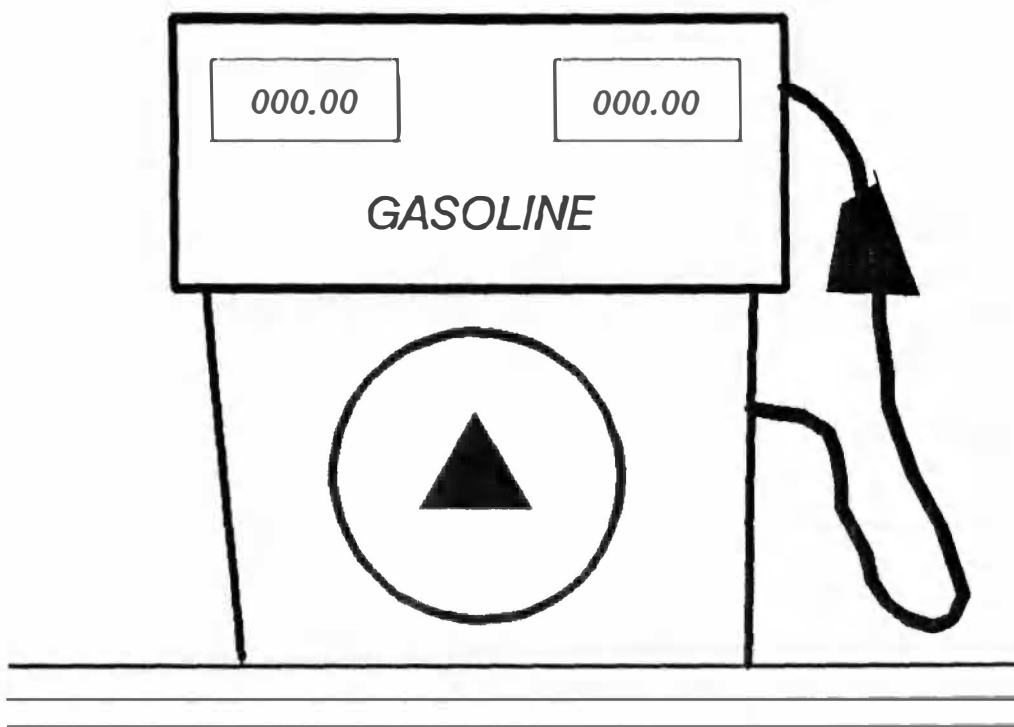


# **EPA ENFORCEMENT GUIDANCE FOR STAGE II VEHICLE REFUELING CONTROL PROGRAMS**



OFFICE OF MOBILE SOURCES

**ENFORCEMENT GUIDANCE**  
**FOR**  
**STAGE II**  
**VEHICLE REFUELING CONTROL PROGRAMS**

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## **ENFORCEMENT GUIDANCE FOR STAGE II VEHICLE REFUELING CONTROL PROGRAMS**

### **1.0 INTRODUCTION**

#### **1.1 HISTORY AND PURPOSE OF STAGE II VAPOR CONTROLS**

Gasoline dispensing pump vapor control devices, commonly referred to as Stage II Vapor Recovery Control (Stage II), are systems that were developed to control volatile organic compound (VOC) vapor releases during the refueling process of motor vehicles. This process takes the vapors normally emitted directly into the atmosphere during refueling and recycles them back into the fuel storage tanks, thereby preventing their escape into the atmosphere. The Stage II system controls the release of VOCs, benzene and toxics emitted from gasoline.

Provisions for providing for control of gasoline vapors during the fueling of motor vehicles first appeared in an October 1975 Federal Register notice and several other subsequent notices, which discussed Stage II implementation as a control strategy in the nations worst nonattainment areas. In the Clean Air Act Amendments (CAAA) of 1977, Section 202(a)(5)(A) stated that if regulations were promulgated by the Administrator, provisions for vapor control were to require specific vehicle fill area specifications for adaptability for Stage II controls. A determination of the feasibility and desirability of vehicle based refueling vapor control systems, commonly referred to as onboard controls, was also provided in the 1977 Amendments. Regulations were never promulgated under the 1977 CAAA.

Stage II technology was first introduced in San Diego, California in 1974. Since the implementation of this program, sixteen others areas that were classified as nonattainment for ozone in California implemented Stage II control programs. Most of these programs have been in operation for approximately ten years. California recently implemented control programs statewide in an effort to control benzene emissions.

There are other areas in the country that have implemented Stage II programs. The District of Columbia implemented a control program in the early 1980's. St. Louis, Missouri implemented a Stage II program in the mid 1980's. The New York City metropolitan area and the State of New Jersey phased in programs in the late 1980's. Massachusetts, Pennsylvania, Dade County, Florida and some other state and local agencies have, or are in the process of, adopting provisions for Stage II programs.

On November 15, 1990, Congress passed the Clean Air Act Amendments of 1990, Pub. L. 101 - 549 (codified at 42 U.S.C. §§7401-7601q) which contain provisions that require additional control programs. Section 182(b)(3) of the Act requires that all areas which are classified as moderate to extreme for ozone nonattainment implement a Stage II vapor recovery program as a control measure. Section 202(a)(6) of the amended Act requires the Environmental Protection Agency (EPA), "after consultation with the Secretary of Transportation regarding the safety of vehicle-based ('onboard') systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year

which the standards are promulgated and thereafter shall be equipped with such systems." Each of these sections and the provisions contained within them may affect the status of a state's requirement to implement a program and every state should consider each situation independently in preparing their state plan submittal.

In Section 182, the Act mandates the issuance of "guidance as appropriate, as to the effectiveness of such (Stage II) system." Two documents were prepared to respond to this mandate. A report detailing technical information on Stage II systems was prepared by EPA's Office of Air Quality Planning and Standards. That report is entitled Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities (Technical Guidance). This document, Enforcement Guidance for Stage II Vehicle Refueling Control Programs has been developed to assure these programs attain the emissions reductions they are designed to achieve.

The minimum criteria and specific requirements in this document have been modified to take into account comments received on the May 29, 1991 preliminary draft.

## **1.2 SYNOPSIS OF STAGE II GUIDANCE**

This guidance establishes the minimum requirements for program enforcement and oversight. The guidance is divided into five areas. Each Stage II program should contain provisions for meeting or exceeding these criteria.

A successful Stage II program begins by providing information for public awareness and effective training for the regulated industry and the program oversight personnel. Successful implementation and oversight also entails identification of the regulated parties as well as ongoing monitoring of the all program operations through data analysis and other compliance monitoring mechanisms. The most important criterion for effective implementation and oversight of a Stage II program is establishment of an effective enforcement program to deter or eliminate violations which compromise the program. This guidance provides for specific implementation criteria in each of these areas.

This document provides EPA's guidance to states regarding oversight and enforcement of Stage II gasoline vapor refueling control programs at refueling facilities. This guidance is a general statement of policy. It does not establish a binding norm and is not finally determinative of the issues addressed. Agency decisions in any particular case will be made applying the law, applicable regulations and guidelines on the basis of specific facts and actual action.

EPA has assumed that Stage II programs which comply with these criteria will be 95% effective. States implementing Stage II programs which do not meet the criteria as set forth in this document must demonstrate why a less effective program was selected and whether a lesser level of effectiveness would be appropriate. However, since many areas have demonstrated that a program achieving 95% recovery is economically and technically feasible, the Agency does not anticipate approval of programs that are not 95% effective.

## **2.0 STAGE II IMPLEMENTATION REQUIREMENTS**

### **2.1 GENERAL**

All States having areas that are designated under the National Ambient Air Quality Standards (NAAQS) as nonattainment for ozone and further are classified moderate to extreme, in accordance with the CAAA requirements of 1990 section 182(b)(3)(a), are required to implement a Stage II vapor control program. However, section 202(a)(6) requires that: "Within 1 year after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall, after consultation with the Secretary of Transportation regarding the safety of vehicle-based ('onboard') systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year which the standards are promulgated and thereafter shall be equipped with such systems." In addition, section 202(a)(6) states: "The requirements of section 182(b)(3) [relating to stage II gasoline vapor recovery] for areas classified under section 181 as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 182(b)(3) for areas classified under section 181 as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet."

### **3.0 SPECIFICS**

#### **3.1 PARTIES REGULATED UNDER THE CAA GASOLINE VAPOR RECOVERY GENERAL RULE OF SECTION 182 (B)(3)**

All gasoline dispensing facilities that dispense greater than 10,000 gallons per month (50,000 gallons per month in the case of an independent small business marketer) are subject to Stage II requirements. An independent small business marketer is defined in section 324 of the Clean Air Act. There are four exemptions mentioned in the section concerning independent small business marketers. EPA will be issuing policy statements interpreting the four exemptions. Until EPA issues a formal interpretation, states should realize that Congress intended that those small businesses that are refiners, controlled by refiners, or affiliated with refiners (by more than just a trademark or symbol) not be exempt from the Stage II program.

#### **3.2 DETERMINATION OF REGULATED FACILITIES**

A gasoline dispensing facility's responsibility for installing Stage II is based on the average volume of product dispensed per month. A facility that dispenses more than 10,000 gallons per month must install Stage II controls. If a gasoline dispensing facility is classified as an independent small business marketer, the State may establish a cut-point as high as 50,000 gallons per month. The criteria which mandates the installation of Stage II equipment under the CAA is determined by calculating the average volume of product dispensed per month for the 2 year period preceding the adoption date of the requirement by the state.

However, each state may establish different cut-points so long as they are as stringent or more stringent than those required by the statute. If a gasoline dispensing facility was inactive for any period during the 2 year calculation period, the period should be extended to include a total of twenty four months of activity, or the state should use the months of actual operation to calculate the facility's average gallons per month.

### **3.3 DATES FOR INSTALLATION OF STAGE II CONTROLS AT REGULATED FACILITIES**

Section 182(b)(3)(B) of The Act establishes three deadlines for installation and use of Stage II controls, once the state adopts the Stage II requirement:

- (a) Facilities<sup>1</sup> which begin construction after November 15, 1990 must comply with Stage II requirements within 6 months after the state adopts Stage II.
- (b) Facilities which dispense 100,000 gallons or more of gasoline per month must comply within 1 year after state adoption.
- (c) All other facilities must comply, in accordance with the Acts requirements, within 2 years after adoption.

These are statutorily required dates for installation of Stage II controls. However, the state has discretion to alter these dates so long as the deadlines are not less stringent.

In addition, for independent small business marketers (ISBMs) states can also choose to opt for a three-year phase in period. The ISBMs schedule, according to section 324 is:

- (1) 33 percent of such outlets must be in compliance at the end of the first year after state adoption,
- (2) 66 percent at the end of the second year after state adoption, and
- (3) 100 percent by the end of the third year after state adoption.

For ISBMs, the State may elect to follow the general schedule in Section 182(b)(3)(B), the optional schedule in Section 324, or any schedule that is not less stringent.

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<sup>1</sup> Facility (facilities) - Hereinafter the term facility will be used to refer to a gasoline dispensing facility (facilities).



#### **4.0 PROGRAM EMISSION REDUCTION DESIGN REQUIREMENTS**

##### **4.1 CONTROL SYSTEM DESIGN REQUIREMENTS**

The control system minimum efficiency design requirements are contained as part of the General Preamble of Title I. The states that have installed and are operating Stage II controls have demonstrated that 95 percent control of VOC emissions is practicable. Therefore, EPA does not anticipate approval of a state requirement that would achieve less than 95 percent control. As an alternative to testing each facility for 95 percent control effectiveness, states may require installed Stage II systems to be certified to achieve at least 95 percent control by either the California Air Resources Board (CARB), or by using CARB test procedures and methods or equivalent test procedures and methods developed by the state and submitted as part of the SIP.

##### **4.2 SYSTEM CERTIFICATION REQUIREMENTS**

- (a) An approved system should be tested and certified as meeting a minimum of 95% emission reduction efficiency by one of the three criteria established in section 4.2 (b). In addition to requiring installation of an approved certified system, the installation and operations of each facility's systems should be tested in accordance with the requirements specified in Sections 8.2.1 and 8.2.2.
- (b) For EPA to accept a Stage II Program in the SIP submittal process, the approved system(s) must demonstrate 95% minimum efficiency either by:
  - (1) being tested and approved by California's Air Resources Board (CARB) past, current or future recognized testing methods, or
  - (2) be an equivalent testing program adopted by the state, conducted by the Program Oversight Agency (POA)<sup>2</sup> or by a third party recognized by the POA and submitted and recognized by EPA in the SIP, or
  - (3) be an approved CARB system.

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<sup>2</sup> Program Oversight Agency (POA) - The POA is the state agency, or an agency or other representative that has been delegated the responsibility by the state, to oversee implementation and operation of the program and to enforce the requirements of the program. If the program is delegated to some other authority, the state has the responsibility of assuring the other authority is effectively overseeing and enforcing the program.

## **5.0 ENFORCEMENT PROGRAM MINIMUM CRITERIA**

### **5.1 GENERAL**

Each Stage II program should meet or exceed the criteria established in this guidance document. The five areas of program guidance are noted and defined below. The Stage II Program should contain provision for:

- (a) **TRAINING AND PUBLIC EDUCATION PROGRAMS.**
- (b) **A METHOD TO DETERMINE WHICH FACILITIES COMPRISE THE REGULATED UNIVERSE.**
- (c) **DATA COLLECTION AND REVIEW TO MONITOR COMPLIANCE AMONG REGULATED FACILITIES.**
- (d) **PERIODIC INSPECTION OF REGULATED FACILITIES TO INSURE COMPLIANCE WITH PROGRAM REQUIREMENTS.**
- (e) **A METHOD TO ENSURE REGULATED FACILITY COMPLIANCE WITH PROGRAM REQUIREMENTS THROUGH ENFORCEMENT MECHANISMS.**

The following section generally defines these criteria.

### **5.2 STAGE II ENFORCEMENT GUIDANCE PROGRAM CRITERIA**

#### **(a) TRAINING AND PUBLIC EDUCATION**

1. The Program Oversight Agency (POA) should develop and implement an effective training program for its inspectors. The training should include, at minimum, instruction in all program requirements and inspection procedures (visual and functional inspection practices and testing methods) and a written and practical test to verify proficiency with the information and procedures.

2. The POA should require that all manufacturers of equipment used in a Stage II system provide training on the operation and maintenance requirements for that equipment or the POA should provide training or authorize an educational institution to provide training on the equipment. A facility representative (an owner, facility manager or designated employee) should attend this training for the Stage II equipment that they select for installation on their facility premises. Verification, such as a certificate of attendance of the training, should be obtained by the attendee within three months of the initiation of operations of the facility equipment and be maintained on the facility premises. The facility representative that completed the training is then responsible for informing all facility employees about the equipment operation and maintenance.

3. The POA should develop and distribute to all regulated facilities written information regarding the purpose and benefits of a Stage II program. The information should also include enforcement consequences for non-compliance with program requirements. The information should be conveyed in terms easily understood by the owners and operators of the regulated facilities, their employees and by the general public.

4. The POA should develop information on the Stage II program purpose, benefits and requirements and make that information available for public distribution.

**(b) A METHOD TO DETERMINE WHICH FACILITIES COMPRISE THE REGULATED UNIVERSE**

The Clean Air Act, as amended in 1990, sets out the sources which, at a minimum, must be subject to the Stage II requirements. However, the States have authority to change those requirements as long as the statutorily required gasoline dispensing facilities are covered. Hence, the POA must establish a method to accurately determine which facilities must comply with the Stage II program requirements.

**(c) DATA COLLECTION TO MONITOR COMPLIANCE AMONG REGULATED FACILITIES**

The POA should verify compliance by regulated facilities by insuring through data collection, as well as inspections, that the facilities have installed the required equipment, that the equipment has been tested and proved to be functional and that the equipment is properly maintained and updated in accordance with the program requirements. This can be accomplished through collection of data such as applications, permits or other documents and through inspections.

**(d) PERIODIC INSPECTIONS OF REGULATED FACILITIES TO INSURE COMPLIANCE WITH PROGRAM REQUIREMENTS**

The POA should verify compliance among regulated facilities by conducting a minimum of 1 compliance inspection per facility per year with mandatory follow-up at stations with violations. The compliance inspection should consist of visual verification of all necessary paperwork, labels, public information and Stage I and II equipment. Stage I equipment is interrelated with the operational effectiveness of the Stage II systems. If the Stage I equipment on the facility premises is disabled or malfunctioning, emissions captured through the Stage II equipment may be released. Inspection of the Stage I seals and covers should be included as part of the Stage II inspection process. Therefore, verification of the presence of the Stage I equipment at the facility is a vital part of the inspection. A visual inspection for all mandatory labels and Stage II system parts should be conducted on all gasoline dispensing pumps. The compliance inspection should also consist of a determination of whether each facility's Stage II system is operating properly. Functional tests should be conducted at regulated facilities in accordance with the schedule for testing facility equipment as established in this document. If inspection results indicate a potential problem, more intensive system analysis should be initiated for problem identification. If

there is a problem with the equipment, it should be corrected before operation can be continued.

**(e) A METHOD TO ASSURE REGULATED FACILITY COMPLIANCE WITH PROGRAM REQUIREMENTS THROUGH ENFORCEMENT MECHANISMS**

The POA should develop a penalty schedule which establishes appropriate penalties for facilities violating the Stage II requirements. These penalties may include administrative, civil and criminal penalties that will deter or eliminate non-compliance with the Stage II requirements. The enforcement process should include provisions for warnings, notices of violations, cease and desist orders, monetary penalties, and revocation or suspension of a facility's license to operate. The penalty schedule should account for severity of the violation, intent, frequency of violations, and other aspects affecting the penalty. The penalties that are established should ensure recovery of any economic benefit associated with the violation, plus recoup an additional amount which serves as a deterrent to regulated parties. The policy should also recognize that penalty assessment should provide for fair and equitable treatment of the regulated community and for swift resolution of environmental problems.

**SPECIFIC PROGRAM CRITERIA**

**6.0 TRAINING AND PUBLIC EDUCATION**

**GENERAL**

As established in section 5.1(a), the POA should develop and implement an effective training and testing program for its inspectors which will provide for and demonstrate knowledge and proficiency of all Stage II program requirements and procedures. Also, the owners and operators of the equipment should be trained in the operation and maintenance of their facility's Stage II equipment. The owners and operators should be held responsible for the proper operation and maintenance of the facility equipment by all parties authorized to operate the equipment, including the general public.

**6.1 POA TRAINING AND TESTING REQUIREMENTS FOR POA INSPECTORS**

The training of POA personnel is vital to an effective control program. All POA inspectors should be able to understand and implement all programmatic requirements. A thorough training program should be designed and implemented. The training program should cover, at a minimum, the following subject areas:

- (a) Purposes and effects of Stage II vapor control programs,
- (b) System types, parts, operations and functions,

- (c) **Inspection requirements, both procedures and practices,**
- (d) **Identification techniques of system and equipment failures, both visual and functional,**
- (e) **Record review and recording procedures,**
- (f) **Enforcement procedures including issuance of warnings, NOV's, hearing testimony, and other enforcement procedures.**

**All POA inspectors should attend training sessions and demonstrate their knowledge and proficiency with all areas required in this section. The training program should consist of at least 40 hours of training that includes both classroom and practical field training. A written and practical test should be developed and administered during the training process. The POA should ensure that the established passing score accurately demonstrates that the trainee has the knowledge and proficiency to be an effective inspector. The criteria for this training and testing should be specified in the state SIP submittal. If substantial advances in system/equipment technology is made, periodic retraining of all POA inspectors should be conducted in order to educate the POA personnel on any new inspection practices, policies and procedures. Training institutions can be utilized for training purposes, however training should be developed and approved under the POA's guidance. The POA may also elect to conduct the training "in-house".**

## **6.2 FACILITY OWNER/OPERATOR TRAINING ON STAGE II EQUIPMENT**

**At least one owner/operator from each facility should receive training in the categories listed in this section. For each person who receives training, a certificate or other proof of training must be required. Training should include, but need not be limited to, the following areas:**

- (a) **Purposes and effects of the Stage II vapor control program,**
- (b) **Equipment operation and function specific to their facility's system,**
- (c) **Maintenance schedules and requirements for the facility's equipment,**
- (d) **Equipment warranties,**
- (e) **Equipment manufacturer contacts (names, addresses and phone numbers) for parts and service.**

**Acceptable forms of training can include either equipment manufacturer's seminars, POA training sessions or other arrangements determined to be effective. The POA should either develop and provide this training or accept equipment manufacturer seminar/training with proof of attendance or completion. If manufacturer provided training is accepted, it should be evaluated and confirmed to include the minimum training requirements specified in the**

**SIP. The POA should monitor any and all training to evaluate its effectiveness and require updated training when significant changes in equipment or program requirements occur. It is the responsibility of the facility owner/operator to ensure that at least one facility representative attend this training and to make every current and future facility employee aware of the purposes of the equipment and the correct operating procedures. The facility representative should attend the required training within three months of the initiation of operation of the facility equipment. However, it is suggested that the facility representative obtain the training prior to the initiation of operation of the system. If the facility representative who received the initial training/certificate leaves that facility, another facility representative must take and successfully complete the training and maintain the certificate on the facility premises.**

### **6.3 POA EDUCATION OF REGULATED FACILITIES**

**The POA should prepare information on the purposes and benefits of Stage II vapor controls and distribute this information to all regulated facilities. The information should include, but is not limited to:**

- (a) The general purposes and benefits (environmental, health, safety, and potential costs savings) of the Stage II vapor control program,**
- (b) The specific program requirements,**
- (c) Potential enforcement consequences for non-compliance,**
- (d) Information on the program oversight agency including office address, phone number and other pertinent information.**

**Posters, signs, pamphlets and other information tools, if properly developed, distributed and displayed, have been found to be very effective tools in educating gasoline dispensing facility employees as well as the public.**

### **6.4 GENERAL PUBLIC EDUCATION**

**The POA should prepare, and make available to the general public, information on the Stage II vapor control program. The information should be easily understood by the general public and include, but need not be limited to the following:**

- (a) The purposes and benefits (environmental, health, safety, and potential cost savings) of the Stage II vapor control program.**
- (b) A general explanation of how Stage II systems function.**
- (c) The correct procedures for operation of Stage II equipment.**

- (d) **Information on the program oversight agency, including office address, phone number and other pertinent information for public inquiry, comments and complaints.**

Provisions for other public education should also be considered. Television, radio, newspapers and other media sources have been effective in providing basic program information to the public, especially during initial program implementation.

## **7.0 DETERMINATION OF THE REGULATED UNIVERSE**

The POA must, in accordance with the Clean Air Act Amendment requirements, which are generally noted in sections 3.1 through 3.4, accurately determine which gasoline dispensing facilities must comply with the Stage II program requirements. Several methods have been utilized to make the determination of which gasoline dispensing facilities may be required to comply with Stage II vapor control program requirements. Each area should determine the most accurate method for determining what comprises the potentially regulated universe. If a regulated facility disagrees with the POA's determination, documentation noting the dispute can be submitted to the POA. The regulated facility should be required to submit information verifying the proposed exempt status. The POA should verify the accuracy of the documents before any final determination is made.

Once all potential facilities are identified, a determination of which facilities meet all of the requirements for mandatory compliance must be made. This determination must be made, at a minimum, in accordance with the size and throughput calculations required in section 3.1 of this document. However, more stringent throughput calculations can be used.

Once this determination is made, a program to accurately track facilities in the regulated universe must be developed and maintained. A facility required to be regulated is a facility that meets all of the requirements, at a minimum, established by section 182(b)(3) of the CAAA of 1990. Once a facility is part of the regulated universe, the facility should be required to maintain the Stage II equipment.

States may choose to require that all facilities dispensing gasoline install and operate Stage II controls. A provision for states to adopt and enforce more stringent requirements with respect to independent small business marketers of gasoline is included in section 324(b) of the CAA. This section provides that the Administrator may approve state Stage II programs which require compliance by gasoline dispensing facilities with monthly sales volumes less than what the Clean Air Act stipulates. The state should closely evaluate not only the environmental consequences of adopting more stringent controls but should also consider the potential impact on the regulated industry and the POA oversight capabilities.

## **8.0 PROGRAM COMPLIANCE MONITORING**

### **8.1 VERIFICATION OF FACILITY COMPLIANCE THROUGH RECORD KEEPING**

#### **8.1.1 REQUIREMENTS FOR REGULATED FACILITIES**

The POA should track facility compliance by requiring that regulated facilities maintain various types of records. The POA is responsible for developing and distributing these forms prior to the facility coming under the program's oversight and updating these record keeping forms. All regulated facilities should be required to apply for all necessary permits, licenses, or records required to be maintained by the POA. The records should be required to be kept on the facility premises in an easily accessible location for review by the POA officials. The records should be accurate and up to date and be maintained in accordance with the following criteria:

##### **(a) PERMITTING RECORDS**

Any and all permits to operate a facility or a specific system at a facility should be required to be current and be available for review at the facility during a facility inspection.

##### **(b) STATION OPERATING LICENSE**

Any and all licenses to operate a facility or a specific system at a facility should be required to be current and available for review at the facility during a facility inspection.

##### **(c) SYSTEM INSTALLATION AND TESTING RESULTS**

All facilities should be required to verify that the Stage II system meets or exceeds the requirements of a Liquid Blockage Test or Leakage Test, as discussed in section 8.2.1 and 8.2.2 and as described in section 8.4.2 (b), or other applicable tests specific to a Stage II system. The test results should be dated and should note the installing and test companies' names, addresses and phone numbers.

##### **(d) STAGE II SYSTEM MAINTENANCE RECORDS**

Any maintenance conducted on any part of a regulated facility's system should be required to be logged on a maintenance record. This record should be maintained on the facility premises. This maintenance record should include a general part description, the date repaired or replaced, the replacement part manufacturer's information, a general description of the part location in the system (i.e. pump number etc.) and a description of the problem. The POA should develop and make available to all regulated facilities, maintenance recording forms for tracking this information.



**(e) INSPECTION RECORDS**

The regulated facility should be required to maintain on the facility premises, a file of all inspection reports issued by the POA. The file should be organized chronologically.

**(f) COMPLIANCE RECORDS**

The regulated facility should be required to maintain on the facility premises a file of all compliance records including warnings, notices of violations, and other compliance records issued by the POA to the regulated facility. The file should be maintained separate from the inspection file and be organized chronologically.

**(g) TRAINING CERTIFICATION**

The regulated facility should be required to maintain on the facility premises proof of attendance and completion of the training specified in the SIP (in accordance with section 6.2).

**8.1.2 POA RECORD KEEPING REQUIREMENTS**

The POA should develop and update as required, accurate, up-to-date records and files of all facility and program related information including, but not limited to:

(a) A General Station File which should include the following information; the facility name, address, phone number, owner and operator names, a POA assigned reference number, the date of initial compliance with implementation requirements and the Stage II system type information. Other station specific information, such as the number of pumps, could be included at the POA's discretion.

(b) A Station Inspection Report File which should be filed by assigned reference number and/or alphabetically. The reports should be maintained in chronological order. Each inspection report must include the date of the inspection, the POA inspectors' name, number and signature, any findings such as equipment failures, follow-up action to be performed, a notation of any violations, and a signature from the facility owner or operator. Other information may be included at the discretion of the POA.

(c) A Station Enforcement File which includes any related documents issued to the regulated facility such as warnings, NOVs, hearing summaries, suspensions and revocations of permits to operate and/or construct, and penalties assessed and collected. The reports should be maintained in chronological order.

File information can be computerized if the POA chooses to use such a system. This will enable the POA to reference material quickly and expedite their procedures. Hard copy files should also be maintained for original, signed forms and for other information which is unable to be stored in the computer filing system.

## **8.2 FACILITY EQUIPMENT REQUIREMENTS FOR INSTALLATION AND TESTING**

### **8.2.1 INFRASTRUCTURE SYSTEM EQUIPMENT**

All underground plumbing, pumps, vents and other underground equipment specific to a vapor recovery system must comply with any and all system-related certification requirements, all other state, local and federal guidelines pertaining to Stage II and any other regulations, guidelines or requirements which affect the regulated facility's business operations, including Stage I requirements.

The regulated facility should also verify proper installation and function of the equipment. The POA should require that all installation and/or testing businesses meet certain minimum criteria to conduct any tests required for verification of equipment compliance. Verification of proper installation and function should be conducted by either the POA or an installation company or another business meeting the minimum criteria established by the POA to conduct such tests. The POA may elect, for verification purposes, to accept a registered professional engineer's seal of approval as one method of verifying proper installation and function. Mandatory Liquid Blockage testing and a Leak Test should be required on systems when applicable to such systems. Testing should be encouraged in order to verify proper installation of the infrastructure plumbing before the above ground equipment is installed. Testing should be required to be conducted once all of the equipment is in operational condition at the gasoline dispensing pumps, verifying proper installation and function of the entire system. If the POA does not elect to conduct the initially required testing, the regulated facility should be required to notify the POA, at least two days in advance of the testing, when the testing will occur and what party will conduct the testing.

In addition, each facility should be required to recertify the function of the Stage II equipment at least every five years or upon major system replacement or modification or which ever occurs first. This recertification requires a Leak Test (on applicable systems) as noted in section 8.4.2(b) or other tests necessary to assure compliance on other system types, and any and all other functional tests that are required for the initial system certification. A major system modification should be considered to be replacing, repairing or upgrading 75% or more of the facility's Stage II equipment.

### **8.2.2 ABOVE GROUND SYSTEM EQUIPMENT**

All equipment must meet the requirements for a certified system. The above-ground equipment must be compatible with the infrastructure equipment and be tested for proper installation and function. Applicable tests should be conducted on each system verifying proper installation and operation of the equipment before licensing or permitting can occur. Test methods should include, but not be limited to, Leak Tests, Liquid Blockage testing and a test of nozzle auto shut-off mechanisms and flow prohibiting mechanisms (if equipment is designed with the device or devices) to determine if the mechanisms are

operating properly. The testing on the above-ground equipment should only be conducted when the equipment is fully installed and ready for operation.

All new programs should consult with any implementation information and guidance referenced in the Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities and any other policy or guidance issued by the EPA regarding the implementation of Stage II programs.

Because Stage II technology will continue to improve in the areas of efficiency, durability and ease of use, POA's should encourage existing facilities, conducting substantial repairs or replacements, to upgrade the facility equipment. Reducing life-cycle costs, increasing operational efficiency and increasing employee and customer satisfaction are incentives that should be considered for upgrading facility equipment.

Retrofitting certified equipment with non-certified parts, rebuilt parts, or aftermarket non-original equipment manufacturer (OEM) parts should be prohibited unless the aftermarket parts manufacturer or re-manufacturer demonstrates that the replacement part does not degrade the system's original efficiency or durability. The POA should establish a mechanism for testing and/or approving aftermarket or rebuilt replacement parts before substitutions of OEM parts can be approved. Certification or approval mechanisms should consider efficiency, durability and enforcement oversight implications. The POA could consider approval mechanisms that afford reasonable approval costs with assurance that the approved parts do not reduce or degrade the system efficiency or durability. CARB currently tests and approves aftermarket replacement parts and the POA can opt for accepting replacement parts approved by the CARB program.

### **8.3 PROGRAM OVERSIGHT AGENCY EQUIPMENT**

The POA should possess and utilize the equipment necessary to verify compliance by regulated parties. The verification of the proper certified system and verification of proper function should be confirmed through the inspection process. The POA should possess, at a minimum, equipment to accomplish these tasks. The list of necessary equipment includes the following:

- Protective Clothing (gloves/eye protection)
- POA official identification/business cards
- All necessary forms (inspection/compliance)
- All testing apparatus (measuring tools and any other testing kit required to perform functional tests)

## **8.4 REGULATED FACILITY INSPECTIONS**

### **GENERAL REQUIREMENTS**

The POA must conduct a minimum of 1 compliance inspection, per facility per year, with mandatory follow-up at facilities that are found to be in violation. The compliance inspection should consist of the inspection of records, as required in section 8.1, and facility equipment, as required in section 8.2. Functional testing of equipment should also be performed. This section establishes the recommended minimum requirements for the compliance inspections.

#### **8.4.1 REQUIREMENTS FOR INSPECTION OF FACILITY INFRASTRUCTURE BY THE POA**

The POA should reserve the right to conduct facility system testing. If the POA elects to conduct the testing, the requirements of section 8.2.1 will apply as the POA requirements and procedures. If the POA does not elect to conduct the initial testing for system certification, permitting or licensing, then the POA should verify that the facility has complied with all of the requirements of section 8.2.1 through record review of the testing results and through the process of issuing permits or licenses.

#### **8.4.2 REQUIREMENTS FOR INSPECTIONS OF FACILITY ABOVE GROUND EQUIPMENT BY THE POA**

The POA should visually inspect all system equipment and verify that the system installed is the one licensed or permitted for that facility and, that the system in all respects maintains the specific certified configuration. The inspection should consist of a visual inspection of each pump, pump instruction label, nozzle, hose and any attached or related system parts and other Stage II system equipment listed, but not limited to, the equipment noted in section 8.4.2(a). Applicable functional tests should also be conducted on the Stage II equipment to verify compliance and assess program effectiveness. The testing should be conducted according to, but not limited to, the requirements noted in section 8.4.2(b).

##### **(a) VISUAL INSPECTION REQUIREMENTS FOR COMPLIANCE INSPECTIONS**

The visual inspection should include, but not be limited to:

- (1) Verification that all equipment is present and maintains a certified system configuration and is in proper working order. The equipment includes, but is not limited to, nozzles and nozzle parts (faceplate or facecone, bellows, springs, latches, check valves), hoses, hose hangers/retractors, flow limiters, swivels, collection units, control panels, system pumps, processing units, vent pipes and any and all other system-related parts. A list of general violations and equipment-related violations is noted in attachment 3. The list is not inclusive and should be expanded and coordinated with the POA's established penalty schedule.

(2) Verification of the presence of all Stage II instruction labels and signs and program information required in section 5.2 (a) and (d).

(3) Inspection of all files, permits and licenses and verification that the facility has complied with all record keeping requirements. Also, inspect files to ensure that the facility has complied with maintenance requirements and any and all other requirements established in this document.

(4) Observation of the use of the equipment by facility operators and the public to determine if the equipment is functioning properly and/or being operated correctly. These observations should include dispensing units, processors and handling units, and any other systems-related equipment.

(5) Thorough preparation of all inspection report forms and compliance forms when a violation is identified.

(6) All related equipment, such as Stage I equipment, must be checked according to established state, local and federal Stage I inspection procedures and requirements.

**(b) FUNCTIONAL TESTING REQUIREMENTS FOR COMPLIANCE INSPECTIONS**

Functional testing should be conducted by the POA in accordance with the following criteria:

(1) A functional test of the required shut off or flow prohibiting mechanisms should be conducted on any nozzle which is believed to have a problem or if it is believed that the system equipment may not include the required system shut off or flow prohibiting mechanisms. When possible and applicable, close observation of vehicles during the refueling process is allowed to determine some of these functions.

(2) The POA should verify that each facility has complied with the Leak Test (LT) requirements specified in section 8.2.1. Functional Leak Test testing by the POA is not required during the normal annual inspections. The POA retains the option of conducting or requiring the facility to conduct the LT as part of compliance assurance activities.

(3) A Dynamic Backpressure test (DBT) should be conducted at each facility (where the test is applicable to the system), during the annual compliance inspection. The DBT is not required during follow-up inspections unless the test is required to verify that violations have been corrected.

(4) The POA should verify facility compliance with the Liquid Blockage Test (LBT) requirements as specified in section 8.2.1 by reviewing the station records or testing files. Functional LBT testing by the POA is not required but the POA retains the option of conducting the LBT as part of the compliance assurance activities.

The following is a list of functional tests proven effective in the analysis of Stage II systems operation and in determining equipment-related problems.

### **DYNAMIC BACKPRESSURE TEST**

The Dynamic Backpressure test (DBT) is used to quantify the dynamic backpressure in the vapor path from the nozzle to the storage tank. (For a draft example test procedure derived from CARB test procedure specifics, refer to attachment 1). The DBT simulates backpressure created during the vehicle refueling process by passing nitrogen through the system at a constant rate. The system is designed to have a minimum and maximum backpressure and any drop in the pressure indicates a leak in the path while exceeding the maximum indicates a blockage. This test is applicable for all balance or Hirt vacuum assist systems.

### **LEAK TEST**

The Leak Test (LT) procedure is conducted to quantify the vapor tightness of a system. A leak in the system may cause excessive vapor emissions or reduce the system's efficiency. The check requires pressurizing the system to 10 inches water column and allowing the system to decay for several minutes. (For a draft example test procedure derived from CARB test procedure specifics, refer to attachment 2.) This test procedure is applicable to the balance and vacuum assist systems.

### **LIQUID BLOCKAGE TEST**

The Liquid Blockage Test (LBT) is virtually the same test as the DBT except a liquid blockage is introduced into the system. The procedure attempts to create a blockage in the vapor piping by introducing gasoline into the system at the dispenser. After the gasoline has been introduced (enough to create a blockage if the system has any low points) gaseous nitrogen is then introduced at specified flow rate. If sufficient resistance to flow is encountered and the pressure drop exceeds established limits, the conclusion is that there is an unacceptable low point in the piping. If the pressure is measured within the allowable limits, then the system is operating effectively.

## **9.0 PENALTIES**

### **9.1 GENERAL REQUIREMENTS FOR PROGRAM PENALTIES**

As required in section 5.2 (e), the POA should invoke penalties that, at a minimum, ensure compliance with all program requirements. A penalty schedule should be developed to assure this. This schedule of penalties for violations of program requirements should include, but need not be limited to:

- (a) Notices of Violations
- (b) Warnings

- (c) Cease and Desist Orders
- (d) Suspension of license or permit to operate
- (e) Revocation of license or permit to operate
- (f) Monetary fines
- (g) "Red Tagging" Equipment (Prohibiting equipment operation until repair is completed)

Provisions for civil and criminal penalties should also be considered as possible deterrence mechanisms. If the penalties available to the POA do not sufficiently deter violations and non-compliance continues, alternative penalties must be pursued. The state must assure compliance in order to continue to receive the SIP credits provided for by the program.

The Penalty Schedule should account for severity of the violation, intent, frequency of violations, and other factors.

The penalties that are established should ensure recovery of any economic benefit associated with the violation, plus imposition of an additional amount that will serve as a deterrent to regulated parties. The policy should also recognize that penalty assessment should provide for fair and equitable treatment of the regulated community and for swift resolution of environmental problems.

Penalties should be established for, but not be limited to, violations listed in attachment 3. This list is in no way inclusive of all possible violations.

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