - E. Equipment manufacturer contracts (names, addresses, and phone numbers) for parts and service.

3. Each day personnel trained pursuant to paragraph (c)(2) of this Section shall perform routine maintenance inspections and record the inspection results.
 - i. Such inspections shall consist of, but not limited to, inspection of the Stage II system for the following defects:
 - A. A faceplate or face cone of a balance or assist system nozzle that does not make a good seal with a vehicle fill tube, or the accumulated damage to the faceplate or face cone is over 25% of its' surface.
 - B. A vapor assist system nozzle fitted with an efficiency compliance device that is damaged over 25% of its' surface.
 - C. A nozzle bellows with a triangular tear measuring inch or more to a side, a hole measuring ½ inch or more in diameter, or a slit or tear measuring one inch or more in length.
 - D. A nozzle bellows or efficiency compliance device that is loosely attached to the nozzle body, not attached by a manufacturer approved method, or a vapor check valve frozen in the open position.
 - E. A nozzle liquid shutoff mechanism that malfunctions in any manner, where the spring or latching knurl is damaged or missing.
 - F. A nozzle with a vapor check valve that is defective, or a hose with a disconnected or damaged breakaway.
 - G. A vapor assist system nozzle spout that is damaged and the vapor collection holes are obstructed.
 - H. A dispenser mounted vacuum pump that is not functioning.
 - I. A vacuum assist system with a central vacuum unit or vapor processing unit that is inoperative.
 - J. A hose retractor that does not fully retract.
 - K. Any other component required by the Department for use in the system that is missing, disconnected, or malfunctioning.
 - ii. The owner and/or operator shall post "Out of Order" signs and "Bag-out" the nozzle associated with any part of the defective vapor recovery system until said system has been repaired or replaced.

d. Testing Requirements

1. Any gasoline dispensing facility subject to the requirements of paragraph (c)(1)(i) of this Section shall perform and pass the following tests in accordance with the test methods and procedures stated, or as otherwise approved by the Department and the Administrator of the EPA. Where any of the following test methods and procedures, in the opinion of the Department, conflict and/or are redundant with those specified in any CARB Executive Order adopted by reference in paragraph (g) of this Section, the following test methods and procedures shall apply.
 - i. The following tests shall be performed and passed within ten (10) days of installation of the Stage II vapor recovery system:
 - A. A Pressure Decay/Leak Test, conducted in accordance with Test Procedure TP-96-1 of the San Diego Protocol, Revision III dated 3-1-96. This test procedure is hereby incorporated by reference.
 - B. A Dynamic Backpressure and Liquid Blockage Test, conducted in accordance with the procedures in "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites, PEI/RP300-97", Chapter 8. This test procedure is hereby incorporated by reference.
 - C. For assist systems, an Air to Liquid Volume Ratio Test conducted in accordance with the procedures in "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites, PEI/RP300-97", Chapter 9. This test procedure is hereby incorporated by reference.
 - D. A Vapor Tie Test, conducted in accordance with Test Procedure TP-96-1 of the San Diego Protocol, Revision III dated 3-1-96. This test procedure is hereby incorporated by reference.
 - ii. The following tests shall be performed and passed annually for each Stage II vapor recovery system according to the test procedures stated in paragraph (d)(1)(i) of this Section:
 - A. A Pressure Decay/Leak Test.
 - B. For Balance Systems, A Dynamic Backpressure and Liquid Blockage Test.
 - C. For Assist Systems, An Air to Liquid Volume Ratio Test.
 - iii. Any additional testing(s) required by the Department or the manufacturer shall be carried out according to the schedule stated in any permit issued pursuant to Regulation No. 2.

2. The Department may require the performance of any of the tests identified in paragraph (d)(1) of this Section at anytime at the owner's expense.
3. Written notification shall be submitted to the Department not less than ten (10) working days prior to the performance of any compliance test, unless approval by the Department is granted to the contrary.
4. The owner and/or operator and test contractor shall report all test failures to the Department within twenty-four (24) hours of the failure.
5. The owner and/or operator shall submit the following to the Department within thirty (30) days of the test date:
 - i. the actual test date; and
 - ii. the installing and/or testing companies' name(s), address (es), and phone number(s); and
 - iii. if any corrective action was performed pursuant to paragraph (f)(4)(ii) then submit all information specified in (f)(4).

e. Recordkeeping and Reporting

1. The owner and/or operator of a gasoline dispensing facility subject to the requirements of this Section shall keep on the facility premises and in a form acceptable to the Department, all of the following information. This information shall be retained for at least three (3) years from the date of record and shall be made immediately available to the Department upon request.
 - i. Permits and Applications. Copies of the Stage I and Stage II System permit applications and the current Construction/Operation Permits shall be permanently maintained.
 - ii. Installation and Testing Results. The test results shall be dated, and shall note the installing and test companies' names, addresses, and phone numbers. These records shall be kept on file until they are replaced with new test results verifying proper functioning of the Stage II system.
 - iii. Maintenance Records. Any maintenance conducted on any part of the Stage II vapor recovery system shall be logged on a maintenance record. This maintenance record shall include a general part description, the date repaired or replaced, the replacement part manufacturer's information, and a description of the problem and solution.

- iv. Inspection Records. A file shall be maintained of all daily inspection reports including records of daily self-inspections, and any third party inspection records.
- v. Compliance Records. A file shall be maintained of all compliance records. This record shall include:
 - A. Any warning letters and notices of violations issued by the Department to the facility.
 - B. Proof of attendance and completion of a training program for each person trained in accordance with paragraph (c)(2)(ii). This does not apply to the records of an employee who is no longer in service for at least one (1) year.
- 2. Any gasoline dispensing facility exempted from the requirements of this Section pursuant to paragraph (a)(1)(i) of this Section shall maintain records of monthly throughput, and shall furnish these records to the Department upon request. These records shall be maintained on file for a minimum of three years from the date of record.
- 3. The owner and/or operator of any facility containing sources subject to this Section shall comply with the requirements of Section 5 of this regulation.

f. Compliance Testing Company Requirements

- 1. Any owner and/or operator of any company that performs Stage II compliance testing within the State of Delaware shall submit all of the following information to the Department, prior to performing any Stage II compliance testing within the State of Delaware:
 - i. The name and business mailing address of the Stage compliance testing company owner and/or operator;
 - ii. The address and telephone number of the facility (ies) from which the daily compliance testing activities of the compliance testing company originate;
 - iii. A written description of the employee training systems in place at the compliance testing company to ensure required compliance tests are performed in accordance with applicable protocols and procedures.
 - iv. Certification by an individual who is a responsible and trained representative of the compliance testing company containing the following language verbatim:
 - A. I certify that I personally examined and am familiar with the information contained in this document and all the attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am

aware that there are significant penalties for submitting false information, including possible fines and imprisonment; and

- B. Employee training systems are in place at the company to ensure Stage II compliance tests are performed in accordance with all applicable protocols and procedures; and
- C. I am fully authorized to make this attestation on behalf of this Stage II Compliance Testing Company.

2. Any company subject to the requirements of paragraph (f) of this section shall notify the Department in writing of any change to any information submitted to the Department within 14 days of the effective date of such change.

3. No person subject to the requirements of paragraph (f) of this Section shall perform any Stage II compliance test unless said person has first been trained in accordance to applicable compliance test protocols and procedures.

4. Any person subject to paragraph (f) of this Section shall certify to the owner and/or operator of the gasoline dispensing facility that each compliance test performed to meet the requirements of this section was performed in accordance with paragraph (d) of this Section. Certification shall include:

- i. The date each compliance test was first performed and the test results; and
- ii. An itemized list of all corrective action performed on the Stage II system. This list shall include, but not be limited to, component re-installation, tightening, repair or replacement, as necessary, for the system to pass the applicable test(s); and
- iii. The date each compliance test was performed and passed; and
- iv. Certification by a responsible and trained representative(s) of the compliance testing company containing the following language verbatim:

A. I certify that I personally examined and am familiar with the information contained in this document and all the attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment; and

- B. I am fully authorized to make this attestation on behalf of this Stage II Compliance Testing Company.

g. Approved Stage II Vapor Recovery Systems

The following California Air Resources Board (CARB) executive orders are hereby adopted by reference.

Number & Date	Description
G-70-7-AD (03/22/93)	Certification of the Hasstech Model VCP-2 and VCP 2A Phase II Vapor Recovery System.
G-70-14-AA (02/08/83)	Recertification of Red Jacket Aspirator Assist Phase II Vapor Recovery System.
G-70-17-AD (05/06/93)	Modification of Certification of the Emco Wheaton Balance Phase II Vapor Recovery System.
G-70-18-C (08/28/79)	Modification of Certification of the Shell Model 75B1 and 75B1-R3 Service Station Phase II Vapor Recovery System.
G-70-23-AC (04/29/96)	Recertification of the Exxon Balance Phase II Vapor Recovery System.
G-70-25-AA (02/08/83)	Recertification of the Atlantic Richfield Balance Phase II Vapor Recovery System.
G-70-33-AB (03/09/84)	Certification of the Modified Hirt VCS-200 Vacuum Assist Phase II Vapor Recovery System.
G-70-36-AD (09/18/92)	Modification of Certification of the OPW Balance Phase II Vapor Recovery System.
G-70-37-B (01/22/80)	Modification of the Certification of the Chevron Balance Phase II Vapor Recovery System with OPW nozzles for Service.
G-70-38-AB (12/19/90)	Recertification of the Texaco Balance Phase II Vapor Recovery System.

G-70-48-AA (02/08/83)	Recertification of the Mobil Oil Balance Phase II Vapor Recovery System.
G-70-49-AA (02/08/83)	Recertification of the Union Balance Phase II Vapor Recovery System.
G-70-52-AM (10/04/91)	Certification of Components for Red Jacket, Hirt and Balance Phase II Vapor Recovery System.
G-70-53-AA (02/08/83)	Recertification of the Chevron Balance Phase II Vapor Recovery System.
G-70-70-AC (06/23/92)	Certification of the Healy Phase II Vapor Recovery System of Service Stations.
Number & Date	Description
G-70-77 (09/15/82)	Certification of the OPW Repair/Replacement Parts and Modification of the Certification of the OPW Balance Phase II Vapor Recovery System.
G-70-78 (05/20/83)	Certification of the E-Z Flo Nozzle Company Rebuilt Vapor Recovery Nozzles and Vapor Recovery Components.
G-70-101-B (11/15/85)	Certification of the E-Z Flo Model 3006 and 3007 Vapor Recovery Nozzles and Use of E-Z Flo Components with OPW Models 11VC and 11 VE Vapor Recovery Nozzles.
G-70-107 (05/15/86)	Certification of Rainbow Petroleum Products Model RA3003, RA3005, RA3006 and RA3007 Vapor Recovery Nozzles and Vapor Recovery Components.
G-70-110 (01/20/87)	Certification of Stage I and II Vapor Recovery Systems for Methanol Fueling Facilities.
G-70-118-AB (03/31/95)	Certification of Amoco V-1 Vapor Recovery System.
G-70-125-AA (03/16/93)	Modification of the Certification of the Husky Model V Phase II Balance Vapor Recovery Nozzle.

G-70-127 (08/16/90)	Certification of the OPW Model 111-V Phase Vapor Recovery Nozzle.
G-70-134 (12/21/90)	Certification of the EZ Flo Rebuilt A-4000 Series and 11V-Series Vapor Recovery System.
G-70-139 (03/17/92)	Addition to the Certification of the Hirt Model VCS-200 Phase II Vapor Recovery System.
G-70-150-AE (07/12/00)	Modification of the Certification of the Gilbarco VaporVac Phase II Vapor Recovery System.
G-70-153-AD (04/03/00)	Modification to the Certification of the Dresser/Wayne WayneVac Phase II Vapor Recovery System.
G-70-154-AA (06/10/97)	Modification to the Certification of the Tokheim MaxVac Phase II Vapor Recovery System.
G-70-159-AB (07/17/95)	Modifiacion of the Certification of the Saber Nozzle for Use with the Gilbarco VaporVac Phase II Vapor Recovery System.
G-70-163-AA (09/04/96)	Certification of the OPW VaporEZ Phase II Vapor Recovery System.
G-70-164-AA (12/10/96)	Modification to the Certification of the Hasstech VCP-3A Vacuum Assist Phase II Vapor Recovery System.
G-70-165 (04/20/95)	Healy Vacuum Assist Phase II Vapor Recovery System.
G-70-169-AA (08/11/97)	Modification to the Certification of the Franklin Electric INTELLIVAC Phase II Vapor Recovery System.
G-70-170 (02/22/96)	Certification of the EZ-flo Rebuilt 5005 and 5015 for use with the Balance Phase II Vapor Recovery System.
G-70-177-AA (06/22/00)	Certification of the VCS400-7 Vacuum Assist Phase II Vapor Recovery System.

G-70-179 (07/02/97)	Certification of the Catlow ICVN-V1 Vacuum Assist Phase II Vapor Recovery System.
G-70-180 (04/17/97)	Order Revoking Certification of the Healy Phase II Vapor Recovery Systems for Gasoline Dispensing Systems.
G-70-183 (03/04/98)	Certification of the Healy/Franklin Vacuum Assist Phase II Vapor Recovery System.
G-70-186 (10/26/98)	Certification of the Healy Model 400 ORVR Vapor Recovery System.
G-70-188 (05/18/99)	Certification of the Catlow ICVN Vapor Recovery Nozzle System for use with the Gilbarco VaporVac Vapor Recovery System.
G-70-191 (08/08/99)	Healy/Franklin VP-1000 Vapor Pump Phase II Vapor Recovery System (Healy ORVR Phase II Vapor Recovery System).
G-70-196 (12/30/00)	Certification of the Saber Technologies, LLC SaberVac VR Phase II Vapor Recovery System.