

APPENDIX F  
STAGE II PROGRAM SUMMARIES

This appendix is intended to provide brief summaries of several Stage II programs throughout the country. These programs range from areas such as San Diego which has almost 20 years experience with Stage II to areas such as Massachusetts and Dade County, Florida with programs only recently adopted. The following is an outline of the individual program summaries.

STAGE II PROGRAM SUMMARY OUTLINE

- I. Reason for Initiating Program
- II. Major Public Comments
- III. Number of Service Stations
- IV. Regulations
  - A. Exemption levels
  - B. Phase-In/Compliance schedule
- V. Identification of Sources
  - A. Identifying sources
  - B. Contacting Sources
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- VI. Permit application process
- VII. Procedure after permit application received
- VIII. Approved or "certified" systems for that State
- IX. Enforcement
  - A. Number of Inspectors
  - B. Inspector Training
  - C. Frequency of inspections per year

- D. Inspection procedures
- E. Handling of Violations
  
- X. Miscellaneous Aspects of Program
  
- XI. Problems encountered and Suggestions to other Agencies

The programs discussed are as follows:

Long term programs

- San Diego
- Bay Area
- South Coast
- District of Columbia
- St. Louis

Programs in "mid" enforcement stages

- New Jersey
- New York

Programs in initial enforcement stages

- Dade County, FL
- Massachusetts
- Pennsylvania/Philadelphia

#### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: San Diego Air Pollution Control District  
[DRAFT: PENDING DISTRICT REVIEW]  
Address: San Diego, CA  
Telephone: (619) 694-3307  
Stage II Contact: Barney McEntire  
San Diego Air Pollution Control District

#### REASON FOR INITIATING PROGRAM

Stage II controls were implemented for VOC control as the entire San Diego area has been classified as a non-attainment area for the criteria pollutant ozone.

#### MAJOR PUBLIC COMMENTS

#### NUMBER OF SERVICE STATIONS

Stage II affects approximately 1,200 retail and 600 private gasoline dispensing facilities in the San Diego district.

#### REGULATIONS

San Diego Air Pollution Control Rule number 61.4 on the Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks applies to any retail service station where VOC's are dispensed into motor vehicle tanks with a capacity of 260 gallons or more or any non-retail service station where VOC's are dispensed into motor vehicle tanks from any stationary storage tank with a capacity greater than 550 gallons and where more than 2000 gallons of VOC's are transferred into motor vehicle tanks in any calendar month. San Diego has several exemption levels:

- (1) VOC's into motor vehicle fuel tanks from any intermediate refueler provided VOC's are not sold directly from the intermediate refueler; or
- (2) Natural gas or propane when not mixed with any other VOC; or

(3) VOC's into any vehicles performing emergency work necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from imminent exposure to danger or damage.

(4) VOC's from any stationary storage tank that:

(i) Is used primarily in the fueling of aircraft and/or intermediate aircraft refuelers, or boats; or

(ii) Is used exclusively in the filling of tanks with a capacity of 5 gallons (18.93 liters) or less; or

(iii) Is located on the parcel of land on which not more than 2000 gallons (7570 liters) are transferred into motor vehicles during any calendar month, provided that the facility is not a retail service station where:

(A) no stationary storage tank with a capacity of 260 gallons (984 liters) or more is added, installed, or replaced at the facility after March 14, 1989; and

(B) no modification, replacement or repair of any underground liquid VOC piping from the stationary storage tank to the dispensers occurs at the facility after March 14, 1989; and

(C) the retail service station does not exceed a VOC throughput of 480,000 gallons (1817 kiloliters) in any calendar year after March 7, 1990; or

(iv) is located in the desert portion of San Diego County at any dispensing facility other than a retail service station; or

(v) has a capacity of less than 260 gallons (984 liters).

## IDENTIFICATION OF SOURCES

Stage II in San Diego was first implemented in August of 1972. The initial stations were identified primarily through the phone book and through past facility inspections.

## PERMIT APPLICATION PROCESS

Each facility is required to complete a permit application with a planned layout of the system to be installed. After the application has been received, a "plan check" is run on as built drawings. If the facility is approved, then the authority to construct is granted. After construction, tests are required. Permission to operate ensues as soon as the results are approved as being in compliance and a permit is sent to the facility.

## PROCEDURE AFTER PERMIT APPLICATION IS RECEIVED

Tests on the new system are conducted by hired consultants. The tests performed are pressure decay, liquid blockage, and pressure versus flow. The district must be notified before tests can be conducted. In most instances, a representative from the district is present during testing. If the tests are passed, the station is granted a start-up authorization. Testing is not repeated unless reconstruction is done to the facility which would increase emissions which would affect emissions.

## APPROVED OR CERTIFIED SYSTEMS

The San Diego District uses only CARB certified Stage II vapor recovery equipment.

## ENFORCEMENT

### Number of Inspectors

The exact number of inspectors that the San Diego District currently has is unknown. These inspectors' duties are not exclusive to the Stage II program.

### Inspector Training

The inspectors are trained within the district and do not attend ARB training courses. In addition they have an inspection manual which was developed in the district.

### Frequency of Inspections Per Year

The inspection program is not specific to Stage II as the inspectors are not dedicated to Stage II. The inspection frequency is once per year for private facilities and 2 or 3 per year for retail service stations. They have a computer system which indicates which stations are due for their next inspection.

### Inspection Procedures

Inspections generally concentrate on equipment defects, and have additional defects identified by the district in addition to the ARB defects.

### Handling of Violations

Any violations discovered are subject to fines. San Diego does, however have a tag-out list with specific offenses spelled out in the State laws.

### MISCELLANEOUS ASPECTS OF PROGRAM

The San Diego is proud of Stage II program, specifically in the areas of permitting and testing of systems. Most of their effort has been concentrated on their underground piping, as most of their problems occur in that area.

### PROBLEMS ENCOUNTERED AND SUGGESTIONS TO OTHER AGENCIES

It is believed that the single most important element to a Stage II program is to ensure that the systems are initially installed correctly. It is estimated that over 50 percent of the stations would only get 50-60 percent recovery without a rigid testing program to identify improper systems.

The inspection program should be considered closely to avoid creating a situation where inspectors are in effect performing the maintenance program for the service stations.

### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: Bay Area Air Quality Management District  
[DRAFT: PENDING DISTRICT REVIEW]  
Address: San Francisco, CA  
Telephone: (415) 771-6000  
Stage II Contact: Gale Karels  
Bay Area Air Quality Management

### REASON FOR INITIATING PROGRAM

The Bay Area AQMD was the first District in the country to require Stage II controls (see enclosed Board of Directors Resolution Number 764 - January 3, 1973). These

Stage II controls were implemented as an ozone reduction measure.

#### MAJOR PUBLIC COMMENTS

##### NUMBER OF SERVICE STATIONS

Stage II controls currently affect 2,027 retail gasoline dispensing facilities (GDF) and 738 non-retail GDF for a total Stage II nozzle population of 28,300 nozzles. There are 424 GDF exempt from Stage II requirements.

##### APPROVED OR "CERTIFIED" SYSTEMS

The Bay Area only uses California Air Resources Board (CARB) certified and tested Stage II recovery equipment.

##### ENFORCEMENT

###### Number of Inspectors

Bay Area presently has approximately six GDF inspectors who report to one GDF supervisor.

###### Inspector Training

The GDF inspectors currently undergo a 24 hour training course followed by a week working with an experienced inspector. They are also required to attend the CARB Uniform Training Course #232 (GDF Vapor Recovery). On a quarterly basis the inspectors attend in-service training to learn of any new requirements or inspection techniques.

###### Frequency of Inspections Per Year

The Bay Area inspects each retail facility at least twice per year. For these facilities with a poor compliance record, the inspections may be conducted every three months.

A list of GDF to be inspected each month is generated by our computer. All inspection data is entered into our Data Bank.

#### Inspection Procedures

Inspection procedures usually focus on general equipment defects such as bellows, etc.

#### Handling of Violations

The Bay Area AQMD uses both the "Out of Order" program and Notices of Violations depending on the severity of the defects. The settlement costs of first time violation notices usually range from \$100 to \$313.

#### MISCELLANEOUS ASPECTS OF PROGRAM

The Bay Area AQMD has adopted a Manual of Procedures (MOP) for Permitting Gasoline Dispensing Facilities. Enclosed is a copy of the Permitting Handbook.

The Bay Area has, according to CARB, the finest computer tracking system for GDF. Enclosed are copies of the Data Bank Files used by our District. A functional computer tracking system is a definite requirement for effective enforcement and permitting programs.

#### PROBLEMS ENCOUNTERED AND SUGGESTIONS TO OTHER AGENCIES

It was felt that service stations are using the tagging out of service program as a maintenance program. Facilities tend not to replace equipment unless a violation is found by an inspector.

Several recommendations were given that may aide areas in implementation of Stage II controls. An effective

training program is essential to successful maintenance of Stage II controls.

Many suggestions were regarding permitting. The development of standard permit conditions and recommended practices for each type of system would help insure a well-rounded program. These conditions would include stringent testing requirements.

#### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: South Coast Air Quality Management  
District  
[DRAFT: PENDING DISTRICT REVIEW]  
Address: El Monte, CA  
Telephone: (213) 403-3450  
Stage II Contact: Lou Roberto  
South Coast Air Quality Management

#### REASON FOR INITIATING PROGRAM

Stage II controls were implemented for VOC control as the entire South Coast area has been classified as a non-attainment area for the criteria pollutant ozone.

#### MAJOR PUBLIC COMMENTS

#### NUMBER OF SERVICE STATIONS

Stage II affects approximately 6,000 retail service stations. The exact number of non-retail facilities is not known.

#### REGULATIONS

Essentially, South Coast does not have any exemption levels outside of stationary tanks exclusively for fueling agricultural wind machines. These facilities are located in the dessert.

The compliance schedule can be found in Rule 461.  
Gasoline Transfer and Dispensing (e)(1)2(2) & (3).

(1) The owner or operator of a new facility must comply at the time gasoline receiving and/or dispensing is initiated.

(2) Any owner/operator of any altered facility who was previously exempted from the provisions of this rule now must comply.

(3) Any owner/operator of any other existing facility, who was previously exempt from the rule, who has not earlier been required to come into compliance, must achieve compliance by March 4, 1990.

#### IDENTIFICATION OF SOURCES

South Coast utilized their operating permit database to identify which sources were subject to the changes. This database contains a list of manufacturers' code which is capable of distinguishing those types of service stations.

#### PERMIT APPLICATION PROCESS

A permit to construct must be issued to the facility in order to begin the permit process. After this step, the equipment is installed and the equipment is tested. The inspectors to the backfill and the back pressure test themselves. Once the inspection is complete and all subsequent tests are passed, a permit is issued.

#### PROCEDURE AFTER PERMIT APPLICATION RECEIVED

## APPROVED OR CERTIFIED SYSTEMS

South Coast only uses CARB certified Stage II vapor recovery systems.

## ENFORCEMENT

### Number of Inspectors

The ideal number of inspectors for the service station population is 15. South Coast currently has 12 inspectors on staff. Their duties include Stage I as well as Stage II inspection duties.

### Inspector Training

Inspectors for the South Coast must attend a seven week training program. For two weeks the trainees work in conjunction with experienced instructors. They also have training videos on inspection technique.

### Frequency of Inspections

While they would like to average two inspections per year, this is not possible because of the slight manpower shortfall which leaves the inspection average at 1.9 times per year. Their inspection program is not necessarily geared to inspect each station twice annually, but rather it is a priority inspection program. Stations which have exhibited recurrent problems in the past are inspected three times per year, average situations twice per year, and very conscientious stations are only inspected once per year.

### Inspection Procedures

The inspection procedures consists of a visual inspection of the nozzles, hoses, as well as an inspection of the Stage I system. They inspect the burner for assist systems and make sure it is operating properly.

### Handling of Violations

South Coast Air Quality Division tags out equipment as described by ARB rules/California law. They issue a notice of violation when two tags are issued at a facility.

### MISCELLANEOUS ASPECTS OF PROGRAM

South Coast is currently involved with an experimental "self inspection" program where larger companies implement their own inspection program. An overall evaluation of this program has not been conducted.

### PROBLEMS ENCOUNTERED AND SUGGESTIONS TO OTHER AGENCIES

It has been suggested that any Stage II vapor recovery program should ensure that the underground piping is installed properly through testing and other means. The public awareness aspect of a Stage II program is also important. This awareness includes good equipment usage instruction, the education of the service station industry, self maintenance programs by all affected service stations, and instruction courses provided by the air pollution agency.

### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: District of Columbia Department of  
Consumer and Regulatory Affairs  
[DRAFT: PENDING DISTRICT REVIEW]  
Address: Washington, D.C.  
Telephone: (202) 727-7000

Stage II Contact: Ron Wambsgang

#### REASON FOR INITIATING PROGRAM

Stage II controls have been implemented for the control of Volatile Organic Compounds (VOCs). Washington, DC is an area designated as non-attainment for the criteria pollutant ozone.

#### NUMBER OF SERVICE STATIONS

Stage II affects approximately 150 retail gasoline dispensing facilities in addition to a couple hundred private or governmental facilities.

#### REGULATIONS

District of Columbia Air Rules 341:705.1-requires that all gasoline dispensing facilities with the exception of facilities available to the public by virtue of having some membership or military status may have no more than one nozzle which does not comply with requirements, or the same facilities having 3 or less dispensing nozzles implement Stage II vapor recovery equipment.

The compliance schedule is effective in accordance with the District of Columbia Air Pollution Control Act of 1984.

#### IDENTIFICATION OF SOURCES

Gasoline dispensing facilities were identified by using State Licensing Facility records. The major oil companies were contacted and lists of facilities were given. The notices for implementation were sent via the First Class Mail.

#### PERMIT APPLICATION PROCESS

The facility sends the permit application to the proper State agency. The application is subsequently reviewed and a permit is issued if there are no problems.

## PROCEDURE AFTER APPLICATION RECEIVED

Once the permit is issued, an inspection is required. Washington, DC uses an inspection checklist that must be completed in order to determine if a facility is in violation.

## "APPROVED" OR "CERTIFIED" SYSTEMS

All vapor control systems will meet the requirements for certification and shall be operated in accordance with the Standards of the District of Columbia Air Pollution Control Act of 1984 as established by the California State Fire Marshall, the Division of Measurement Standards of the Department of Food and Agriculture, or the Health and Safety Code. These requirements are subject to change. Alternate vapor recovery systems may also be used if they satisfy the above requirements.

## ENFORCEMENT

### The Number of Inspectors and Frequency of Inspections

An exact number of inspectors could not be given due to the fact that the inspectors are from several different branches in the agency. There are relatively six inspections a year for each station. All facilities are inspected during the summertime due to the increase in ozone at that time. Every report is submitted by an inspector includes the checklist used.

### Violations

The Department of Consumer and Regulatory Affairs has found the most effective way of handling violations is

through the Civil Infractions Program, which issues tickets and subsequent fines. These fines range from \$50-500 dollars.

#### MISCELLANEOUS ASPECTS OF PROGRAM

##### PROBLEMS ENCOUNTERED

##### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: Missouri Air Pollution Control  
Address: St. Louis, MO  
Telephone: (314) 751-4817

Stage II Contact: Budd Pratt  
Missouri Air Pollution Control Division

##### REASON FOR INITIATING PROGRAM

Stage II controls were implemented for VOC control as the St. Louis area is classified as non-attainment area for the criteria pollutant ozone.

##### MAJOR PUBLIC COMMENTS

##### NUMBER OF SERVICE STATIONS

It is estimated that there are approximately 1,200 gasoline dispensing facilities that will implement Stage II. A breakdown of retail vs. non-retail facilities was unavailable.

##### REGULATION

Missouri Administrative Code CSR10-5.220 requires that storage tank with a capacity greater than 2,000 gallons must be equipped with a submerged fill pipe in addition to installing Stage II vapor control systems.

The compliance schedule is contained in CSR10-5.220. It is stated that all affected gasoline loading

installations with a monthly throughput greater than or equal to 600,000 gallons per year, must achieve final compliance by July 1, 1978. The compliance dates for facilities with monthly throughputs between 600,000 and 120,000 gallons was August 12, 1986.

#### IDENTIFICATION OF SOURCES

The exact methods used in identifying sources could not be determined at this time.

#### PERMIT APPLICATION PROCESS

Each facility receives a construction permit in order to make the proper modifications. Facilities must send in their individual plans for Stage II implementation. Missouri Air Pollution Control reviews these plans and sends the facility their consent to begin modifications.

#### PROCEDURE AFTER PERMIT APPLICATION RECEIVED

Once the facility has completed the modifications to its facility, drive-by inspectors begin. Once an inspection is made, that facility is entered into a data base. No formal testing of the equipment is required.

#### APPROVED OR CERTIFIED SYSTEMS

Missouri uses only California Air Resources Board (CARB) certified equipment as outlined by the Executive Order. Any deviations of this equipment are non-negotiable.

#### ENFORCEMENT

##### Number of Inspections

In most areas, the inspections are conducted by county employees that have other duties. Missouri inspectors have a training session which includes use of a Stage II orientation book distributed by CARB.

### Frequency of Inspections

The inspection program is set up such that after an initial visit, the facility is entered into a database, from there, inspections are scheduled twice a year. The inspectors use an inspection checklist for each facility.

### Violations

Missouri inspectors have found the "tag out" method to be more effective than fines in handling violations. Once a violation is discovered, the responsible party has 15 days to correct it. A test of the appropriate equipment must be performed and compliance proved through an outside contractor. The facility must make an appointment to have the inspector come again.

### MISCELLANEOUS ASPECTS OF PROGRAM

A unique aspect of St. Louis is that they only allow coaxial hoses for their gasoline dispensing facilities.

### PROGRAM REGULATORY AGENCY INFORMATION

Name of agency: New Jersey Department of Environmental Protection

Address: Trenton, NJ

Stage II Permitting\

Contact: Patrick Zigrand

Division/Section: New Source Review

Telephone: (609) 530-8249

Stage II Enforce-

ment Contact: David Volz

Division/Section: Minor Source Compliance

Telephone: (609) 584-4243

### REASON FOR INITIATING PROGRAM

Originally, NJ proposed rules requiring Stage II vapor recovery for the control of VOC emissions related to ozone

formation. However, no final action was ever taken on this proposal. Then, on September 14, 1987, the United States District Court (in response to American Lung Association v. Keon, Civil No. 87-288) ordered the DEP to propose a schedule for prompt implementation of Stage II vapor recovery. Therefore, the true motivation for the actual adoption of the Stage II program was the Court order.

#### NUMBER OF SERVICE STATIONS

DEP estimates that there are approximately 5,300 facilities subject to the regulation. No breakdown was available regarding for public vs. private.

#### REGULATIONS

New Jersey Administrative Code 7:27-16-3 (f) requires that all gasoline dispensing facilities with throughputs greater than 10,000 gallons per month install a vapor control system that is "approved by the Department and that is designed, operated and maintained so as: (1) To prevent VOC emissions to the outdoor atmosphere by no less than 95 percent by weight . . . , and (2) To prevent overfilling and spillage." Marine loading facilities are also exempt.

The compliance schedule is contained in 7:27-16-3 (r) and (s). It is stated that all 40,000 gallons per month facilities had to obtain a permit by March 21, 1988, begin construction by June 21, 1988, and be in compliance by December 30, 1988. The dates for facilities with monthly throughputs between 10,000 and 40,000 gallons were November 1, 1988 for permits, March 1, 1989 for initiation of construction, and December 29, 1989 for full compliance.

There were some problems with the implementation schedule. It is estimated that they had received approximately 300 requests for extended compliance schedules. The main reasons for these difficulties were equipment and contractor availability.

#### IDENTIFICATION OF SOURCES

The DEP mailed a letter stating that a Stage II equipment was required on every facility with an average monthly throughput of 10,000 gallons or greater. Each facility was required to obtain a Stage II permit which indicated the type of system to be installed.

New Jersey law (N.J.A.C. 7:27-8.1) requires owners/operators of air pollution control devices to obtain permits to construct, install or alter air pollution control devices prior to their installation. Once the permit application is received by the DEP a review of the application is conducted to determine whether the proposed installation will meet the Department's "state of the art" criteria. Actually, New Jersey relies on CARB certification for this determination and the permit applications list those systems which are approved.

Upon acceptance by the DEP, the permit is approved with conditions requiring a pressure decay test and a liquid blockage test within 90 days of installation of the equipment. It further requires that documentation of such tests be kept on site along with the approved permit.

#### APPROVED OR "CERTIFIED" SYSTEMS FOR THAT STATE

While, the regulation states that a system be used which is "approved by the Department", the permit applications list those the systems which are approved. Actually, New Jersey relies on CARB certification for this determination. The permit application actually lists the CARB executive order number with the system.

## ENFORCEMENT

### Number of Inspectors and Inspector Training

In most areas, the inspections are conducted by county employees that have many other duties. The state provides funding for each county participating in the program. New Jersey inspectors have a two day training session which include a Stage II training film (1 day in classroom, 1 day in field).

### Frequency of inspections

The inspection program is set up so that 20 percent of the stations are to be inspected annually. This means that each station should be inspected about every 5 years.

### Inspection procedures

There is no inspection checklist used by New Jersey inspectors. They feel that the use of checklists limits what an inspector examines. The following are the typical items covered during a Stage II inspection of a facility.

- 1) Check to see that the paperwork is on-site and available for review. This includes the pressure decay and liquid blockage test documentation and the permits.
- 2) Check to determine if the type of system on the permit is the system actually installed and in-use at the facility. No mixing of equipment types is allowed.
- 3) Inspect all nozzles, boots, face plates, and hoses for any cuts, tears, or other types of disrepair. Any sized hole or tear is considered a violation.
- 4) Check to see if any other problems exist with the equipment. Examples of the things which could be

checked are nozzle check valves, nozzle latches, etc.

### Violations

Detailed State policy regarding fines is in place and used by the DEP. For each type of violation, they impose a fine. They do not have a "list" of defects. The inspectors determine what is considered to be a violation when the equipment is not in the condition as permitted (re: Items 2, 3, and 4 above).

### MISCELLANEOUS ASPECTS OF PROGRAM

An unique issue in New Jersey is that self service facilities are not allowed so the general public does not come directly in contact with the Stage II equipment. DEP officials certainly believe this lessens the number of complaints received from the public. No operating instructions are required to be on the pumps and it is not believed that much of the industry trains their personnel on the proper usage of Stage II. There is an environmental hotline for the State which handles all environmental complaints, but no assessment has been done to determine the number regarding Stage II.

### PROBLEMS ENCOUNTERED AND SUGGESTIONS TO OTHER AGENCIES

NJ DEP officials indicated that a problem exists for facilities which have claimed an exemption based on throughput. This is due to two reasons. The first is the date listed in the regulation for determining throughput. The exemption is for facilities with average monthly throughput less than 10,000 gallons per month and "average

monthly throughput shall be based on the average of the monthly throughputs between September 1, 1986, and August 31, 1987". The situation was brought up that a station could have increased its throughput in the 4 years since that time to be above the cutoff, but is not required to install Stage II. Another problem is that documentation requirements for determining throughputs is not clearly stated and is relatively easy to "hide" throughput so that one falls below the cutoff. New regulation will alleviate all the above problems.

NJ DEP representatives felt it would be a good idea to require that additional tests be conducted when the tanks, piping and other components are replaced.

#### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: New York Department of Environmental Conservation (DEC)

Address: Albany, NY

Stage II Contact: Robert S. Praisner  
Division/Section: Sr. Engineering Technician

#### REASON FOR INITIATING PROGRAM

In 1982, the New York DEC submitted a SIP to EPA that did not include Stage II and also did not demonstrate compliance. The Governor indicated a commitment to demonstrate attainment but Stage II was still not implemented. However, the Natural Resources Defense Council (NRDC) sued New York to require Stage II. Stage II controls were implemented for VOC control as the metropolitan area is designated non-attainment for ozone.

#### NUMBER OF SERVICE STATIONS

The metropolitan area of New York has approximately 2400 to 3000 gasoline dispensing facilities. A breakdown of retail versus non-retail was not available.

## REGULATIONS

Installation of Stage II began in April 1988 and service stations with gasoline throughput greater than 500,000 gallons per year had until July 1988 to comply, and those stations with a gasoline throughput greater than 250,000 gallons per year had until July 1989 to comply.

## PERMIT APPLICATION PROCESS

Each affected facility must file for a permit to construct and operate. An outside contractor tests the equipment and the results are sent to the Department of Environmental Conservation (DEC).

## PROCEDURE AFTER PERMIT APPLICATION RECEIVED

Once the permit application is received by the DEC, and the results from the contractor have been reviewed, a permit is mailed to the facility.

## ENFORCEMENT

### Number of Inspectors and Inspection Training & Frequency of Inspection

The NYDEC would only commit to saying that they inspect their facilities "periodically". It is felt that twice per year, random inspections is the best way to enforce the regulations.

The NYDEC currently uses 6 inspectors to inspect facilities in the nine county New York Metropolitan Area.

### Inspection Procedures

The NYDEC does utilize an equipment checklist for the inspectors to follow during each inspection.

### Violations

New York does not use "Tag-Out-of-Service" procedures like those used in other States. New York has established a fine or fee system for each violation.

#### MISCELLANEOUS ASPECTS OF PROGRAM

The NYDEC regulations require a system that is 90 percent efficient. The NYDEC has a policy that they cannot cite another State's code, therefore, the NYDEC could not allow a wholesale acceptance of equipment certified in California. The NYDEC had to come up with its own approval or certification methods. Certification in California, however, may be sufficient proof to NYDEC that the system could be installed in New York.

#### PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: Metropolitan Dade County, Florida  
Department of Environmental Resources  
Management (DERM)

Stage II Contact: Robert Wong  
Division/Section: Environmental Monitoring Division/Air  
Section

Telephone: (305) 858-0601

#### REASON FOR INITIATING PROGRAM

Dade County is designated by the U.S. Environmental Protection Agency (EPA) as a nonattainment area for the pollutant ozone. Stage II implementation will serve as a long-term measure to prevent smog which is directly related to uncontrolled releases of volatile organic compounds (VOCs). Additionally, Stage II is seen as an immediate and effective measure to reduce public exposure to benzene emissions from gasoline refueling.

#### MAJOR PUBLIC COMMENTS

DERM indicated that there have been few major comments other than the independent service station owners queries as to where the financial backing will come from. Representatives of both major oil companies and independent service stations requested an advance period for compliance with Stage II requirements.

#### NUMBER OF SERVICE STATIONS

It is estimated that approximately 2,000 service stations exist in metropolitan Dade County. A breakdown of private versus public stations was unavailable.

#### REGULATION

A Stage II policy adopted pursuant to the Dade County Administrative Code Section 24-20 requires that all gasoline service stations that dispense 10,000 gallons or more gasoline/ gasohol per month are required to install Stage II vapor recovery equipment. Existing facilities have until December 14, 1992 to comply and new facilities without certificate of occupancy are required to comply immediately.

#### IDENTIFICATION OF SOURCES

Service stations were identified through Dade County's rigorous underground piping program.

#### PERMIT APPLICATION PROCESS

Each facility must complete the Stage II Vapor Recovery System Specifications form for each system and submit to DERM for approval. Within 90 days following completion of the installation of the vapor recovery equipment, a written notification of such installation and arrangements for a certification test must be done.

#### PROCEDURE AFTER PERMIT APPLICATION RECEIVED

Once the permit application is received DERM assumes that the Stage II equipment is being installed and plans to inspect the day of certification testing. The two tests used to determine the certification of the system are a pressure decay test and a liquid blockage test. A certification number will be issued after the DERM air section approves the test results.

## APPROVED OR "CERTIFIED" SYSTEMS FOR THAT STATE

DERM will accept (the latest generation) systems currently certified by California Air Resources Board (CARB) as outlined in their Executive Order. Only coaxial hose vapor recovery systems will be approved. Original manufacturer rebuilt nozzles will only be approved and existing dispensers shall be retrofitted with original manufacturers parts only. Existing facilities have until December 14, 1992 to comply. New facilities, however, must apply for a permit immediately if they do not have a certificate of occupancy.

## ENFORCEMENT

### Number of Inspectors and Inspector Training

Dade County presently has approximately 6 people who conduct the inspections in addition to their other duties. The training program entails a Stage II training video, as well participation in equipment manufacturers seminars.

### Frequency of Inspections

The inspection program is still very much in the planning stages and is subject to be modified. At present, it is intended that the initial inspection occurs on the system certification test date, with a follow-up after approximately 3 years. Compliance inspectors will also perform routine inspections or respond to complaints received.

### Inspection Procedures

The inspectors are present to make sure the type of system on the permit is actually the one that is installed. They inspect all nozzles, boots, faceplates and hoses for any cuts, tears, or other types of disrepair, and any other possible problems that might exist.

### Violations

Because it is early in their program, DERM has not had to handle any violations, but when a violation is discovered

a Notice of Violation will be sent prior to follow up enforcement by DERM.

#### PROBLEMS ENCOUNTERED AND SUGGESTIONS TO OTHER AGENCIES

DERM reports no major problems so far during implementation. DERM representatives advise other States that are thinking about implementing Stage II to recommend that service stations install the necessary piping, and to require that only the latest coaxial vapor recovery systems be approved and that a certification program be instituted to ensure that the system needs performance standards.

#### REGULATORY AGENCY INFORMATION

Name of Agency: Massachusetts Department of  
Environmental Quality Engineering  
Division of Air Quality Control

Address: Boston, MA  
Telephone: (508) 292-5630

Stage II Contact: Leah Weiss  
Division/Section: Massachusetts Division of Air Quality  
Control

Stage II Contact: Laurel Carlson  
Division/Section: Massachusetts Division of Air Quality  
Control

Stage II Contact: Rich Driscoll  
Division/Section: Massachusetts Division of Air Quality  
Control

#### REASON FOR INITIATING PROGRAM

Stage II controls were implemented for VOC control as the entire Commonwealth of Massachusetts has been classified as a non-attainment area for the criteria pollutant ozone.

## MAJOR PUBLIC COMMENTS

There were three major issues raised during the public comment process. One, the installation and maintenance cost estimates were generally found to be either too high or low. Two, the time schedule for the petroleum industry to comply with Stage II regulations was a problem. Three, Stage II itself is an inefficient method for controlling Volatile Organic Compound emissions (VOC).

## NUMBER OF SERVICE STATIONS

Stage II will affect 1,000 gas stations in the first year of implementation and up to 2,400 gas stations by April of 1993.

## REGULATIONS

Massachusetts Administrative Code 310 CMR 7.24(6) requires that all gasoline dispensing facilities which have been constructed or substantially modified on or before November 1, 1989 and at which any time since January 1, 1988 have had a throughput of at least 20,000 gallons in any one calendar month, or any dispensing facility that was modified after November 1, 1989 install Stage II vapor control systems regardless of size. The retrofit of the existing stations will take place over three years, according to the following schedule:

- by April 1, 1991 where the annual (calendar year) throughput of the motor vehicle fuel dispensing facility is 1,000,000 gallons of motor vehicle fuel or more; or
- by April 1, 1992 where the annual throughput of the motor vehicle dispensing facility is 500,000 gallons or more of motor vehicle fuel, but less than 1,000,000 gallons; or
- by April 1, 1993 for any motor vehicle fuel dispensing facility dispensing less than 500,000 gallons per year, and more than 20,000 gallons per month.

Facilities, constructed or modified after November 1, 1989 must install and operate Stage II by April 1, 1991 or at the time of construction or modification, whichever is later.

#### IDENTIFICATION OF SOURCES

Sources were identified utilizing State licensing agencies, in addition to contacting major oil companies for their lists. The Department of Environmental Quality Engineering delivered notices of the pending regulations to the service stations through mass mailings and certified mail.

#### PERMIT APPLICATION PROCESS

Each facility is required to obtain and complete a Stage II registration and classification form that contains information regarding the owner of that facility, the complete mailing address, business phone, annual and monthly throughput information, fuel dispenser, and a signed statement certifying the information provided is accurate.

The next step is the permit application itself. The same general information regarding station location and owner etc. is included on this page, as well as additional information. The form lists the type of vapor collection and control system that will be installed, the number of nozzles, hoses etc. to be installed, and the anticipated completion date of installation.

#### PROCEDURE AFTER APPLICATION RECEIVED

Field inspection to verify proper installation is the most cursory assessment of compliance. To accomplish verification of as many sites as possible, a protocol for "drive-by" or screening inspections was developed. It will be used during the first month or two after a compliance deadline is passed. It is a one time check unless

violations are found, in which case a full facility compliance inspection is done.

The full facility compliance inspection involves a checklist containing specific pieces of equipment which must be checked in order to assure proper installation and maintenance. When the inspection is complete, the owner/service station manager is given a receipt that states that an inspector has visited the facility.

Upon completion of the report by the inspector, it is determined whether or not the facility is in compliance and a permit is presented accordingly.

#### APPROVED OR "CERTIFIED" SYSTEMS FOR THAT STATE

The regulation states that a system must be CARB certified in order for approval. The permit application lists the CARB Executive Order number. This rule is very stringent and any modifications are not subject to discussion.

#### ENFORCEMENT

##### Number of Inspectors and Inspector Training

A compliance coordinator has a master fuel dispensing facility list which identifies facilities assigned for screening inspectors as well as full inspection and identification of any necessary follow-up action and the person assigned to take on that action.

State employees chosen to participate in screening inspections are required to attend a 2-hour training session where they are briefed on the program and trained to visually identify vapor recovery equipment in the field.

Full facility inspection training involves all of the above in addition to training in examining equipment for proper installation and maintenance. The staff are also

trained in the protocols for documenting each inspection and taking enforcement action.

#### Frequency Inspections

Screening inspections should be completed within 4 weeks of April 1, 1991. No further action will be taken if no violations are found. Facilities could be scheduled for full inspection on a random basis throughout the year, every year.

#### Inspection Procedures

The screening inspections require that the screeners identify each or most of the fuel dispensers, product hoses, and nozzles on the site. A full facility inspection has an inspection form that must be filled out completely. The product dispensers, hoses, nozzles, and tank seals as well as signs must be examined and listed.

#### Violations

When a violation is discovered, a notice of noncompliance (NON) is issued. The facility has 21 days to either:

1. submit evidence of compliance
2. not submit evidence of compliance
3. submit evidence that they cannot comply due to a third party

An Administrative Consent Order (ACO) is issued which gives the facility specified time to comply. If found guilty of violations, the facility will be fined. Penalties are assessed using the Guidelines for Calculating Administrative Penalties.

#### MISCELLANEOUS ASPECTS OF PROGRAM

Massachusetts Air Quality Division has provided a Stage II information line for questions, complaints, and general information queries for the station owners and operators.

## PROBLEMS ENCOUNTERED AND SUGGESTIONS

The Massachusetts Division of Air Quality Control indicated that the Stage II phase-in has gone relatively smoothly. One of the main difficulties with the program was properly identifying sources. Division of Air Quality Control did not give any suggestions on how to remedy this. Another problem mentioned was the shortage of staffing that they encountered. They suggested that States be aware of the kind of manpower a project like this entails.

## PROGRAM REGULATORY AGENCY INFORMATION

Name of Agency: Philadelphia Department of Public Health  
Air Management Services

Address: Philadelphia, PA

Telephone: (215) 875-5623

Stage II Contact: Bob Ostrowski  
Philadelphia Air Management

## REASON FOR INITIATING PROGRAM

Stage II controls were implemented for volatile organic compounds (VOC), toxics and benzene as the entire Philadelphia metropolitan area is classified as non-attainment for ozone.

## NUMBER OF SERVICE STATIONS

Representatives from the Philadelphia Department of Public Health, Air Management Services (AMS) estimate a total of approximately 300 retail and non-retail facilities.

## REGULATION

Philadelphia Air Management Region V, Section V.C requires that the following gasoline dispensing facilities install Stage II vapor control equipment:

1. Any existing gasoline dispensing facility with a Total gasoline throughput equal to or greater than 10,000 gallons per calendar month, based on

gasoline throughput records for the facility for the 12-month period prior to, or for any monthly period subsequent to, the effective date of the regulation as follows:

- a. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 1,500,000 gallons per year shall comply with the vapor control requirements not later than June 25, 1991.
- b. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 1,000,000 gallons per year, but less than 1,500,000 gallons per year, shall comply with the vapor control requirements not later than December 25, 1991.
- c. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 500,000 gallons per year, but less than 1,000,000 gallons per year, shall comply with the vapor control requirements not later than June 25, 1992.
- d. Any existing gasoline dispensing facility with a gasoline throughput of less than 500,000 gallons per year shall comply with the vapor control requirements not later than June 25, 1993.

Any gasoline dispensing facility, or part thereof, regardless of gasoline throughput quantity, which is constructed, reconstructed or modified, except for minor repairs or alterations, after the effective date of the regulation (June 15, 1990).

#### IDENTIFICATION OF SOURCES

The proper gasoline dispensing facilities were identified primarily through lists provided by the major oil companies. The Department of Licenses and Inspections, Flammable Liquid Licensing inventory was also employed to potential facilities.

#### PERMIT/LICENSE APPLICATION PROCESS

The owner or operator of each affected gasoline dispensing facility must apply for an installation permit

and obtain an annual operating license, as provided in the Air Management Code. Compliance inspections of facilities will be conducted by authorized representatives of AMS to verify installation, permit conformity, and proper operation and maintenance of vapor control systems. Annual operating license issuance and renewal is subject to approval by AMS and continuing compliance of the facility with all applicable operating requirements.

#### APPROVED OR "CERTIFIED" SYSTEMS

Only certified Stage II gasoline vapor recovery equipment will be approved by AMS for installation at gasoline dispensing facilities as referenced by the State of California Executive Orders. Certification of gasoline vapor control systems will be accomplished pursuant to applicable requirements and procedures of the Commercial and Industrial Fire Inspection Unit of the Department of Licenses and Inspections. All compliance certification testing (pressure and blockage testing) must be completed prior to initial operation following installation of vapor recovery and control equipment. Also, the owner or operator of each affected facility must provide adequate training and written instructions and procedures for facility employees related to proper operation, maintenance and use of the Stage II vapor control system. Documentation of such training, instructions and procedures must be made available to AMS upon request.

#### ENFORCEMENT

##### Number of Inspectors and Inspector Training

There are approximately 10 field inspectors assigned within the city of Philadelphia. The inspectors are trained in Stage II inspection techniques in cooperation with the State of New Jersey officials who are already enforcing Stage II requirements. Annual operating license issuance and renewal is subject to approval to AMS.

### Handling of Violations

Violations of Stage II control requirements will be handled according to established local enforcement procedures.

### VIOLATIONS

Violations are generally handled on a case-by-case basis with the facility in violation usually receiving a notice of violation which would indicate the exact nature of the violation along with an offer settlement subject to prompt resolution of the violation. Frequent or protracted instances of violation are referred to the city's law dept for legal action.

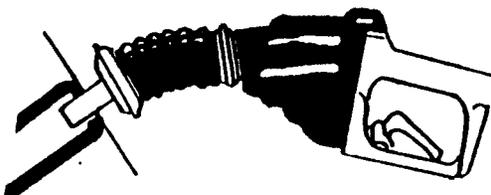




7

APPENDIX G.1  
MASSACHUSETTS PUBLIC AWARENESS BROCHURE

## How to Use a Stage II Nozzle



1. Insert the nozzle into your car's fill pipe.



2. Push the nozzle far enough into the fill pipe to compress the bellows and make a tight seal.



3. Push the nozzle down or to the side to latch it firmly into the fill pipe. Tug slightly on the nozzle to check the connection. Once it latches, you can stop pushing. If the nozzle won't latch on, continue applying pressure to maintain a tight seal.

4. Squeeze the lever to begin gasoline flow and fill your tank to the desired level. The nozzle will shut off automatically when the tank is full. Don't top off your tank!

5. Wait a few seconds before removing the nozzle from your car's fill pipe after automatic shutoff to let the remaining gasoline drain out.

*Printed on Recycled Paper*



Department of Environmental Protection  
Division of Air Quality Control  
One Winter Street, 8th Floor  
Boston, Massachusetts 02108

## Cut Gas Vapors Off At The Pump!

New nozzles on the pumps at Massachusetts gas stations cut smog, conserve fuel and reduce fire hazard



Commonwealth of Massachusetts  
Executive Office of Environmental Affairs  
Department of Environmental Protection

## THE STAGE II PROGRAM

You may have noticed a new type of nozzle on the pumps at the gasoline station where you normally fill up your car. The new nozzles are part of the Stage II Vapor Recovery program — a major air pollution prevention initiative by the Department of Environmental Protection.

## HOW DOES IT WORK?

The Stage II system is designed to prevent the escape of gasoline vapors into the atmosphere while your car is being filled up. Each pump is equipped with an accordion-like sheath, or bellows, and a coaxial hose (a hose within a hose). With Stage II in place, the vapors which are displaced from your tank by the gasoline being dispensed into it are captured and recycled. DEP is requiring installation of Stage II at the largest service stations in Massachusetts by April 1991. All but the smallest gas stations will be equipped with vapor recovery systems by the middle of 1993.



*This brochure was distributed as a public service by the Department of Environmental Protection. For additional information about Stage II, call DEP's Division of Air Quality Control at 617-556-1035 or write the Division at One Winter Street, 8th Floor, Boston, MA 02108.*

## CLEANER AIR

By 1993, Stage II vapor recovery systems will reduce air pollution from gasoline stations in Massachusetts by an average of 24.6 tons per day, or a total of 9,000 tons annually. And from Day One, they will substantially reduce gasoline odors at the pump.

## REDUCED HEALTH RISKS

Gasoline vapors contribute to ground-level ozone, or smog, which aggravates respiratory ailments such as asthma, bronchitis and emphysema. Smog can make it difficult even for healthy people to breathe comfortably. Gas vapors also contain cancer-causing agents. So Stage II greatly reduces your exposure to harmful substances.

## ENERGY CONSERVATION

Vapors recovered by Stage II go back to underground storage tanks where they are condensed into gasoline. In Massachusetts, that will mean a savings of nearly three million gallons of fuel per year.

## FIRE PREVENTION

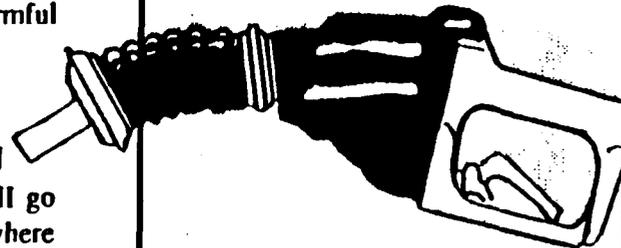
Stage II helps reduce the hazard of fire at service stations by preventing the escape of flammable vapors.

## THREE IMPORTANT WAYS

**YOU** can help make Stage II Vapor Recovery work even better:

- Don't "top off" your tank. If you try to pump more gas into your car after the nozzle has automatically shut off, fuel travels down the vapor hose and blocks the line. If that happens, you or the next customer could be sprayed with gasoline. And in extreme cases, it can cause equipment failure.

- If the nozzle doesn't work and a sign has not been posted to indicate it is out of order, tell the station attendant.



- If you have any questions or comments about vapor recovery or wish to complain about faulty equipment, please call the Stage II office at DEP's Division of Air Quality Control.

**617-556-1035**

G.1-4

APPENDIX G.2  
CARB SELF INSPECTION MANUAL

# SELF-INSPECTION HANDBOOK

**GASOLINE  
FACILITIES**

**PHASE I & II  
VAPOR RECOVERY**

**AIR RESOURCES BOARD  
COMPLIANCE DIVISION  
COMPLIANCE ASSISTANCE  
PROGRAM**



G.2-2

# COMPLIANCE ASSISTANCE?



**S**ELF INSPECTIONS CAN SAVE YOU MONEY,  
HELP THE ENVIRONMENT  
AND IMPROVE CUSTOMER SATISFACTION!

G.2-3

This handbook is designed to help you know what the law is and how you can benefit from compliance. Read on, and see how easy it is to improve your working conditions, keep your boss out of trouble and make your customers happy.

# VAPOR RECOVERY SYSTEMS...

**I**NCREASE PROFITS

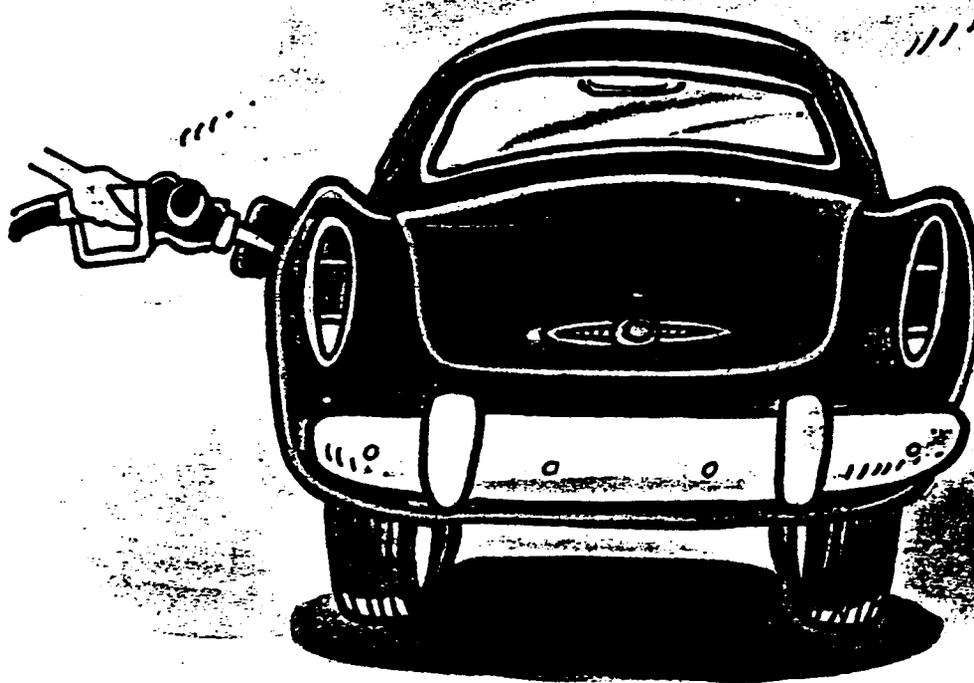
**R**EDUCE SMOG

**R**EDUCE YOUR CANCER RISK

**S**AVE GASOLINE AND ENERGY

**R**EDUCE FIRE HAZARDS

**R**EDUCE GASOLINE ODORS



#### Vapor recovery systems:

1. Increase your profits.
2. Reduce the formulation of lung damaging smog.
3. Reduce your cancer risk by decreasing toxic fumes.
4. Save 50 million gallons of gasoline per year in California.
5. Reduce fire hazards.
6. Reduce gasoline odors.



# **V** VIOLATING CALIFORNIA LAW IS **VERY COSTLY!**

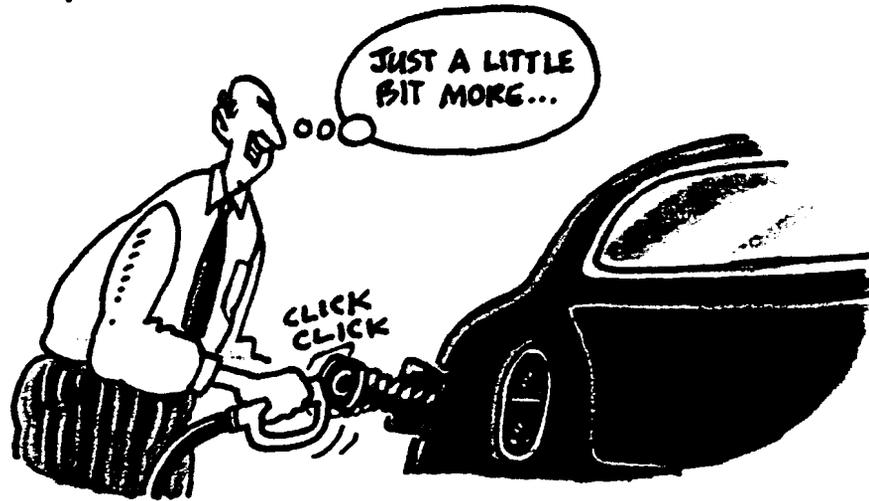
The penalties for violating air pollution regulations can be \$10,000 per day or more. Plus, your pumps may be locked out of service until they are repaired. Use this handbook to help you inspect your equipment daily to be sure you are in compliance. Remember, the benefits of keeping your equipment in good condition is not simply avoiding penalties,... but also provides a safer workplace, a healthier environment and greater profits.

**INSPECT EQUIPMENT DAILY**  
**REPAIR OR REPLACE EQUIPMENT WHEN NECESSARY**  
**TEACH THE PUBLIC**



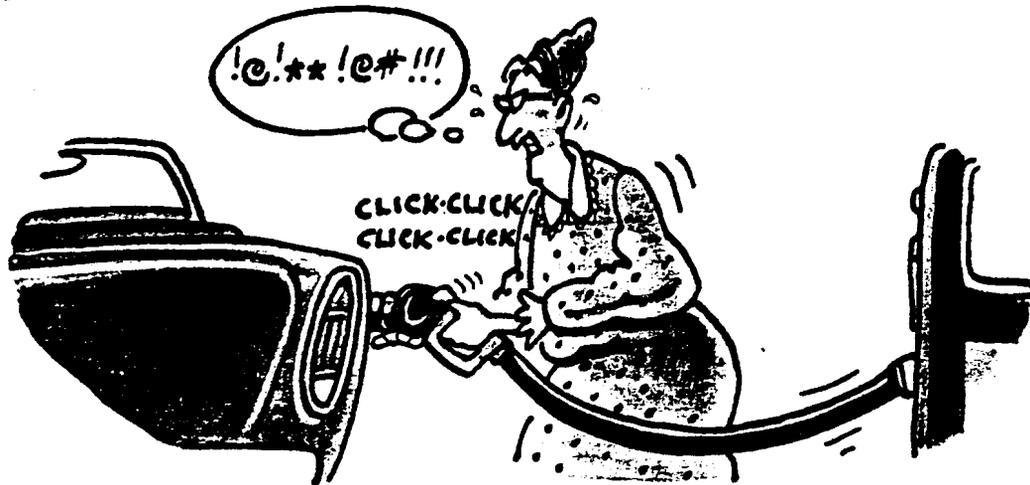
The California Air Resources Board is asking for your help to teach the public. When a customer has a problem with the equipment, take time to check it out. In most cases, just by showing the customer the correct way to operate the equipment, the problem can be solved. By inspecting your vapor recovery equipment every day and keeping it in good working condition, you can improve customer satisfaction while cleaning up the air. If you find a problem, remove the equipment from service until you can fix or replace it.

**DON'T TOP OFF!  
LIQUID GASOLINE WILL BLOCK THE VAPOR LINE...**



**...WHEN A WORKING NOZZLE SHUTS OFF - THE TANK IS FULL!  
AND...**

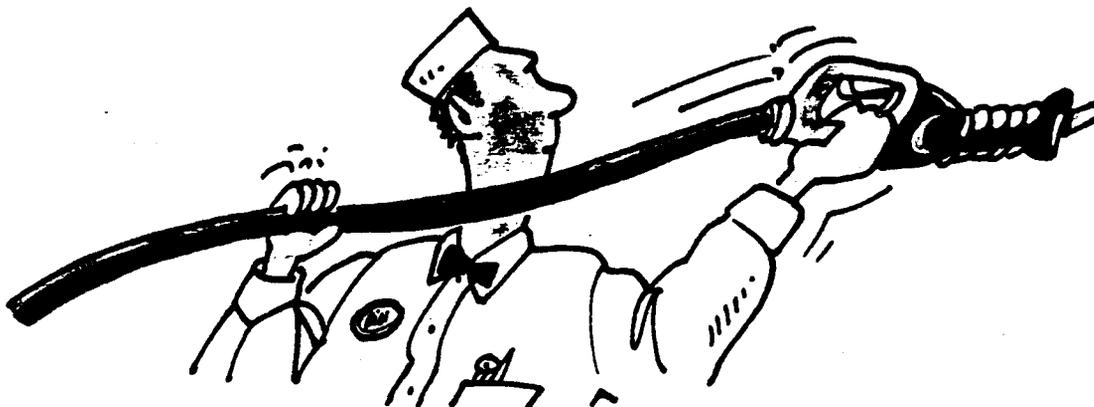
**BLOCKED LINES ARE FRUSTRATING!**



**NOZZLES THAT CLICK OFF TOO SOON...  
INDICATE A BLOCKAGE IN THE VAPOR LINE.**

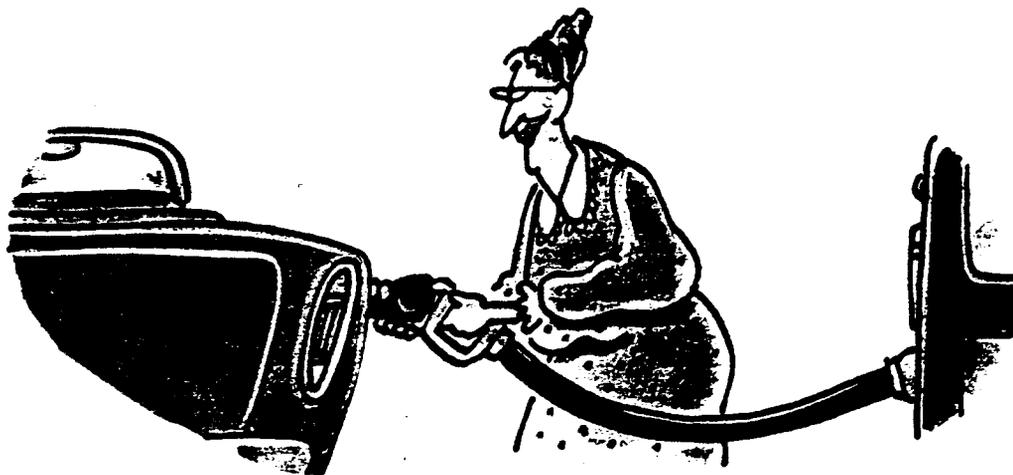
The most common cause of blocked vapor lines is customers topping off their gas tank. When a gas tank overfills, gas travels back down the vapor hose and blocks the line. Unless the line is cleared, the next customer will have trouble keeping the nozzle from automatically shutting off while pumping gas. Please warn your customers not to top off their tanks.

# CLEARING THE VAPOR LINE...



... BY RAISING AND EXTENDING THE HOSE...

CAN LEAD TO **SATISFIED CUSTOMERS!**

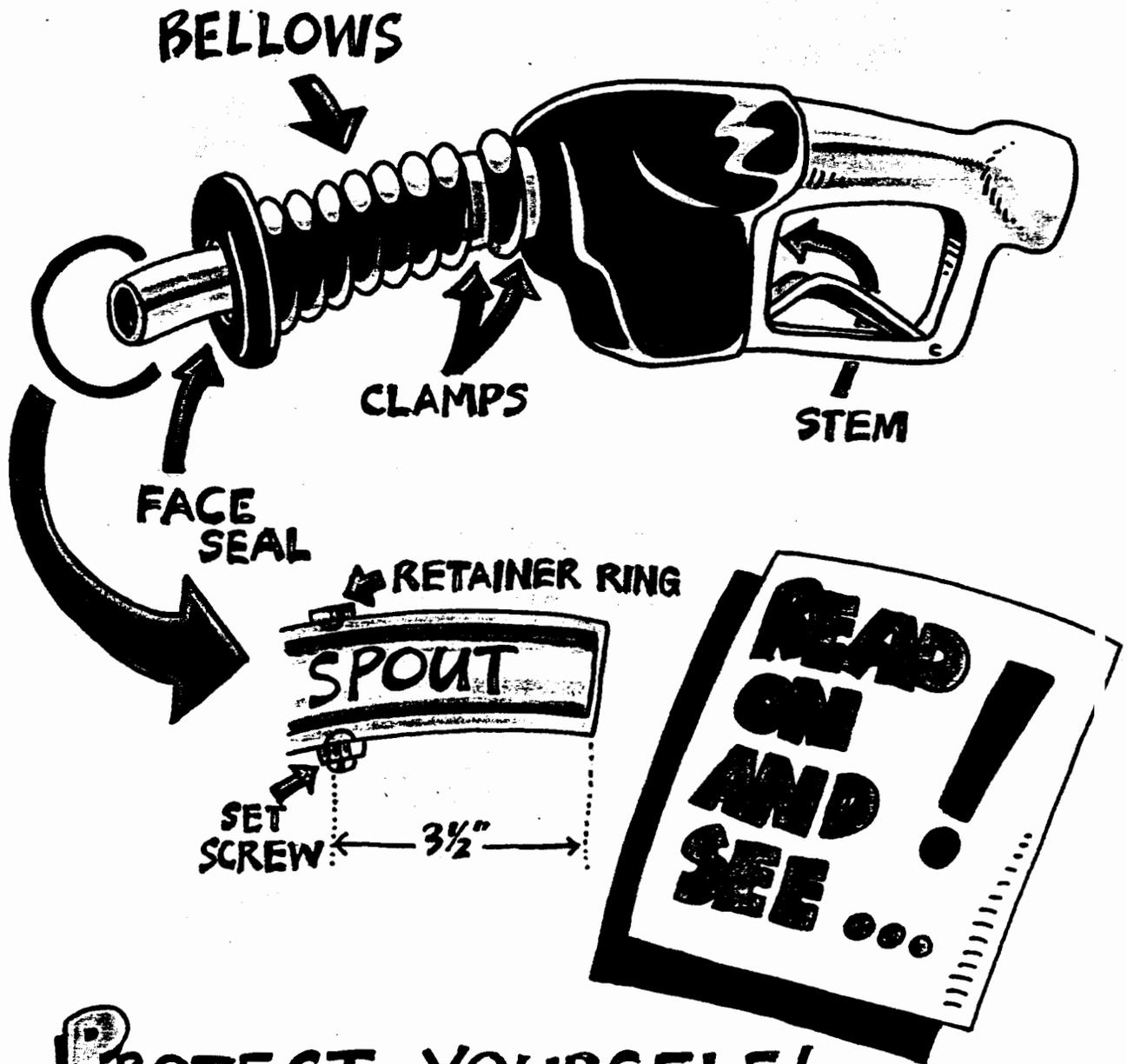


When a nozzle continually shuts off when trying to fill an empty tank, this indicates either 1) a liquid blockage in the vapor line or, 2) a broken or improperly installed nozzle component. You can clear the line by raising and extending the hose. If the nozzle continues to shut off, contact your service representative. Remove malfunctioning nozzles until the problem is fixed.



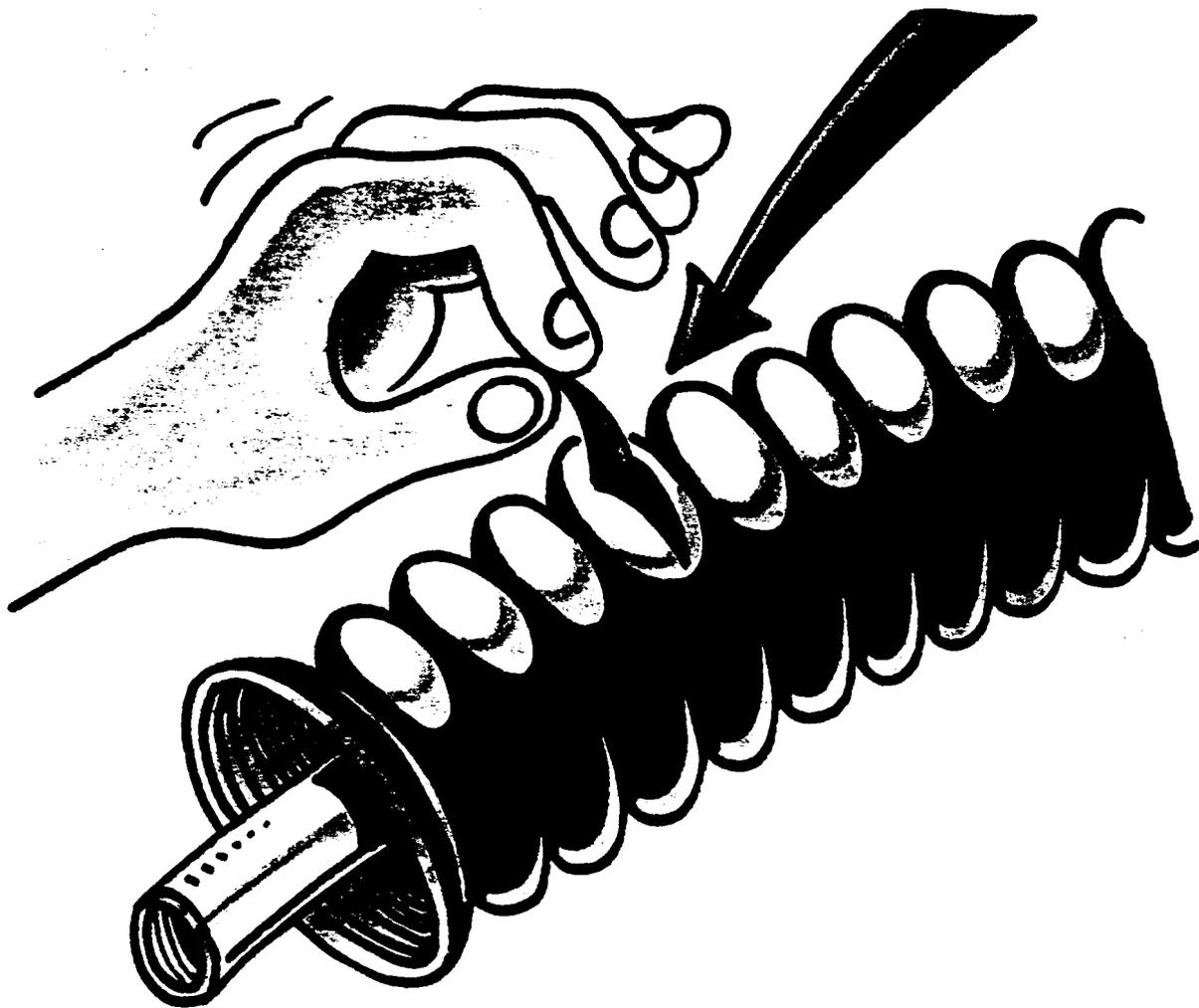
The air pollution control inspector will visit your station periodically throughout the year to conduct a complete inspection. The inspector will be checking your vapor recovery system to see if it is in good working order. This will include checking all components to see that they are certified and defect free. Also, operating instructions and a toll free air pollution control district phone number must be placed in plain view of the general public.

# WHAT TO LOOK FOR...



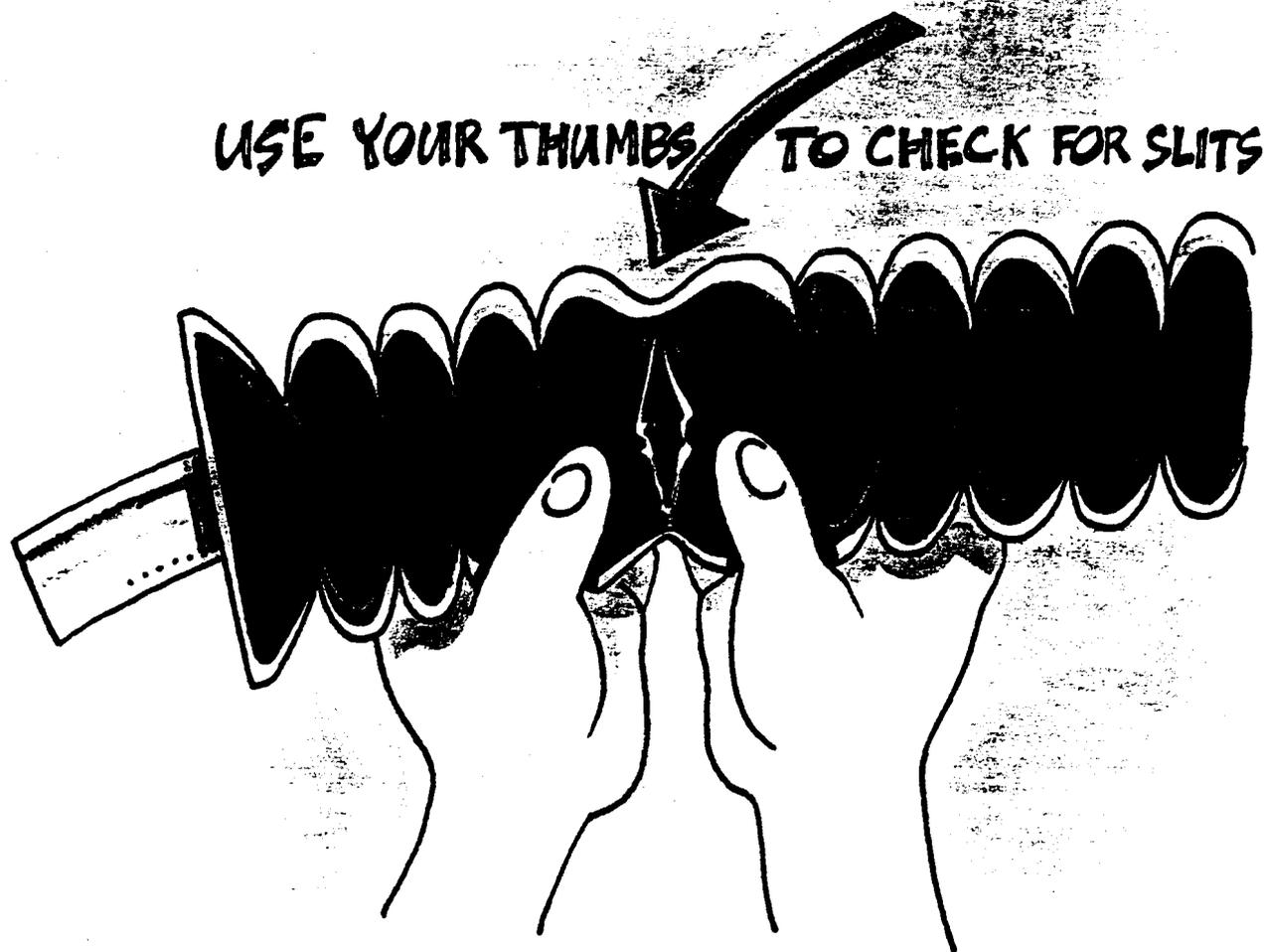
**P**ROTECT YOURSELF!  
**K**NOW THE LAW!

# **REPLACE BOOTS WHICH HAVE TRIANGULAR TEARS.**



Sometimes customers catch the boot fabric on a sharp object near the gas cap. When this happens the boot fabric can tear in the shape of a triangle. Any tear larger than  $\frac{1}{2}$  inch on a side of the triangle tear means that the boot must be replaced or repaired. Generally, if you cover the tear with a penny and you can still see the tear, the boot needs to be fixed.

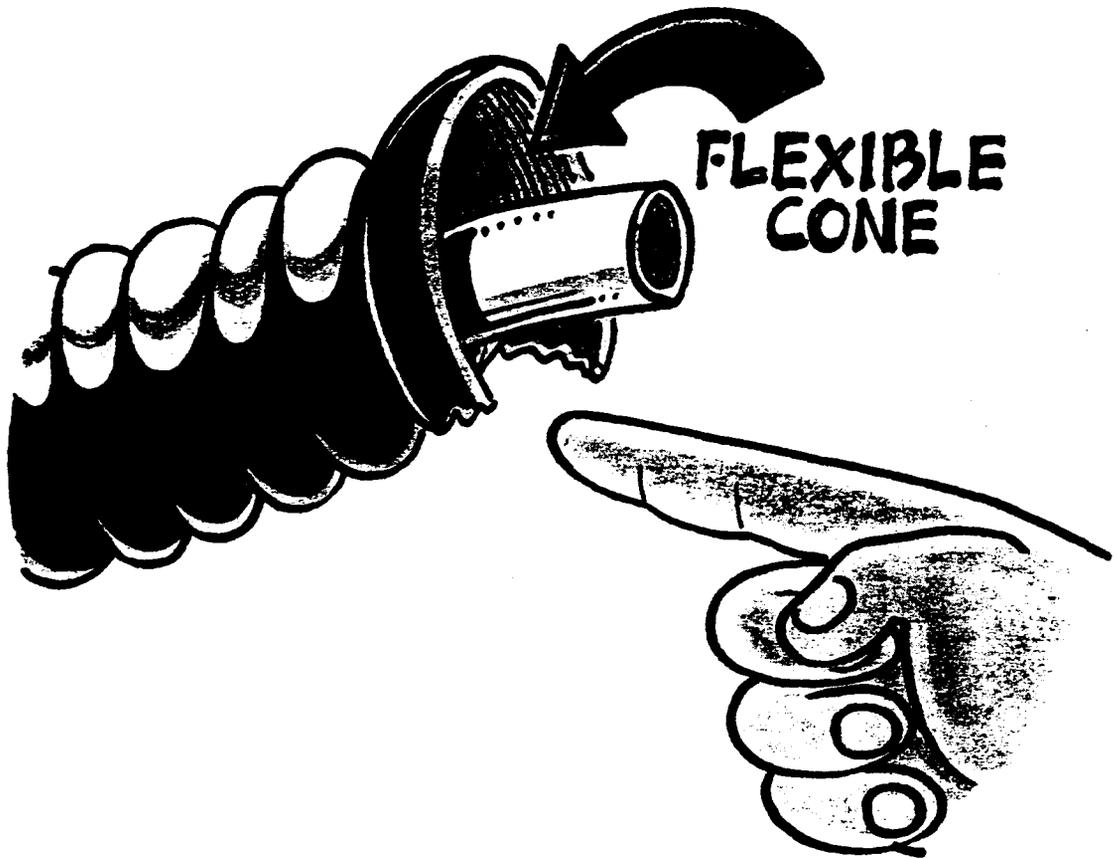
# **SLIT BOOTS... SHOULD BE REPLACED**



Wear and tear may cause slits to form in the depressions of the boot fabric which will cause a vapor leak. Use your thumbs to separate the ribs of the boot to check for these slits. Replace or repair all boots that have slits one inch or larger. Its a good practice to replace any torn boot.

**A** T LEAST...

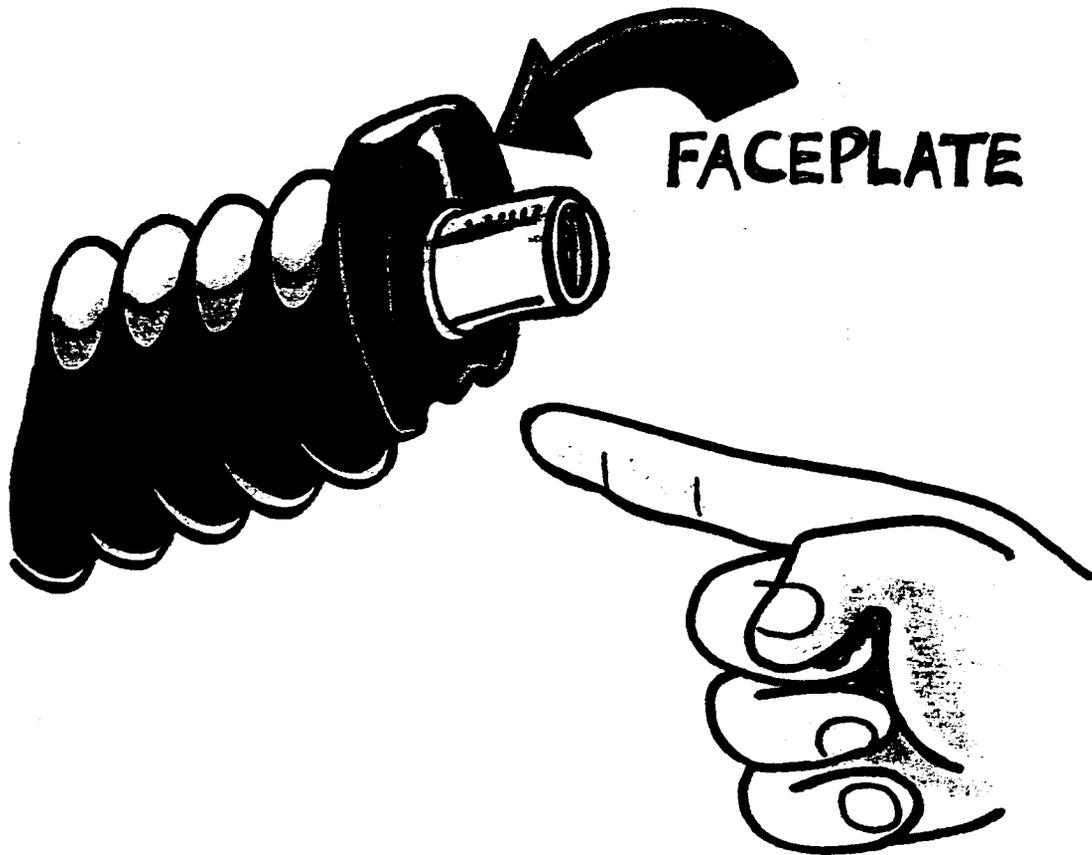
**$\frac{3}{4}$**  OF THE FLEXIBLE CONE  
IS NEEDED



If your vapor recovery system nozzles have flexible cones (assist system), replace any damaged flexible cones. The law requires that at least  $\frac{3}{4}$  of the flexible cone must be present when used to dispense gasoline. Examine each flexible cone daily to ensure that at least  $\frac{3}{4}$  of the circle is intact. Remember, it's best to replace any flexible cone that is damaged or partially missing.

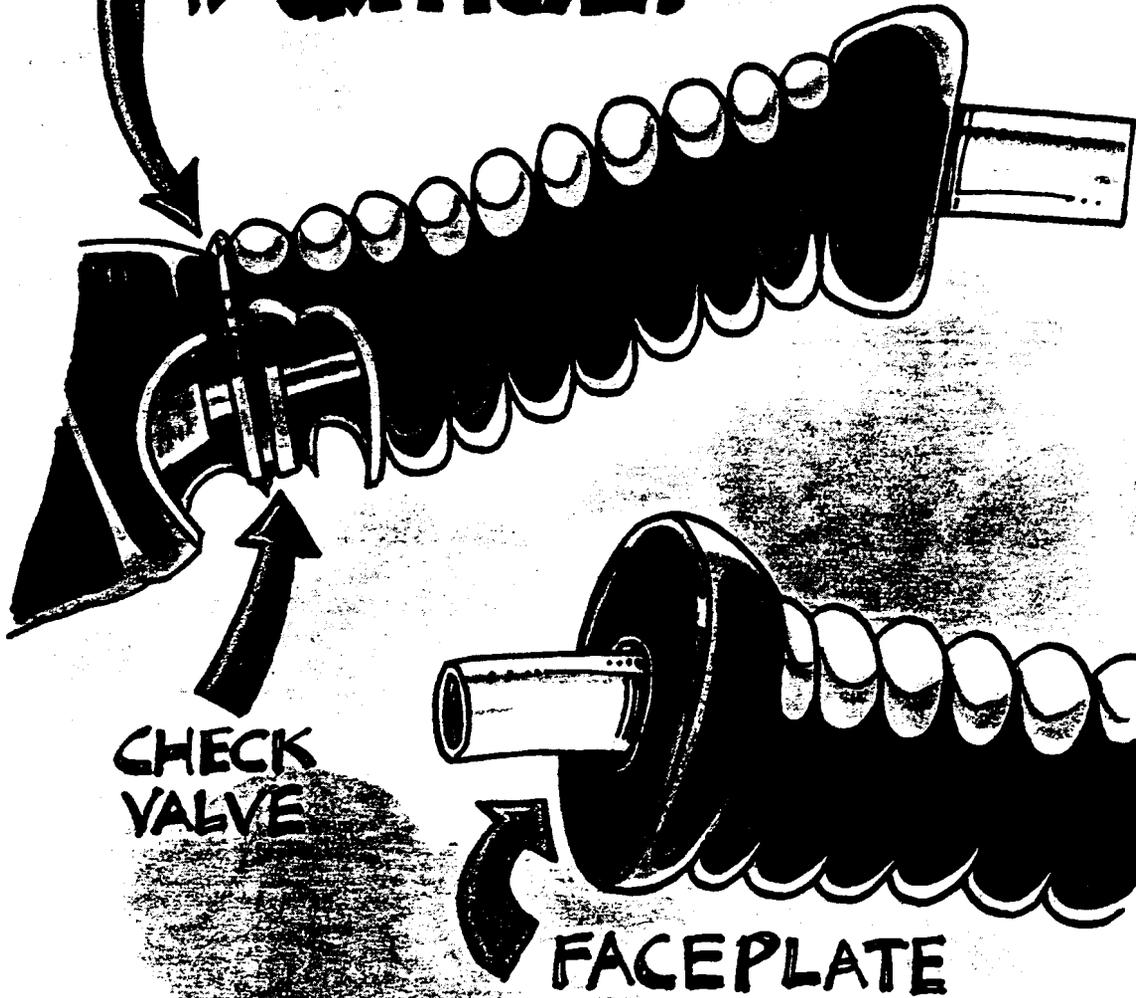
**AT LEAST...**

**$\frac{3}{4}$  OF THE FACEPLATE  
MUST MAKE A SEAL!**



If your vapor recovery system nozzles have faceplates (balance system), replace any damaged or warped faceplates. The law requires that at least  $\frac{3}{4}$  of the faceplate must make a good seal when used to dispense gasoline. Examine each nozzle faceplate daily to ensure that a good seal will occur and that at least  $\frac{3}{4}$  of the faceplate is intact. Remember, it's best to replace any faceplate which does not provide a good seal with the automobile gas tank.

**WIRE OR CLAMP PLACEMENT  
IS CRITICAL!**



On some vapor recovery nozzles equipped with a faceplate (not a flexible cone) the wire or clamp on the upper portion of the boot attaches the boot snugly to a "check valve" inside. If the wire or clamp is too low, the valve will not open and the nozzle will click off. If the wire or clamp is too high, the valve will stay open and vapors will escape. Always make sure that the wires and clamps are placed properly.

# REPLACE ANY FLATTENED, KINKED OR TORN HOSES.



Hoses that are flattened or kinked will restrict the vapor return line. When this happens the vapors cannot return to your underground tank and are therefore released into the air. Torn hoses allow the vapors to escape out of the tear. Also, hoses that are kinked, flattened or full of gasoline cause the nozzle to constantly shut off while fueling. This makes customers very unhappy. Check your hoses daily and replace any damaged lines.

# REMOVE...

## MALFUNCTIONING NOZZLES FROM SERVICE



**IF A NOZZLE FAILS TO SHUT OFF...  
REMOVE IT FROM SERVICE IMMEDIATELY!**

Sometimes the interior components of the nozzle can fail. When a micro-switch is broken the nozzle will not automatically shut off. This can cause overfilling of the tank and, as with topping off, result in liquid gas blocking the vapor line. Remove these malfunctioning nozzles from service and get them repaired.



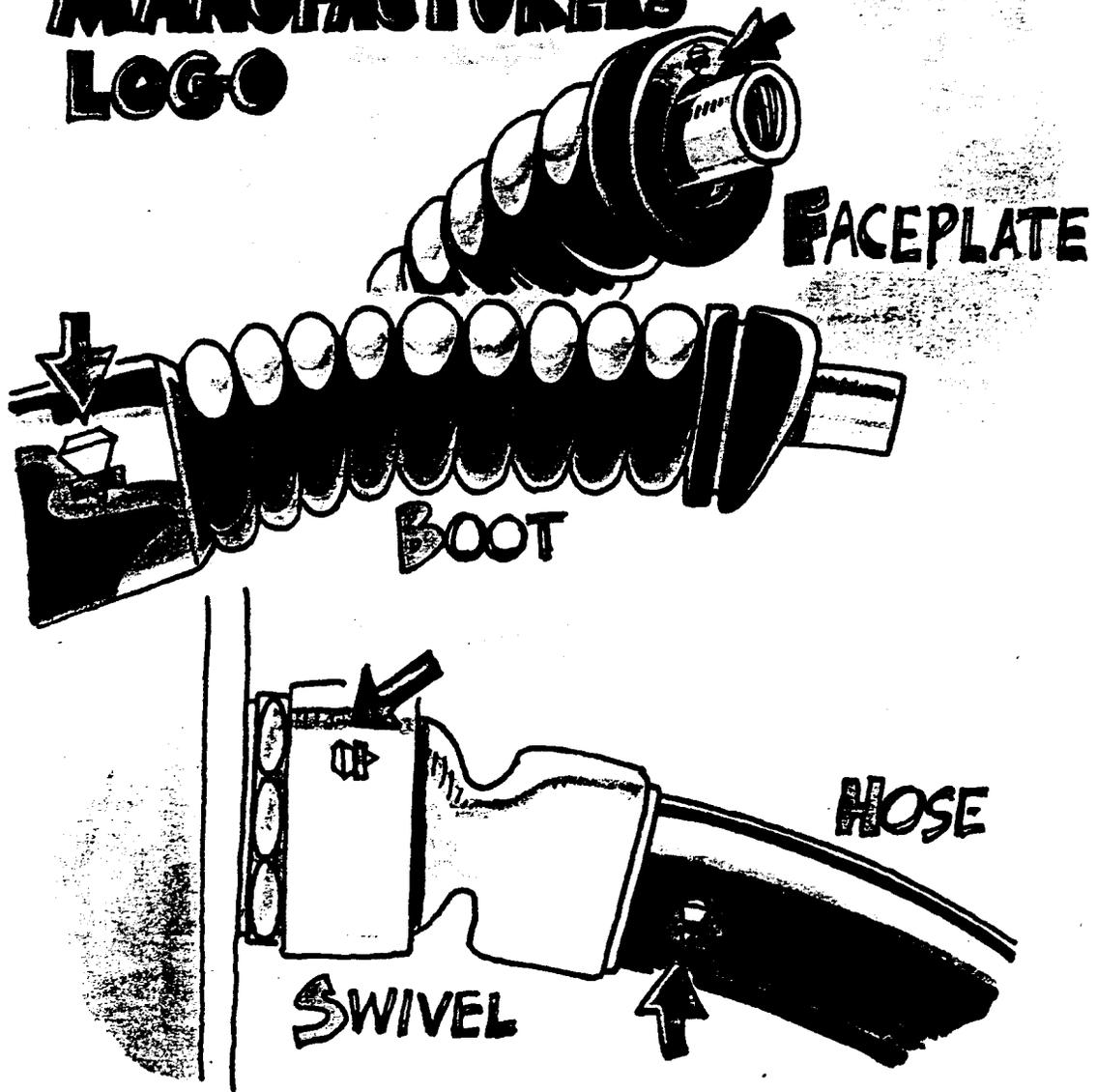
# IS THE PART CERTIFIED?



**CALL** ...  
**YOUR DISTRIBUTOR**  
OR  
The **ARB**

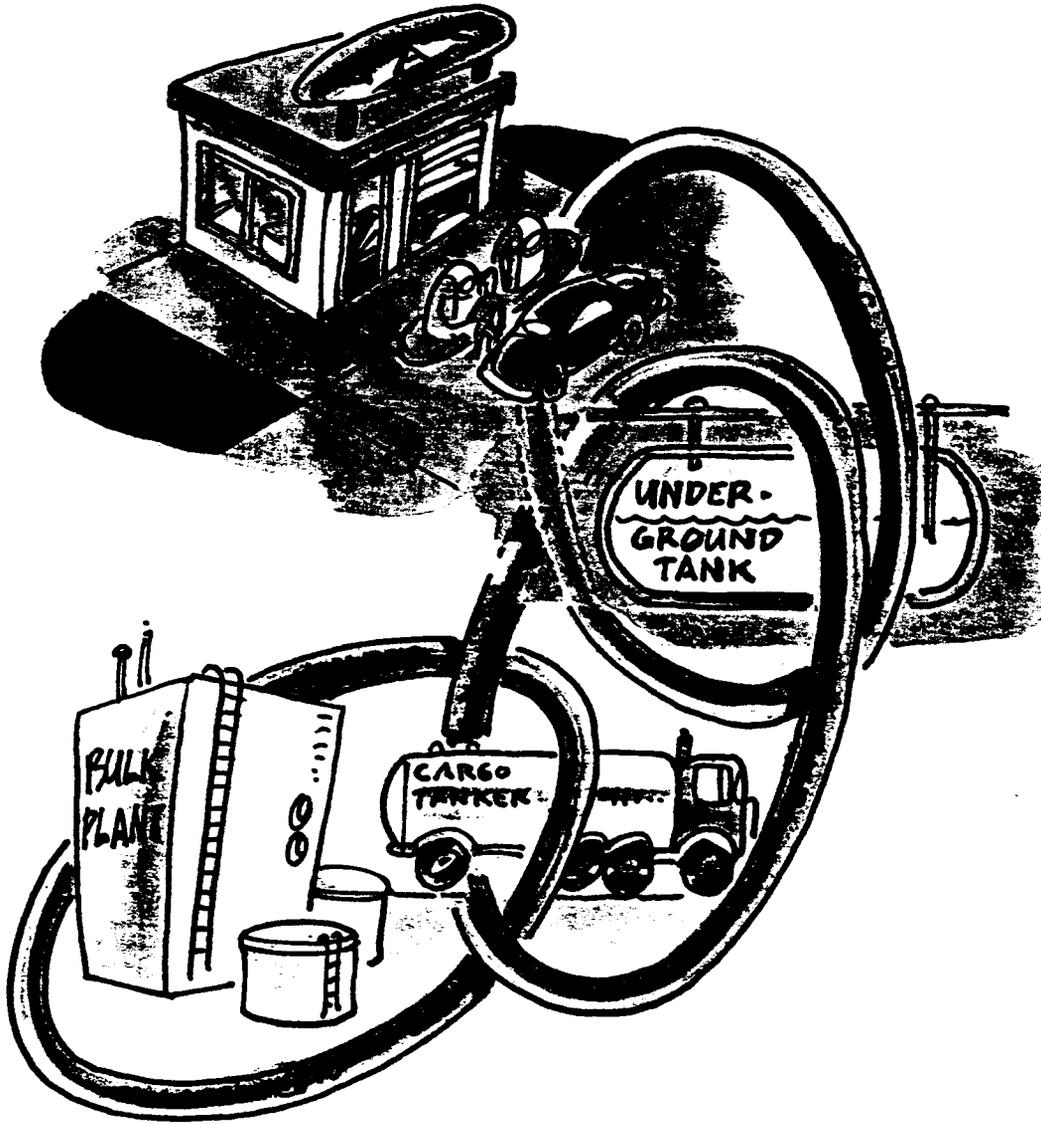
Make sure your vapor recovery components are certified. If you cannot determine if a part you are using is certified for use with your system, call and find out. First, contact your company supplier. If you still aren't sure, contact your local air pollution control district at \_\_\_\_\_ or the Air Resources Board at 1-800-952-5588. Remember the use of uncertified components subjects you to a fine of \$10,000 per day or more.

# LOOK FOR THE MANUFACTURER'S LOGO



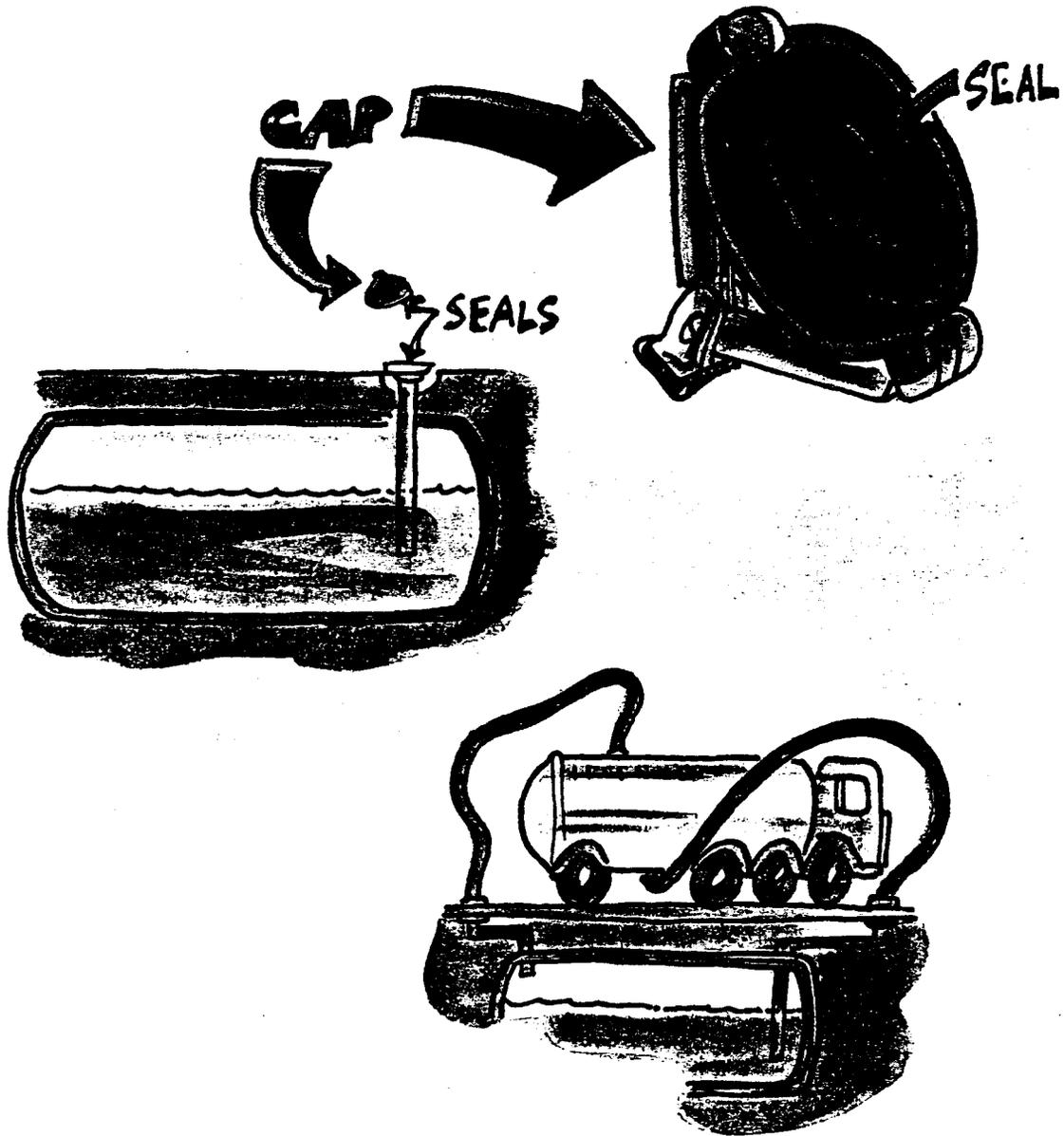
The California Air Resources Board must certify all equipment used on your vapor recovery system to ensure that the components work properly and do not cause a fire hazard. The use of equipment which has not been certified by the State is against the law and you may be subject to a large fine. It is your responsibility to make sure all of your equipment is certified. Look for the manufacturer's logo and the State Fire Marshal sticker.

# DON'T BREAK THE CHAIN..



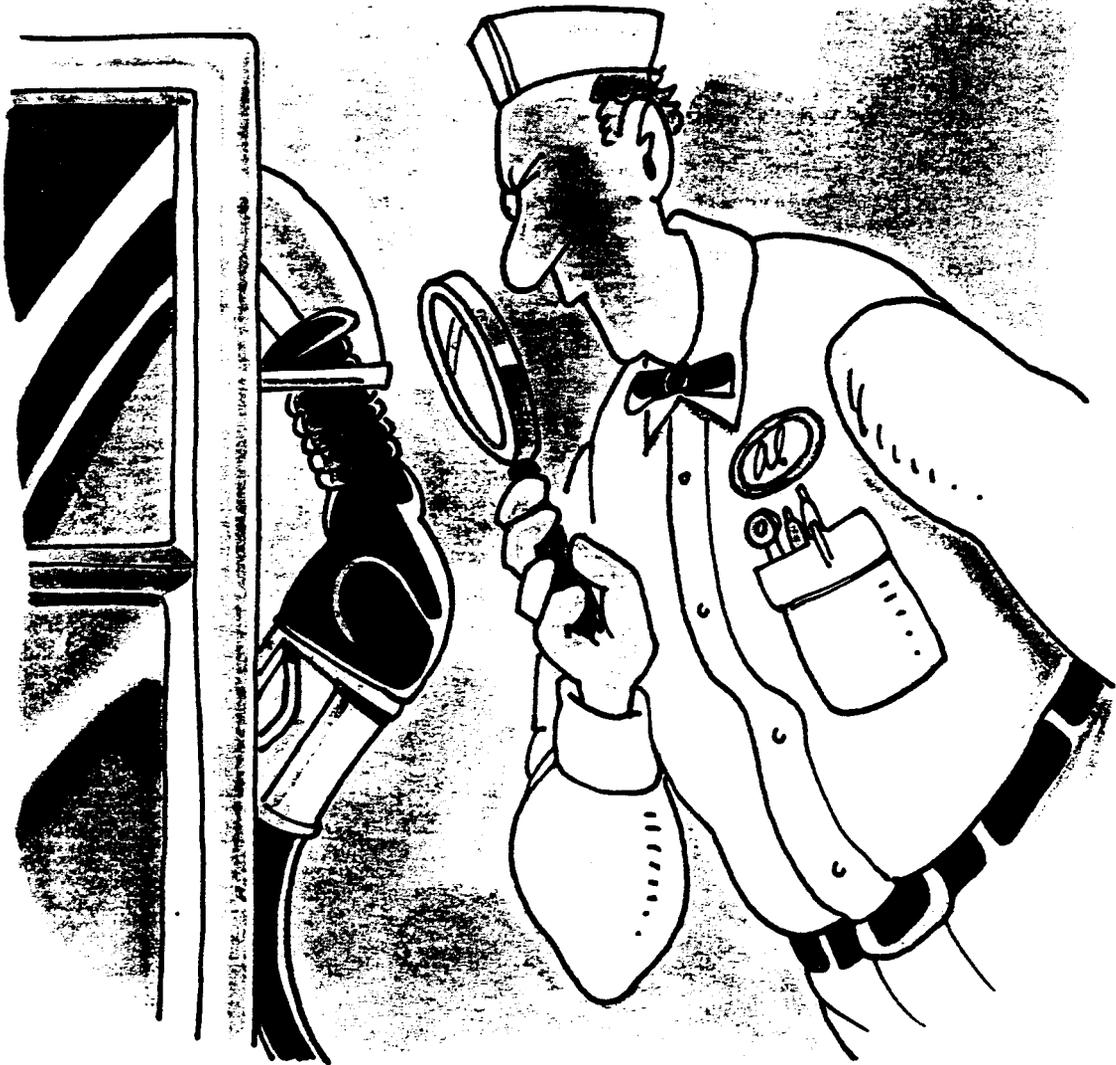
The reason your station is equipped with a vapor recovery system, is to collect vapors from your customers' gasoline tanks and return them to the refinery to be reprocessed into gasoline. This process involves your customers, you, the delivery truck which delivers your gasoline and the facilities where the delivery trucks got the gasoline. If at any location along this chain, someone fails to use the vapor recovery or forgets to keep it in good working order, these harmful vapors escape and contribute to our air pollution and toxic problems.

# CHECK YOUR: TANKS, SEALS & CAPS!



Check to be sure your seals are in good operating condition and your caps are on the underground tanks. This is especially important after a gasoline delivery is made. Also, be sure the driver of the delivery truck hooks up both the gasoline line and the vapor line.

# GIVE YOUR SYSTEM THE "ONCE OVER" DAILY



Every morning when you unlock the pumps, or better yet at each shift change, give your vapor recovery system the "once over." Check each piece of vapor recovery equipment for wear and damage making sure everything is in good working condition. Identify any potential problems and take action. Replace or repair defective components immediately. Do your part to help yourself, your customers, and the environment.



APPENDIX H  
STAGE II REGULATIONS

Development of appropriate rules is necessary in order to satisfy the intent of the program and determine individual facility compliance. As with any regulation, Stage II regulations should be clearly written and specific. The rules should contain definitions; requirements for the equipment installation, operation, and maintenance; exemptions levels; compliance schedules; and testing and recordkeeping requirements. Many Stage II regulations also require that operating instructions be posted at the pumps. This appendix contains copies of current Stage II regulations. Specifically, this appendix contains the following regulations:

- |              |  |
|--------------|--|
| Section H.1  | Model Benzene Phase II Rule By California Air Resources Board given to Districts |
| Section H.2  | Bay Area Air Quality Management District   |
| Section H.3  | South Coast Air Quality Management District                                      |
| Section H.4  | San Diego Air Pollution Control District   |
| Section H.5  | District of Columbia   |
| Section H.6  | Missouri/St. Louis   |
| Section H.7  | New Jersey   |
| Section H.8  | New York   |
| Section H.9  | Dade County, FL  |
| Section H.10 | Massachusetts  |
| Section H.11 | Philadelphia   |

Section H.12 Washington State

APPENDIX H.1  
CALIFORNIA AIR RESOURCES BOARD  
MODEL BENZENE RULE

5. Amendment filed 2-25-87; effective thirtieth day thereafter (Register 87, No. 9).
7. Amendment filed 10-4-87; operative 11-7-87 (Register 87, No. 43).
8. Amendment filed 3-15-88; operative 4-14-88 (Register 88, No. 13).
9. Amendment filed 7-22-88; operative 8-21-88 (Register 88, No. 31).
10. Amendment adding methylene chloride filed 6-7-90; operative 7-7-90 (Register 90, No. 30).

## Subchapter 7.5 Airborne Toxic Control Measures

### § 93100. Nonvehicular Airborne Toxic Control Measures.

The nonvehicular airborne toxic control measures contained in this subchapter have been adopted by the state board and shall be implemented by adoption of regulations by local air pollution control and air quality management districts pursuant to Health and Safety Code Section 39666.

NOTE: Authority cited: Sections 39600, 39601, 39650 and 39666, Health and Safety Code. Reference: Sections 39650 and 39666, Health and Safety Code.

#### HISTORY

1. New section filed 6-16-88; operative 7-16-88 (Register 88, No. 26).

### § 93101. Benzene Airborne Toxic Control Measure—Retail Service Stations.

(a) Definitions. For the purposes of this section, the following definitions shall apply:

- (1) "ARB-certified vapor recovery system" means a vapor recovery system which has been certified by the state board pursuant to Section 41954 of the Health and Safety Code.
- (2) "Excavation" means exposure to view by digging.
- (3) "Gasoline" means any organic liquid (including petroleum distillates and methanol) having a Reid vapor pressure of four pounds or greater and used as a motor vehicle fuel or any fuel which is commonly or commercially known or sold as gasoline.
- (4) "Motor vehicle" has the same meaning as defined in Section 415 of the Vehicle Code.
- (5) "Owner or operator" means an owner or operator of a retail service station.
- (6) "Phase I vapor recovery system" means a gasoline vapor recovery system which recovers vapors during the transfer of gasoline from delivery tanks into stationary storage tanks.
- (7) "Phase II vapor recovery system" means a gasoline vapor recovery system which recovers vapors during the fueling of motor vehicles from stationary storage tanks.
- (8) "Retail service station" means any new or existing motor vehicle fueling service station subject to payment of California sales tax on gasoline sales.
- (9) "Existing retail service station" means any retail service station operating, constructed, or under construction as of the date of district adoption of regulations implementing this control measure.
- (10) "New retail service station" means any retail service station which is not constructed or under construction as of the date of district adoption of regulations implementing this control measure.
- (11) "Tank replacement" means replacement of one or more stationary storage tanks at an existing retail service station or excavation of 50 percent or more of an existing retail service station's total underground liquid piping from the stationary storage tanks to the gasoline dispensers.
- (12) "Throughput" means the volume of gasoline dispensed at a retail service station.
  - (b) Phase I Vapor Recovery System Requirements.
    - (1) No owner or operator shall transfer, permit the transfer, or provide equipment for the transfer of gasoline, and no other person shall transfer gasoline from a gasoline delivery tank equipped with a vapor recovery system into a stationary storage tank at a retail service station unless an ARB-certified Phase I vapor recovery system is installed on the stationary storage tank and used during the transfer.

(2) The provisions of subdivision (b)(1) shall not apply to:

(A) A transfer to a stationary storage tank with a capacity of less than 1.0 cubic meter (260 gallons).

(B) A transfer to a stationary storage tank used the majority of the time for the fueling of implements of husbandry as defined in Division 16, Chapter 1, of the Vehicle Code.

(C) A transfer to a stationary storage tank used exclusively to fuel motor vehicles with a fuel capacity of five gallons or less.

(D) An existing retail service station with an annual station gasoline throughput from tanks other than those described in subdivisions (b)(2)(A), (b)(2)(B) and (b)(2)(C) of 480,000 or fewer gallons during the calendar year prior to district adoption of the measure. If during any calendar year thereafter the gasoline throughput from such tanks at the existing retail service station exceeds 480,000 gallons, this exemption shall cease to apply commencing with the first day of the following calendar year.

(E) A transfer to a stationary storage tank at an existing retail service station which receives gasoline exclusively from delivery tanks that are not required to be equipped with vapor recovery systems.

(3) Notwithstanding (b)(2)(D), at the time of tank replacement at an existing retail service station, ARB-certified Phase I vapor recovery systems shall be installed and used thereafter on all of the station facilities, except those which are exempt from the Phase I requirement by (b)(2)(A), (b)(2)(B), (b)(2)(C) or (b)(2)(E).

(c) Phase II Vapor Recovery System Requirements.

(1) No owner or operator shall transfer, permit the transfer or provide equipment for the transfer of gasoline from a stationary storage tank at a retail service station into a motor vehicle fuel tank unless an ARB-certified Phase II vapor recovery system is installed and used during the transfer.

(2) The provisions of subdivision (c)(1) shall not apply to:

(A) A transfer of gasoline from a stationary storage tank which is exempt from Phase I requirements under subdivision (b)(2)(A), (b)(2)(B), or (b)(2)(C).

(B) An existing retail service station which is exempt from Phase I requirements under subdivision (b)(2)(D).

(3) Notwithstanding (c)(2)(B), at the time of tank replacement at an existing retail service station, ARB-certified Phase II vapor recovery systems shall be installed and used thereafter on all of the station facilities, except those which are exempt from the Phase II requirement by (c)(2)(A).

(d) Correction of Defects. No owner or operator shall use or permit the use of any Phase II system or any component thereof containing a defect identified in Title 17, California Code of Regulations, Section 94006 until it has been repaired, replaced, or adjusted, as necessary to remove the defect, and, if required under Health and Safety Code Section 41960.2, district personnel have reinspected the system or have authorized its use pending reinspection. Nothing in this subdivision shall excuse compliance with subdivision (c)(1).

(e) Compliance Schedule. For purposes of this section, the following compliance schedule shall apply:

(1) The owner or operator of any new retail service station subject to this section shall comply with the provisions of this section at the time gasoline is first sold from the station.

(2) The owner or operator of any existing retail service station without ARB-certified Phase I and II vapor recovery systems shall notify the air pollution control officer in writing in advance of an intended tank replacement and shall secure all necessary permits and other approvals for the installation of Phase I and II vapor recovery systems. The owner or operator of an existing retail service station shall comply with the provisions of this section upon completion of the tank replacement.

(3) The owner or operator of an existing retail service station subject to this section, who has not earlier complied in accordance with (e)(2) shall within 15 months after district adoption of the regulations implementing this control measure secure all permits and other approvals and



essary for installation of the equipment required by this section. The owner or operator shall comply with the provisions of this section within 24 months after district adoption of regulations implementing this control measure.

(4) Excluding those existing retail service stations subject to this section as a result of tank replacement, the owner or operator of a previously exempt stationary storage tank or retail service station where the operation or annual throughput has changed such that the exemption from either the Phase I or II requirements or both is no longer applicable, shall comply with the section's provisions in accordance with (e)(3) above, provided that the first day the retail station or stationary storage tank is no longer exempt shall be considered as the date of district adoption of regulations implementing this control measure.

NOTE: Authority cited: Sections 39600, 39601, 39650 and 39666, Health and Safety Code. Reference: Sections 39650 and 39666, Health and Safety Code.

**HISTORY**

1. New section filed 6-16-88; operative 7-16-88 (Register 88, No. 26).

APPENDIX H.2

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

**REGULATION 8**  
**ORGANIC COMPOUNDS**  
**RULE 7**  
**GASOLINE DISPENSING FACILITIES**

**8-7-100 GENERAL**

**8-7-101 Description:** The purpose of this Rule is to limit emissions of organic compounds from gasoline dispensing facilities. (Amended 3/17/82, 11/30/83, 10/17/90)

**8-7-110 Exemptions**

**8-7-111 Phase I Exemptions:** The following are exempt from Section 8-7-301:

111.1 Storage tanks with a capacity of less than 1.0 cubic meter (260 gallons).

111.2 Storage tanks installed before October 1, 1974 at facilities with an annual throughput of less than 227 cubic meters (60,000 gallons) which were not equipped with Phase I vapor recovery as of July 1, 1983. Should throughput exceed 227 cubic meters (60,000 gallons) in any one year, this exemption shall no longer apply.

111.3 Storage tanks used primarily for the fueling of implements of husbandry as defined in Division 16, Chapter 1, of the California Vehicle Code, provided such tanks are equipped with a submerged fill pipe.

111.4 Storage tanks where the APCO determines in writing that Phase I vapor recovery is not feasible.

(Amended and Renumbered 11/30/83, 3/4/87, Amended 10/17/90)

**8-7-112 Phase II Exemptions:** The following are exempt from Section 8-7-302:

112.1 Facilities which are exempt from Phase I.

112.2 Delivery of fuel to vehicle tanks, of a class of vehicles where it is determined by the APCO in writing that fill-neck configuration, location or other design features of that class of vehicles makes application of the requirements of this rule inapplicable to that class of vehicles. This subsection 8-7-112.2 shall not exempt any gasoline dispensing facility from installing and using such vapor recovery systems as required by this Rule.

112.3 Dispensing of gasoline at facilities where the APCO determines in writing that Phase II vapor recovery is not feasible.

112.4 Vehicle to vehicle refueling.

112.5 Facilities which exclusively refuel motor vehicle tanks with a capacity of 0.019 cubic meters (5 gallons) or less.

112.6 Facilities which exclusively refuel aircraft.

112.7 Facilities with an annual throughput of less than 227 cubic meters (60,000 gallons) where Phase II vapor recovery equipment was not installed prior to July 1, 1983. Should throughput exceed 227 cubic meters (60,000 gallons) in any one year, this exemption shall no longer apply.

112.8 Deleted March 4, 1987

(Amended and Renumbered 11/30/83, 3/4/87, Amended 10/17/90)

**8-7-113 Tank Gauging and Inspection Exemption:** Any tank may be opened for gauging or inspection when loading operations are not in progress provided that such tank is not pressurized. (Adopted November 30, 1983)

**8-7-114 Stationary Tank Testing Exemption:** The requirements of 8-7-301 do not apply to deliveries made to completely fill stationary tanks for the purpose of leak testing, provided that such deliveries do not exceed 3.8 cubic meters (1000 gallons) at each facility. (Adopted November 30, 1983)

8-7-200 **DEFINITIONS**

- 8-7-201 **CARB Certified Vapor Recovery System:** A vapor recovery system which has been certified by the California State Air Resources Board (CARB) pursuant to Section 41954 of the California Health and Safety Code.  
(Adopted November 30, 1983, Amended October 17, 1990)
- 8-7-202 **Gasoline:** Motor fuel containing any petroleum distillate where the Reid vapor pressure of the fuel is greater than 4.0 pounds.  
(Adopted November 30, 1983, Amended October 17, 1990)
- 8-7-203 **Leak Free:** A liquid leak of no greater than three drops per minute.  
(Adopted November 30, 1983, Amended October 17, 1990)
- 8-7-204 **Phase I:** Gasoline vapor recovery during transfer of gasoline into stationary tanks at dispensing facilities. (Adopted November 30, 1983, Amended October 17, 1990)
- 8-7-205 **Phase II:** Gasoline vapor recovery during motor vehicle refueling operations from stationary tanks. (Adopted November 30, 1983)
- 8-7-206 **Vapor Tight:** A leak of less than 100 percent of the lower explosive limit on a combustible gas detector measured at a distance of 2.5 cm (1 inch) from the source or no visible evidence of air entrainment in the sight glasses of liquid delivery hoses or as determined by the Manual of Procedures, Volume IV, ST-30.  
(Adopted 11/30/83, deleted and amended 3/4/87, Amended 10/17/90)
- 8-7-207 **Submerged Fill Pipe:** Any discharge pipe or nozzle which meets either of the following conditions:
- 207.1 Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is 15 cm (6 inches) from the bottom of the tank.
  - 207.2 Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 centimeters (18 inches) from the bottom of the tank. (Adopted November 30, 1983)
- 8-7-208 **Top Off:** To attempt to dispense gasoline to a motor vehicle fuel tank after a vapor recovery dispensing nozzle has shut off automatically. The filling of those vehicle tanks which, because of the nature and configuration of the fill pipe, causes premature shut off of the dispensing nozzle, and which are filled only after the seal between the fill pipe and the nozzle is broken, shall not be considered topping off.  
(Renumbered November 30, 1983)
- 8-7-209 **Gasoline Dispensing Facility:** Any stationary facility which dispenses gasoline directly into the fuel tanks of motor vehicles. This facility shall be treated as a single source which includes all necessary equipment for the exclusive use of the facility, such as nozzles, dispensers, pumps, vapor return lines, plumbing and storage tanks.  
(Adopted March 4, 1987)

8-7-300 **STANDARDS**

- 8-7-301 **Phase I Requirements:** A person subject to Phase I vapor recovery requirements shall comply with all of the following requirements:
- 301.1 A person shall not transfer or allow the transfer of gasoline into stationary tanks at a gasoline dispensing facility unless a CARB certified Phase I vapor recovery system is used.
  - 301.2 All Phase I vapor recovery systems at gasoline dispensing facilities shall be installed as per CARB certifications and shall recover at least 95% of gasoline vapors. This standard shall apply to each stationary tank during each bulk gasoline delivery.
  - 301.3 All Phase I vapor recovery systems shall be equipped with a submerged fill pipe.

- 301.4 Effective July 1, 1991, all open vent pipes on stationary tanks at gasoline dispensing facilities shall be equipped with pressure-vacuum relief valves. Pressure relief shall be set between 1 and 3 inches water column.
- 301.5 All Phase I vapor recovery equipment shall be maintained to be properly operating as specified by the manufacturer.
- 301.6 All Phase I vapor recovery equipment except pressure-vacuum relief valves shall be maintained to be leak-free and vapor tight.
- 301.7 Effective July 1, 1991, all Phase I vapor recovery systems shall have a poppetted drybreak on the vapor return.

(Adopted November 30, 1983, Amended October 17, 1990)

**8-7-302 Phase II Requirements:** A person subject to Phase II vapor recovery requirements shall comply with all of the following requirements:

- 302.1 A person shall not transfer or allow the transfer of gasoline from stationary tanks into motor vehicle fuel tanks at a gasoline dispensing facility unless a CARB certified Phase II vapor recovery system is used.
- 302.2 All Phase II vapor recovery systems shall be maintained as per most recent CARB certifications.
- 302.3 All Phase II vapor recovery equipment shall be maintained to be properly operating as specified by the manufacturer and substantially free of defects pursuant to Section 41960.2(c) of the California Health and Safety Code.
- 302.4 Any component identified as defective but that does not substantially impair the effectiveness of the vapor recovery system pursuant to Section 41960.2 (e) of the California Health and Safety Code shall be repaired or replaced within seven days.
- 302.5 All Phase II vapor recovery equipment shall be maintained to be leak-free and vapor tight.

(Adopted 11/30/83, Amended 10/17/90)

**8-7-303 Topping Off:** A person shall not top off motor vehicle fuel tanks.

(Renumbered November 30, 1983)

**8-7-304 Certification Requirements:** A person shall not offer for sale, sell or install within the District, any Phase I or Phase II vapor recovery equipment unless such equipment is CARB certified.

(Amended and Renumbered 11/30/83, Amended 10/17/90)

**8-7-305 Deleted October 17, 1990**

**8-7-306 Prohibition of Use:** Whenever the APCO determines that a Phase II vapor recovery system, or any component thereof, contains a defect specified by CARB pursuant to Section 41960.2(c) of the Health and Safety Code, the APCO shall mark such system or component "Out of Order." No person shall use or permit the use of such marked component or system until it has been repaired, replaced, or adjusted, as necessary, and the APCO has reinspected it or has authorized its use pending reinspection.

**8-7-307 Posting of Operating Instructions:** The operator of each retail facility utilizing a Phase II system shall conspicuously post operating instructions for the system in the gasoline dispensing area. The instructions shall clearly describe how to fuel vehicles correctly with vapor recovery nozzles utilized at the station, and shall include a warning that topping off may result in spillage or recirculation of gasoline and is prohibited. Additionally, the instructions shall include a prominent display of the District's or the CARB's toll free telephone number for complaints.

(Amended November 30, 1983)

**8-7-308 Operating Practices:** Gasoline shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere.

(Adopted November 30, 1983)

**8-7-309 Contingent Vapor Recovery Requirements:** Facilities which are equipped with Phase II vapor recovery must also be equipped with Phase I vapor recovery.

(Adopted March 4, 1987, Amended October 17, 1990)

October 17, 1990

- 8-7-310 **New Tank Phase II Requirements:** All gasoline tanks with a capacity greater than 1.0 cubic meter (260 gallons) and installed after March 4, 1987, must be equipped with Phase I and II vapor recovery. (Adopted 3/4/87, Amended 10/17/90)
- 8-7-311 **Exempt Tank Requirements:** Any tank with a capacity greater than 1.0 cubic meter (260 gallons) where Phase I vapor recovery equipment is not required must be equipped with a submerged fill pipe. Above ground gasoline storage tanks shall be equipped with a pressure-vacuum relief valve which is set to either a pressure within 10% of the maximum allowable working pressure of the tank or at least 25.8 mm Hg (0.5 psig) pressure. (Adopted October 17, 1990)
- 8-7-312 **Removal of Gasoline:** A person shall not transfer or allow the transfer of gasoline from stationary tanks into gasoline delivery vehicles unless a vapor recovery system that collects 95% of gasoline vapors is used. (Adopted October 17, 1990)
- 8-7-400 **ADMINISTRATIVE REQUIREMENTS**
- 8-7-401 **Equipment Installation and Modification:** A person shall not install or modify Phase I or Phase II gasoline vapor recovery equipment, exclusive of repair or replacement of like parts, unless an Authority to Construct has been obtained pursuant to Section 301 of Regulation 2, Rule 1. (Adopted November 30, 1983)
- 8-7-402 **Deleted October 17, 1990**
- 8-7-403 **Deleted March 4, 1987**
- 8-7-404 **Certification of New Installations:** Any person who installs or modifies underground Phase II vapor recovery piping under an Authority to Construct shall provide written certification, where applicable pursuant to the California Health and Safety Code Section 41954, that the Phase II vapor recovery system meets the dynamic backpressure requirements. Certification shall be established by testing, as prescribed in the Manual of Procedures, Volume IV, ST-27.  
(Adopted October 17, 1990)
- 8-7-405 **Compliance Schedule, Loss of Exemption:** Any person exempt from Phase II vapor recovery requirements before October 17, 1990, who operates a facility that exclusively refuels vehicles which are not motor vehicles as defined by the California Vehicle Code shall comply with the following schedule:  
405.1 By March 1, 1991, submit a petition to the APCO for exemption under Section 8-7-112 or an application for an Authority to Construct pursuant to Section 301 of Regulation 2, Rule 1.  
405.2 By June 1, 1991, be in final compliance with this rule.  
(Adopted October 17, 1990)
- 8-7-500 **MONITORING AND RECORDS**
- 8-7-501 **Burden of Proof:** The burden of proof of eligibility for exemption from this rule is on the applicant. Persons seeking such an exemption shall maintain adequate records and furnish them to the APCO upon request.(Adopted November 30, 1983)
- 8-7-502 **Right of Access:** Any facility subject to this rule shall maintain on site the means to provide access to any and all components as necessary to determine compliance with the provisions of this rule. Access shall be furnished to the APCO upon request. (Adopted October 17, 1990)
- 8-7-600 **MANUAL OF PROCEDURES**
- 8-7-601 **Determination of Equipment in Compliance with Dynamic Backpressure Requirements and Vapor Tight:** The means of determining whether equipment is in compliance with dynamic backpressure requirements and vapor tight shall be evaluated as prescribed in the Manual of Procedures, Volume IV, ST-27 and ST-30.  
(Amended November 30, 1983, October 17, 1990)

- 8-7-602 **Determination of Phase I Vapor Recovery Efficiency:** Phase I Vapor Recovery Efficiency shall be determined as prescribed in the Manual of Procedures, Volume IV, ST - 36. (Adopted October 17, 1990)
- 8-7-603 **Determination of Applicability:** To determine the applicability of this Rule, samples of gasoline shall be analyzed as prescribed in the Manual of Procedures, Volume III, Method 13. (Adopted October 17, 1990)

APPENDIX H.3  
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

(Adopted Jan. 9, 1976)(Amended Sept. 3, 1976)(Amended Feb. 4, 1977)  
(Amended Nov. 18, 1977)(Amended Feb. 3, 1978)(Amended Jan. 5, 1979)  
(Amended May 4, 1979)(Amended Dec. 7, 1979)(Amended Jan. 16, 1981)  
(Amended Oct. 15, 1982)(Amended Nov. 1, 1985)(Amended March 4, 1988)  
(Amended July 7, 1989)

**RULE 461. GASOLINE TRANSFER AND DISPENSING**

**(a) Purpose**

This rule is intended to control gasoline vapor emissions from gasoline transfer and dispensing operations.

**(b) Definitions**

For the purpose of this rule, the following definitions shall apply:

- (1) **ALTERATION(S) AND/OR REPAIR(S)** of a previously exempted Gasoline Storage and/or Dispensing Facility is any of the following:
  - (A) The replacement of one or more existing storage tank(s);
  - (B) The removal or addition of storage tank(s) or dispensing nozzle(s), piping or any other component.
  - (C) The replacement of storage tanks, dispensing nozzle(s), piping or any other component with different characteristics from those of the existing or original equipment;
  - (D) Any excavation (exposure to view by digging) of ~~an existing~~ gasoline storage tank and/or the underground liquid piping from the storage tank(s) to the gasoline dispenser(s);
  - (E) As determined in writing by the District, Office of Operations.
- (2) **"CARB CERTIFIED" VAPOR RECOVERY SYSTEM** is any Phase I or Phase II vapor recovery system which has been certified by the California Air Resources Board as capable of recovering or processing displaced gasoline vapors to an efficiency of ninety-five (95) percent or greater. A CARB certified "Teed" Phase I system shall also be considered to meet this definition if it was in operation prior to July, 1983.
- (3) **GASOLINE STORAGE AND DISPENSING FACILITY** means an aggregate of one or more stationary storage tanks, any of which is subject to the provisions of paragraphs (c), (d), or (e) of this rule, together with dispensers and control equipment required by the rule.

- (4) **GASOLINE VAPORS** means the organic compounds in the displaced vapors, including any entrained liquid gasoline. Gasoline is a fuel which is any petroleum distillate or petroleum distillate/alcohol blend having a True Vapor Pressure greater than 200 mm Hg (3.9 psi) and less than 760 mm Hg (14.7 psi) at 100 degrees F, or as approved by CARB.
- (5) **LIQUID TIGHT** means a liquid leak rate not exceeding three drops per minute.
- (6) **MOTOR VEHICLE** is any self-propelled vehicle registered or which requires registration for use on the highway.
- (7) **REBUILT EQUIPMENT** is any component of a vapor recovery system that has undergone repair or replacement of any or all of its internal parts.
- (8) **SUBMERGED FILL TUBE** is any fill tube, the discharge opening of which is entirely submerged, when the liquid level above the bottom of the tank is:
  - (A) 15.2 cm (6 inches), for tanks filled from the top, except for flat bottom tanks which is 7.6 cm (3 in.), or
  - (B) 45.7 cm (18 inches) for tanks filled from the side.
- (9) **VAPOR TIGHT** means the detection of less than 10,000 ppm hydrocarbon concentration, as determined by EPA reference Method 21, using an appropriate analyzer calibrated with methane at a distance of 1 cm from the source.

(c) **Requirements**

(1) **Gasoline Transfer Into Stationary Storage Tanks (Phase I).**

A person shall not transfer, permit the transfer or provide equipment for the transfer of gasoline from any tank truck, trailer or railroad tank car into any stationary storage tank with a capacity of 950 liters (251 gallons) or more unless all of the following conditions are met:

- (A) Such tank is equipped with a permanent submerged fill tube or as defined by the applicable CARB certification.
- (B) Such tank is equipped with a "CARB certified" vapor recovery system, which is maintained and operated according to the manufacturers specifications.

- (C) All vapor return lines are connected between the tank truck, trailer or railroad tank car, and the stationary storage tank and all associated hoses, fittings, and couplings are maintained in a vapor-tight condition, as defined under subparagraph (b)(9).
  - (D) The hatch on any tank truck, trailer, or railroad tank car shall not be opened for more than three minutes for each visual inspection, provided that:
    - (i) Transfer or pumping has been stopped for at least 3 minutes prior to opening; and
    - (ii) The hatch is closed before transfer or pumping is resumed.
  - (E) Underground tank lines are gravity drained, and above-ground tanks are equipped with dry breaks, or as approved by the District, Office of Operations, such that upon line disconnect the liquid leak rate does not exceed 3 drops per minute.
  - (F) Equipment subject to this paragraph is operated and maintained, according to all of the following requirements:
    - (i) All fill tubes are equipped with vapor-tight covers, including gaskets;
    - (ii) All dry breaks are equipped with vapor-tight seals and dust covers;
    - (iii) Fixed or Spring-Loaded coaxial fill tubes are operated so that there is no obstruction of vapor passage from the storage tank back to the tank truck, trailer, or railroad tank car;
    - (iv) The fill tube assembly, including fill tube, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system;
    - (v) All storage tank vapor return lines without dry breaks are equipped with vapor-tight covers, including gaskets.
- (2) **Gasoline Transfer Into Vehicle Fuel Tanks (Phase II).**  
A person shall not transfer, or permit the transfer, or provide equipment for the transfer of gasoline from a stationary storage tank into any motor vehicle fuel tank of greater than 19 liters (5 gallons) capacity unless all of the following conditions are met:

- (A) The dispensing unit used to transfer the gasoline from the stationary storage tank to the motor vehicle fuel tank is equipped with a "CARB certified" vapor recovery system.
  - (B) The vapor recovery system and associated components are operated and maintained in a vapor-tight and liquid-tight manner in accordance with the manufacturer's specifications and the applicable CARB certification.
  - (C) Equipment subject to this rule is operated and maintained with none of the defects listed on Attachment A of this rule.
- (3) Additional Requirements
- (A) A person shall not offer for sale, sell, or install any new or rebuilt vapor recovery equipment unless the components and the parts are clearly identified or marked by the certified manufacturing company and/or the certified rebuilding company.
  - (B) For a breakdown (as defined in Rules 102 and 430) of the central vapor incineration or processing unit, the provisions of Rule 430 shall apply.  
"End of Cycle" shall refer to the immediate 24 hours following the notification of the breakdown for the application of Rule 430 in subparagraph (c)(3)(B).
  - (C) A person shall not perform or permit the "pump-out" (bulk transfer) of gasoline from a storage tank subject to paragraph (c)(1); unless such bulk transfer is performed using a vapor collection and transfer system capable of returning the displaced vapors to the stationary storage tank or unless the storage tank will be removed or filled with water for testing.
  - (D) A person shall not store, or allow the storage of, gasoline in any stationary storage tank with a capacity of 950 liters (251 gallons) or more unless such tank:
    - (i) Complies with Rule 463(a); or
    - (ii) Is equipped with a Phase I vapor recovery system; and
    - (iii) Is operated and maintained with an integral vapor-tight drain valve to return spilled gasoline to the storage tank, if the tank is equipped with a spill container.

- (E) The operator of any gasoline dispensing facility shall conspicuously post District-required signs specified on Attachment B of this rule in the immediate gasoline dispensing area.
- (F) A dispenser that is never used to fuel motor vehicles shall have a sign posted on it to that effect.
- (G) A dispenser and/or a storage tank shall be vented to the atmosphere in accordance with the applicable "CARB certified" requirements.
- (H) Gasoline shall not be stored in open container(s) of any size or handled in any other manner (spillage, spraying, etc.) that permit gasoline or gasoline vapors to enter the atmosphere, contaminate the ground, or the sewer.
- (I) The failure of an owner/operator to meet any requirements of subparagraphs (c)(1), (c)(2), or (c)(3) of this rule shall constitute a violation. Such equipment determined to be in violation shall be tagged "Out-of-Order."
- (J) Except during repair activity, the "Out-of-Order" tag specified in subparagraph (c)(3)(I) shall not be removed and the tagged equipment shall not be used, permitted to be used, or provided for use unless all of the following conditions are satisfied:
  - (i) The tagged equipment has been repaired, replaced, or adjusted, as necessary;
  - (ii) The District, Office of Operations, has been notified of the repairs by completing and signing the form supplied by the District;
  - (iii) The tagged equipment has been reinspected and/or authorized for use by the District.

(d) Exemptions

The provisions of this rule shall not apply to the transfer of gasoline:

- (1) Into or from any stationary tank if 75 percent of its monthly throughput is used for the fueling of implements of husbandry, such as vehicles defined in Division 16 (Section 36000, et seq.) of the California Vehicle Code, provided such a tank is equipped with a submerged fill tube.

- (2) Into or from any stationary tank used exclusively for fueling agricultural wind machines.

(e) Compliance Schedule

- (1) The owner/operator of a new facility subject to this rule shall comply with the provisions of this rule at the time gasoline receiving and/or dispensing is initiated.
- (2) The owner/operator of any altered and/or repaired facility, who was previously exempted from the provisions of this rule shall comply with the provisions of this rule at the time gasoline receiving and/or dispensing is initiated after completion of the alteration and/or repair.
- (3) The owner/operator of any other existing facility, who was previously exempt from the provision of this rule, and who has not earlier been required to come into compliance, shall achieve compliance by March 4, 1990.

## ATTACHMENT A

CALIFORNIA CODE OF REGULATIONS, SECTION 94006  
SUBCHAPTER 8, CHAPTER 1, PART III OF TITLE 17

## Section 94006. Defects Substantially Impairing the Effectiveness of Vapor Recovery Systems Used in Motor Vehicle Fueling Operations.

For the purposes of Section 41960.2 of the Health and Safety Code, the following constitute equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations which substantially impair the effectiveness of the systems in reducing air contaminants:

(a) Absence or disconnection of any component required to be used in the Executive Order(s) that certified the system.

(b) A vapor hose which is crimped or flattened such that the vapor passage is blocked, or the pressure drop through the vapor hose exceeds by a factor of two or more the requirements in the system certified in the CARB Executive Order(s) applicable to the system.

(c) A nozzle boot which is torn in one or more of the following manner:

1. triangular-shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in diameter or,
2. Slit 1 inch or more in length.

(d) Faceplate or flexible cone which is damaged in the following manner:

1. For balance nozzles and for nozzles for aspirator and educator assist type systems, damage shall be such that the capability to achieve a seal with a fill pipe interface is affected for 1/4 of the circumference of the faceplate (accumulated).
2. For nozzles for vacuum assist-type systems, more than 1/4 of the flexible cone missing.

(e) Nozzle shutoff mechanisms which malfunction in any manner.

(f) Vapor return lines, including such components as swivels, anti-recirculation valves and underground piping, which malfunction or are blocked, or restricted such that pressure drop through the lines exceeds by factor of two or more requirements specified in the Executive Order(s) that certified the system.

(g) Vapor processing unit which is inoperative.

(h) Vacuum producing device which is inoperative.

(i) Pressure/vacuum relief valves, vapor check valves, or dry breaks which are inoperative.

(j) - Any equipment defect which is identified in an Executive Order certifying a system pursuant to the Certification Procedures incorporated in Section 94001 of Title 17, California Code of Regulations, as substantially impairing the effectiveness of the system in reducing air contaminants.

All nozzles affected by the above defects are to be considered defective.

NOTE: Authority Cited: Sections 39600, 39601, 41960.2, Health and Safety Code.

**ATTACHMENT B  
DISTRICT REQUIRED SIGNS**

- I. The operator shall post the following signs:
- (A) "NOZZLE" operating instructions;
  - (B) "SCAQMD" toll-free telephone number; and
  - (C) A "warning" stating:

**"TOXIC RISK - FOR YOUR OWN PROTECTION  
DO NOT BREATHE FUMES  
DO NOT TOP TANKS"**

- II. All required signs shall conform to all of the following:
- (A) For decal signs:
    - (i) Each sign shall be located adjacent to the dispenser price indicator (per gallon) on each side next to the driveway it serves; and
    - (ii) Sign shall be readable from a distance of 3 feet.
  - (B) All other signs:
    - (i) For pump toppers, one double-back sign per island;
    - (ii) For permanent (non-decal) signs, two single-sided or one double-sided sign(s) per two (2) dispensers.
    - (iii) All signs shall be readable from a distance of 6 feet.

APPENDIX H.4  
SAN DIEGO AIR POLLUTION CONTROL DISTRICT

**RULE 61.4. TRANSFER OF VOLATILE ORGANIC COMPOUNDS INTO VEHICLE FUEL TANKS (Effect. 5/6/77: Rev. Effective 10/16/90)**

**(a) APPLICABILITY**

Except as proved for in Section (b) - Exemptions, this rule is applicable to the transfer of volatile organic compounds (VOC's) into any motor vehicle tank with a capacity greater than 5 gallons (18.93 liters) at the following fuel dispensing facilities:

- (1) Any retail service station, as defined in Rule 61.0 where VOC's are dispensed into motor vehicle tanks from any stationary storage tank with a capacity of 260 gallons (984 liters) or more, and
- (2) Any facility that is not a retail service station where:
  - (i) VOC's are dispensed into motor vehicle tanks from any stationary storage tank with a capacity greater than 550 gallons (2080 liters), and
  - (ii) Where more than 2000 gallons (7570 liters) of VOC's are transferred into motor vehicle tanks in any calendar month on the parcel of land where the facility is located.

**(b) EXEMPTIONS (Rev. Effective 10/16/90)**

Except as provided in (b)(5) below, this rule does not apply to the dispensing of:

- (1) VOC's into motor vehicle fuel tanks from any intermediate refueler provided VOC's are not sold directly from the intermediate refueler; or
- (2) Natural gas or propane when not mixed with any other VOC; or
- (3) VOC's into any vehicles performing emergency work necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from imminent exposure to danger or damage.
- (4) VOC's from any stationary storage tank that:
  - (i) Is used primarily in the fueling of aircraft and/or intermediate aircraft refuelers, or boats; or
  - (ii) Is used exclusively in the filling of tanks with a capacity of 5 gallons (18.93 liters) or less; or
  - (iii) Is located on a parcel of land on which not more than 2,000 gallons (7570 liters) are transferred into motor vehicles during any calendar month, provided that the facility is not a retail service station where:
    - (A) no stationary storage tank with a capacity of 260 gallons (984 liters) or more is added, installed or replaced at the facility after March 14, 1989; and

(B) no modification, replacement or repair of any underground liquid VOC piping from the stationary storage tank to the dispensers occurs at the facility after March 14, 1989; and

(iv) Is located at any retail service station in the Desert portion of San Diego County provided that:

(A) no stationary storage tank with a capacity of 260 gallons (984 liters) or more is added, installed or replaced at the facility after March 14, 1989; and

(B) no modification, replacement or repair of any underground liquid VOC piping from the stationary storage tank to the dispensers occurs at the facility after March 14, 1989; and

(C) the retail service station does not exceed a VOC throughput of 480,000 gallons (1817 kiloliters) in any calendar year after March 7, 1990; or

(v) is located in the Desert portion of San Diego County at any dispensing facility other than a retail service station; or

(vi) has a capacity of less than 260 gallons (984 liters).

(5) The exemptions of paragraph (4)(iii) and subparagraph (iv)(C) above shall not apply unless the operator maintains records to total VOC liquid throughputs on the parcel of land where the facility is located, and makes those records available to the District upon request. The throughput records shall be maintained as follows: (Rev. Effective 10/16/90)

(i) For exemptions associated with 2000 gallons/month or less, records shall be maintained for each calendar month and each monthly record shall be kept for at least two years.

(ii) For exemptions associated with 480,000 gallons/year or less, the records shall be maintained for each calendar year and each yearly record shall be kept for at least two years.

**(c) STANDARDS (Rev. Effective 10/16/90)**

Except as provided for in Section (b) of this rule, no person shall transfer or allow the transfer of VOC's into any motor vehicle fuel tank unless all the following requirements are met:

(1) The vapors displaced during the transfer, and displaced from any storage tank associated with the transfer, shall be controlled by a Phase II vapor recovery system certified by the State of California to be at least 95% effective, except for any Phase II vapor recovery system installed prior to July 1, 1976. Any system installed prior to July 1, 1976 shall prevent at least 95% of the vapors displaced during the transfer, and displaced from any storage tank associated with the transfer, from being released into the atmosphere.

If installed after July 1, 1976, the Phase II vapor recovery system and its components shall have been certified by the California Air Resources Board (ARB) prior to installation; unless the installation is granted written approval by both the ARB and the

District for the purpose of conducting field evaluations to determine the certification status of the system and/or any of its components.

(2) No person shall insert or allow the insertion of an object between any vehicle tank fill spout and any vapor recovery nozzle in order to prevent sealing at the vehicle-nozzle interface.

(3) The Phase II vapor recovery system and its components shall be installed, operated, and maintained so that their performance in actual use, as determined by the Air Pollution Control Officer, is:

(i) The same as the ARB certification test system associated with the applicable State Executive Order, if the system was installed on or after July 1, 1976, or

(ii) The same as when approval was granted for a Permit to Operate if the system was installed prior to July 1, 1976, and

(iii) The Phase II vapor recovery system and its components are operated in accordance with any instructions of the manufacturer(s) of the system and its components unless otherwise specified by the Air Pollution Control Officer.

(4) The Phase II vapor recovery system and its components shall not be altered from their certified or District approved configuration except as approved in advance by the Air Pollution Control Officer. Alterations include, but are not limited to:

(i) Piping and fitting changes, or installation of valves in the vapor piping;  
or

(ii) Substitutions of certified components with non-certified components and removal of certified components; and

(iii) Any other modifications that can affect the emissions.

(5) VOC dispensing equipment shall not be used if its associated Phase II system or any component thereof contains a defect that is determined by the Air Pollution Control Officer as being the same as, or having approximately the same emissions impact as, a defect identified in Title 17, California Code of Regulations, Section 94006. Any other defective Phase II system or component shall be replaced, repaired or adjusted within seven days in a manner that will bring the facility into compliance with the applicable District Rules and Regulations. In the latter case, the associated VOC dispensing equipment shall not be used if every violation is not eliminated within the seven day period. (Rev. Effective 10/16/90)

(6) On and after September 1, 1989, each VOC dispensing nozzle shall be equipped with a hold-open latch device in proper working order, except where prohibited by the local fire authority.

APPENDIX H.5  
DISTRICT OF COLUMBIA

705 STAGE II VAPOR RECOVERY

- 705.1 Unless exempted under §§705.4 or 705.5, the transfer of gasoline to any vehicular fuel tank from any stationary storage container shall be prohibited unless the transfer is made through a fill nozzle designed, operated, and maintained as follows:
- (a) To prevent the discharge of gasoline vapors to the atmosphere from either the vehicle filler neck or the fill nozzle;
  - (b) To direct the displaced vapor from the vehicular fuel tank to either of the following:
    - (1) A system, utilizing a process other than vacuum assist, wherein at least ninety percent (90%) by weight of the organic compounds in the displaced vapors are removed, recovered, and/or destroyed; or
    - (2) A system, utilizing a vacuum assist process, wherein at least ninety-six percent (96%) by weight of the organic compounds in the displaced vapors are removed, recovered and/or destroyed; and
  - (c) Prevent vehicular fuel tank overfills and spillage.
- 705.2 A vapor-balance system meeting the specifications set forth in §705.6 and used in compliance with §705.7 shall be deemed to be in compliance with the requirements set forth in §705.1(b)(1).
- 705.3 All gasoline dispensing facilities available to the general public, or to segments of the general public by virtue of having some membership or military status, having three (3) or less dispensing nozzles shall be exempt from the requirements of §705.1.
- 705.4 All gasoline dispensing facilities available to the general public, or to segments of the general public by virtue of having some membership or military status, may, if desired by the owner thereof, have no more than one (1) nozzle at each facility which does not comply with the requirements of §705.1; Provided that this exemption shall not be applicable to stations with no self-service islands.
- 705.5 A vapor balance system shall have the following:
- (a) A vapor-tight vapor return hose to conduct the vapors displaced from the vehicular fuel tank to the gasoline dispensing facility's gasoline storage tank(s);
  - (b) A vapor-tight seal to prevent the escape of gasoline vapors into the atmosphere from the interface between the fill nozzle and the filler neck of the vehicular fuel tank;

- (c) A fill nozzle with a built-in no-seal no-flow feature designed to prevent the discharge of gasoline from the nozzle unless the seal described in §705.5(b) is engaged;
- (d) A fill nozzle with a built-in feature, designed to automatically shutoff the flow of gasoline when the pressure in the vehicular fuel tank exceeds ten (10) inches of water gauge;
- (e) A vapor return hose equipped with a device that will automatically shutoff the flow of gasoline through the fill nozzle when gasoline circulates back from the fill nozzle through the vapor hose to the facility's gasoline storage tank(s);
- (f) A vapor return hose no longer than nine (9) feet in length unless the hose is attached to a device designed to keep the hose out of the way of vehicles (when the nozzle is not in use) and to drain the hose of any collected or condensed gasoline; and
- (g) A gasoline dispensing system equipped with a device designed to prevent the dispensing of gasoline at any rate greater than eight (8) gallons per minute.
- 705.6 The use by any person of a fill nozzle which is a part of the vapor balance system shall be prohibited unless the system is maintained in good repair, and unless proper operating practices, including, but not limited to, the following practices are followed:
- (a) Draining the vapor return hose as often as is necessary, but at least once each operating day, of any collected or condensed gasoline;
- (b) Waiting as long as is necessary, but at least three (3) seconds after the shut-off of the fuel, before disconnecting the nozzle from the fill neck, in order to balance the pressure between the vehicular fuel tank and the facility's gasoline storage tank(s);
- (c) After each fuel delivery, placing the vapor return hose on an area where vehicles will not ride over the vapor return hose.
- 705.7 The transfer of gasoline to any vehicular fuel tank from any stationary storage tank shall be prohibited, unless the transfer is made through a fill nozzle designed to automatically shutoff the transfer of gasoline when the vehicular fuel tank is full or nearly full.
- 705.8 Any additional transfer of gasoline to any vehicular fuel tank from a stationary storage tank after the dispensing system has automatically shut-off the transfer of gasoline by virtue of the vehicular fuel tank being full or nearly full shall be prohibited.
- 705.9 The operator of a gasoline dispensing facility shall take the actions necessary to ensure that all parts of the system used at the facility for compliance with the section are maintained in good repair, and to ensure that any person, whether attendant, customer, or other, who uses the facility, does so in accordance with proper operating practices and otherwise in compliance with the requirements of §705.
- 705.10 For purposes of this section, "operator" means any person who leases, operates, manages, supervises, or controls, directly or indirectly, a gasoline dispensing facility.
- 705.11 The transfer of gasoline to any vehicular fuel tank from any stationary storage tank where a system for the control of gasoline vapors resulting from motor vehicle fueling operations is required shall be prohibited unless the operator posts conspicuously the operating instructions and warnings, in a form and with content duly promulgated by the Mayor, for the system in the gasoline dispensing area. The instructions shall as follows:
- (a) Clearly describe how to fuel vehicles correctly with vapor recovery nozzles utilized at the station;
- (b) Include a prominent display of the telephone number of the service station owner or operator for making complaints; and
- (c) Include warnings that:
- (1) Repeated attempts to continue dispensing, after the system has indicated that the vehicle fuel tank is full, may result in spillage or recirculation of gasoline; and
  - (2) Breathing gasoline vapors is hazardous to health.
- 705.12 All vapor control systems (and components thereof) for the control of gasoline vapors resulting from motor vehicle fueling operations, including, but not limited to, vapor balance systems and vacuum assist systems, shall meet the requirements for certification and shall be operated in accordance with the standards in effect on the effective date of the District of Columbia Air Pollution Control Act of 1984 as established by the State Fire Marshal for the State of California or the Division of Measurement Standards of the Department of Food and Agriculture of the State of California pursuant to §§41956-41958 of the Health and Safety Code of the State of California.
- 705.13 The requirements and standards, including those specified in §§705.5, 705.6, and 705.12 of this Subtitle, may be changed by the Mayor through the exercise of administrative rulemaking procedures under the District of Columbia Administrative Procedure Act, approved October 21, 1968 (82 Stat. 1204; D.C. Code, §§1-1501 et seq., with the Mayor affording appropriate consideration in said rulemaking to the following factors:
- (a) What other States and governmental authorities have done; and
  - (b) The effect of proposed changes upon distributors and manufacturers of vapor recovery equipment and upon the owners and operators of stations subject to the Stage II vapor recovery requirements.
- 705.14 Alternate vapor recovery systems may be used to attain compliance with §705.1(b) in lieu of the specific requirements stated in that section, provided that:
- (a) The alternate system(s) is demonstrated to have at least equivalent results in recovering emissions of volatile organic compounds as application of the requirements of that section; and
  - (b) The alternate system(s) is approved by the Mayor.
- 706 PETROLEUM DRY CLEANERS
- 706.1 Section 706 applies to petroleum solvent washers, dryers, solvent filters, settling tanks, vacuum stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent dry cleaning facilities.
- 706.2 Each owner or operator of a petroleum solvent dry cleaning dryer shall do one of the following:
- (a) Limit emissions to the atmosphere to an average of three and one-half (3.5) pounds of volatile organic compounds per one hundred (100) pounds dry weight of articles dry cleaned; or
  - (b) Install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until the final recovered solvent flow rate of fifty (50) milliliters per minute is attained.



APPENDIX H.6  
MISSOURI/ST. LOUIS

safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.

**10 CSR 10-5.210 Submission of Emission Information** (Rescinded November 12, 1984)

**10 CSR 10-5.220 Control of Petroleum Liquid Storage, Loading, and Transfer**

(1) Applicability. This rule shall apply throughout St. Louis City and Jefferson, St. Charles, Franklin and St. Louis Counties.

(2) Definitions. Definitions of certain terms specified in this rule may be found in 10 CSR 10-6.020.

(3) Petroleum Storage Tanks

(A) No owner or operator of petroleum storage tanks shall cause or permit the storage in any stationary storage tank of more than forty thousand (40,000) gallons capacity of any petroleum liquid having a true vapor pressure of 1.5 pounds per square inch absolute or greater at ninety degrees Fahrenheit (90°F), unless the storage tank is a pressure tank capable of maintaining working pressures sufficient at all times to prevent volatile organic compound VOC vapor or gas loss to the atmosphere or is designed or will be built, and equipped with one (1) of the following vapor loss control devices:

1. A floating roof, consisting of a pontoon type, double-deck type, or internal floating cover or external floating cover, which shall rest on the surface to the liquid contents and is equipped with a closure seal(s), to close the space between the roof edge and tank wall. Storage tanks with external floating roofs shall meet the additional following requirements:

A. The storage tank has been fitted with—

(I) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(II) A closure or other device which controls VOC emissions with an effectiveness equal to or greater than a seal required under part (3)(A)1.A.(1) of this section and approved by the director;

B. All seal closure devices meet the following requirements:

(I) There are no visible holes, tears, or other openings in the seal(s) or seal fabric;

(II) The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(III) For vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) width between the secondary seal and the tank wall shall not exceed 21.2 cm<sup>2</sup> per meter of tank diameter (1.0 in.<sup>2</sup> per ft. of tank diameter);

C. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are—

(I) Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(II) Equipped with projections into the tank which remain below the liquid surface at all times;

D. Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

E. Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

F. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least ninety percent (90%) of the area of the opening;

2. A vapor recovery system with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place. The vapor disposal portion of the vapor recovery system shall consist of an adsorber system, condensation system, or equivalent vapor disposal system that processes the vapor and gases from the equipment being controlled; or

3. Other equipment or means of equal efficiency for purposes of air pollution control as may be approved by the director.

(B) Control equipment described in paragraph (3)(A)1. shall not be permitted if the gasoline or petroleum liquid stored has a true vapor pressure of 11.1 pounds per square inch absolute or greater at ninety degrees Fahrenheit (90°F.) All storage tank gauging and sampling devices shall be built so as to be gas tight except when gauging or sampling is to take place.

(C) Owners and operators of petroleum storage tanks subject to this section shall maintain written records of all maintenance

(both routine and unscheduled) performed on the tanks, all repairs made to them, the results of all tests performed on them and the type and quantity of petroleum liquid stored in them. The records shall be maintained for two (2) years and available to the director upon request.

(D) This section shall not apply to petroleum storage tanks —

1. Where petroleum or condensate is stored, processed, and/or treated at a drilling and production installation prior to custody transfer; or

2. That contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) at ninety degrees Fahrenheit (90°F); and

A. Are of welded construction; and

B. Presently possess a metallic-type shoe seal, a liquid-mounted liquid fill type seal or other closure device of demonstrated equivalence approved by the staff director or,

3. Of welded construction, equipped with a metallic-type shoe primary seal and have a shoe-mounted secondary seal; or

4. Used to store waxy, heavy pour crude oil.

(E) Any owner or operator of a petroleum liquid storage tank who must install a secondary seal or equivalent in order to achieve compliance, shall meet the applicable increments of progress contained in the following schedule:

1. Submit final plans for the emission control system before December 15, 1980;

2. Award contracts for the emission control system before February 1, 1981;

3. Initiate onsite construction or installation of the emission control equipment before April 15, 1981;

4. Complete onsite construction or installation of the emission control equipment before August 15, 1981; and

5. Achieve final compliance before October 1, 1981.

(4) Gasoline Loading.

(A) No owner or operator of a gasoline loading installation or delivery vessel shall cause or permit the loading of gasoline into any delivery vessel from any loading installation unless the loading installation is equipped with a vapor recovery system or its equivalent approved by the director and the delivery vessel is in compliance with subsection (7)(A) of this rule.

(B) Loading shall be accomplished in such a manner that the displaced vapors and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected. The vapor disposal portion of the vapor recovery system shall consist of one (1) of the following:

1. An adsorber system, condensation system, or equivalent vapor disposal system that processes the vapors and gases from the equipment being controlled and limits the discharge of VOC into the atmosphere to 0.30 grams of VOC vapor per gallon of gasoline loaded;

2. A vapor handling system that directs the vapor to a fuel gas system; or

3. Other equipment of an efficiency equal to greater than paragraphs (4)(B) 1. or 2. if approved by the director.

(C) Owners or operators of loading installations subject to this section shall keep complete records documenting the number of delivery vessels loaded and their owners. Records shall be kept for two (2) years and shall be made available to the director upon request.

(D) This section shall not apply to loading installations whose average monthly throughput of gasoline is less than or equal to one hundred and twenty thousand (120,000) gallons when averaged over the most recent calendar year, provided that the installation loads gasoline by submerged loading. To maintain their exemption, these installations shall submit to the director by February 1 of each year a report stating gasoline throughput for each month of the previous calendar year.

(5) Gasoline Transfer.

(A) No owner or operator of a stationary storage tank or delivery vessel shall cause or permit the transfer of gasoline from any delivery vessel into any stationary storage tank with a capacity greater than two thousand (2000) gallons unless such storage tank is equipped with a submerged fill pipe and vapor recovery system or other system of equal vapor control efficiency if approved by the director and the delivery vessel is in compliance with subsection (7)(A) of this rule. Stationary storage tanks with a capacity of two hundred fifty (250) and two thousand (2000)

gallons shall be equipped with a submerged fill pipe.

1. The vapor recovery system shall collect no less than ninety percent (90%) by volume of the vapors displaced from the stationary storage tank during gasoline transfer and return said vapors via a vapor-tight return line to the delivery vessel.

2. The vapor recovery system shall be so constructed as to ensure that the vapor-tight return line is connected before gasoline can be transferred into the container.

3. A delivery vessel shall be refilled only at installations complying with provisions of section (4).

4. This section shall not be construed to prohibit safety valves or other devices required by governmental safety regulations.

(B) The owners or operators of stationary storage tanks subject to this section shall keep records documenting the number of delivery vessels unloaded and their owners. Records shall be kept for two (2) years and shall be made available to the director upon request.

(C) The provisions of subsection (5)(A) shall not apply to the following:

1. Stationary storage tanks having a capacity less than or equal to two thousand (2,000) gallons used exclusively for the fueling of implements of agriculture;

2. Stationary storage tanks having a capacity less than or equal to two thousand (2000) gallons installed prior to September 15, 1976; and

3. Transfer made to storage tanks equipped with floating roofs or their equivalent.

(6) Refueling of Motor Vehicles

(A) General Provisions.

1. Except as provided in sections (3), (4) and (5), no owner or operator shall install, permit the use of or maintain any stationary gasoline tank with a capacity of more than one thousand (1000) gallons which is not equipped with a vapor recovery system capable of collecting the hydrocarbon vapors and gases discharged during motor vehicle refueling and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission into the atmosphere.

2. For the purpose of section (6), no gasoline vapor recovery systems or devices shall be installed, used or maintained that have not been certified by the director of the Missouri Department of Natural Resources (subsection (6)(B)).

3. All tank gauging and sampling sites or ports on the vapor recovery system shall be gas-tight so as to prevent VOC emissions except when gauging or sampling is taking place.

4. All systems shall be maintained in good working order in accordance with the manufacturer's specifications.

5. The operator of each affected facility shall conspicuously post operating instructions in the gasoline dispensing area for the system in use at that station. The instructions shall clearly describe how to fuel vehicles correctly with vapor recovery nozzles utilized at that station. The instructions shall also include a warning that repeated attempts to continue dispensing gasoline after the system has indicated that the vehicle fuel tank is full may result in spillage of gasoline.

6. The director shall identify and list specific equipment defects which substantially impair the effectiveness of components or systems used for the control of gasoline vapors resulting from motor vehicle fueling operations. This ongoing list shall be used by the director as a basis for marking such components or systems out of order, and shall be made available to any and all gasoline dispensing facilities subject to paragraph (6)(A)(1).

7. Upon the identification of defects in equipment or installation of gasoline vapor control system by the director, such system or components thereof shall be marked "out of order" and no person shall use or permit the use of that system or component until it has been repaired, replaced or adjusted and the director has — a) re-inspected the system or component, b) found it to be in good working order, and c) remove the "out of order" notice. The director shall reinspect a system or component he has previously marked "out of order" as expeditiously as possible and in no case shall this be more than thirty (30) days from the date on which the system or component was marked "out of service."

8. It shall be a violation of this rule for any owner or operator to use, permit the use of or maintain a modified vapor recov-

ery system unless such modifications have been inspected and approved by the director.

9. Compliance with this rule does not relieve the necessity for any owner or operator to comply with other applicable state, county and local ordinances, codes and requirements.

10. Section (6) shall not apply to any stationary tank used primarily for the fueling of agricultural implements or implements of husbandry. For purposes of this section, agricultural implements and implements of husbandry shall refer to vehicles exempted from licensing requirements by the Missouri Department of Revenue.

(B) Certification of Vapor Recovery Equipment. Vapor Recovery Equipment Certification will be performed by the director. It is the responsibility of the supplier/manufacturer to provide proof to the director that a vapor recovery system or its modifications meet the requirements of certification as provided in 10 CSR 10-5.220(6)(B)1. — 3. The requirements for a vapor recovery system or its modifications to be certified are as follows:

1. The system must be certified by the State of California Air Resources Board as having a vapor recovery or removal efficiency of at least ninety-five percent (95%).

2. All rules and requirements of the Missouri Department of Natural Resources are met. These consist of rules found in Title 10 of the *Code of State Regulations*.

3. The system shall not be prone to malperformance so that the purpose or requirements of this rule are defeated. The director may suspend or revoke further certification of a vapor recovery system due to repeated incidents of malperformance by that system or its components. An owner or operator subject to section (6) who has previously operated, installed, begun installation, purchased or irrevocably committed to purchase a vapor recovery system previously certified by the director shall not be considered in noncompliance with this rule if certification of that system is subsequently revoked by the director and the owner or operator's vapor recovery equipment has not been marked out of order by the director.

(7) Gasoline Delivery Vessels

(A) No owner or operator of a gasoline delivery vessel shall operate or use a gasoline delivery vessel which is loaded or unloaded at an installation subject to section (4) or section (5) unless the delivery vessel—

1. Is annually tested to demonstrate that it will sustain a pressure change of no more than seven hundred fifty (750) pascals (3 in. of H<sub>2</sub>O) in five (5) minutes when pressured to a gauge pressure of four thousand five hundred (4500) pascals (18 in. of H<sub>2</sub>O) or evacuated to a gauge pressure of fifteen hundred (1500) pascals (6 in. of H<sub>2</sub>O). Testing shall take place after April 1 and before July 1 of each year, and shall be in accordance with the test procedure specified at CSR 10-6.030 (13)(B). Upon successful completion of the leak test, the owner or operator shall obtain the completed test results signed by a representative of the testing facility. Blank forms for the test results will be provided to the testing facilities by the director. The owner or operator shall send a copy of the signed successful test results to the director. The director shall issue, upon receipt of acceptable test results, an official sticker to the owner or operator. This sticker shall be placed on the upper left portion of the back end of the vessel. An owner or operator of a gasoline delivery vessel who can demonstrate to the satisfaction of the director that the vessel has passed a current annual leak test in another state, shall be deemed to have satisfied the requirements of this paragraph, where the other state's leak test program must be subject to the same gauge pressure requirements and test procedures as specified in this paragraph;

2. Is repaired by the owner or operator and retested within fifteen (15) days of testing if it does not meet the leak test criteria of subsection (7)(A) of this rule; and

3. Owners or operators of gasoline delivery vessels shall keep records of all tests and maintenance performed on the vessels for not less than two (2) years, and these records shall be made available to the director upon request.

(B) Any owner or operator of a delivery vessel subject to this rule shall be in compliance by January 1, 1981, with the exception of the annual testing certification and recordkeeping requirements in subsection (7)(A), which shall be met by July 2, 1990

(C) This section shall not be construed to prohibit safety valves or other devices required by governmental safety regulations.

(8) The owner or operator of a vapor recovery system subject to this rule shall:

(A) Design and operate the vapor recovery system and the gasoline loading equipment in a manner that prevents:

1. Gauge pressure from exceeding four thousand five hundred (4,500) pascals (18 in. of H<sub>2</sub>O) in the delivery vessel;

2. A reading equal to or greater than one hundred percent (100%) of the lower explosive limit (LEL, measured as propane) at two and one half (2.5) centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in subsection (13)(E) of 10 CSR during loading or transfer operations; and

3. Visible liquid leaks during loading or transfer operations; and

(B) Within fifteen (15) days, repair and retest a vapor recovery system that exceeds the limits in subsection (8)(A) of this rule.

(C) Keep records of routine and unscheduled maintenance and repairs and of all results of tests conducted. Records shall be kept for two (2) years and shall be made available to the director upon request.

(9) The director may, at any time, monitor a delivery vessel, vapor recovery system or gasoline loading equipment by the methods referenced in subsection (10)(A) to confirm continuing compliance with sections (7) or (8) of this rule.

(10) Testing and Monitoring Procedures and Reporting

(A) Testing and monitoring procedures to determine compliance with section (7) and confirm the continuing existence of lead tight conditions shall be as described in 10 CSR 10-6.030, subsection (13)(B).

(B) Testing procedures to determine compliance with paragraph (4)(B)1. shall be as described in 10 CSR 10-6.030, subsection (13)(A).

(11) Compliance

(A) Compliance with this rule by each affected gasoline loading installation with an average monthly throughput of gasoline greater than 600,000 gallons, when averaged over the most recent calendar year, shall be achieved according to the following schedule:

1. By February 1, 1977 — submit to the director the final control plan;

2. By February 1, 1978 — initiate on-site construction or installation of control equipment; and

3. By July 1, 1978 — achieve final compliance.

(B) Compliance with this rule by each affected gasoline loading installation with an average monthly throughput equal to or greater than 120,000 and equal to or less than 600,000 gallons of gasoline, when averaged over the most recent calendar year, shall be achieved according to the following schedule

1. By September 12, 1985 — submit to the director the final control plan;
2. By March 12, 1986 — initiate on-site construction or installation of control equipment; and
3. By August 12, 1986 — achieve final compliance.

(C) Compliance with this rule by each facility affected by section (6) shall be achieved according to the following schedule:

1. By not later than October 1, 1986 submit to the director the vapor recovery system specifications and general installations details. These will include the system name, model, type, size, the contractor and schedule for installation of the system.
2. Notification of installation will be submitted no later than sixty (60) days prior to installation.
3. Achieve final compliance by December 31, 1987.



APPENDIX H.7

NEW JERSEY

sions of VOS to the outdoor atmosphere by no less than 95 percent by weight.

iii. Effective February 28, 1991, any marine delivery vessel receiving gasoline at a facility subject to the provisions of (e) 4i or ii above shall have vapor collection piping and connections which route displaced vapors to the control apparatus.

5. For facilities subject to (e)4i or ii above, by January 19, 1990, the applicant shall submit to the Department a completed application for a "Permit to Construct, Install, or Alter Control Apparatus or Equipment" pursuant to the provisions of N.J.A.C. 7:27-8. This application shall demonstrate the equipment's ability to reduce the total emissions of VOS to the outdoor atmosphere by no less than 95 percent by weight.

(f) Unless in compliance with (g), (h), (r), (s), (t), and (u) below, no person shall cause, suffer, allow, or permit the transfer of gasoline into any gasoline vapor laden vehicular fuel tank unless the transfer is made using a vapor control system that is approved by the Department and that is designed, operated, and maintained so as:

1. To prevent VOS emissions to the outdoor atmosphere by no less than 95 percent by weight at all gasoline dispensing facilities except those facilities exempted in (g) below; and

2. To prevent overfilling and spillage.

(g) The provisions of (f) above shall not apply to a gasoline dispensing facility with an average monthly throughput of 10,000 gallons (37,850 liters) or less or to any gasoline dispensing devices at a marina used exclusively for refueling of marine vehicles.

(h) Any person subject to the provisions of (f) above shall comply with the following provisions:

1. The average monthly throughput shall be based on the average of the monthly throughputs between September 1, 1986 and August 31, 1987; and

2. Documentation of the monthly throughput shall be made available upon request by the Department.

(i) No person shall cause, suffer, allow, or permit any delivery vessel having a maximum total capacity of 2,000 gallons (7,570 liters) or greater to contain gasoline unless such delivery vessel:

1. Sustains a pressure change of less than 3 inches of water (6 millimeters of mercury) in 5 minutes when pressurized to 18 inches of water (34 millimeters of mercury) and evacuated to 6 inches of water (11 millimeters of mercury), as tested at least once in every 12-month period for

leaks in accordance with test procedures specified by the Department, and

2. Has a certification affixed to the vessel in a prominent location which indicates the identification number of the vessel and the date the vessel last passed the pressure and vacuum tests; and

3. Has a record of certification which shall be kept with the delivery vessel at all times and made available upon request by the Department. The record of certification shall include the test title, delivery vessel owner and address, delivery vessel identification number, testing location, date of test, testers' name and signature, and test results. The provision of this paragraph shall become operative December 31, 1986.

(j) No person shall cause, suffer, allow, or permit a transfer of gasoline subject to the provisions of (c), (d), and (e) above if the delivery vessel being loaded is under a pressure in excess of 18 inches of water (34 millimeters of mercury) gauge or the delivery vessel being unloaded is under a vacuum in excess of 6 inches of water (11 millimeters of mercury) gauge.

(k) No person shall cause, suffer, allow, or permit VOS to be emitted into the outdoor atmosphere during a transfer of gasoline, subject to the provisions of (c), (d), (e), and (f) above, from leaking components of gasoline vapor control systems or delivery vessels being loaded or unloaded if:

1. The concentration of the emissions to the outdoor atmosphere is greater than or equal to 100% of the lower explosive limit of propane when measured at a distance of 1.0 inch (2.54 centimeters) from the source, or

2. The emissions are in the liquid state.

(l) The provisions of subsection (d) of this Section shall not apply to delivery vessels used for less than one month for the purpose of holding gasoline from a storage tank during a period in which the storage tank is undergoing repair or maintenance.

(m) No person shall cause, suffer, allow or permit the transport of any VOS in a delivery vessel of 2,000 gallons (7,570 liters) or greater total capacity unless such vessel is vapor-tight at all times while containing VOS except:

1. Under emergency conditions; or

2. While gauging; or

3. While venting through a vapor control system approved by the Department.

(n) The provisions of (c) above shall not apply to a storage tank during construction ballast.

(o) Any delivery vessel subject to the provisions of (i) above found in violation

of (k) or (m) above shall be repaired within 15 days and shall be recertified.

(p) Any person subject to the provisions of (e)1 above and loading 4,000 gallons (15,140 liters) of gasoline or less per day shall comply with the following schedule:

1. By January 1, 1987, the applicant, pursuant to N.J.A.C. 7:27-8, shall submit a completed application for a "Permit to Construct, Install, or Alter Control Apparatus or Equipment" to the Department. This application shall demonstrate compliance with the requirements of (3)1 above.

2. By May 1, 1987, construction of equipment and control apparatus in accordance with the approved "Permit to Construct, Install, or Alter Control Apparatus or Equipment" shall commence.

3. By November 1, 1987, compliance shall be achieved.

(q) Any person subject to the provisions of (e)4 above shall submit yearly documentation of the annual throughput of each gasoline loading facility to the Department by June 1 of the calendar year following the year for which the documentation is valid. The annual throughput of gasoline shall be based on the period January 1 through December 31.

(r) Any person subject to the provisions of (f) above and having an average monthly throughput of 40,000 gallons (151,000 liters) or greater shall comply with the following schedules:

1. By March 21, 1988, the applicant, pursuant to the provisions of N.J.A.C. 7:27-8, shall submit a completed application for a "Permit to Construct, Install, or Alter Control Apparatus or Equipment" to the Department which meets the requirements of (f) above;

2. By June 21, 1988, construction of equipment and control apparatus in accordance with the approved "Permit to Construct, Install, or Alter Control Apparatus or Equipment" shall commence; and

3. By December 30, 1988, compliance with (f) above shall be achieved.

(s) Any person subject to the provisions of (f) above and having an average monthly throughput of less than 40,000 gallons (151,400 liters) shall comply with the following schedules:

1. By November 1, 1988, the applicant, pursuant to the provisions of N.J.A.C. 7:27-8, shall submit a completed application for a "Permit to Construct, Install, or Alter Control Apparatus or Equipment" to the Department which meets the requirements of (f) above;

2. By March 1, 1989, construction of equipment and control apparatus in accordance with the approved "Permit to

Construct, Install or Alter Control Apparatus or Equipment" shall commence; and

3. By December 29, 1989, compliance with (f) shall be achieved.

(t) Notwithstanding the provisions of (r) above, any existing gasoline dispensing facility with an average monthly throughput of greater than 10,000 gallons replacing an underground gasoline storage tank after the operative date of this subsection shall, prior to using that tank for dispensing gasoline, install equipment meeting the requirements of (f) above.

(u) Notwithstanding the provisions of (r) above, any new gasoline dispensing facility which begins the installation of an underground gasoline storage tank after the operative date of this subsection shall install equipment meeting the requirements of (f) above prior to the use of that tank for dispensing gasoline.



APPENDIX H.8

NEW YORK

**PART 230  
GASOLINE DISPENSING SITES AND TRANSPORT  
VEHICLES**

(Effective April 12, 1985; June 28, 1987; March 1, 1988)

**Section 230.1 Definitions.**

(a) For the purpose of this Part, the general definitions in Part 200 of this Title apply.

(b) For the purpose of this Part, the following definitions also apply:

(1) Equivalent control. The use of alternate operational and/or equipment controls for the reduction of gasoline vapor emissions, that have been approved by the commissioner, such that the aggregate emissions of gasoline vapor from the facility do not exceed those from the application of defined reasonably available control technology.

(2) Gasoline. Any petroleum distillate having a Reid vapor pressure of four pounds per square inch (28 kilopascals) or higher, used as a motor fuel.

(3) Gasoline dispensing site. Any site where gasoline is dispensed into vehicle fuel tanks or into portable containers used to fuel any motor from any stationary storage container(s) larger than 250 gallons.

(4) Gasoline transport vehicle. Any tank truck, trailer or railroad tank car, with a capacity of 300 gallons or more, used for the transportation of gasoline.

(5) Annual throughput. The amount of petroleum liquid transferred into or dispensed from a defined source or facility during 12 consecutive months.

(6) Submerged filling. The use of a fill pipe or drop tube whose discharge opening is entirely submerged when the liquid is six inches above the bottom of the container. For containers loaded from the side, submerged filling is defined as the use of a fill pipe whose discharge is entirely submerged when the liquid level is 18 inches, or twice the diameter of the fill pipe, whichever is greater, above the bottom of the container.

(7) Stage I vapor collection system. A system where gasoline vapors are forced from a tank into a vapor-tight holding system or vapor control system through direct displacement by the gasoline being loaded.

(8) State II vapor collection system. A system where at least 90 percent, by weight, of the gasoline vapors that are displaced or drawn from a vehicle fuel tank during refueling are removed to a vapor-tight holding system or vapor control system.

(9) Substantially modified. A modification of an existing gasoline dispensing site which involves the addition of one or more new stationary gasoline storage tanks or the repair, replacement, or reconditioning of an existing tank.

(10) Vapor control system. A system that prevents emissions to the outdoor atmosphere from exceeding 4.7 grains per gallon (80 grams per 1,000 liters) of petroleum liquid loaded.

### 230.2 Gasoline dispensing sites — prohibitions and requirements.

(a) No person may transfer or allow the transfer of gasoline into storage tanks, at gasoline dispensing sites located in the New York City metropolitan area, whose annual throughput exceeds 120,000 gallons, unless the storage tank is equipped with:

(1) a stage I vapor collection system consisting of a vapor-tight return line from the storage tank, or its vent, to the gasoline transport vehicle, and a system that will ensure that the vapor line is connected before gasoline can be transferred into the tank;

(2) a properly installed onsite vapor control system connected to a vapor collection system; or

(3) an equivalent control system.

(b) A stage I vapor collection system and submerged filling are not required for storage tanks with a capacity less than 2,000 gallons located at gasoline dispensing sites in New York City which were installed prior to January 1, 1970. A stage II vapor collection system is

not required at gasoline dispensing sites that are not subject to the stage I requirements of this section.

(c) No owner and/or operator of a gasoline dispensing site may transfer or allow the transfer of gasoline into a motor vehicle fuel tank at gasoline dispensing sites located in the New York City metropolitan area whose annual throughput exceeds 250,000 gallons, unless the gasoline dispensing site is equipped with a stage II vapor collection system which must be approved by the department before it is installed. Approval of a stage II vapor collection system will be based on a determination that a properly installed and operated system will remove at least 90 percent by weight of the gasoline vapors that are displaced or drawn from a vehicle fuel tank during refueling to a vapor-tight holding system or vapor control system.

(d) Notwithstanding subdivision (b) of this section, a stage I and a stage II vapor collection system are required at any gasoline dispensing site, regardless of the annual throughput of gasoline, located in the New York City metropolitan area which is constructed after the effective date of this Part or which is replaced or substantially modified after the effective date of this Part.

(e) Stationary storage tanks at gasoline dispensing sites located in Nassau, Suffolk, Rockland or Westchester County, whose annual throughput does not exceed 120,000 gallons, must be equipped for submerged filling.

(f) Owners and/or operators of gasoline storage tanks, gasoline transport vehicles, and gasoline dispensing sites subject to stage I and/or stage II vapor collection or vapor control system requirements must:

(1) install all necessary stage I and/or stage II vapor collection and control systems, and make any modifications necessary to comply with the requirements;

(2) provide adequate training and written instructions to the operator of the affected gasoline dispensing site and the gasoline transport vehicle;

(3) replace, repair or modify any worn or ineffective component or design element to ensure the vapor-tight integrity and efficiency of the stage I and/or stage II vapor collection and vapor control systems; and

(4) connect and ensure proper operation of the stage I and/or stage II vapor collection and control systems whenever gasoline is being loaded, unloaded or dispensed; and

(5) with respect to stage II vapor collection systems, conspicuously post operating instructions for the system in the gasoline dispensing area which include:

(i) a clear description of how to correctly dispense gasoline with the vapor recovery nozzles utilized at the site;

(ii) a warning that continued attempts at dispensing gasoline after the system indicates that the vehicle tank is full may result in spillage or recirculation of gasoline; and

(iii) a telephone number established by the department for use by the public to report problems experienced with the system.

(g) Routine maintenance of components of stage II vapor collection systems must be performed to ensure the integrity and efficiency of the system.

(h) The modification, removal, replacement, or addition of any element which would render the stage II vapor collection system inoperative or impair its integrity and efficiency is prohibited.

(i) Stationary storage tanks with a capacity of 250 gallons or more, installed or modified after January 1, 1979, at any gasoline dispensing site in the New York City metropolitan area, must have a stage I vapor collection or vapor control system.

(j) Gasoline dispensing sites in the New York City metropolitan area, used exclusively for farm-type tractors used only for agricultural purposes or snowplowing (other than for hire), farm equipment, including self-propelled machines used in growing, harvesting or handling farm produce, and self-propelled caterpillar or crawler-type equipment being operated on a contract site, are not subject to requirements for stage I vapor collection or vapor control systems, but must be equipped for submerged filling.

(k) Any owner or operator of a gasoline dispensing site which is not regulated by this Part must comply with all other applicable Parts of this Subchapter. Certification of stage II vapor collection system by the department does not relieve the owner and/or operator of the responsibility to comply with other applicable codes and regulations pertaining to fire prevention, weights and measures and safety matters.

### 230.3 Gasoline transport vehicles — applicability.

This Part applies to owners and operators of all gasoline transport vehicles which:

(a) deliver gasoline to any gasoline dispensing site required to be equipped with a stage I vapor collection system or equivalent, including such gasoline dispensing sites located in states adjacent to New York State; or

(b) convey gasoline either to or from any gasoline loading terminal or gasoline bulk plant, located in the New York City metropolitan area, which is required to be equipped with a vapor control system or equivalent control.

### 230.4 Gasoline transport vehicles — prohibitions and requirements.

(a) No owner or operator of a gasoline transport vehicle subject to this Part will allow said vehicle to be filled or emptied unless the gasoline transport vehicle:

(1) sustains a pressure change of not more than three inches of water (six millimeters of mercury) in five

minutes when pressurized to a gauge pressure of 18 inches of water (34 millimeters of mercury) and evacuated to a gauge pressure of six inches of water (11 millimeters of mercury);

(2) is repaired by the owner or operator within 15 days after failing to meet the pressure change standard in this section; and

(3) displays a marking, near the U.S. Department of Transportation certificate plate, in letters and numerals at least two inches high, which reads: NYS DEC and the date on which the gasoline transport vehicle was last tested.

(b) All gasoline transport vehicles subject to this Part must be tested annually by the owner or his agent, using test methods acceptable to the commissioner. Reference method 27 in Appendix A of 40 CFR part 60 is considered to be an acceptable method. (See table 1, section 200.9 of this Title.) If the pressure-vacuum test does not show compliance with the pressure change standard, the gasoline transport vehicle must be repaired to make the tank vapor-tight, and retested.

(c) All gasoline transport vehicles subject to this Part must undergo a pressure-vacuum test within one year after the effective date of this Part [April 11, 1985], and each succeeding test is to be done within one year of the previous test.

(d) At the discretion of the commissioner, the requirements for testing and marking gasoline transport vehicles subject to this Part may be satisfied if the vehicle undergoes equivalent certification in another state.

(e) During the loading or unloading of a gasoline transport vehicle subject to this Part, leakage from any component of the gasoline transport vehicle, or the vapor collection or control system, will not equal or exceed 100 percent of the lower explosive limit (LEL measured as propane), when measured at a distance of one inch with a combustible gas detector. No avoidable visible liquid leak from such components is allowed. Components of the transport vehicle or vapor collection or control system include all piping, seals, hoses, connections, pressure-vacuum seals, and other possible leak sources. The combustible gas detector used for determining compliance with this standard will have a minimum range of 0-100 percent of the LEL as propane, a probe within an internal diameter of one quarter inch (0.625 cm), and a response time less than eight seconds with sampling line and probe attached, and be properly calibrated.

(f) No owner or operator of a gasoline transport vehicle subject to this Part will allow said vehicle to be loaded under a pressure exceeding 18 inches of water (34 millimeters of mercury) gauge, or to be unloaded under a vacuum exceeding six inches of water (11 millimeters of mercury) gauge.

(g) Dome covers on gasoline transport vehicles subject

to this Part must be closed while the transport vehicle is loaded, unloaded or in motion, except when gasoline transport vehicles are hatch-loaded in conformance with section 229.6(c)(2) or 229.7(a)(2) of this Title.

**230.5 Gasoline dispensing sites — recordkeeping and reporting.**

(a) The owner of any gasoline dispensing site in the New York City metropolitan area must maintain records showing the quantity of all gasoline delivered to the site. These records must be retained for at least two years, and must be made available to the commissioner or his representative upon request at any reasonable time.

(b) The sum of all gasoline deliveries to a gasoline dispensing site during the previous 12 consecutive months will be used to determine whether the requirements of section 230.2 of this Part apply. Once a gasoline dispensing site becomes subject to the requirements of section 230.2 because its annual gasoline throughput exceeds an applicability level, subsequent decreases in gasoline deliveries or throughput do not excuse a source owner from having to maintain the effectiveness of the stage I and/or stage II equipment.

**230.6 Gasoline transport vehicles — recordkeeping and reporting.**

(a) The owner of any gasoline transport vehicle subject to this Part must maintain records of pressure-vacuum testing and repairs. The records must include the identity of the gasoline transport vehicle, the results of the testing, the date that the testing and repairs, as needed, were done, the nature of needed repairs and the date of retests where appropriate.

(b) A copy of the most recent pressure-vacuum test results, in a form acceptable to the commissioner, must be kept with the gasoline transport vehicle.

(c) Records acceptable to the commissioner must be retained for two years after the testing occurred, and must be made available to the commissioner or his representative on request at any reasonable time.

**230.7 Compliance schedules.**

(a) Any person subject to the stage I vapor collection requirements for gasoline dispensing sites of this Part

must have submitted a proposed schedule to the commissioner which includes specific steps and dates necessary to comply with the provisions of this Part by January 1, 1981.

(b) Owners of gasoline dispensing sites subject to the stage I vapor collection requirements of this Part must have been in compliance with all requirements before October 2, 1982.

(c) The pressure-vacuum test and associated requirements of section 230.4(a) for gasoline transport vehicles subject to this Part are in effect as of April 11, 1985.

(d) Owners of gasoline dispensing sites subject to the stage II vapor collection requirements of this Part must be in compliance with these requirements by the following dates.

(1) July 1, 1988 where the annual throughput of the gasoline dispensing site is 500,000 gallons or more; or

(2) July 1, 1989 where the annual throughput of the gasoline dispensing site is between 250,000 and 500,000 gallons.

**230.8 Variances.** Where it can be shown to the satisfaction of the commissioner that a gasoline dispensing site or gasoline transport vehicle cannot comply with the requirements of this Part for reasons of technological or economic feasibility, the commissioner may, upon submission of satisfactory evidence, grant to the source owner or operator a variance from the requirements of this Part and accept a lesser degree of control or an alternate compliance schedule.

**PART 231  
NEW SOURCE REVIEW IN NONATTAINMENT  
AREAS**

(Effective August 23, 1979; June 22, 1980; August 10, 1984)

**Section 231.1 Definitions.** (a) For the purpose of this Part, the general definitions of Part 200 of this Title apply.

(b) For the purpose of this Part, the following definitions also apply:

(1) *Actual emission reduction.* The actual decrease in the rate of emissions of an air contaminant from an



**APPENDIX H.9**  
**DADE COUNTY, FLORIDA**

ORDINANCE NO. 90-136

ORDINANCE AMENDING SECTION 24-3 OF THE CODE OF METROPOLITAN DADE COUNTY, FLORIDA, PROVIDING DEFINITIONS; AMENDING SECTION 24-20 OF THE CODE OF METROPOLITAN DADE COUNTY, FLORIDA, REGULATING EMISSIONS OF AIR CONTAMINANTS FROM MOTOR VEHICLE REFUELING FACILITIES AND FROM FACILITIES THAT STORE PETROLEUM PRODUCTS BY REQUIRING VAPOR CONTROL SYSTEMS; REPEALING SECTION 24-25 OF THE CODE OF METROPOLITAN DADE COUNTY, FLORIDA, REGULATING GASOLINE HANDLING; AMENDING SECTION 24-35.1 OF THE CODE OF METROPOLITAN DADE COUNTY, FLORIDA, REQUIRING OPERATING PERMITS FOR LOADING FACILITIES AND VAPOR CONTROL SYSTEMS; PROVIDING SEVERABILITY, INCLUSION IN THE CODE, AND AN EFFECTIVE DATE

BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF DADE COUNTY, FLORIDA:

Section 1. Section 24-3 of the Code of Metropolitan Dade County, Florida, is hereby amended to read as follows:<sup>1/</sup>

Sec. 24-3. Definitions.

\* \* \*

( ) "Motor vehicle fuel delivery vessel" shall mean a tank truck or trailer equipped with a storage tank used for the transportation of gasoline or gasohol from sources of supply to stationary storage tanks at motor vehicle fuel service stations.

( ) "Loading facility" shall mean a gasoline, gasohol or petroleum distillates storage and distribution facility with an average daily throughput (calculated over a 30-day

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<sup>1/</sup> Words stricken through shall be deleted. Underscored words constitute the amendment proposed. Remaining provisions are now in effect and remain unchanged.

period) equal to or greater than 20,000 gallons of gasoline, gasohol or petroleum distillates.

- ( ) "Motor vehicle fuel service station" shall mean any site where gasoline or gasohol is dispensed to motor vehicle fuel tanks from underground storage tanks.
- ( ) "Balanced system" shall mean a gasoline or gasohol vapor recovery system that draws such vapor through a nozzle boot to an underground storage tank by means of the pressure differential created as the volume of gasoline or gasohol in the underground storage tank is reduced and the volume of gasoline or gasohol in the motor vehicle fuel tank is increased during motor vehicle refueling.
- ( ) "Vacuum assist system" shall mean a gasoline or gasohol vapor recovery system that uses a vacuum generating device to create a vacuum in the vapor return line from the nozzle boot to the underground storage tank during motor vehicle refueling.

Section 2. Section 24-20 of the Code of Metropolitan Dade County, Florida, is hereby amended to read as follows:

Sec. 24-20. Storage and Handling of Petroleum Products.

~~No person shall place, store or hold in any stationary tank, reservoir or other container of more than 40,000 gallons capacity any gasoline or any petroleum distillate having a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions, unless such tank, reservoir or other container is a pressure tank maintaining working pressures sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with one of the following vapor loss control devices, properly installed, in good working order and in operation:~~

(A) The provisions of this section shall apply to the owners and operators of all loading facilities, motor vehicle fuel delivery vessels and motor vehicle fuel service stations dispensing, distributing or storing gasoline, gasohol or other petroleum distillates having a Reid vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions. For the purpose of this section, any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater shall be included in the term "gasoline".

(B) It shall be unlawful for any person to place, store or hold in any stationary tank, reservoir or other container of more than 40,000 gallons capacity any gasoline, gasohol or any petroleum distillate unless such stationary tank, reservoir, or other container is a pressure tank maintaining working pressures sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with one of the following vapor loss control devices, properly installed, in good working order and in operation:

(1) A floating roof, consisting of a pontoon type or double-deck type roof, resting on the surface of the liquid contents and equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. The control equipment provided for in this paragraph shall not be used if the gasoline, gasohol or petroleum distillate has a Reid vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions. All tank gauging and sampling devices ports shall be gas vapor-tight except when gauging or sampling is taking place.

(2) A vapor recovery system, ~~consisting of a vapor-gathering-system~~ capable of collecting and processing the

hydrocarbon vapors and gases produced discharged-and-a-vapor disposal-system-capable-of processing-such-hydrocarbon-vapors and-gases-so-as in order to prevent their emission to the atmosphere. and-with-all All tank gauging and sampling devices ports shall be maintained in a gas vapor-tight condition except when gauging or sampling is taking place.

- (3) Other equipment of equal equivalent efficiency, provided that plans for such equipment are submitted to and approved by the pollution-control officer director of the department of environmental resources management or his designee.

- (C) It shall be unlawful for any person to dispense or to permit, cause, allow, let or suffer the dispensing of gasoline, gasohol or any petroleum distillate into any motor vehicle fuel tank or into any motor vehicle fuel delivery vessel from any loading facility unless such loading facility is equipped with a vapor collection system or its equivalent, properly installed, and operational, as approved by the director of the department of environmental resources management or his designee. When dispensing gasoline, gasohol or other petroleum distillates through the hatches of a motor vehicle fuel delivery vessel with a loading arm equipped with such vapor collection system, a pneumatic, hydraulic or other mechanical device shall be installed to create a vapor-tight seal between the loading arm and the hatch. For all other loading of gasoline, gasohol and other petroleum distillates effected through means other than hatches, delivery lines shall be equipped with fittings which create vapor-tight connections and which close automatically when disconnected. The vapor collection system required herein shall be one of the following:

- (1) A vapor-liquid absorption system with a minimum recovery efficiency of ninety per cent (90%) by weight of all the hydrocarbon vapors and gases entering into such collection system.
  - (2) A variable vapor space tank, compressor, and fuel gas system of sufficient capacity to receive all hydrocarbon vapors and gases entering into such collection system or displaced from the motor vehicle fuel delivery vessel.
  - (3) Another system of equivalent efficiency to the vapor collection systems described in (1) and (2) above, provided that plans for such systems are submitted to and approved by the director of the department of environmental resources management or his designee.
- (D) It shall be unlawful for any person to construct or operate, or to permit, cause, allow, let or suffer the construction or operation of a motor vehicle fuel service station after the effective date of this ordinance without said station being completely equipped with balanced or vacuum assist systems or equivalent systems approved by the director of the department of environmental resources management or his designee, with a minimum design efficiency of a 90% recovery rate.
- (E) It shall be unlawful for any person to operate, or to permit, cause, allow, let or suffer the operation of a motor vehicle fuel service station utilizing a balanced or vacuum assist system or approved equivalent system for the control of gasoline or gasohol vapors resulting from motor vehicle fueling operations without conspicuously posting operating instructions for the system in the motor vehicle fuel dispensing area. The instructions shall clearly describe the correct method to dispense fuel to

motor vehicles with the vapor recovery nozzles utilized at the station.

(F) It shall be unlawful for any person to utilize, or to permit, cause, allow, let or suffer the utilization of any vapor recovery system not operating in accordance with plans approved by the director of the department of environmental resources management or his designee.

(G) Notwithstanding the foregoing provisions of this ordinance, the following persons shall not be required to comply with the requirements of this ordinance until two (2) years from the effective date of this ordinance:

(1) Any person who is operating a motor vehicle fuel service station with all the required operating permits pursuant to Section 24-35.1 of the Code of Metropolitan Dade County, Florida on the effective date of this ordinance.

(2) Any person who has obtained, on or before the effective date of this ordinance, the written approval of the director of the department of environmental resources management or his designee for the construction of a new motor vehicle fuel service station.

Section 3. Section 24-25 of the Code of Metropolitan Dade County, Florida, is hereby repealed as follows:

Sec. 24-25. Gasoline-Handling Reserved.

No-person-shall-load-gasoline-into-any-tank truck-or-trailer-from-any-loading-facility unless-such-loading-facility-is-equipped-with a-vapor-collection-and-disposal-system-or-its equivalent,-properly-installed,-in-good working-order-and-in-operation.--When-loading is-effected-through-the-hatches-of-a-tank truck-or-trailer-with-a-loading-arm-equipped with-a-vapor-collecting-adaptor,-a-pneumatic,

hydraulic-or-other-mechanical-means-shall-be provided-to-force-a-vapor-tight-seal-between the-adaptor-and-the-hatch.--A-means-shall-be provided-to-prevent-liquid-gasoline-drainage from-the-loading-device-when-it-is-removed from-the-hatch-of-any-tank-truck-or-trailer, or-to-accomplish-complete-drainage-before such-removal.--When-loading-is-effected through-means-other-than-hatches,-all-loading and-vapor-lines-shall-be-equipped-with fittings-which-make-vapor-tight-connections and-which-close-automatically-when disconnected.

The-vapor-disposal-portion-of-the-system shall-consist-of-one-of-the-following:

- (1)--A-vapor-liquid-absorber-system-with-a minimum-recovery-efficiency-of-ninety per-cent-(90%)-by-weight-of-all-the hydrocarbon-vapors-and-gases-entering such-disposal-system.
- (2)--A-variable-vapor-space-tank,-compressor, and-fuel-gas-system-of-sufficient capacity-to-receive-all-hydrocarbon vapors-and-gases-entering-such-disposal system.
- (3)--A-variable-vapor-space-tank,-compressor, and-fuel-gas-system-of-sufficient capacity-to-receive-all-hydrocarbon vapors-and-gases-displaced-from-the-tank trucks-and-trailers-being-loaded.
- (4)--Other-equipment-of-equal-efficiency, provided-such-equipment-is-submitted-to and-approved-by-the-director, environmental-resources-management.

This-rule-shall-not-apply-to-the-loading-of gasoline-into-tank-trucks-and-trailers-from any-loading-facility-from-which-not-more-than 20,000-gallons-of-gasoline-are-loaded-in-any one-day.

For-the-purposes-of-this-rule,-any-petroleum distillate-having-a-Reid-vapor-pressure-of four-pounds-or-greater-shall-be-included-by the-term-"gasoline".

~~For the purpose of this rule, "loading facility" means any aggregation or combination of gasoline loading equipment which is both (1) possessed by one person, and (2) located so that all the gasoline loading outlets for such aggregation or combination of loading equipment can be encompassed within any circle of 300 feet in diameter.~~

Section 4. Section 24-35.1 of the Code of Metropolitan Dade County, Florida, is hereby amended to read as follows:

Sec. 24-35.1 Operating Permits.

\* \* \*

(14) Loading facilities

(15) Balanced systems utilized by motor vehicle fuel service stations

(16) Vacuum assist systems utilized by motor vehicle fuel service stations

\* \* \*

Section 5. If any section, subsection, sentence, clause or provision of this ordinance is held invalid, the remainder of this ordinance shall not be affected by such invalidity.

Section 6. It is the intention of the Board of County Commissioners, and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Metropolitan Dade County, Florida. The sections of this ordinance may be renumbered or relettered to accomplish such intention, and the word "ordinance" may be changed to "section," "article," or other appropriate word.

Section 7. This ordinance shall become effective ten  
(10) days after the date of enactment.

PASSED AND ADOPTED:

Approved by County Attorney as  
to form and legal sufficiency.

Prepared by:

6-11-2004  
RST

**APPENDIX H.10**  
**MASSACHUSETTS**

## 7.23: [Reserved]

## 7.24: U Organic Material Storage and Distribution

## (1) Bulk Plants &amp; Terminals Handling Organic Material

(a) Any person owning, leasing or controlling a stationary tank reservoir with a capacity equal to or greater than 40,000 gallons in which organic material having a true vapor pressure in the range of 1.5 to 11.0 psi at 60 degrees Fahrenheit, inclusive, is placed, stored or held shall equip such stationary tank reservoir with a submerged fill pipe and one of the following emission control devices:

1. a floating roof cover consisting of a pontoon type, double deck type roof, or internal floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall and, in addition, all tank gauging and sampling devices shall be gas tight except when in use, or

2. a pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

3. a vapor recovery system capable of collecting the organic materials emitted from the tank and of disposing of these materials without release to the atmosphere and, in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

4. other equipment equal to or greater in efficiency than the devices listed above, and approved by the Department.

5. In addition to above requirements, if the tank is of an external floating roof design, on and after November 1, 1984, the tank shall be fitted with a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or a closure or other device which controls emissions with an effectiveness equal to or greater than a secondary seal and which is approved by the Department.

a. All seal closure devices shall meet the following requirements: there shall be no visible holes, tears, or other openings in the seal(s) or seal fabric; the seal(s) shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; as for vapor mounted primary seals, the accumulated area of gaps exceeding 1/8 inch in width between secondary seal and the tank wall shall not exceed 1.0in<sup>2</sup> per foot of tank diameter.

b. The owner or operator of a petroleum liquid storage vessel with an external floating roof containing a petroleum liquid with a true vapor pressure of greater than 1.0 psi and less than 1.5 shall maintain records consistent with the requirements of 40 CFR 60.505 including but not limited to; average monthly storage temperature, type of liquid and maximum true vapor pressure for each liquid, records of monthly leak inspections, transfers made and a record of maintenance of the vapor processing system.

(b) Any person owning, leasing, or controlling a stationary tank reservoir with a capacity equal to or greater than 40,000 gallons in which organic material having a true vapor pressure greater than 11 psi at 60° F. is placed, stored, or held shall equip such a stationary tank reservoir with one of the following devices which shall attain a minimum of 90% capture of total emissions as determined by the Department:

1. a pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

2. a vapor recovery system capable of collecting the organic materials without release to the atmosphere and, in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

3. other equipment equal to or greater in efficiency than the devices listed above and approved by the Department.

(c) 310 CMR 7.24(1)(a)5. does not apply to petroleum liquid storage vessels which are used to store waxy, heavy pour crude oil, or have a capacity less than 416,000 gallons and are used to store produced crude oil and condensate prior to lease custody transfer.

(d) Any person owning, leasing or controlling a loading rack with an average daily throughput (1/300 of the actual annual throughput) equal to or greater than 20,000 gallons which transfers organic material with a true vapor pressure of 1.5 psi or greater at 60°F into tank trucks, trailers, or other contrivances shall transfer by means of submerged fill and install a vapor recovery system which shall attain a minimum of 90% capture of total emissions as determined by the Department, that has been approved by the Department in writing in accordance with the provisions of 310 CMR 7.02(2). The provisions of 310 CMR 7.24(1)(d) shall not apply to the loading of motor vehicle fuel tanks.

(e) CM, MB, MV, PV, SM. On and after July 1, 1980, any person owning, leasing, or controlling a facility with an average daily throughput (1/300 of the actual annual throughput) less than 20,000 gallons which stores and transfers organic material with a true vapor pressure of 1.5 psi or greater at 60°F into tank trucks, trailers, or other contrivances shall transfer by means of submerged fill, and shall install a system, which shall attain a minimum of 90% capture of total emissions as determined by the Department from storage and transfer operations, that has been approved by the Department in accordance with the provisions of 310 CMR 7.02(2). The provisions of this section shall not apply to (1) the loading of motor vehicle fuel tanks and (2) Dukes and Nantucket Counties.

(2) Distribution of Motor Vehicle Fuel

(a) Any person owning, leasing or controlling a stationary tank having a capacity greater than 250 gallons but less than 40,000 gallons into which motor vehicle fuel with a true vapor pressure of greater than 1.5 psi at 60°F is transferred from

tank truck, trailer or other contrivances shall be equipped with a system for submerged fill.

(b) CM, MB, MV, PV, SM. On or after July 1, 1980 no person shall cause, suffer, allow or permit the transfer of motor vehicle fuel having a true vapor pressure equal to or greater than 1.5 psi at 60°F from any delivery vessel to a fuel handling facility having a stationary tank capacity equal to or greater than 2000 gallons unless the displaced vapors are processed by a system that prevents release to the atmosphere of no less than 90 percent by weight of organic materials in said vapors. The provisions of 310 CMR 7.24(2) shall not apply to:

1. stationary tanks having a capacity less than 550 gallons equipped with submerged fill lines, used exclusively for the fueling of implements of husbandry.

2. stationary tanks equipped with floating roof or their equivalent.

(c) On or after April 1, 1993, no person shall cause suffer allow or permit the transfer of motor vehicle fuel having a true vapor pressure of greater than 1.5 psi at 60°F from any delivery vessel to a fuel handling facility having a total stationary tank capacity equal to or greater than 2000 gallons unless the displaced vapors are processed by a system which prevents the release to the atmosphere of no less than 90 percent by weight of organic materials in said vapors. The provisions of 310 CMR 7.24(2) shall not apply to:

a. stationary tanks having a capacity of less than 550 gallons equipped with submerged fill lines, used exclusively for the fueling of implements of husbandry.

b. stationary tanks equipped with floating roofs or their equivalent.

(3) Motor Vehicle Fuel Tank Trucks.

(a) On and after July 1, 1985, no person owning, leasing or controlling a tank truck that carries motor vehicle fuel with a true vapor pressure of greater than 1.5 psi at 60°F and receives the fuel from a facility subject to 310 CMR 7.24(1)(d) or (e) or delivers the fuel to a facility subject to the requirements of 310 CMR 7.24(2)(b) shall allow the tank truck to be loaded or unloaded unless the tank truck:

1. is tested annually during the months

of January through June;

2. sustains a pressure change of no more than 3 in. of H<sub>2</sub>O in five minutes when pressurized to a gauge pressure of 18 in. of H<sub>2</sub>O or when evacuated to a gauge pressure of 6 in. of H<sub>2</sub>O during the testing;

3. is repaired by the owner or operator and retested within 15 days of testing if it does not meet the criteria of 310 CMR 7.24(3)(a)2.;

4. displays a marking in two inch high letters near the Department of Transportation Certification plate required by 49 CFR 178.340-10b, which

a. shows the initials "DEP" and the date the tank truck last passed the test ("DEP date"); and

b. shall expire July 1 of the year following the test.

(b) The owner or operator of a vapor recovery system or tank truck subject to 310 CMR 7.24(1)(d), 7.24(1)(e), 7.24(2)(b) or 7.24(3)(a) shall design and operate the vapor recovery system and the loading equipment in a manner that prevents:

1. gauge pressure from exceeding 18 in. of H<sub>2</sub>O and vacuum from exceeding 6 in. of H<sub>2</sub>O in the tank truck;

2. a reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at one inch from all points of the perimeter of a potential leak source during loading or unloading operations at the loading rack or stationary tank;

3. avoidable visible liquid leaks during loading at the loading rack or unloading at the stationary tank.

(c) The owner or operator of a tank truck subject to 310 CMR 7.24(3) must:

1. notify the Department in writing of the date and location of a certification test at least two days before the anticipated test date; and

2. within 15 days, repair and retest a vapor recovery system or tank truck that exceeds the limits in 310 CMR 7.24(3)(a) or (b).

(d) The Department may, at any time, measure emissions or back pressure from a tank truck, or vapor recovery system to determine compliance with the requirements of 310 CMR 7.24(3)(a) or (b).

(4) For the purpose of 310 CMR 7.24(1) through (3) any testing required by the Department shall be in accordance with methods approved under the provisions of 310 CMR 7.13. For the determination of total emissions required by 310 CMR 7.24(1) and (2), compliance testing shall be in accordance with applicable procedures described in EPA Method 18, as described in Code of Federal Regulations Title 40, Part 60, or any other method approved by EPA and the Department. For the pressure vacuum certification required by 310 CMR 7.24(3), compliance testing shall be in accordance with applicable procedures described in EPA Method 27 as described in Code of Federal Regulations Title 40, Part 60 or by another method approved by EPA and the Department.

(5) Gasoline Reid Vapor Pressure

(a) No person shall sell or supply from a bulk plant or terminal, gasoline having a Reid Vapor Pressure greater than 9.0 pounds per square inch (psi) during the period beginning May 1 and continuing through September 15, beginning in 1989 and continuing every year thereafter.

(b) Compliance with this section may be determined by the Department through an audit of RVP test results provided by the supplier or through fuel sampling and testing subject to the following provisions:

1. Any person owning, operating, leasing or controlling any gasoline marketing facility shall, upon request by any employee of the Department, provide a sample or samples of gasoline from said gasoline marketing facility in accordance with the test methods listed in 310 CMR 7.24(5)(b)2.

2. Any fuel sampling and testing required by the Department shall be conducted in accordance with ASTM Method D4177, ASTM Method D4057, ASTM Method D323 or any other method approved by the Department and EPA.

(c) This regulation will be enforced in accordance with M.G.L. c.111, s.142A through E, as amended.

(6) U Dispensing of Motor Vehicle Fuel

(a) The requirements of 310 CMR 7.24(6) shall apply to:

1. any motor vehicle fuel dispensing facility which has been constructed or substantially modified on or before November 1, 1989 and which at any time since January 1, 1988 has had a throughput of at least 20,000 gallons in any one calendar

month; or

2. any motor vehicle fuel dispensing facility, regardless of throughput, which is constructed or substantially modified after November 1, 1989.

(b) Except as provided in 310 CMR 7.24(6)(a) no person, owner, operator or employee of a motor vehicle fuel dispensing facility, shall dispense, or allow the dispensing of, motor vehicle fuel from any motor vehicle fuel dispensing facility unless the motor vehicle fuel dispensing facility is equipped with a properly operating vapor collection and control system.

(c) Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, which is subject to 310 CMR 7.24(6), shall, in accordance with the applicable date provided for in 310 CMR 7.24(6)(d);

1. install and properly operate a certified vapor collection and control system, and make any other modifications to their facility necessary to comply with the requirements of 310 CMR 7.24(6);

2. notify and inform the Department prior to installation of the vapor collection and control system, on a form obtained from the Department, of the dates of installation and the specific type of vapor collection and control system to be installed.

3. ensure that, prior to initial operation of the vapor collection and control system, the operators and employees of the motor vehicle fuel dispensing facility have received training and instruction in the operation and maintenance of the vapor collection and control system;

4. maintain the vapor collection and control system such that it recovers at least 95% by weight of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel;

5. conspicuously post operating instructions for dispensing motor vehicle fuel using the vapor collection and control system in the motor vehicle fuel dispensing area. These instructions must at a minimum include:

a. a clear description of how to correctly dispense motor vehicle fuel using the system;

b. a warning not to attempt continued refueling after automatic shutoff;

c. a telephone number to report problems experienced with the vapor collection and control system to the Department; and

6. conspicuously post "Out of Order" signs on, any aboveground part of the vapor collection and control system which is not fully operative, until said vapor collection and control system has been repaired;

7. take any steps necessary to prohibit the use of any aboveground part of the vapor collection and control system which is not fully operative and otherwise in compliance with the performance standards of 310 CMR 7.24(6)(c)4.

(d) Any motor vehicle fuel dispensing facility, which is subject to the requirements of 310 CMR 7.24(6), shall have a vapor collection and control system installed, and properly operating, in accordance with the following schedule(s):

1. Any motor vehicle fuel dispensing facility which is constructed or substantially modified after November 1, 1989 shall comply with the requirements of 310 CMR 7.24(6) at the completion of its construction or substantial modification, or April 1, 1991, whichever is later.

2. Any motor vehicle fuel dispensing facility which has begun construction or substantial modification on or before November 1, 1989 shall comply with the requirements of 310 CMR 7.24(6), in accordance with the following schedule:

a. by April 1, 1991 where the annual (calendar year) throughput of the motor vehicle fuel dispensing facility is greater than or equal to 1,000,000 gallons of motor vehicle fuel; or

b. by April 1, 1992 where the annual throughput of the motor vehicle fuel dispensing facility is less than 1,000,000 gallons but greater than or equal to 500,000 gallons of motor vehicle fuel; or

c. by April 1, 1993 for any other motor vehicle fuel dispensing facility subject to 310 CMR 7.24(6).

(e) No person shall alter, modify, remove, or otherwise render inoperative any element or component of the vapor collection and control system which would render it incapable of collecting at least 95% by weight of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel.

(f) Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, subject to 310 CMR 7.24(6), shall maintain a continuous rec-

ord of the type and duration of any failures of the vapor collection and control system at said facility. These records shall be kept at the facility for two years, and must be made available for inspection by Department, EPA or local enforcement personnel.

(g) Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, subject to 310 CMR 7.24(6), shall, upon written notice from the Department and in accordance with methods approved by the Department and EPA, perform or have performed tests to demonstrate compliance with 310 CMR 7.24(6).

(h) The provisions and requirements of 310 CMR 7.24(6) are subject to the enforcement provisions specified in 310 CMR 7.52.

H.10-6

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**APPENDIX H.11**

**PHILADELPHIA**

## Section V. ORGANIC MATERIAL LOADING

A. No person shall load any organic material having a Reid vapor pressure of 4.0 pounds or greater into any tank truck, tank car, or trailer from any loading facility from which 20,000 gallons or more of such organic material are loaded in any one day from this facility unless this facility is equipped with a vapor recovery system properly installed, well maintained, in operation, and approved by the Department. Such a vapor recovery system shall be capable of collecting the organic materials emitted from the filling operation and disposing of these emissions so as to prevent their release to the atmosphere. All loading connections in the system shall be equipped with fittings which shall be vapor tight and will automatically and immediately close upon disconnection so as to prevent organic material emissions from these fittings. This Section shall not apply to the loading of fuel tanks of motor vehicles as defined by the Pennsylvania Department of Transportation.

B. No person shall load or permit the loading of any organic material having a Reid vapor pressure of 4.0 pounds or greater from any tank truck, tank car, or trailer into any stationary storage container with a capacity of 250 gallons or more unless such container is equipped with a permanent submerged fill pipe and unless the organic vapors displaced during the filling of the stationary storage container are controlled by a system that prevents release to the atmosphere, at the transfer location, of at least 90 percent by weight of the displaced organic vapors. Such installations shall be made in accordance with applicable provisions of Title 5 of the Philadelphia Code. All vapor line and liquid-fill line connections and fittings shall be vapor tight and positive closure devices shall be employed to prevent vapors from being emitted at ground level.

In addition to the above requirements, if the vapor control system incorporates vapor return to the delivery vessel, the following provisions shall apply:

1. The vapor return system shall consist of a vapor tight return line from the storage container to the delivery vessel and a system to ensure that the vapor return line is connected between the delivery vessel and storage container before material can be transferred to the storage container.

2. The vapor return line and associated connections shall be designed so as to be of sufficient size and sufficiently free of restrictions to allow vapor return to the delivery vessel to achieve the specified control requirement.

3. The vapor-laden delivery vessel shall be refilled only at loading facilities equipped with a vapor recovery system as prescribed in Section V.A.

All delivery vessels subject to this Section shall be so designed and maintained as to be vapor tight at all times, except during repair and maintenance. The Department may require the owner or operator of any such delivery vessel to submit records of inspection and procedures related to such maintenance, including visual inspections and leak testing.

The provisions of this Section shall not apply to any stationary storage container having a capacity of less than 2000 gallons installed underground prior to the date of adoption of this Section.

The provisions of this Section shall become effective pursuant to the Section XXIV of these Regulations and compliance shall be effected within the time and manner prescribed thereunder.

C. No person shall load or permit the loading of gasoline into the fuel tank of any motor vehicle, as defined by the Pennsylvania Department of Transportation, at any gasoline dispensing facility unless the loading is conducted using a vapor control system, properly installed, well maintained, in operation, and approved by the Department, that prevents the release to the atmosphere of at least 90 percent by weight of the gasoline vapors displaced from the motor vehicle fuel tank during loading. Such vapor control system installation shall also be in accordance with applicable provisions of TITLE 5 of the Philadelphia Code, and the owner or operator of any affected facility shall post and maintain, in conspicuous locations in the gasoline dispensing area, clear visual instructions pertaining to the proper use of the gasoline dispensing equipment and attendant vapor control device.

The above gasoline dispensing vapor control requirements shall apply to:

1. Any existing gasoline dispensing facility with a

gasoline throughput equal to or greater than 10,000 gallons per calendar month, based on gasoline throughput records for the facility for the 12-month period prior to, or for any monthly period subsequent to, the effective date of this sub-Section, as follows:

a. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 1,500,000 gallons per year shall comply with the vapor control requirements not later than 12 months from the effective date of this sub-Section.

b. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 1,000,000 gallons per year, but less than 1,500,000 gallons per year, shall comply with the vapor control requirements not later than 18 months from the effective date of this sub-Section.

c. Any existing gasoline dispensing facility with a gasoline throughput equal to or greater than 500,000 gallons per year, but less than 1,000,000 gallons per year, shall comply with the vapor control requirements not later than 24 months from the effective date of this sub-Section.

d. Any existing gasoline dispensing facility with a gasoline throughput of less than 500,000 gallons per year shall comply with the vapor control requirements not later than 36 months from the effective date of this sub-Section.

2. Any gasoline dispensing facility, or part thereof, regardless of gasoline throughput quantity, which is constructed, reconstructed or modified, except for minor repairs or alterations, after the effective date of this sub-Section.

D. No person shall sell, deliver for use, use, or exchange in trade for use in Philadelphia any gasoline having a Reid Vapor Pressure greater than 9.0 during the period May 1 through September 15, commencing in calendar year 1991 and continuing every year thereafter. The owner or operator of any gasoline loading, distribution, or dispensing facility which supplies gasoline for use in Philadelphia shall test and record, or otherwise document, the Reid Vapor Pressure of each gasoline shipment loaded from, distributed by, or received at the facility for use in Philadelphia during the

period April 15 through September 1, commencing in calendar year 1991 and continuing every year thereafter.

The Department shall establish or approve procedures, methods and guidelines for the sampling and testing of gasoline for Reid Vapor Pressure compliance and for the maintenance of gasoline shipment and delivery records and documentation, including reporting requirements related thereto.

Records regarding gasoline shipments and deliveries shall include Reid Vapor Pressure, quantity, and date of shipment or delivery, and such other information as the Department may prescribe. Documentation may include, without limitation, bills of lading, invoice delivery tickets, and loading tickets.

Each required record or documentation shall be retained by the owner or operator of any affected facility for a period of at least two (2) years and shall be made available for inspection by the Department upon request.

Blends of gasoline and oxygenate compounds are exempt from the 9.0 Reid Vapor Pressure limitation, except that the gasoline portion of the blend, prior to blending, shall not be exempted.

Section XXIV. EFFECTIVE DATE

Except as otherwise provided, these Regulations shall become effective upon adoption. The owner of any source of emission, in existence or under construction at the time of adoption, shall notify the Department within six months from the effective date, by an approved compliance schedule filed, of his intent to discontinue any operations or activities which cause any emissions that result in an emission in violation of these Regulations or to control such emission to the extent required by these Regulations, or that the emission is in compliance. Within a period of eighteen months from the effective date, compliance shall be obtained at all sources of emission within the scope of this Regulation.

**APPENDIX H.12**  
**WASHINGTON STATE**

Effective Date of Rule: Thirty-one days after filing.  
 July 2, 1991  
 Fred Olson  
 Deputy Director

Chapter 173-491 WAC  
 EMISSION STANDARDS AND CONTROLS FOR  
 SOURCES EMITTING GASOLINE VAPORS

NEW SECTION

WAC 173-491-010 POLICY AND PURPOSE.

(1) It is the policy of the department of ecology (ecology) under the authority vested in it by chapters 43.21A and 70.94 RCW to provide for the systematic control of air pollution from air contaminant sources and for the proper development of the state's natural resources.

(2) It is the purpose of this chapter to establish standards for the control of air contaminants emitted from gasoline marketing sources.

NEW SECTION

WAC 173-491-015 APPLICABILITY. This chapter shall apply to gasoline marketing operations, including the storage, transport, and transfer of gasoline, including the transfer from storage tanks into transport tanks, and from storage tanks into motor vehicles. The requirements of this chapter supersede any less restrictive requirements of chapter 173-490 WAC. Emission standards and controls for sources emitting volatile organic compounds (VOC).

NEW SECTION

WAC 173-491-020 DEFINITIONS. The definitions of terms contained in chapter 173-400 WAC are by this reference incorporated into this chapter. Unless a different meaning is clearly required by context, the following words and phrases, as used in this chapter, shall have the following meanings:

- (1) "Bottom loading" means the filling of a tank through a line entering the bottom of the tank.
- (2) "Bulk gasoline plant" means a gasoline storage and transfer facility that receives more than ninety percent of its annual gasoline throughput by transport tank, and reloads gasoline into transport tanks.
- (3) "Certified vapor recovery system" means a vapor recovery system which has been certified by the department of ecology. Only Stage II vapor recovery systems with a single coaxial hose can be certified. The department may certify vapor recovery systems certified by the California Air Resources Board as of the effective date of the regulation.
- (4) "Gasoline" means a petroleum distillate which is a liquid at standard conditions and has a true vapor pressure greater than four pounds per square inch absolute at twenty degrees C, and is used as a fuel for internal combustion engines. Also any liquid sold as a vehicle fuel with a true vapor pressure greater than four pounds per square inch absolute at twenty degrees C shall be considered "gasoline" for purpose of this regulation.

(5) "Gasoline dispensing facility" means any site dispensing gasoline into motor vehicle fuel tanks from stationary storage tanks.

(6) "Gasoline loading terminal" means a gasoline transfer facility that receives more than ten percent of its annual gasoline throughput solely or in combination by pipeline, ship or barge, and loads gasoline into transport tanks.

(7) "Leak free" means a liquid leak of less than four drops per minute.

(8) "Stage I" means gasoline vapor recovery during all gasoline marketing transfer operations except motor vehicle refueling.

(9) "Stage II" means gasoline vapor recovery during motor vehicle refueling operations from stationary tanks.

(10) "Submerged fill line" means any discharge pipe or nozzle which meets either of the following conditions:

- where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is six inches from the bottom of the tank, or;
- where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is eighteen inches from the bottom of the tank.

(11) "Submerged loading" means the filling of a tank with a submerged fill line.

(12) "Suitable cover" means a door, hatch, cover, lid, pipe cap, pipe blind, valve, or similar device that prevents the accidental spilling or emitting of gasoline. Pressure relief valves, aspirator vents, or other devices specifically required for safety and fire protection are not included.

(13) "Throughput" means the amount of material passing through a facility.

(14) "Top off" means to attempt to dispense gasoline to a motor vehicle fuel tank after a vapor recovery dispensing nozzle has shut off automatically.

(15) "Transport tank" means a container used for shipping gasoline over roadways.

(16) "True vapor pressure" means the equilibrium partial pressure of a petroleum liquid as determined by methods described in American Petroleum Institute Bulletin 2517, 1980.

(17) "Upgraded" means the modification of a gasoline storage tank or piping to add cathodic protection, tank lining or spill and overflow protection that involved removal of ground or ground cover above a portion of the product piping.

(18) "Vapor balance system" means a system consisting of the transport tank, gasoline vapor transfer lines, storage tank, and all tank vents designed to route displaced gasoline vapors from a tank being filled with liquid gasoline.

(19) "Vapor collection system" means a closed system to conduct vapors displaced from a tank being filled into the tank being emptied, a vapor holding tank, or a vapor control system.

(20) "Vapor control system" means a system designed and operated to reduce or limit the emission of gasoline vapors emission into the ambient air.

(21) "Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath

the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

(22) "Vapor tight" means a leak of less than one hundred percent of the lower explosive limit on a combustible gas detector measured at a distance of one inch from the source or no visible evidence of air entrainment in the sight glasses of liquid delivery hoses.

(23) "Western Washington counties" means the following counties: Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wabkiakum, and Whatcom.

#### NEW SECTION

WAC 173-491-030 REGISTRATION. (1) The owner or operator of a gasoline loading terminal, bulk gasoline plant, or gasoline dispensing facility subject to the provisions of WAC 173-491-040 (2) through (5) shall register annually the facility with ecology or local air authority. Annual registration shall be made by the owner or operator on a form provided by ecology or local air authority within sixty days of receipt of the form. Such registration form shall require information relevant to determining whether the facility is in compliance with the requirements of this chapter and be accompanied by the following fee: Gasoline loading terminals five hundred dollars, bulk gasoline plants two hundred dollars, gasoline dispensing facilities one hundred dollars, or a greater amount duly adopted by a local air pollution authority. The amount of the fees collected shall only be used to administer the registration program for facilities subject to this chapter.

(2) Administration of the registration program shall include:

(a) Initial registration and annual or other periodic reports from the source owner providing information directly related to air pollution registration.

(b) On-site inspections necessary to verify compliance with registration requirements.

(c) Data storage and retrieval systems necessary for support of the registration program.

(d) Emission inventory reports and emission reduction credits computed from information provided by sources pursuant to registration.

(e) Staff review, including engineering analysis for accuracy and currentness, of information provided by sources pursuant to registration program requirements.

(f) Clerical and other office support provided in direct furtherance of the registration program.

(g) Administrative support provided in directly carrying out the registration program.

(3) Ecology or local air authority will provide a written verification of registration to owners or operators of facilities subject to the provisions of WAC 173-491-040 (2) through (5). Such verification shall be available for inspection by ecology or local air authority personnel during normal business hours.

(4) The owner or operator of a gasoline loading terminal or a gasoline dispensing facility shall maintain total annual gasoline throughput records for the most recent two calendar years. Such records shall be available

for inspection by ecology or local air authority personnel during normal business hours.

#### NEW SECTION

WAC 173-491-040 GASOLINE VAPOR CONTROL REQUIREMENTS. (1) Fixed-roof gasoline storage tanks.

(a) All fixed-roof gasoline storage tanks having a nominal capacity greater than forty thousand gallons shall comply with one of the following:

(i) Meet the equipment specifications and maintenance requirements of the federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids (40 CFR 60, subpart K).

(ii) Be retrofitted with a floating roof or internal floating cover using a metallic seal or a nonmetallic resilient seal at least meeting the equipment specifications of the federal standards referred to in (a)(i) of this subsection or its equivalent.

(iii) Be fitted with a floating roof or internal floating cover meeting the manufacturer's equipment specifications in effect when it was installed.

(b) All seals used in (a)(ii) and (iii) of this subsection are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.

(c) All openings not related to safety are to be sealed with suitable closures.

(d) Tanks used for the storage of gasoline in bulk gasoline plants and equipped with vapor balance systems as required in subsection (3)(b) of this section shall be exempt from the requirements of subsection (1) of this section.

(2) Gasoline loading terminals.

(a) This chapter shall apply to all gasoline loading terminals with an average annual gasoline throughput greater than 7.2 million gallons according to the schedule of compliance in WAC 173-491-050.

(b) Loading facilities. Facilities for the purpose of loading gasoline into any transport tank shall be equipped with a vapor control system (VCS) as described in (c) of this subsection and comply with the following conditions:

(i) The loading facility shall employ submerged or bottom loading for all transport tanks.

(ii) The VCS shall be connected during the entire loading of all transport tanks.

(iii) The loading of all transport tanks shall be performed such that the transfer is at all times vapor tight. Emissions from pressure relief valves shall not be included in the controlled emissions when the back pressure in the VRS collection lines is lower than the relief pressure setting of the transport tank's relief valves.

(iv) All loading lines and vapor lines shall be equipped to close automatically when disconnected. The point of closure shall be on the tank side of any hose or intermediate connecting line.

(c) Vapor control system (VCS). The VCS shall be designed and built according to accepted industrial practices and meet the following conditions:

(i) The VCS shall not allow organic vapors emitted to the ambient air to exceed thirty-five milligrams per liter

(three hundred twenty-two milligrams per gallon) of gasoline loaded.

(ii) The VCS shall be equipped with a device to monitor the system while the VCS is in operation.

(iii) The back pressure in the VCS collection lines shall not exceed the transport tank's pressure relief settings.

(3) Bulk gasoline plants.

(a) This section shall apply to all bulk gasoline plants with an average annual gasoline throughput greater than 7.2 million gallons according to the schedule of compliance in WAC 173-491-050.

(b) Deliveries to bulk gasoline plant storage tanks.

(i) The owner or operator of a bulk gasoline plant shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated properly. The vapor balance system shall prevent at least ninety percent of the displaced gasoline vapors from entering the ambient air. A vapor balance system that is designed, built, and operated according to accepted industrial practices will satisfy this requirement.

(ii) Storage tank requirements. All storage tanks with a nominal capacity greater than five hundred fifty gallons and used for the storage of gasoline shall comply with the following conditions:

(A) Each storage tank shall be equipped with a submerged fill line.

(B) Each storage tank shall be equipped for vapor balancing of gasoline vapors with transport tanks during gasoline transfer operations.

(C) The vapor line fittings on the storage tank side of break points with the transport tank vapor connection pipe or hose shall be equipped to close automatically when disconnected.

(D) The pressure relief valves on storage tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety but in no case greater than ninety percent of the tank's safe working pressure.

(iii) Transport tank requirements. All transport tanks transferring gasoline to storage tanks in a bulk gasoline plant shall comply with the following conditions:

(A) The transport tank shall be equipped with the proper attachment fittings to make vapor tight connections for vapor balancing with storage tanks.

(B) The vapor line fittings on the transport tank side of break points with the storage tank connection pipe or hose shall be equipped to close automatically when disconnected.

(C) The pressure relief valves on transport tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety.

(c) Gasoline transfer operations.

(i) No owner or operator of a bulk gasoline plant or transport tank shall allow the transfer of gasoline between a stationary storage tank and a transport tank except when the following conditions exist:

(A) The transport tanks are being submerged filled or bottom loaded.

(B) The loading of all transport tanks, except those exempted under (c)(ii) of this subsection are being performed using a vapor balance system.

(C) The transport tanks are equipped to balance vapors and maintained in a leak tight condition in accordance with subsection (6) of this section.

(D) The vapor return lines are connected between the transport tank and the stationary storage tank and the vapor balance system is operated properly.

(ii) Transport tanks used for gasoline and meeting all of the following conditions shall be exempt from the requirement to be equipped with any attachment fitting for vapor balance lines if:

(A) The transport tank is used exclusively for the delivery of gasoline into storage tanks of a facility exempt from the vapor balance requirements of subsection (4) of this section; and

(B) The transport tank has a total nominal capacity less than four thousand gallons and is constructed so that it would require the installation of four or more separate vapor balance fittings.

(4) Gasoline dispensing facilities (Stage I).

(a) This section shall apply to the delivery of gasoline to gasoline dispensing facilities with an annual gasoline throughput greater than three hundred sixty thousand gallons in accordance with the schedule of compliance in WAC 173-491-050 and all new gasoline dispensing facilities with a total gasoline nominal storage capacity greater than ten thousand gallons.

(b) All gasoline storage tanks of the facilities defined in (a) of this subsection shall be equipped with submerged or bottom fill lines and fittings to vapor balance gasoline vapors with the delivery transport tank.

(c) Gasoline storage tanks with offset fill lines shall be exempt from the requirement of (b) of this subsection if installed prior to January 1, 1979.

(d) The owner or operator of a gasoline dispensing facility shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.

(5) Gasoline dispensing facilities (Stage II).

(a) This section shall apply to the refueling of motor vehicles from stationary tanks at all gasoline dispensing facilities located in western Washington counties with an annual gasoline throughput greater than eight hundred forty thousand gallons with the exception of Clark, King, Pierce, and Snohomish counties where this section shall apply to gasoline dispensing facilities with an annual gasoline throughput greater than six hundred thousand gallons in accordance with the schedule of compliance in WAC 173-491-050 and all new gasoline dispensing facilities with greater than ten thousand gallons gasoline nominal storage capacity in western Washington counties.

(b) All gasoline dispensing facilities subject to this section shall be equipped with a certified Stage II vapor recovery system.

(c) The owner or operator of a gasoline dispensing facility subject to this section shall not transfer or allow the transfer of gasoline from stationary tanks into motor

vehicle fuel tanks unless a certified Stage II vapor recovery system is used.

(d) All Stage II vapor recovery equipment shall be installed in accordance with the system's certification requirements and shall be maintained to be leak free, vapor tight, and in good working order.

(e) Whenever a Stage II vapor recovery system component is determined to be defective, the owner or operator shall take the system out of service until it has been repaired, replaced, or adjusted, as necessary.

(f) The owner or operator of each gasoline dispensing facility utilizing a Stage II system shall conspicuously post operating instructions for the system in the gasoline dispensing area. The instructions shall clearly describe how to fuel vehicles correctly using the vapor recovery nozzles and include a warning against topping off. Additionally, the instructions shall include a prominent display of ecology's toll free telephone number for complaints regarding the operation and condition of the vapor recovery nozzles.

(6) Equipment or systems failures.

(a) Specific applicability. This section shall apply to all gasoline transport tanks equipped for gasoline vapor collection and all vapor collection systems at gasoline loading terminals, bulk gasoline plants, and gasoline dispensing facilities as described in subsections (2) through (5) of this section.

During the months of May, June, July, August, and September any failure of a vapor collection system at a bulk gasoline plant or gasoline loading terminal to comply with this section requires the discontinuation of gasoline transfer operations for the failed part of the system. Other transfer points that can continue to operate in compliance may be used. The loading or unloading of the transport tank connected to the failed part of the vapor collection system may be completed during the other months of the year.

(b) Provisions for specific processes.

(i) The owner or operator of a gasoline loading terminal or bulk gasoline plant shall only allow the transfer of gasoline between the facility and a transport tank if a current leak test certification for the transport tank is on file with the facility or a valid inspection sticker is displayed on the vehicle. Certification is required annually.

(ii) The owner or operator of a transport tank shall not make any connection to the tank for the purpose of loading or unloading gasoline, except in the case of an emergency, unless the gasoline transport tank has successfully completed the annual certification testing requirements in (c) of this subsection, and such certification is confirmed either by:

(A) Have on file with each gasoline loading or unloading facility at which gasoline is transferred a current leak test certification for the transport tank; or

(B) Display a sticker near the department of transportation certification plate required by 49 CFR 178.340-10b which:

(I) Shows the date that the gasoline tank truck last passed the test required in (c) of this subsection;

(II) Shows the identification number of the gasoline tank truck tank; and

(III) Expires not more than one year from the date of the leak tight test.

(iii) The owner or operator of a vapor collection system shall:

(A) Operate the vapor collection system and the gasoline loading equipment during all loadings and unloadings of transport tanks equipped for emission control such that:

(I) The tank pressure will not exceed a pressure of eighteen inches of water or a vacuum of six inches of water;

(II) The concentration of gasoline vapors is below the lower explosive limit (LEL, measured as propane) at all points a distance of one inch from potential leak sources; and

(III) There are no visible liquid leaks except for a liquid leak of less than four drops per minute at the product loading connection during delivery.

(IV) Upon disconnecting transfer fittings, liquid leaks do not exceed ten milliliters (0.34 fluid ounces) per disconnect averaged over three disconnects.

(B) Repair and retest a vapor collection system that exceeds the limits of (b)(iii)(A) of this subsection within fifteen days.

(iv) The department or local air authority may, at any time, monitor a gasoline transport tank and vapor collection system during loading or unloading operations by the procedure in (c) of this subsection to confirm continuing compliance with this section.

(c) Testing and monitoring.

(i) The owner or operator of a gasoline transport tank or vapor collection system shall, at his own expense, demonstrate compliance with (a) and (b) of this subsection, respectively. All tests shall be made by, or under the direction of, a person qualified to perform the tests and approved by the department.

(ii) Testing to determine compliance with this section shall use procedures approved by the department.

(iii) Monitoring to confirm continuing leak tight conditions shall use procedures approved by the department.

(d) Recordkeeping.

(i) The owner or operator of a gasoline transport tank or vapor collection system shall maintain records of all certification tests and repairs for at least two years after the test or repair is completed.

(ii) The records of certification tests required by this section shall, as a minimum, contain:

(A) The transport tank identification number;

(B) The initial test pressure and the time of the reading;

(C) The final test pressure and the time of the reading;

(D) The initial test vacuum and the time of the reading;

(E) The final test vacuum and the time of the reading;

(F) At the top of each report page the company name, date, and location of the tests on that page; and

(G) Name and title of the person conducting the test.

(iii) The owner or operator of a gasoline transport tank shall annually certify that the transport tank passed the required tests.

(iv) Copies of all records required under this section shall immediately be made available to the department, upon written request, at any reasonable time.

(e) Preventing evaporation. All persons shall take reasonable measures to prevent the spilling, discarding in sewers, storing in open containers, or handling of gasoline in a manner that will result in evaporation to the ambient air.

#### NEW SECTION

WAC 173-491-050 COMPLIANCE SCHEDULES. (1) Fixed-roof gasoline storage tanks. All fixed roof gasoline storage tanks subject to WAC 173-491-040(1) shall comply no later than December 31, 1993.

(2) Gasoline loading terminals. All gasoline loading terminals subject to WAC 173-491-040(2) shall comply no later than December 31, 1993.

(3) Bulk gasoline plants. All bulk gasoline plants subject to the requirements of WAC 173-491-040(3) shall comply no later than December 31, 1993.

(4) Gasoline dispensing facilities - Stage I. All gasoline dispensing facilities subject to the requirements of WAC 173-491-040(4) shall comply no later than December 31, 1993, or whenever the facility is upgraded.

(5) Gasoline dispensing facilities - Stage II. All gasoline dispensing facilities subject to the requirements of WAC 173-491-040(5) shall comply:

(a) When upgraded except any gasoline dispensing facility upgraded or with new tank(s) installed after the effective date of this regulation but before May 1, 1992, need not comply earlier than May 1, 1992.

(b) According to the following schedule:

(i) At least fifty percent of the gasoline dispensing facilities with an annual throughput greater than 1.2 million gallons owned by a business which owns ten or more gasoline dispensing facilities in the state of Washington must comply not later than May 1, 1993. In meeting this requirement, businesses that lease some facilities and operate others must ensure that the percentage of facilities owned and operated which are required to comply with this provision at least equals the percentage of leased facilities required to comply with this provision.

(ii) All gasoline dispensing facilities with an annual throughput greater than 1.2 million gallons not previously required to comply must comply not later than May 1, 1994.

(iii) All gasoline dispensing facilities with an annual throughput greater than six hundred thousand gallons not previously required to comply must comply not later than December 31, 1998.

APPENDIX I  
PERMITTING INFORMATION

Permits are a tool that air pollution control agencies can use in getting Stage II vapor recovery control systems installed properly. The permits and permit conditions should be clearly written to avoid confusion on the part of the owner/operator of the facility and to enhance enforcement efforts. This appendix contains permit forms from several agencies as well as example permits. Specifically, this appendix contains the following information:

- |             |  |
|-------------|--|
| Section I.1 | Example permits from the San Diego District  |
| Section I.2 | Example permits from South Coast District  |
| Section I.3 | Bay Area District Permitting Procedure   |
| Section I.4 | New Jersey Permit Application  |
| Section I.5 | New York Permit Application  |
| Section I.6 | Dade County, FL Permit Application   |
| Section I.7 | Massachusetts Registration and Classification Application and Permit Application with Instructions |

timing as gasoline is being dispensed, no test method is included in this appendix.

Specifically, this appendix contains:

Section J.1 Bay Area ST-30 Leak Test Procedure

Section J.2 Bay Area ST-27 Dynamic Back Pressure

Section J.3 Bay Area Liquid Removal Devices (Draft Method)

Section J.4 San Diego Test Procedure TP-91-2 Pressure Drop vs Flow/Liquid Blockage Test Procedure

Section J.5 San Diego Test Procedure TP-92-1 Pressure Decay/Leak Test Procedure

APPENDIX I.1

APPLICATION FOR AIR POLLUTION CONTROL DISTRICT  
AUTHORITY TO CONSTRUCT (A/C) AND/OR PERMIT TO OPERATE (P/O),  
SELL OR RENT  
SAN DIEGO AIR POLLUTION CONTROL DISTRICT

## APPLICATION INSTRUCTIONS

### GENERAL

1. The owner or his designated agent must complete and sign this multiple copy form and file it with one copy of all attachments, supplementary forms, drawings, and the appropriate fee.
2. The appropriate permit fee (Payable to "County of San Diego APCD") shall be forwarded with this application for an Authority to Construct (A/C) and/or Permit to Operate (P/O), a new installation or an addition to an existing installation. Application processing will not begin until the full required fee has been received. Excess fees will be refunded. If you do not know the appropriate fee, please contact the Enforcement Division at (619) 694-3340.
3. Applicants may contact the APCD Engineering Division prior to submitting this application to discuss the information required.

### SPECIFIC TO APPLICANT

#### I. CONTACT INFORMATION

Items I.1 through I.7 are self-explanatory.

Item I.8. Nature of Business. The Air Pollution Control District needs this information to assist in processing your application; therefore, it is essential that it be carefully completed. A few examples would be: Production of sand and aggregate, gasoline service station, electronic manufacturing, etc.

II. NATURE OF APPLICATION - Check the most appropriate box that describes what you are applying for.

III. DESCRIPTION OF OPERATION - The following information is required (use additional sheets as necessary):

1. Normal Equipment Operating Hours - self explanatory.
2. General Description of Production and Air Pollution Control Equipment:
  - (a) DESCRIBE BASIC PRODUCTION OR PROCESS AND EMISSION CONTROL EQUIPMENT by name, make, model, size, type, serial number and company number designation, if any, for either the entire unit or major parts. Structural details are not required unless they may affect the quality, nature or quantity of air contaminants. If a burner is used, the make, model, type, size, fuel and maximum capacity of each should be specified. For gasoline systems, list each product, size of each tank, number of nozzles per product and accessory equipment (e.g., flow control valves, P/V valves, nozzle and make and model, etc.), monthly output and make and model number of Phase II vapor recovery equipment.
  - (b) DRAWINGS OR SCHEMATICS of basic production or process equipment and related emission control equipment must be submitted showing design of the equipment. These drawings or schematics should include:
    - details of all features; or
    - for gasoline storage/dispensing facilities, layout of and distances between storage tanks, nozzles and control equipment, piping sizes and layout, vent line termination point, slope and low point of vapor return lines (location of swing check valve if applicable).
  - (c) DESCRIBE PROCESS or operations to be carried out in the system; include flow diagram if necessary for clarity. Describe air pollution control procedures in sufficient detail to show degree of expected air contaminant control. If fuels are used, specify types used, rates of use, and sulfur content, by weight, if liquid or solid fuel.
  - (d) PROCESS RATE. Type and weight or volume of each material processed by the equipment. Use maximum pounds or tons per hour, gallons per month or other specified unit of time. Liquid or gaseous fuels should be excluded from determination of process weight.
  - (e) MANUFACTURER'S CATALOG OR BROCHURE showing specific equipment may be acceptable for parts of the above items. Required information not shown on manufacturer's literature must be submitted by the applicant. For air pollution control equipment, include manufacturer's emission control guarantee, if applicable.
  - (f) EQUIPMENT LOCATION. Include census block map showing exact location of site (property lines) and the location of the equipment you are applying for.
3. Estimated Start and Completion of Construction - self explanatory.
4. Supplementary Forms have been prepared for many equipment types. A form index and forms are available, upon request, from the District. The applicable form may be submitted as part of your application.

YOUR APPLICATION WILL NOT BE CONSIDERED COMPLETE UNTIL ALL NECESSARY DATA, SPECIFICATIONS AND FEES HAVE BEEN RECEIVED. FINAL ACTION ON YOUR APPLICATION CANNOT BE TAKEN UNTIL ALL FEES REQUIRED PER DISTRICT RULE 40 ARE RECEIVED.

SAN DIEGO AIR POLLUTION CONTROL DISTRICT  
 9150 CHESAPEAKE DRIVE  
 SAN DIEGO CA 92123-1095  
 (619) 694-3307

APPL NO.	<u>900979</u>
SECTOR/ID NO.	<u>A 03858A</u>
PERMIT/OPERATE	_____
SIC CODE	_____
(APCD USE ONLY)	

APPLICATION FOR AIR POLLUTION CONTROL DISTRICT  
 AUTHORITY TO CONSTRUCT (A/C) AND/OR PERMIT TO OPERATE (P/O), SELL OR RENT

ATTENTION: PLEASE READ INSTRUCTIONS ON THE REVERSE SIDE OF THIS FORM PRIOR TO COMPLETING.  
 ALL SECTIONS MUST BE COMPLETED. (Please PRINT or TYPE.)

FILING THIS APPLICATION DOES NOT GRANT PERMISSION TO CONSTRUCT OR TO OPERATE EQUIPMENT

I. APPLICANT INFORMATION

- Firm Name (DBA/Mil. Command/Govt Entity): \_\_\_\_\_
- Legal owner, if different from DBA: \_\_\_\_\_
- Equipment address: \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_  
 (For Portable Equipment use Home Base Address)
- A/C Contact/Title: \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_
- Mailing Address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 (If different from equipment address)
- Permit Recipient/Title: SAME Phone (\_\_\_\_) \_\_\_\_\_
- Mailing Address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_
- Site Contact/Title: \_\_\_\_\_ Site Phone \_\_\_\_\_
- Nature of Ownership: \_\_\_ Govt. \_\_\_ Utility \_\_\_ Corp. \_\_\_ Dealership \_\_\_ Individual \_\_\_ Partnership
- Nature of Business: RETAIL GASOLINE SALES

II. NATURE OF APPLICATION

- |   |  |   |
|---|--|---|
| 1. ___ New equipment to be installed or constructed. (Original application) | 4. ___ Modification of existing permitted equipment.                 | Reference Application/<br>Permit Nos.<br><br>Appl. # _____<br>P/O # _____<br>P/O # _____<br>P/O # _____ |
| 2. ___ Prefabricated (off-the-shelf) equipment not requiring construction.  | 5. ___ Inactive status permit.                                       |   |
| 3. ___ Amendment to a completed APPL. or existing A/C.                      | 6. ___ Change of Permit Ownership.                                   |   |
|   | 7. ___ Condition Change.   |   |
|   | 8. <input checked="" type="checkbox"/> Change of Equipment Location. |   |
|   | 9. ___ Banking.  |   |
|   | 10. ___ Other (Explain) _____  |   |

III. DESCRIPTION OF OPERATION

- Normal Equipment Operating Hours/Day: 16 Days/Week: 7 Weeks/Year: 52

2. General Description of Process Equipment & Air Pollution Control Equipment:  
 [Add attachments per instructions on reverse side and complete items (a) through (f) if applicable.]

MOVE EXISTING FUEL PUMPS

- Estimated Start of Construction Date: \_\_\_\_\_ Est. Completion Date: \_\_\_\_\_

IV. SIGNATURE OF AUTHORIZED PERSON: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name/Title: \_\_\_\_\_ Company: \_\_\_\_\_

DO NOT WRITE BELOW (APCD Use Only)

Receipt # \_\_\_\_\_ Date \_\_\_\_\_ Amt. Rec'd \$ \_\_\_\_\_ Fee Code(s) MHL  
 Add'l Fee Receipt # \_\_\_\_\_ Date \_\_\_\_\_ Amt. Rec'd \$ \_\_\_\_\_ Fee Code(s) \_\_\_\_\_  
 Refund Claim # \_\_\_\_\_ Date \_\_\_\_\_ Amt. \$ \_\_\_\_\_  
 APCD-16 Rev 01/90 Rev due,

SAN DIEGO AIR POLLUTION CONTROL DISTRICT  
 9150 CHESAPEAKE DRIVE  
 SAN DIEGO, CA 92123-1095  
 (619) 694-3307

**SUPPLEMENTAL APPLICATION INFORMATION  
 FEE SCHEDULES 26A, B, C, D  
 NON-BULK VOLATILE ORGANIC COMPOUND  
 DISPENSING FACILITIES SUBJECT TO RULES 61.0 THROUGH 61.6**

DBA: \_\_\_\_\_ Appl. No. \_\_\_\_\_  
 Address: \_\_\_\_\_ Date: \_\_\_\_\_

**1. VAPOR CONTROL EQUIPMENT TO BE INSTALLED OR MODIFIED**

<u>New</u>	<u>Exist</u>	<u>Equipment Name</u>	<u>ARB Executive Order</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phase I <u>UPW Tank Repair</u>	G-70- <u>92</u> - <u>A</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phase II <u>Empty Warehouse</u>	G-70- <u>52</u> - <u>42</u>

Dispenser Arrangement According to Exhibit 1 of G-70-52 - 42  
 Vapor Return Hose Internal Diameter: \_\_\_\_\_ inches; or Co-Axial   
 Vapor Return Nozzle Mfr: \_\_\_\_\_; Model: \_\_\_\_\_

Vacuum Assist Systems: Hasstech VCP-2 , or VCP-2A   
 Healy Jet Pump , or Multi-Jet   
 Hirt VCS-200-1 , or VCS-200-2

	<u>Premium</u>	<u>Regular</u>	<u>Unleaded</u>	<u>Other</u>
No. of Existing Nozzles:	<u>8</u>	<u>8</u>	<u>8</u>	_____
No. of Nozzles to be Added or Removed:	_____	_____	_____	_____
New Total Number of Nozzles:	_____	_____	_____	_____

**2. STORAGE TANKS TO BE INSTALLED OR MODIFIED**

Tank Capacity for Each Storage Tank (Gallons)

<u>New</u>	<u>Exist</u>	<u>Remove</u>	<u>Premium</u>	<u>Regular</u>	<u>Unleaded</u>	<u>Other</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>6000</u>	_____	_____	_____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____	<u>4000</u>	<u>2000</u>	_____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____	<u>7000</u>	_____	_____

Monthly Throughput (Gallons): \_\_\_\_\_

Include a site plan of all tanks, dispensers and underground piping. Also identify all vapor return piping material, diameter, length and slope.

\* Do not list nozzles or tanks used exclusively for diesel fuel.

Name of Preparer: \_\_\_\_\_ Date: \_\_\_\_\_

BEFORE ACTING ON AN APPLICATION FOR AUTHORITY TO CONSTRUCT, PERMIT TO OPERATE, OR PERMIT TO SELL OR RENT, THE DISTRICT MAY REQUIRE FURTHER INFORMATION, PLANS, OR SPECIFICATIONS.

11/16/88

COUNTY OF SAN DIEGO  
AIR POLLUTION CONTROL DISTRICT  
9150 CHESAPEAKE DRIVE SAN DIEGO, CA 92123-1095  
(619) 694-3307

66028

CONTROL NO.

# PERMIT TO OPERATE

**PERMIT NO.**  
  
**EXPIRES**

THE FOLLOWING IS HEREBY GRANTED A PERMIT TO OPERATE THE ARTICLE, MACHINE, EQUIPMENT OR CONTRIVANCE DESCRIBED BELOW. THIS PERMIT IS NOT TRANSFERABLE TO A NEW OWNER, NOR IS IT VALID FOR OPERATION OF THE EQUIPMENT AT ANOTHER LOCATION, EXCEPT FOR PORTABLE EQUIPMENT.

EQUIPMENT ADDRESS

OWNER:

CA

CA

## EQUIPMENT DESCRIPTION

REVISED COPY FEE PAID

GASOLINE SERVICE SITE (24 EMCO WHEATON A3005 COAXIAL NOZZLES)  
PHASE II VRS: EMCO WHEATON BALANCE PER ARB ED G-70-17-AB;  
COAXIAL HOSES AND HIGH-RETRACTORS PER ARB ED G-70-52-A1, EXHIBIT B;  
PHASE I VRS: TWO POINT, PER ARB ED G-70-97-A1;  
TANKS: 2-4,000; 1-6,000 & 1-12,000 GALLON.

(WJG) 1188

880215

A 03858A 006619 0670C 26A24

THIS PERMIT HAS BEEN ISSUED SUBJECT TO THE FOLLOWING CONDITIONS. FAILURE TO COMPLY WITH THESE CONDITIONS IS A MISDEMEANOR.

1. PERMITTEE SHALL PROVIDE ACCESS, FACILITIES, UTILITIES AND ANY NECESSARY SAFETY EQUIPMENT FOR SOURCE TESTING AND INSPECTION UPON REQUEST OF THE AIR POLLUTION CONTROL DISTRICT.
2. PERMITTEE SHALL MAINTAIN THE PHASE I VAPOR CONTROL SYSTEM, INCLUDING ALL GASKETS, SEALS, AND O-RINGS OF THE FILL AND VAPOR RETURN ADAPTERS AND ASSOCIATED CAPS, IN GOOD WORKING CONDITION.
3. PERMITTEE SHALL BE RESPONSIBLE FOR MAKING CERTAIN THAT FILL PIPE AND DRY-BREAK CAPS ARE SECURELY REPLACED FOLLOWING EACH TRANSFER OF GASOLINE.
4. ANY CHANGE, OTHER THAN IDENTICAL REPLACEMENT, IN THE BASIC OR CONTROL EQUIPMENT DESCRIBED ABOVE MUST HAVE PRIOR DISTRICT APPROVAL.
5. THE PHASE II VAPOR CONTROL SYSTEM SHALL BE PROPERLY MAINTAINED AND OPERATED IN ACCORDANCE WITH DISTRICT RULES 61.4 AND 61.7, THE ARB EXECUTIVE ORDERS SPECIFIED ABOVE, AND THE MANUFACTURER'S VAPOR RECOVERY NOZZLE INSTRUCTION BOOK (LATEST VERSION).
6. VAPOR RECOVERY HOSES, SWIVELS, NOZZLES, BELLOWS, AND FACEPLATES SHALL BE CHECKED AT LEAST DAILY AND REPAIRED OR REPLACED IMMEDIATELY IF FOUND DEFECTIVE. ALL VAPOR RECOVERY HOSES SHALL BE MAINTAINED IN A MANNER WHICH ALLOWS SELF-DRAINAGE OF RETAINED LIQUID DURING NORMAL DISPENSING.
7. THE PHASE I AND PHASE II VAPOR CONTROL SYSTEMS SHALL NOT CONTAIN DEFECTS SET FORTH IN THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 17, PART 3, CHAPTER 1, SUBCHAPTER 8, SECTION 94006 WHICH SUBSTANTIALLY IMPAIRS THE EFFECTIVENESS OF THE SYSTEMS IN REDUCING AIR CONTAMINANTS. "SUCH DEFECTS ARE DEFINED ON THE ATTACHMENT ACCOMPANYING THIS PERMIT."
8. OPERATION MUST BE IN COMPLIANCE WITH ALL INFORMATION INCLUDED IN APPLICATIONS FOR THIS PERMIT TO OPERATE AS APPROVED BY THE DISTRICT AND THE PERFORMANCE CONDITIONS LISTED ABOVE.

WITHIN 10 DAYS AFTER RECEIPT OF THIS PERMIT, THE APPLICANT MAY PETITION THE HEARING BOARD TO REVIEW ANY CONDITION THAT HAS BEEN MODIFIED OR ADDED TO THE PERMIT. (RULE 25 AND REGULATION VI) IN ACCORDANCE WITH RULE 10C THIS PERMIT TO OPERATE OR A COPY MUST BE POSTED ON OR WITHIN 25 FEET OF THE EQUIPMENT, OR MAINTAINED READILY AVAILABLE AT ALL TIMES ON THE OPERATING PREMISES. ANY AND ALL CONDITIONS WHICH HAVE BEEN APPLIED TO THIS PERMIT SHALL REMAIN IN FULL FORCE AND EFFECT UNLESS EXPRESSLY MODIFIED BY THE AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE PERMITTEE FROM COMPLIANCE WITH ALL OTHER PERMIT OR AUTHORIZATION WHICH MAY BE APPLICABLE.

R.J. Sommerville

APCD 32A REV. 2/88

02710

CONTROL NO.

COUNTY OF SAN DIEGO  
AIR POLLUTION CONTROL DISTRICT  
9150 CHESAPEAKE DRIVE SAN DIEGO, CA 92123-1095  
(619) 684-3307

# PERMIT TO OPERATE

**PERMIT NO.**  
006619  
EXPIRES  
FEBRUARY 1, 1990

THIS PERMIT IS NOT VALID UNTIL REQUIRED FEES ARE RECEIVED BY THE DISTRICT.

THE FOLLOWING IS HEREBY GRANTED A PERMIT TO OPERATE THE ARTICLE, MACHINE, EQUIPMENT OR CONTRIVANCE DESCRIBED BELOW. THIS PERMIT IS NOT TRANSFERABLE TO A NEW OWNER, NOR IS IT VALID FOR OPERATION OF THE EQUIPMENT AT ANOTHER LOCATION, EXCEPT FOR PORTABLE EQUIPMENT.

I.1-6

006619

EQUIPMENT ADDRESS

OWNER:

## EQUIPMENT DESCRIPTION

RENEWAL FEE PAID \$1,200.00

GASOLINE SERVICE SITE (24 EMCO WHEATON A3009 COAXIAL NOZZLES)  
PHASE II VRS: EMCO WHEATON BALANCE PER ARB ED 9-70-17-AB;  
COAXIAL HOSES AND HIGH-RETRACTORS PER ARB ED 9-70-52-AI, EXHIBIT B;  
PHASE I VRS: TWO POINT, PER ARB ED 9-70-97-A;  
TANKS: 2-4,000; 1-6,000 & 1-12,000 GALLON.

(HJC) 1188

880215

A 03858A 006619 0670C 26A24

IN ACCORDANCE WITH RULE 100 THIS PERMIT ATTACHED TO YOUR CURRENT PERMIT WHICH INCLUDES THE OPERATING CONDITIONS OR A COPY MUST BE POSTED ON OR WITHIN 25 FEET OF THE EQUIPMENT, OR MAINTAINED READILY AVAILABLE AT ALL TIMES ON THE OPERATING PREMISES.

ANY AND ALL CONDITIONS WHICH HAVE BEEN APPLIED TO THIS EQUIPMENT SHALL REMAIN IN FULL FORCE AND EFFECT UNLESS EXPRESSLY MODIFIED BY THE AIR POLLUTION CONTROL DISTRICT.

THIS AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE THE HOLDER FROM OBTAINING PERMITS OR AUTHORIZATIONS WHICH MAY BE REQUIRED BY OTHER GOVERNMENTAL AGENCIES.



R.J. Sommerville  
AIR POLLUTION CONTROL OFFICER

F-3858A

SECTOR ID

SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT  
9150 Chesapeake Drive  
San Diego, CA 92123

Application Number

5700

SECT

# STARTUP AUTHORIZATION

Date of Issuance

(NAME AND ADDRESS OF OPERATOR OR OWNER)

may operate a gasoline storage and dispensing facility consisting of four underground storage tank(s) with 2A dispensing nozzle(s) and OPW System A Type E Phase I and Emco-Wheaton Balance Phase II vapor controls.

located at \_\_\_\_\_ (ADDRESS)

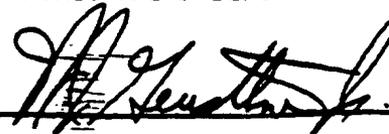
until \_\_\_\_\_ pursuant to Rule 21 of the Rules and Regulations of the Air Pollution Control District, subject to the following conditions:

- 1. A copy of this authorization shall be posted on or near the equipment for which operation is authorized.
- 2. The undersigned APCD representative shall be notified as soon as the equipment is fully operational.
- 2. Permittee shall be responsible for making certain that fill pipe and dry-break caps are securely replaced following each bulk delivery.
- 3. Permittee shall maintain the Phase I vapor control system including all gaskets, seals and O-rings of the fill and vapor return adapters and associated caps, in good working order.
- 4. The Phase II vapor control system shall be properly maintained and operated in accordance with District Rules 61.4 and 61.7, the applicable ARB Executive Orders and Emco-Wheaton "A3000 Series Vapor Recovery Nozzle Instruction Book" (latest version).

Operation is authorized only for the purpose of:

- Shaking down, testing and evaluating the equipment named above.
- For the purpose of allowing operation until an APCD Permit to Operate has been issued.

**THIS IS NOT AN AUTHORIZATION TO EXCEED ANY APPLICABLE EMISSION STANDARD. THIS AUTHORIZATION IS SUBJECT TO CANCELLATION IF ANY EMISSION STANDARD OR CONDITION IS VIOLATED. IF THERE ARE ANY QUESTIONS ABOUT THIS AUTHORIZATION, PLEASE CONTACT THE UNDERSIGNED AT 565-5419.**

Signed: 



APPENDIX I.2

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

# PERMIT to OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

PERMIT NO.

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER  
OR OPERATOR:

APPL. #

CO. ID.  
SECTOR 0A

EQUIPMENT  
LOCATED AT: LONG BEACH, CA 90805

**EQUIPMENT DESCRIPTION AND CONDITIONS:**

- R461 GASOLINE FUELING & DISPENSING FACILITY CONSISTING OF :
1. 02 GASOLINE STORAGE TANKS
  2. 10 GAS DISPENSING NOZZLES
  3. VAPOR RECOVERY SYSTEM - BALANCE

03

**PERMIT CONDITION:**

PHASE I AND PHASE II VAPOR RECOVERY SYSTEMS MUST BE IN FULL OPERATION, WHENEVER THIS FACILITY IS IN USE. SUCH SYSTEMS MUST BE INSTALLED, OPERATED AND MAINTAINED TO MEET ALL CARB CERTIFICATION REQUIREMENTS.

This initial permit must be renewed by 9/16 ANNUALLY unless the equipment is moved, or changes ownership. If billing for annual operating fee is not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

EXECUTIVE OFFICER

BY PRINCIPAL PERMIT  
PROCESSING CLERK

DATE

76P234M - 6/82

1.2-2

✓

**APPENDIX I.3**

**BAY AREA DISTRICT PERMITTING PROCEDURE**

## **GASOLINE DISPENSING FACILITIES**

### **1. DESCRIPTION**

This chapter covers the permitting of Gasoline Dispensing Facilities (GDF's). All GDF's must have a Permit to Operate from the District, including those exempt from the vapor recovery standards in Regulation 8 Rule 7. Any projects involving the vapor recovery system at GDF's must be authorized by the District prior to construction. This includes the replacement or installation of tanks and/or vapor recovery lines, dispenser modifications and the addition of nozzles to a facility. Piping plans illustrating a California Air Resources Board (CARB) certified system are required.

### **2. APPLICATION CONTENTS**

#### **A. Data Forms**

Data Form P-101G must be completed and returned by the applicant and must contain the following:

1. Equipment address
2. Authority to Construct mailing address
3. Violation Notice number if applicable
4. Date of equipment installation. For existing GDF's this date may determine if the GDF is exempt from vapor recovery
5. Facility type and Description
6. CARB Certified Vapor Recovery Equipment List
7. Project Description including number of applicable California Air Resources Board executive order.

An example of a completed P-101G Data Form is attached (see Exhibit I).

#### **B. Additional Information/Forms**

Construction drawings showing tank and dispenser locations; dispenser island configuration, product, vapor recovery and tank vent piping and construction specifications.

### **3. COMPLETENESS**

The following information is needed to make this determination:

- A. Application must be filled out completely and accurately and include all information pertinent to the project (see Exhibit I).
- B. If construction of underground tank or piping is planned (including vapor recovery piping), vapor recovery construction drawings must be submitted that clearly demonstrates a current California Air Resources Board (CARB) certified vapor recovery configuration. Drawings must include tank and dispenser locations, dispenser island configuration, vapor recovery piping diameters, piping manifolds (if any) and piping slope.

- C. CARB Certified Vapor Recovery Equipment List. This shall include the model numbers for dispensers, nozzles, hoses, swivels, as well as breakaways, overhead retractors, liquid pickups, remote vapor check valves, blending valves, and splash bucket drain valves (if applicable).
- D. All authority to construct and/or permit to operate fees must be paid.

#### 4. REGULATIONS

Gasoline Dispensing Facilities are subject to the California Health and Safety Code and the following District regulations:

Regulation 2, Rule 1: Permit Regulation

Regulation 3: Fees

Regulation 8, Rule 7: Gasoline Dispensing Facilities

The CARB G-70 Series of Executive Orders are part of Regulation 8, Rule 7 by reference.

Regulation 8, Rule 40: Removal of Underground Storage Tanks.

#### 5. ABATEMENT EQUIPMENT

Gasoline Dispensing Facilities (GDF's) are a source of Volatile Organic Compounds (VOC's) in the form of gasoline vapors. The abatement equipment used for capture of these emissions is designated as Phase I and Phase II vapor recovery equipment. Phase I is the designation for equipment that captures vapors that would be emitted during delivery of gasoline to the GDF. Phase II is the designation for equipment that captures vapors that would be emitted during fueling of vehicles at the GDF.

Phase I and Phase II vapor recovery systems must be installed at all new or modified GDF's in the District which are not specifically exempted. Such systems are considered abatement devices since the utilization of such equipment decreases the amount of gasoline vapor emitted into the atmosphere. A list of exemptions from vapor recovery, but not from permits, is in Sections 8-7-111 and 8-7-112 of Regulation 8, Rule 7 (GDF's installed after March 4, 1987 are not eligible for the low throughput exemptions). All Phase I and Phase II equipment and systems to be installed must be currently certified by the California Air Resources Board (CARB).

The CARB certification program is a procedural process which includes evaluation of a system, a 90 day operational test of prototype equipment at a test site, an efficiency test to determine 95% efficiency of a system (which includes a dynamic back pressure test and a vapor leak test) and the approval of three other state agencies (State Fire Marshall, Division of Measurement Standards of the Department of Food and Agriculture, and the Division of Occupational Safety and Health). Conformance with CARB Certification is demonstrated through piping configuration, equipment list and District source test procedures ST-27 and ST-30.

#### 6. STANDARDS

A. Standards that must be met before a permit can be issued:

1. The design and equipment installed at the site must be currently certified by the California Air Resources Board (CARB).

2. The applicable requirements of BAAQMD Regulation 8, Rule 7, Sections 301 through 312, must be met.
3. Within twenty (20) days of completion of equipment installation (start-up) compliance with all Authority to Construct conditions shall be demonstrated by the applicant.
4. Signed "As-Built" construction drawings shall be submitted within twenty (20) days of start-up.

**B. Toxics**

A GDF with vapor recovery equipment that is in compliance with CARB requirements and has an annual throughput of less than 2.5MM gallons/year is in compliance with the District's risk management procedure. All GDF's with an annual throughput of greater than 2.5MM gallons/year are subject to a Toxics Review. (A year is defined to be any consecutive 12 month period.)

**7. EMISSIONS**

According to CARB, uncontrolled emissions due to tank filling, vehicle fueling, and minor spillage are approximately 21.2 pounds of VOC per 1000 gallons of gasoline dispensed. The uncontrolled baseline emissions for each station shall be calculated by multiplying the annual throughput by the 21.2 pounds of VOC per 1000 gallons of gasoline.

The controlled baseline emissions shall be estimated by multiplying the uncontrolled baseline emissions by the percent of the emissions which would not normally be controlled by a fully functional Phase II system. The equation used to calculate these emissions is as follows:

$$\text{Controlled Baseline} = \text{Annual Throughput} \times \frac{21.2 \text{ lbs VOC}}{1000 \text{ Gallons}} \times (1.00-0.95)$$

**8. CONDITIONS**

Authority to Construct conditions ensure that vapor recovery systems are built to operate efficiently and in compliance with District regulations and CARB certification orders. For GDF's, the conditions are based on the type of vapor recovery equipment used, the throughput, and the configuration of the station. A Permit to Operate will not be issued until all conditions listed in the Authority to Construct have been met.

All performance tests required by the Authority to Construct shall be performed within ten (10) days of system start-up and will be submitted on the District reporting form for the applicable test procedure within twenty (20) days of start-up. Failure to complete performance tests may result in enforcement action.

The results of all performance tests required by the Authority to Construct shall demonstrate compliance with the appropriate standards or limits.

A "start-up" inspection of the site shall be performed by the District's Inspection Section. The results of this inspection shall demonstrate compliance with all Authority to Construct conditions, BAAQMD Regulations, and the appropriate CARB requirements. Performance tests required by the Authority to Construct may be duplicated at this time.

The applicant, whose signature appears on the P-101G Form, accepts responsibility to ensure that all Authority to Construct conditions are met. If conditions are not met within twenty (20) days of start-up, enforcement action will be taken. If the Authority to Construct is not used within two years, it shall be cancelled.

The following are standard conditions for standard configurations.

**A. Sample 1: Two point Phase I Systems**

1. The Phase I equipment shall be installed in accordance with California Air Resources Board (CARB) Executive Order \_\_\_\_ [cite order number that applies]. The nominal inside diameter of the vapor side of the two-point system shall be no less than four(4) inches anywhere between the storage tank and the vapor poppet. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]

**B. Sample 2: Coaxial Phase I Systems**

1. The Phase I equipment shall be installed in accordance with California Air Resources Board (CARB) Executive Order \_\_\_\_ [cite order number that applies]. The nominal inside diameter of the outer tube shall be no less than four(4) inches. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]

**C. Sample 3: Phase II Balance Systems**

1. All vapor recovery system components shall be installed in accordance with CARB Executive Order G-70-52-A\_\_ [most current update] and CARB Executive Order \_\_\_\_ [cite order number that applies]. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]
2. Vapor recovery nozzles which contain a built-in vapor check valve may not be used in conjunction with any remote vapor check valve.  
  
Vapor recovery nozzles which do not contain a built-in check valve must be used in conjunction with a remote vapor check valve.
3. Within ten(10) days of start-up, a Leak Test on all new and/or modified nozzle systems shall be performed in accordance with the District's Manual of Procedures Source Test Procedure ST-30 [most current revision available through the District's Permit Services Division]. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.

4. Within ten (10) days of start-up, a Dynamic Back Pressure Test on all new and/or modified nozzle systems shall be performed in accordance with BAAQMD's Source Test Procedure ST-27 [most current revision available through the District's Permit Services Division]. The Test shall be conducted at nitrogen flowrates of 20, 60, and 100 CFH per hour. If remote vapor check valves are used, the test shall be conducted using Alternate Method II or III.
5. Submit all test results on the District reporting form for the applicable test procedure within twenty (20) days of start-up.
6. All vapor recovery piping shall be a minimum of 3 inch (nominal) diameter after the manifolding of the dispenser lines. All vapor recovery piping shall slope down towards the lowest octane, or leaded grade tank. A minimum drop of 1/8 inch for every linear foot is required [unless otherwise specified by the appropriate CARB Executive order].

or

Vapors from the blended product shall be returned via vapor recovery piping to each tank from which the blend stock is drawn. The vapor recovery piping shall be manifolded at the tanks or at the dispenser. A minimum drop of 1/8 inch for every linear foot is required [unless otherwise specified by the appropriate CARB Executive order].

or

Each grade of gasoline shall have separate \_\_\_ inch diameter (minimum) vapor recovery piping and shall slope back to the tank a minimum of 1/8 inch per linear foot (minimum).

"Modified nozzle systems" include any nozzle system that is connected to vapor recovery piping that has been modified in any way.

**D. Sample 4: Phase II Hirt Systems**

Hirt Systems shall conform to Conditions 1 through 6 above. In addition, Hirt Systems shall conform to the following conditions:

7. A center-zero, 0-1 inch water column differential pressure gauge shall be permanently installed inside the dispenser farthest from the Hirt processor.
8. Permanent access to the Hirt Processor shall be provided for the purpose of inspection and/or testing.

**E. Sample 5: Phase II Hasstech Systems**

1. All vapor recovery system components shall be installed in accordance with CARB Executive Order G-70-7-A\_ [most current update]. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]

2. Within ten(10) days of start-up, a Leak Test on all new and/or modified nozzle systems shall be performed in accordance with the District's Manual of Procedures Source Test Procedure ST-30 [most current revision available through the District's Permit Services Division]. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.
3. Within ten (10) days of start-up, a Dynamic Back Pressure Test on all new and/or modified nozzle systems shall be performed to determine the dynamic back pressure from the ITT Valve to the storage tank with the dry breaks open. This test shall be conducted in accordance with Source Test Procedure ST-27 [most current revision available through the District's Permit Services Division], Alternate Method 2, at a flowrate of 60 CFH. The resulting dynamic back pressure shall not exceed 0.45 inches of water column.
4. Submit all test results on the District reporting form for the applicable test procedure within twenty (20) days of start-up.
5. Permanent access to the Hasstech Processor and vacuum pump shall be provided for the purpose of inspection and/or testing.
6. A Remote Status Panel and tank correction gauge shall be installed as per manufacturer's recommendations.

"Modified nozzle systems" include any nozzle system that is connected to vapor recovery piping that has been modified in any way.

**F. Sample 6: Phase II Healy Systems**

1. All vapor recovery system components shall be installed in accordance with CARB Executive Order G-70-70-A\_ [most current update]. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]
2. Within ten(10) days of start-up, a Leak Test on all new and/or modified nozzle systems shall be performed in accordance with the District's Manual of Procedures Source Test Procedure ST-30 [most current revision available through the District's Permit Services Division]. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.
3. Permanent access to the vacuum assist equipment shall be provided for the purpose of inspection and/or testing.
4. Submit all test results on the District reporting form for the applicable test procedure within twenty (20) days of start-up.

"Modified nozzle systems" include any nozzle system that is connected to vapor recovery piping that has been modified in any way.

**G. Sample 7: Phase II Conversions from a Red Jacket to a Balance System**

Conversions from a Red Jacket to a Balance System are subject to the conditions applicable to the balance system. In addition, they are subject to the following conditions:

7. The Red Jacket aspirator, modulating valve, vapor screen, and vapor check valve shall be removed prior to installation of the balance system components.
8. The riser shall be at least 3/4 inch O.D. in diameter inside the dispenser.

**H. Sample 8: Aboveground Tanks-Phase I and II**

For newly installed aboveground tanks, the following conditions will be imposed:

1. All vapor recovery system components shall be installed in accordance with CARB Executive Order \_\_\_\_\_ [cite order number that applies]. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]
2. Within ten(10) days of start-up, a Leak Test on all new and/or modified nozzle systems shall be performed in accordance with the District's Manual of Procedures Source Test Procedure ST-30 [most current revision available through the District's Permit Services Division]. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.
3. Submit all test results on the District reporting form for the applicable test procedure within twenty(20) days of start-up.
4. Operator shall accept deliveries only from delivery trucks which are equipped with vapor return connectors compatible with tank fittings. Operator shall ensure that Phase I vapor recovery equipment is utilized during these deliveries.

The following condition may also be imposed:

5. The tank shall be located in an area shaded from 10 AM to 3 PM in all seasons.

If an aboveground tank has a remote dispenser, the following condition will also be imposed:

6. After construction of underground piping, including connections to tanks, and before filling in and paving over underground piping, applicant must notify the District for a piping inspection. Applicant shall call \_\_\_\_\_, the GDF enforcement team supervisor, at (415) 771-6000 ext. 262. Applicant must give at least three (3) days notice before filling in and paving over piping and connections.

**I. Sample 9: Remote Fill Phase I**

If tanks using a remote fill and vapor recovery openings were being installed, the following conditions will be imposed:

1. \_\_\_\_\_ [Name of company] must notify the District in writing at least five (5) working days prior to the commencement of the installation of the remote product and vapor fill pipes.
2. Only the remote fill and remote vapor pipes shall be used to transfer gasoline into the stationary tanks at this facility.
3. The original product fill pipe on all the underground storage tanks shall remain accessible for tank gauging purposes.
4. The original Phase I vapor pipe on the underground storage tanks shall be capped and taken out of service.

**J. Sample 10: Other Phase II Vapor Recovery Systems**

For all other vapor recovery systems, the following condition will be imposed:

1. All vapor recovery system components shall be installed in accordance with the CARB Executive Order \_\_\_\_\_ [Cite order number that applies]. [Copies of all CARB Executive Orders applicable to GDF's are available through the District's Permit Services Division.]

**K. Sample 11: Facilities Claiming Exemptions**

For facilities claiming exemption under Regulation 8, Section 8-7-111 and/or Section 8-7-112 one or more of the following conditions may be imposed:

1. Exempt - Low throughput conditions. Facility shall not exceed throughput of 60,000 gallons in any consecutive 12 month period.
2. To maintain exemption, fueling of tanks over five(5) gallons shall not be allowed.
3. Facility shall only fuel vehicles whose fill neck configuration does not allow for Phase II vapor recovery.

**L. Sample 12: Unique Systems that require CARB Certification**

For vapor recovery systems not currently CARB certified the following condition will be imposed (the deadline for certification is mentioned in the system description on the Authority to Construct):

1. This Authority to Construct is issued with an extended Start-up period to allow for CARB certification of the Phase I and II Vapor Recovery. The Permit to Operate shall not be issued until certification is completed. In case the system cannot be certified because the vapor recovery rate is less than 95%, the GDF shall be closed within 60 days.

**M. Sample 13:** For any vapor recovery system the following conditions may be added to ensure compliance with District Regulations.

1. Applicant shall call \_\_\_\_\_, in Permit Services Division at (415) 771-6000 ext. 384 at least seven(7) days before the source tests are performed. A representative from the District shall be present during testing to check the performance of the in-place piping.
2. All vapor recovery piping shall be a minimum of 3 inch (nominal) diameter after the manifolding of the dispenser lines. All vapor recovery piping shall slope down towards the lowest octane, or leaded grade tank. A minimum drop of 1/8 inch for every linear foot is required [unless otherwise specified by the appropriate CARB Executive order].
3. Vapors from the blended product shall be returned via vapor recovery piping to each tank from which the blend stock is drawn. The vapor recovery piping shall be manifolded at the tanks or at the dispenser. A minimum drop of 1/8 inch for every linear foot is required [unless otherwise specified by the appropriate CARB Executive order].
4. Each grade of gasoline shall have separate \_\_\_ inch diameter (minimum) vapor recovery piping and shall slope back to the tank a minimum of 1/8 inch per linear foot (minimum).
5. This facility shall not exceed a maximum throughput of 2.5 million gallons of gasoline in any consecutive 12 month period. Monthly usage records shall be retained for at least two years from the date of entry. This log shall be kept on site and made available to district staff on request.

## **9. ENFORCEMENT**

Permit conditions are enforced by the inspection staff of the enforcement division during the start-up inspection, on-going inspections, and through record keeping by the applicant. The inspector compares the actual operation of the source to the conditions required in the permit, and to applicable regulations.

## **10. FEES**

Per Regulation 3 the following fees are required. Please note that fees are subject to change. These fees are to serve as examples only.

State and local agencies, except publicly owned utilities, were exempt from paying fees until July 12th, 1989.

**A. Filing Fee:** \$165.00 for each application.

**B. Schedule D: Gasoline transfer at GDF's**

1. **Initial Fee:** \$51.97 per nozzle that is "new" (unpermitted) or "additional" (for modified, existing facilities)
2. **Permit to Operate fee:** \$19.05 per nozzle that is "new" (unpermitted) or "additional" (for modified, existing facilities)

3. **Late fees:** These are in effect if a facility installs vapor recovery equipment without applying with the District prior to construction (the late fee shall be equal to 100% of the initial fee as above. Facilities not required to pay an initial fee shall pay a late fee equal to 100% of the filing fee. See Regulation 3, Rule 310).
4. **Retroactive Fees:** Retroactive Permit to Operate fees may be collected for up to four years from GDF's operating without a valid Permit to Operate.

**Note:** For facilities which were exempt from fees at the time of installation, filing fees, Initial fees, and Late fees shall not be collected.

**C. Sample Fee Calculation**

1. For a facility that is planning to install a new service station that would have a total of 12 nozzles in operation, the applicable fees for the Authority to Construct would be:

Filing Fee	\$165.00
Initial Fee (\$51.97 x 12 nozzles)	623.64
Permit to Operate Fee (\$19.05 x 12 nozzles)	<u>228.60</u>
Total Fees	\$1017.00

(The Total Fee will be rounded up to the nearest dollar for 51 cents and above, and rounded down to the nearest dollar for amounts of 50 cents and below.)

2. If a facility (also with 12 nozzles) installed the equipment without an Authority to Construct the applicable fees would be:

Filing Fee	\$165.00
Initial Fee (\$51.97 x 12 nozzles)	623.64
Permit to Operate Fee (\$19.05 x 12 nozzles)	228.60
Late Fees (100% the initial fee)	<u>623.64</u>
Total Fees	\$1641.00

(The Total Fee will be rounded up to the nearest dollar for 51 cents and above, and rounded down to the nearest dollar for amounts of 50 cents and below.)

3. For an existing facility (with one gasoline dispensing nozzle) that had been in operation for four or more years without a Permit to Operate, the applicable fees would be:

Filing Fee	\$165.00
Initial Fee	\$51.97
Late Fee (100% the initial fee)	\$51.97
Permit to Operate Fee	\$19.05

(For the 12 month period from the month the application was processed to the next calendar year. For example, if the application was

received in October, 1992, then the current permitting period should go from October, 1992 to October 1993.)

Retroactive Fees 76.20

(Retroactive fees for four years of operation:  
\$17.32 x four years).

Total Fees \$364.00

(The Total Fee will be rounded up to the nearest dollar for 51 cents and above, and rounded down to the nearest dollar for amounts of 50 cents and below.)

## 11. TOXICS

Any GDF with a throughput of less than 2.5MM gallons/year that is in compliance with the vapor recovery requirements in Regulation 8, Rule 7, is in compliance with the Air Toxic Screening Policy. The exception is whenever a new GDF is proposed at a location that is within 1000 feet of a school. In this case, the applicant must comply with the provisions of Regulation 2, Rule 1, Section 412: Public Notice, Schools.

If the GDF has an annual throughput of greater than 2.5MM gallons/year, the GDF shall be subject to a Toxics Review. In this case, the applicant will be requested to submit data with respect to possible receptors near his facility. If the facility does not pass the risk screen, the applicant must install a vapor recovery system which reduces emissions to levels deemed acceptable by the Toxics Review. (A year is defined to be any consecutive 12 month period.)

APPENDIX I.4

APPLICATIONS FOR AIR POLLUTION CONTROL PERMIT TO CONSTRUCT,  
INSTALL OR ALTER CONTROL APPARATUS OR EQUIPMENT AND  
CERTIFICATE  
TO OPERATE CONTROL APPARATUS OR EQUIPMENT FOR STORAGE AND  
TRANSFER OF SERVICE STATION FUELS  
N.J. DEPARTMENT OF ENVIRONMENTAL PROTECTION - DIVISION OF  
ENVIRONMENTAL QUALITY, AIR POLLUTION PROGRAM

**Application for Air Pollution Control  
Permit to Construct, Install or Alter Control Apparatus or Equipment  
and Certificate to Operate Control Apparatus or Equipment  
for Storage and Transfer of Service Station Fuels**

**INSTRUCTIONS:**

- Print or type all information carefully - one character per block.
- Illegible applications will be returned.
- Do not write in areas designated for office use only.
- Complete both sides of the application and be sure to sign it.
- This application will not be processed unless a proper fee is submitted.
- For assistance or more forms call 1-800-441-0065.

**RETURN TO:** NJDEP, Bureau of New Source Review  
CN 027, Trenton, NJ. 08625

OFFICE USE ONLY			
Trans. Code	APC Plant I.D.	Type of Ownership	
1			

**SECTION A**

Full Legal Business Name \_\_\_\_\_

Mailing Address \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

City \_\_\_\_\_

Station's Local Name \_\_\_\_\_

Station Location \_\_\_\_\_ County \_\_\_\_\_

Municipality \_\_\_\_\_

**SECTION B — REASON FOR APPLICATION**

(Check One)

**TYPE** (Check One)

- New Equipment (\$250 Fee)
- Modification to Existing Equipment (\$250 Fee)
- Five Year Renewal Certificate # \_\_\_\_\_ (\$75 Fee)
- Amendment (Transfer of Ownership) Certificate # \_\_\_\_\_ (\$50 Fee) Name of Previous Owner \_\_\_\_\_

- Retail
- Non-Retail

NJDEP APC Plant LD. (if known) \_\_\_\_\_

Estimated Starting Date of Construction \_\_\_\_\_ Date Equipment to be Put in Use \_\_\_\_\_

Plant Contact \_\_\_\_\_ Name (Print or Type) \_\_\_\_\_ Title \_\_\_\_\_ Tele. # \_\_\_\_\_

The information supplied on this application VEM-032, including the data in supplements, is to the best of my knowledge true and correct.

Name of Authorized Officer (Print or Type) \_\_\_\_\_ Title \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

OFFICE USE ONLY							
Plant on File	Source Cat.	Source Size	Overall Plant Compliance	Insp. Mo.	SIC Code	UTM Co-ord.	
						Horizontal	Vertical
<input type="checkbox"/> Yes <input type="checkbox"/> No							
NESHAPS	NSPS Code	PSD	EOP	TVOS	Fee	Log No.	Eval.





Section D

1. What was the total throughput of gasoline, in gallons, dispensed from all tanks at this station from September 1, 1986 to August 31, 1987?

Total Throughput \_\_\_\_\_ gallons

2. Please check the certified Stage II Vapor Recovery equipment that will be installed at this location. The number next to each manufacturer represents the California executive order that certified that equipment.

\_\_\_ Atlantic Richfield (G-70-25-AA)

\_\_\_ Chevron (G-70-53-AA)

\_\_\_ Emco Wheaton (G-70-17-AA)

\_\_\_ Exxon (G-70-23-AA)

\_\_\_ Hasstech (G-70-7-AB)

\_\_\_ Healy (G-70-70-AA)

\_\_\_ Hir (G-70-33-AB)

\_\_\_ Mobil (G-70-48-AA)

\_\_\_ OPW (G-70-36-AA)

\_\_\_ Red Jacket (G-70-14-AA)

\_\_\_ Texaco (G-70-38-AA)

\_\_\_ Union (G-70-49-AA)

\_\_\_ Other \_\_\_\_\_ Calif. Ex. Order # \_\_\_\_\_

---

**FOR DEPARTMENT USE ONLY — DO NOT WRITE BELOW THIS LINE**

Application for authorization to install the above indicated Stage II vapor recovery system is hereby:

\_\_\_ **APPROVED**                      \_\_\_ **DENIED**

Reason for Denial: \_\_\_ No Fee

\_\_\_ No Certified Controls

\_\_\_ Application is Illegible

\_\_\_ No Signature

NSR DECISION DATE: \_\_\_\_\_

BY: \_\_\_\_\_  
Chief, Bureau of New Source Review

**NOTE:** If application is approved you will be sent form VEM-017 at a later date. Form VEM-017 will include your New Jersey Plant ID Number, New Jersey Stack Number, and Certificate Number.

This form must be readily available at the location as indicated on side one of this form until you receive your VEM-017 form.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF NEW SOURCE REVIEW



APPLICATION FOR PERMIT TO CONSTRUCT, INSTALL OR ALTER STAGE II VAPOR  
CONTROLS FOR TRANSFER OF SERVICE STATION FUELS AT MULTIPLE LOCATIONS

**Instructions:**

- Print all information carefully in ink.
- Illegible applications will be denied.

- Complete both sides of the application.
- For assistance call (609) 292-6716 & ask for the Stage II Coordinator.

**Section A - Applicant Information**

\_\_\_\_\_ ← Applicant's Name

\_\_\_\_\_ ← Mailing Address - No. & Street

\_\_\_\_\_ ← City State Zip Code

**NOTE:** The above information will be used to mail your approval or denial directly to you in a window envelope. please print or type on the lines.

**Section B - Gasoline Dispensing Facility Information**

Full Legal Business Name \_\_\_\_\_  
(If more than one legal name, use separate VEM-032A or VEM-032B Forms.)

Contact Person \_\_\_\_\_ Telephone No. \_\_\_\_\_

**Section C**

The information supplied on this application VEM-032B is to the best of my knowledge true and correct.

**NOTE:** These applications must be submitted with a \$250 fee for each location pursuant to N.J.A.C. 7:27-8.6(a).

\_\_\_\_\_  
Authorized Signature Date

\_\_\_\_\_  
Name (Print or Type) Title

Return application in pre-printed, blue envelope that was provided to: **NJDEP  
Bureau of New Source Review  
CN 027  
Trenton, N.J. 08625**

**NOTE:** THIS FORM TO BE USED FOR STAGE II VAPOR RECOVERY ONLY AND FOR FACILITIES INSTALLING IDENTICAL EQUIPMENT AT EACH LOCATION OTHERWISE USE FORM VEM-032A.

For-DEP Use Only	
Fee .....	Eval. ....



NEW JERSEY STATE DEPARTMENT



OF ENVIRONMENTAL PROTECTION

DIVISION OF ENVIRONMENTAL QUALITY  
AIR POLLUTION CONTROL PROGRAM

**All Correspondence must indicate your APC PLANT ID NUMBER**

Certificate Number 883936 LOG NUMBER 890996A APC PLANT ID A1581

(Mailing Address)

(Plant Location)

EXXON COMPANY USA  
4550 SACONYA - 3RD FLOOR  
HOUSTON TX 77092

Applicant's Designation of Equipment EXXON G-70-23-AA

N.J. Stack No. 002

No. of Stacks 001

No. of Sources 01

Approval 03/21/88

Effective 03/21/88

Expiration 03/21/93

PERMIT TO CONSTRUCT, INSTALL OR ALTER CONTROL APPARATUS OR EQUIPMENT  
AND  
CERTIFICATE TO OPERATE CONTROL APPARATUS OR EQUIPMENT  
\* CONDITIONAL FIVE YEAR DIRECT \*

THIS PERMIT AND CONDITIONAL FIVE YEAR CERTIFICATE IS BEING ISSUED UNDER THE AUTHORITY OF CHAPTER 106, P.L. 1987 (N.J.S.A. 26:2C-9.2) WITHOUT A FIELD INSPECTION. HOWEVER, FIELD INSPECTIONS ARE SCHEDULED FOR THE FUTURE AND APPROPRIATE ACTIONS WILL BE TAKEN IF SUCH INSPECTIONS DISCLOSE DEVIATIONS FROM YOUR APPROVED PERMIT.

IN ACCORDANCE WITH N.J.S.A. 54:4-5.96 TO 5.98, YOU MAY BE ENTITLED TO AN EXEMPTION OF TAXATION IF YOUR EQUIPMENT IS TAXED AND IS CONSIDERED TO BE AN AIR POLLUTION CONTROL DEVICE. A TAX EXEMPTION APPLICATION MAY BE OBTAINED FROM THE BUREAU OF NEW SOURCE REVIEW. (SEE OTHER SIDE)

IF IT IS NECESSARY TO AMEND YOUR EMERGENCY STANDBY PLANS, PLEASE CONSULT WITH THE APPROPRIATE REGIONAL OFFICE. (SEE OTHER SIDE)

IN ACCORDANCE WITH N.J.A.C. 7:27-6.3(D), THIS PERMIT AND CERTIFICATE MUST BE READILY AVAILABLE FOR INSPECTION ON THE OPERATING PREMISES.

THE FOLLOWING CONDITION(S) APPLY TO THIS PERMIT AND CERTIFICATE:

(SEE ATTACHED)

N.J. Department of Environmental Protection  
Division of Environmental Quality  
CN-027, 401 East State Street  
Trenton, New Jersey 08625

Approved by: \_\_\_\_\_

APPENDIX I.5

N.Y.S. DEPARTMENT OF ENVIRONMENTAL CONSERVATION

LOCATION										FACILITY									
										G									

A ADD  
 C CHANGE  
 D DELETE

NEW YORK STATE  
 DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**GASOLINE STORAGE AND TRANSFER**

WHITE - ORIGINAL  
 PINK - DATA ENTRY  
 YELLOW - APPLICANT



**APPLICATION FOR PERMIT TO CONSTRUCT OR CERTIFICATE TO OPERATE**

S E C T I O N A	NAME OF OWNER OF TANKS	
	NUMBER AND STREET ADDRESS	
	CITY-TOWN-VILLAGE	STATE ZIP
	OWNER'S REPRESENTATIVE/TITLE	TELEPHONE NO.
	SIGNATURE OF OWNER'S REPRESENTATIVE	
	FACILITY NAME	
	FACILITY OPERATORS NAME	
	FACILITY LOCATION (Number and Street Address)	
	CITY-TOWN-VILLAGE	ZIP
	Annual throughput-gasoline only (gals.)	NUMBER OF NOZZLES GASOLINE ONLY

STAGE I					
TANK ID NO.	DATE TANK INSTALLED	CONTENTS	CAPACITY (gals.)	Submerged fill YES/NO	STAGE I YES/NO
S					
E	/				
C	/				
T	/				
I	/				
O	/				
N	/				
B	/				

S E C T I O N C	
STAGE II	DEC APPROVED STAGE II SYSTEM ID

A G E N C Y U S E O N L Y	LOCATION CODE	FACILITY	UTM(E)	UTM(N)	SIC NUMBER	DATE APPL. REC'D	DATE APPL. REV'D	REVIEWED BY
	RECOMMENDED ACTION RE: PC					<input type="checkbox"/> ISSUE PERMIT TO CONSTRUCT FOR SOURCE 1. DEVIATION FROM APPROVED APPLICATION SHALL VOID THIS PERMIT 2. TESTS AND/OR ADDITIONAL EMISSION CONTROL EQUIPMENT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A CERTIFICATE TO OPERATE		
	DATE ISSUED	EXPIRATION DATE	SIGNATURE OF APPROVAL		FEE			
	RECOMMENDED ACTION RE: CO					1. <input type="checkbox"/> INSPECTED BY _____ DATE // // 2. <input type="checkbox"/> INSPECTION DISCLOSED DIFFERENCES AS BUILT VS. PERMIT, CHANGES INDICATED ON FORM 3. <input type="checkbox"/> ISSUE CERTIFICATE TO OPERATE FOR SOURCE 4. <input type="checkbox"/> APPLICATION FOR CO DENIED _____ DATE _____ INITIALED _____		
	DATE ISSUED	EXPIRATION DATE	SIGNATURE OF APPROVAL		FEE			
	SPECIAL CONDITIONS:							
	1.				2.			
	3.				4.			
	5.				6.			
	7.				8.			



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF AIR RESOURCES

Instructions and Application  
**PERMIT TO CONSTRUCT OR CERTIFICATE TO OPERATE**  
**Gasoline Storage and Transfer**

All gasoline stations in Nassau, Rockland, Suffolk and Westchester Counties plus the five Boroughs of New York City must complete this form to comply with Part 230 of the New York State Department of Environmental Conservation Law. This completed form should be accompanied by site plans which include drawings of the Stage II underground piping system from the dispensers to the tanks, and piping to the vents. In addition, all completed forms must be submitted to your local DEC Regional Office with the application fee accompanying it. Part 230 is designed to limit the emission of gasoline vapors into the atmosphere. The inventory portion of this form will be used to determine how much gasoline vapor is emitted to the atmosphere from gasoline dispensing sites.

Air pollution control devices are required on certain gasoline storage tanks and dispensing pumps. Most tanks must be equipped with submerged fill and a vapor balance and return system during loading operations. Some gasoline dispensing stations require a Stage II vapor collection system which captures the vapors from the motor vehicle fuel tank and transfers them to the underground tanks.

Copies of Part 230, booklets on Stage II containing descriptions of DEC approved systems, and assistance in completing this form may be obtained from any DEC Regional Office.

All applicants must complete Sections A and B. Please note that each line in Section B contains information for each individual tank. One line should be filled out for each tank at the service station.

**SECTION A**

Name and Address of Owner of Tanks	Legal owner of the storage tanks.
Facility Name, Operator and Address	Facility name and operator of service station, this should be the person in charge at the facility.
Owners Representatives Title	Person who is completing this form, such as the distributor or field representative.
Annual Throughput	Total number of gallons of gasoline, (excluding diesel), pumped into storage tanks between January 1 and December 31 of the previous year.
Number of Nozzles	Total number of gasoline nozzles, (excluding diesel), used for vehicle refueling.

**SECTION B****STAGE I**

Tank I.D. Number	Use the tank I.D. number system used at the facility.
Date Tank Installed	Specify the date of completed construction and installation of the tank.
Capacity	Enter the total design or maximum capacity of tank.
Contents	Specify normal type or grade of gasoline stored in tank, L for leaded, U for regular unleaded, S for super unleaded, M for miscellaneous, D for diesel. Diesel fuel is not a gasoline under provisions of Part 230 but should be included on this portion of the form.
Submerged Fill	Does this tank have a drop tube to discharge liquid within six inches of bottom of tank?. Specify Y for yes, N for no.
Stage I	Does tank have a vapor collection system with a vapor-tight return from tank to the gasoline transport vehicle or equivalent? Specify Y for yes, N for no.

**SECTION C****STAGE II**

To be completed by any new or modified facility, and any facility with an annual gasoline throughput exceeding 250,000 gallons.

DEC Approved Stage II System I.D.	Enter DEC approved Stage II system number.
-----------------------------------	--

A publication containing a description of DEC approved Stage II systems can be obtained at any DEC Regional Office.

**IMPORTANT:** The yellow copy of this form should be kept at the facility to assist operator and air pollution personnel during inspection.



APPENDIX I.6

CLEAN AIR PROGRAM - STAGE II VAPOR RECOVERY SYSTEM  
METROPOLITAN DADE COUNTY, FLORIDA

<b>Metropolitan Dade County, Florida Clean Air Program - Stage II Vapor Recovery System Specifications</b>	Date:
	Name:
Company Name and Address	
California Air Resources Board EXECUTIVE ORDER NUMBER	
Dade County APPROVAL NUMBER	
Dispenser Manufacturer and Model	
Pump Number(s)	_____ to _____
Stage II Vapor Recovery System	<input type="checkbox"/> Balance <input type="checkbox"/> Hirt <input type="checkbox"/> Assist <input type="checkbox"/> Other (specify) _____
Nozzle (check Manufacturer and enter model number)	<input type="checkbox"/> OPW 111V- _____ 111V- _____ <input type="checkbox"/> EMCO WHEATON ___A4005 / ___RA4005 <input type="checkbox"/> HUSKY Model V <input type="checkbox"/> Other (specify) _____
Coaxial Hose Assembly Manufacturer and Model	
Liquid Removal System	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____
Pressure-Vacuum (P/V) Vents, Pressure and Vacuum	P = _____ oz. pressure V = _____ oz. vacuum
Retractor Manufacturer and Model	
Remote Check Valves	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____
Maximum Flow Rate	_____ gpm
Flow Limiter	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____
Height of Hose Loop from Drive Surface	_____ inches
Height of Hose Loop from Island	_____ inches
Inside Diameter of (galvanized) Vapor Riser	_____ inches
Breakaway	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify) _____

Please complete this form for each system and submit for approval to :  
DERM Air Section, 111 N.W. 1st Street, Suite 1310, Miami, Florida 33128

APPENDIX I.7

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE PREVENTION  
DIVISION OF AIR QUALITY CONTROL  
STAGE II - FACILITY INSTALLATION AND COMPLIANCE FORM

Instructions for  
Motor Vehicle Fuel Dispensing Facility  
Registration and Classification Form

A motor vehicle fuel dispensing facility is any facility where motor vehicle fuel is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of 250 gallons or more.

1. FACILITY OWNER: Fill in the name of the individual or corporation which owns the facility, the business telephone number, and the complete mailing address.
2. FACILITY OPERATOR/LESSEE: Fill in the name of the individual who manages the facility, the business telephone number, and the complete mailing address. If the manager also owns the facility (i.e., #1 and #2 are the same), write in "SAME."
3. FACILITY INFORMATION: Fill in the name of the facility, the telephone number of the facility, and the street address of the facility. In addition, check only one of the boxes designating whether the facility is limited to dispensing fuel, or includes repair work as well as dispensing fuel.
4. SUBSTANTIAL MODIFICATION means a modification of an existing motor vehicle fuel dispensing facility which involves the addition of one or more new motor vehicle fuel storage tanks or the repair, replacement or reconditioning of any motor vehicle fuel storage tank in existence prior to November 1, 1989. If a modification has begun on the facility or it has been newly constructed since November 1, 1989, check "yes."
5. THROUGHPUT INFORMATION:
  - a. Provide the actual total annual (yearly) amount, in gallons, of all gasolines and gasohols (not including diesel) dispensed at the facility for either 1988 or 1989, whichever is higher. Do NOT average between the two years. If the facility has been newly constructed since November 1, 1989, skip to item #6.
  - b. Provide the total monthly amount, in gallons, of all gasolines and gasohols (not including diesel) dispensed at the facility for the month with the highest throughput for the period 1988 through 1989. Do NOT provide an average of the months for the two years, but rather, the actual monthly throughput. Again, if the facility has been newly constructed since November 1, 1989, skip to item #6.
6. STATEMENT OF CERTIFICATION should be signed and completed by the legally responsible person. For example, in the case of an independently owned station, the station owner should sign. In the case of a company owned station, you should check with your district manager, as he may need to sign.



**Instructions for Stage II Facility Installation and Compliance Form**

**PHASE 1.** The following items must be completed and submitted no later than 30 days prior to installation of vapor collection and recovery equipment:

1. **Facility Owner:** Fill in the name of the individual or corporation which owns the facility, the business telephone number, and the complete mailing address.
2. **Facility Operator/Lessee:** Fill in the name of the individual who manages the facility, the business telephone number, and the complete mailing address. If the manager also owns the facility (i.e., #1 and #2 are the same), write in "SAME."
3. **Facility Information:** Fill in the name of the facility, the telephone number at the facility, and the street address of the facility.
4. **Type of Vapor Collection and Control System:** Check the box which most accurately describes the type of vapor collection and control system you intend to install at your facility. If you intend to install a combination of vapor balance and vacuum assist systems, check "Other," and explain briefly.
5. **Vapor Collection and Control Equipment Information:** Provide the number of nozzles, hoses, and dispensers you plan to install, and for each piece of equipment you must provide the manufacture's name, model number, and CARB (California Air Resources Board) number. Only equipment which has already been approved by CARB is acceptable. If you are uncertain as to the CARB number, ask the installer or distributor of your equipment. Please do not call the Department for this information. Use a separate piece of paper, if necessary.
6. **Anticipated Dates of Completed Installation:** Provide the dates you intend to have your equipment installed. If it has already been installed, please provide the actual date(s). If only one date is actual, circle that date and check the box. If both dates are actual, circle both dates and check the box.
7. **Statement of Notification** should be signed and completed by the legally responsible person. For example, in the case of an independently owned station, the station owner should sign. In the case of a company-owned station, check with your district manager, as he may need to sign. **AFTER COMPLETION OF ITEM #7, RETURN THE WHITE COPY TO THE DEP.**

**PHASE 2.** Within 30 days of installation and operation of equipment the following items must be completed, and the **YELLOW** copy submitted to DEP:

8. **Statement of Certification:** The same person who signed item #7 should sign item #8 on the yellow copy of the form and return it to the DEP within 30 days of installation and operation of equipment. If there have been any changes regarding the number, type, and/or model of the equipment you planned to install versus the equipment actually installed, please provide the updated information (as required in item #5) on a separate piece of paper.

**Note that your signatures on the forms are CERTIFICATIONS that your facility is operating in compliance with the provisions of 310 CMR 7.24(5). Be advised that failure to comply with the regulation may result in administrative penalties of up to \$25,000 per day, per violation.**

See other side for additional instructions.

**Questions and Answers and Instructions for  
Stage II Facility Installation and Compliance Form**

**Is completion of this form required?**

Yes. Completion of the Stage II Facility Installation and Compliance Form is required under Department of Environmental Protection (DEP) regulation 310 CMR 7.24(6). Failure to accurately complete and return this form may subject you to administrative penalties.

**Who is required to complete this form?**

The form must be completed by all motor vehicle fuel dispensing facilities subject to the regulation. A motor vehicle fuel dispensing facility is any facility where motor vehicle fuel is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of 250 gallons or more. If you are uncertain as to whether your facility is subject to the regulation, call the DEP Stage II Office at 617-556-1035.

**How should this form be completed and submitted?**

This form must be completed in two (2) phases as follows:

- Phase 1. As soon as possible, but no later than 30 days PRIOR to the anticipated date of installation of the above ground equipment, you must complete items #1-7 and return the WHITE (top) copy to the DEP. (In cases where vapor collection and control equipment has already been installed, fill out and send in the white copy as soon as possible.)
- Phase 2. No later than 30 days AFTER activation of vapor collection and control equipment, you must complete item #8 on the remaining pages of the form and return the YELLOW copy to the DEP. You should retain the PINK copy for your records.

**What if there have been changes to my original plans after I have submitted the white copy to DEP? How do I submit updated information to DEP?**

If there are any changes as to the type of vapor collection and control equipment described on the white copy of the form, and that which is finally operational, please provide the specifics required in item #5 on a separate piece of paper, along with any other additional changes that may be necessary to update any other information provided on the form. Any information submitted on a separate sheet must clearly describe the information required, as well as indicate precisely what information is being updated. All attachments must be signed by the legally responsible person and submitted with the YELLOW copy of the form.

**Where do I return the forms?**

Return the forms to: Department of Environmental Protection  
Division of Air Quality Control - Stage II  
One Winter Street, 8th Floor  
Boston, MA 02108

**ALL INFORMATION YOU PROVIDE SHOULD BE PRINTED CLEARLY OR TYPED. IF YOU HAVE ANY QUESTIONS, CALL THE STAGE II OFFICE AT 617-556-1035.**

Please Turn Over the Page for Step-by-Step Instructions  
for Completion of the Form.

9/90



APPENDIX J  
STAGE II INSTALLATION TEST METHODS

While efficiency testing is not practical for each service station, there are tests that indicate improper installation of underground Stage II vapor piping. These tests are the pressure decay/leak test, the dynamic back-pressure test, and the liquid blockage test. Testing requirements are usually included as a permit condition. After a brief description of the test methods, various test methods from San Diego and Bay Area Districts of California are contained in this appendix. There are five tests discussed in Chapter 6.

1. Pressure Decay/Leak Test. This test procedure is also sometimes called simply the leak test. Example test procedures are contained in sections J.1 and J.5 of this appendix.

2. Dynamic Pressure Drop Test. This test method is also referred to as the pressure vs. flow test, and sometimes the "dry" pressure drop test. Copies of this test method are contained in section J.2 and J.4 of this appendix.

3. Liquid Blockage Test. The test methods for the dynamic pressure drop test are used to test for liquid blockage. This is also sometimes referred to as the "wet" pressure drop test. The methods in J.2 and J.4 discuss this variation of the test method.

4. Liquid Removal Device Test. This test method is contained in section J.3.

5. Flow rate determination. This test procedure is discussed in Chapter 6. However, since this only involves timing as gasoline is being dispensed, no test method is

included in this appendix.

Specifically, this appendix contains:

- Section J.1 Bay Area ST-30 Leak Test Procedure
- Section J.2 Bay Area ST-27 Dynamic Back Pressure
- Section J.3 Bay Area Liquid Removal Devices  
(Draft Method)
- Section J.4 San Diego Test Procedure TP-91-2  
Pressure Drop vs Flow/Liquid  
Blockage Test Procedure
- Section J.5 San Diego Test Procedure TP-92-1  
Pressure Decay/Leak Test Procedure

APPENDIX J.1  
BAY AREA ST-30 LEAK TEST PROCEDURE

## GASOLINE DISPENSING FACILITY

### LEAK TEST PROCEDURE

REF: Regulation 8-7-301, 302

#### 1. Applicability

1.1 This Test Procedure is used to quantify the vapor tightness of any vapor recovery system installed at a gasoline dispensing facility (GDF). Leaks in a balance system may cause excessive vapor emissions. Leaks in a vacuum assist system may decrease the efficiency of the vapor collection or processing system.

#### 2. Principle

2.1 The entire vapor recovery system is pressurized to ten (10) inches of water column and then allowed to decay for five (5) minutes. The acceptability of the final pressure is based upon the vapor system volume or ullage space.

#### 3. Range

3.1 The minimum and maximum full-scale ranges of the pressure gauge are 0-10 and 0-20 inches of water column, respectively. Maximum incremental graduations of the pressure gauge shall be one-tenth of an inch water column.

#### 4. Interferences

4.1 On vacuum assist systems the processor must be isolated and the vapor system capped. On a balance system the vent pipes must be capped or plugged. Any leakage at these points will show up as a system component leak.

#### 5. Apparatus

5.1 Nitrogen. Use commercial grade nitrogen in a high pressure cylinder, equipped with a two-stage pressure regulator and a one psig pressure relief valve.

5.2 Pressure Gauge or Water Manometer. Use a 0-10 inch water column pressure gauge, or water manometer, to measure the pressure decay in the vapor recovery system. The pressure gauge shall be readable to the nearest tenth of an inch (0.1) water column.

5.3 Vent Cap Assembly. See Figure 30-1 for example.

5.4 "T" Connector Assembly. See Figure 30-2 for example.

5.5 Stopwatch. Use a stopwatch accurate to within 0.2 seconds.

#### 6. Pre-Test Procedures

6.1 Dispensing shall not take place during the test. There shall have been no bulk drops into the storage tanks within the three hours prior to the test.

6.2 Measure the gasoline gallonage in each underground storage tank. Determine the actual capacity of each storage tank. Calculate the ullage space for each tank by subtracting the gasoline gallonage present from the actual tank capacity. The minimum ullage during the test shall be 30 percent of the tank capacity or 500 gallons, whichever is greater. The vent pipes may be manifolded during the test to achieve the required ullage.

6.3 Insure that all Phase I couplers are equipped with a locking dust cap. Replace the manhole covers as a safety precaution.

6.4 Disconnect the dispenser end of one vapor recovery hose and install the "T" connector assembly (see Figure 30-2). Connect the nitrogen gas supply (do not use air), and the pressure gauge to "T" connector.

6.4.1 For those Phase II systems utilizing a remote vapor check valve, the "T" connector assembly shall be installed on the vapor riser side of the check valve unless the remote check valve is disabled by removing the poppet on the fuel side.

6.5 Install the vent cap assembly(s) (see Figure 30-1). For manifolded systems all storage tank vent pipes shall be capped during the test.

6.6 If the storage tank vent pipe is open, and easily accessible, a modified version of the "T" connector may be installed at the vent pipe (see Figure 30-3). This will allow the test to be conducted without any dispenser modifications. This is advantageous at certain facilities using coaxial Phase II systems.

## 7. Testing

7.1 Open the nitrogen gas supply valve, regulate the delivery pressure to 5 psig, and pressurize the vapor system (or subsystem for individual vapor return line systems) to or slightly above 10 inches H<sub>2</sub>O initial pressure. It is critical to maintain the nitrogen flow until both flow and pressure stabilize, indicating temperature and vapor pressure stabilization in the tanks. Check the vent cap assembly(s) and "T" connector assembly using leak detecting solution to verify that the test equipment is leak tight.

7.2 Close the nitrogen supply valve and start the stopwatch when the pressure decreases to the initial starting pressure of 10 inches of water column.

7.3 After each minute record the system pressure. After five minutes, record the final system pressure. See Table 30-I to determine the acceptability of the final system pressure results.

7.4 If the system failed to meet the criteria set forth in Table I repressurize the system and check all accessible vapor connections using leak detector solution or a combustible gas detector. If vapor leaks in the system are encountered, repair or replace the defective component and repeat the test.

7.5 Carefully remove the vent cap assembly(s). Allow any remaining pressure to be relieved through vent pipe(s). Keep all potential ignition sources away from the vent pipe(s).

7.6 After the pressure is relieved, remove the "T" connector assembly and reconnect the vapor recovery hose. If the fuel poppet was removed from a remote vapor check valve to conduct this test, carefully replace the poppet and reconnect the vapor hose.

7.7 If the vapor recovery system utilizes individual vapor return lines, repeat the leak test for each of the other gasoline grades. Avoid leaving any vapor return line open longer than is necessary to install or remove the "T" connector assembly.

## 8. Reporting

8.1 The calculated ullage and system pressures for each five minute vapor recovery system test shall be reported as shown in Figure 30-4.

**TABLE 30-I**

---

---

**GASOLINE DISPENSING FACILITY  
LEAK RATE CRITERIA  
INITIAL PRESSURE - 10 INCHES WATER COLUMN**

---

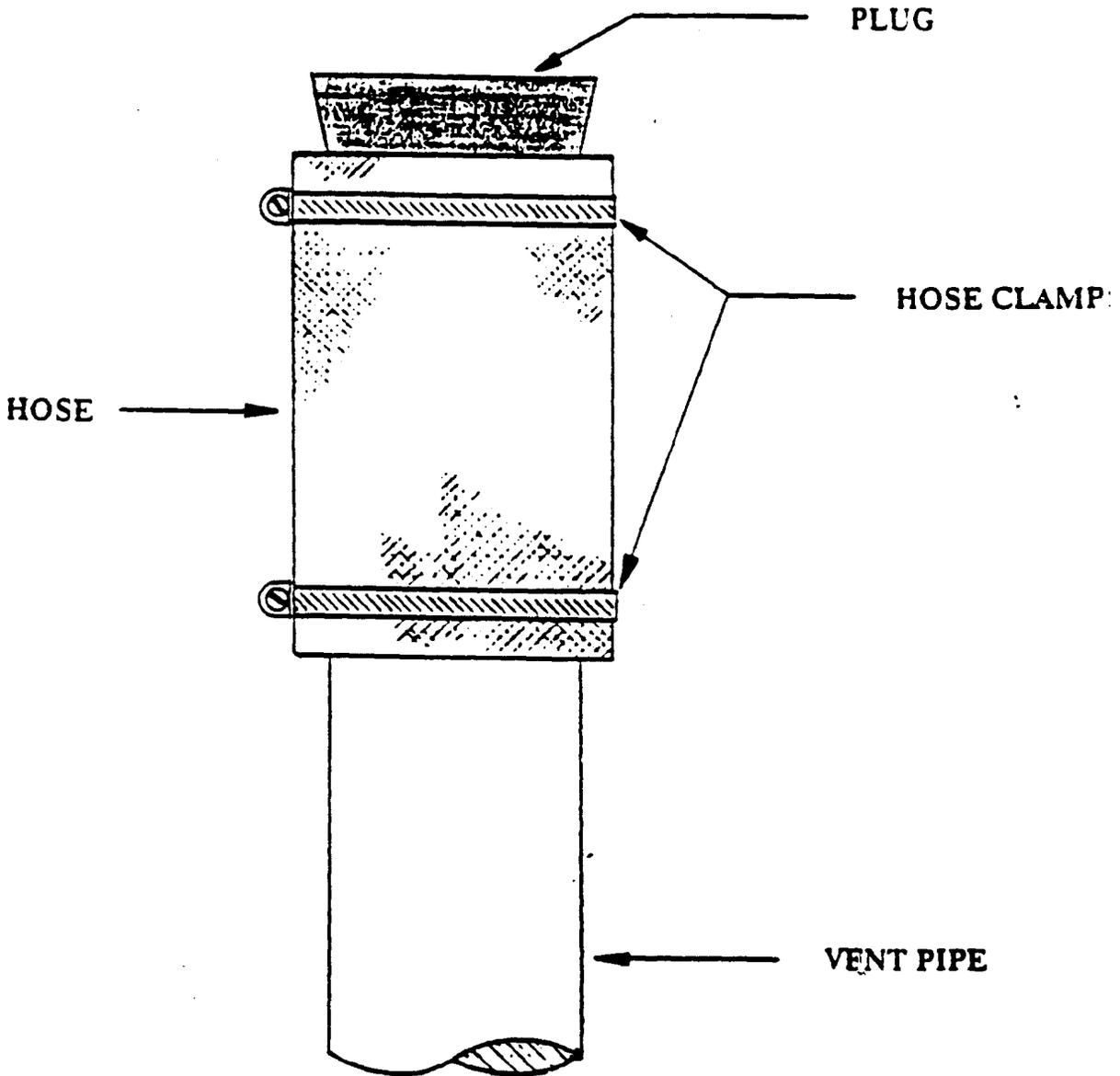
---

<i>~ head</i> ULLAGE SPACE (GALLONS)	MINIMUM PRESSURE AFTER FIVE MINUTES (Inches of Water)
500	3.7
600	4.5
700	5.2
800	5.8
900	6.2
1,000	6.5
1,500	7.6
2,000	8.2
2,500	8.5
3,000	8.7
3,500	8.9
4,000	9.1
4,500	9.2
5,000	9.3
7,500	9.5
10,000	9.6
15,000	9.7
30,000	9.8

**Use linear interpolation for intermediate values of ullage space.**

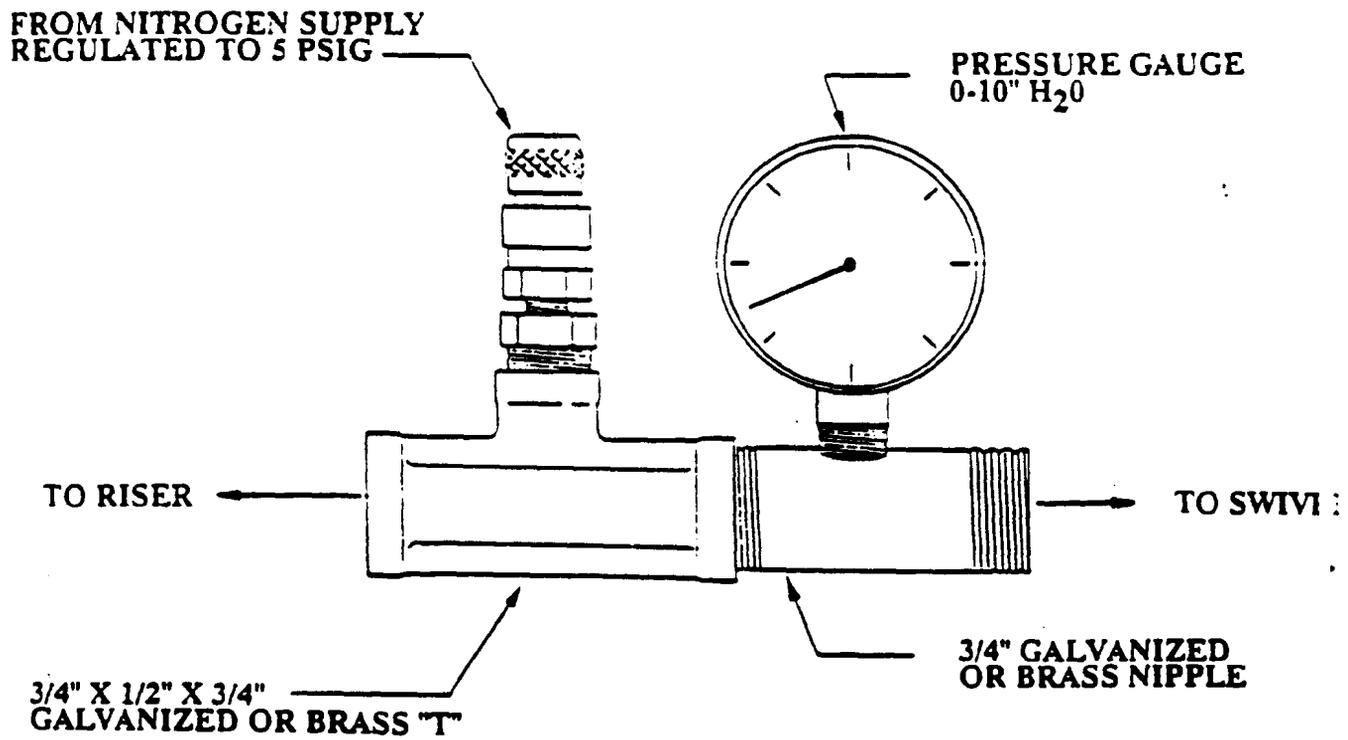
**FIGURE 30 - 1**

**VENT CAP ASSEMBLY**



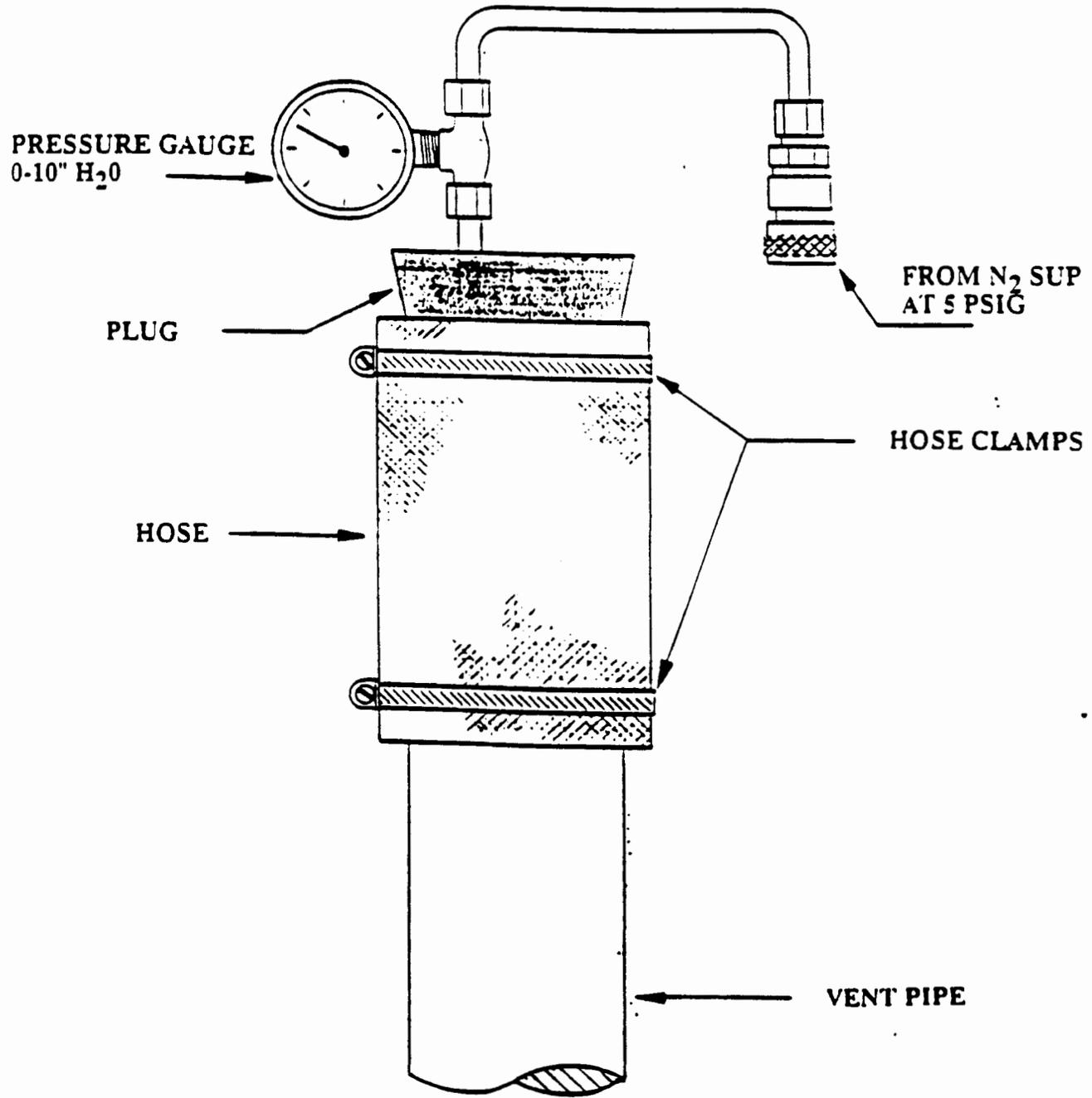
**FIGURE 30 - 2**

**"T" CONNECTOR ASSEMBLY**



**FIGURE 30 - 3**

**ALTERNATE VENT CAP ASSEMBLY**



# FIGURE 30 - 4

## SUMMARY OF SOURCE TEST RESULTS

Report No. \_\_\_\_\_  
 Test Date: \_\_\_\_\_  
 Test Times: \_\_\_\_\_  
 Run A: \_\_\_\_\_  
 Run B: \_\_\_\_\_  
 Run C: \_\_\_\_\_

SOURCE INFORMATION		FACILITY PARAMETERS												
Firm Name and Address	Firm Representative and Title	<b>PHASE II SYSTEM TYPE</b> (Check One)  Balance _____ Hirt _____ Red Jacket _____ Hasstech _____ Henly _____  Manifolder?(Y or N) _____												
	Phone No. _____ Source: Vapor Recovery System													
Permit Conditions	Plant No.      Permit No. Operates    hr/day & 365 days/yr													
<b>Operating Parameters:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; border-bottom: 1px solid black;">Tank #</th> <th style="text-align: center; border-bottom: 1px solid black;">Capacity</th> <th style="text-align: center; border-bottom: 1px solid black;">Gallons Present</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table>			Tank #	Capacity	Gallons Present	1	_____	_____	2	_____	_____	3	_____	_____
Tank #	Capacity	Gallons Present												
1	_____	_____												
2	_____	_____												
3	_____	_____												
Applicable Regulations:		VN Recommended: _____												

**Source Test Results and Comments:**

Tank #:	1	2	3
Product Grade:	_____	_____	_____
Actual Tank Capacity, gallons	_____	_____	_____
Gasoline Volume, gallons	_____	_____	_____
Ullage, gallons	_____	_____	_____
Initial Pressure, inches H <sub>2</sub> O	_____	_____	_____
Pressure After 1 Minute, inches H <sub>2</sub> O	_____	_____	_____
Pressure After 2 Minutes, inches H <sub>2</sub> O	_____	_____	_____
Pressure After 3 Minutes, inches H <sub>2</sub> O	_____	_____	_____
Pressure After 4 Minutes, inches H <sub>2</sub> O	_____	_____	_____
Final Pressure After 5 Minutes, inches H <sub>2</sub> O	_____	_____	_____

NO COMMERCIAL USE OF THESE RESULTS IS AUTHORIZED

Test Conducted by	Test Company	Date of Test
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APPENDIX J.2

BAY AREA ST-27 DYNAMIC BACK PRESSURE

**SOURCE TEST PROCEDURE ST-27**  
**GASOLINE DISPENSING FACILITY**  
**DYNAMIC BACK PRESSURE**

**REF: Regulation 8-7-302**

**1. Applicability**

1.1 This procedure is used to quantify the dynamic back pressure in the vapor path leading from the dispensing nozzle to the underground tank, inclusively. It is applicable in all cases where vapor balance or Hirt vacuum assist Phase II systems are utilized.

**2. Principle**

2.1 The dynamic back pressure during refueling is simulated by passing nitrogen through the Phase II recovery system at a constant rate. The resultant dynamic back pressure is measured using a pressure gauge. Alternate Methods 1 and 2 are also included for those Phase II systems which utilize a remote vapor check valve.

**3. Range**

3.1 The minimum and maximum dynamic back pressures that can be measured are dependent upon available pressure gauges. Recommended gauge ranges are 0-.5 inches H<sub>2</sub>O and 0-2 inches H<sub>2</sub>O for Alternate Methods 1 and 3. Recommended ranges for Alternate Method 2 are 0-.50 inches H<sub>2</sub>O and 0-1 inch H<sub>2</sub>O.

**4. Interferences**

4.1 Any leaks in the nozzle vapor path, vapor hose, or underground vapor return piping will result in erroneously low dynamic back pressure measurements.

**5. Apparatus**

5.1 Nitrogen High Pressure Cylinder with Pressure Regulator. Use a high pressure nitrogen cylinder capable of maintaining a pressure of 2000 psig and equipped with a compatible two-stage pressure regulator.

5.2 Rotameter. Use a calibrated rotameter capable of accurately measuring nitrogen flowrates of 20, 60, and 100 CFH and equipped with a flow control valve.

5.3 Pressure gauges. Use two Magnehelic differential pressure gauges, or equivalent, with appropriate ranges, and equipped with toggle valves connected to the high pressure inlets.

5.4 Automobile fill pipe. Use a fill neck known to be compatible with all vapor recovery nozzles and equipped with a pressure tap.

5.5 Nitrogen. Use commercial grade nitrogen.

5.6 Hand Pump. Use a gasoline compatible hand pump to drain condensate pots.

## 6. Pre-Test Procedures

6.1 For those Phase II systems which do not utilize a remote vapor check valve, assemble the apparatus as shown in Figure 27-1, ensuring that the riser shut-off valve on the test equipment is closed. If a Hirt Phase II system is used, the vacuum producing device should be turned off during this test.

6.2 The test equipment must be leak-checked prior to use. Plug the nozzle end of the auto fill pipe, open the nitrogen cylinder and the toggle valves on the magnehelic gauges. Adjust the flow meter control valve until a pressure of 50 percent of full scale is indicated on the high range pressure gauge. Close the nitrogen cylinder valve and toggle valves. A pressure decay of 0.2 inches H<sub>2</sub>O, in five minutes, is considered acceptable.

6.3 Perform an initial visual examination for vapor leaks at the nozzle and hose of the Phase II system to be tested.

6.4 Disconnect and drain the vapor hose for all dispensers to be tested. Pour two (2) gallons of gasoline into each vapor return riser. Reconnect vapor hose. Allow fifteen (15) minutes for liquid in the vapor return piping to drain. For Phase II systems which do not employ a remote vapor check valve, the 2 gallons of gasoline may be introduced through the vapor passage in the nozzle.

6.5 Completely drain all gasoline from the spout and bellows.

6.6 For those vapor piping configurations which utilize a condensate pot, drain the pot prior to testing.

6.7 For Alternate Methods 1, 2, and 3 the Phase I vapor poppet shall be propped open in such a manner that the valve is not damaged.

## 7. Testing

7.1 Alternate Method 1. Phase II systems which do not utilize a remote vapor check valve may be tested using the following methodology. Insert the nozzle into the fill pipe of the pressure drop test unit, ensuring that a tight seal at the fillpipe/nozzle interface is achieved. Ensure that the riser shut-off valve on the test equipment is closed.

7.2 Close both toggle valves and connect the nitrogen supply.

7.3 Open the nitrogen supply, set the delivery pressure to 10 psig, and use the flowmeter control valve to adjust the flowrate to 20 CFH.

7.4 Open the toggle valve on the 0-.5 inches H<sub>2</sub>O gauge. If the pressure is greater than 0.5 inches H<sub>2</sub>O, close this valve and use the 0-2 inches H<sub>2</sub>O gauge.

7.5 A pulsating gauge needle indicates nitrogen passing through a liquid obstruction in the vapor return system. If this occurs, close the flowmeter control valve, disengage the nozzle and retrain the nozzle and hose assembly. Re-engage the nozzle, open the flowmeter control valve and repeat the test.

7.6 Repeat Sections 7.3 through 7.5 for nitrogen flowrates of 60 and 100 CFH.

7.7 The following information should be recorded on the field data sheet shown in Figure 27-2:

Pump Number and Product Grade  
 Nozzle make and model  
 Nitrogen flowrate, CFH  
 Dynamic back pressure, inches H<sub>2</sub>O

7.8 Close and replace the dust cover on the Phase I poppet.

7.9 **Alternate Method 2.** Phase II systems which utilize a remote vapor check valve may be tested using the following methodology.

7.9.1 Disconnect the vapor recovery hose from the remote vapor valve. Test the nozzle/hose assembly pursuant to Sections 7.1 through 7.8 and record the results.

7.9.2 Disconnect the vapor check valve from the riser and connect a compatible pipe fitting to the riser as shown in Figure 27-1.

7.9.3 Plug the nozzle end of the fill pipe on the pressure drop test unit and open the riser shut-off valve on the test equipment.

7.9.4 Repeat Sections 7.2 through 7.8. In addition to the information required in Section 7.7, record the make and model of the remote vapor check valve.

7.9.5 Record on the field data sheet the pressure drop across the remote vapor check valve. This data is available from the manufacturer.

7.9.6 Add the dynamic back pressures, for each nitrogen flowrate, obtained from Sections 7.9.1, 7.9.4 and 7.9.5.

7.10 **Alternate Method 3.** Phase II balance and Hirt systems which use those models of remote vapor check valves which can be disabled by removing the poppet on the fuel side may be tested using the following methodology. The Emco-Wheaton A-228 remote vapor check valve cannot be tested using this method.

7.10.1 Carefully open the fuel side of the remote vapor check valve and remove the fuel poppet. Carefully replace the threaded plug on the fuel side of the valve.

7.10.2 Test the Phase II system pursuant to Sections 7.1 through 7.8, recording the data on the field data sheet shown in Figure 27-2.

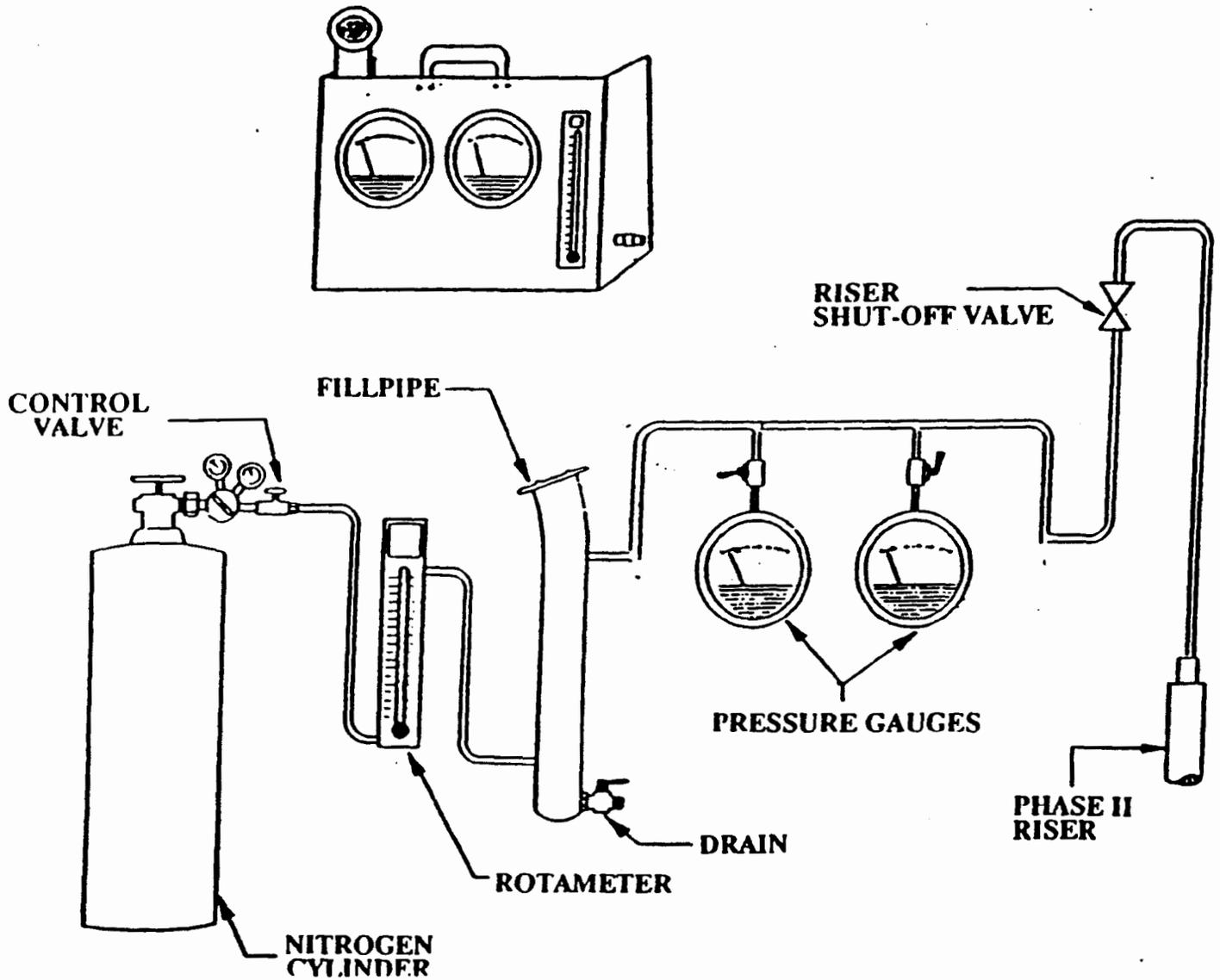
7.10.3 Carefully reassemble the remote vapor check valve by removing the plug on the fuel side and reinserting the fuel poppet. Replace the threaded fuel plug.

**8. Reporting**

8.1 Results from Alternate Methods 1 or 3 shall be reported as shown in Figure 27-2. Results from Alternate Method 2 shall be reported as shown in Figure 27-3. The maximum allowable system dynamic back pressures, with the dry brakes open, are as follows:

NITROGEN FLOWRATE, <u>CFH</u>	DYNAMIC BACK PRESSURE, <u>INCHES H<sub>2</sub>O</u>
20.....	0.15
60.....	0.45
100.....	0.95

Figure 27 - 1  
**PRESSURE DROP TEST UNIT**









APPENDIX J.3

BAY AREA LIQUID REMOVAL DEVICES (DRAFT METHOD)

SOURCE TEST PROCEDURE ST-37  
GASOLINE DISPENSING FACILITY  
LIQUID REMOVAL DEVICES

REF: 8-7-302

### 1. Applicability

1.1 This procedure is used to quantify the removal of liquid gasoline from the vapor passage of coaxial hoses equipped with a liquid removal device. It is applicable in all cases where a liquid removal system is installed in conjunction with a Phase II balance system.

### 2. Principle

2.1 A dynamic back pressure baseline is established pursuant to Source Test Procedure ST-27. Sufficient liquid gasoline is introduced into the vapor passage of the coaxial hose to produce a dynamic back pressure between 2.0 and 6.0 inches water column at a nitrogen flowrate of 60 CFH. After ten gallons of gasoline are dispensed the dynamic back pressure is measured and compared to the baseline value. The total liquid volume removed is also considered.

### 3. Range

3.1 The minimum and maximum dynamic back pressures that can be measured are dependent upon available pressure gauges. Recommended gauge ranges are 0-.5 inches H<sub>2</sub>O and 0-10 inches H<sub>2</sub>O.

### 4. Interferences

4.1 Any leaks in the nozzle vapor path or hose vapor path will result in erroneous results.

4.2 Alteration of the hose and loop configuration between the refueling test and the post refueling test can result in erroneous results.

4.3 If the hose connection, at the dispenser, is sufficiently low to allow the 100 CFH nitrogen flow to displace liquid gasoline into the underground Phase II piping, this test procedure shall not be used.

### 5. Apparatus

5.1 Delta P Test Unit. Use a test unit, as shown in Figure 37-1. This test assembly shall be equipped with two pressure gauges of appropriate ranges, a compatible automobile fillpipe, and a 0-100 CFH flowmeter equipped with a flow control valve. The test unit shall be securely mounted on a stand such that the height, above grade, to the fillpipe opening is 30 inches.

5.2 Stopwatch. Use a stopwatch accurate to within 0.2 seconds.

5.3 Nitrogen High Pressure Cylinder with Regulator. Use a high pressure supply of commercial grade nitrogen in a cylinder capable of withstanding a pressure of 2,500 psig. The cylinder shall be equipped with a compatible two-stage regulator and a high pressure delivery hose.

5.4 Graduated Cylinder. Use a shatterproof 0-300 milliliter cylinder which is compatible for use with gasoline.

5.5 Pressure Gauge. Use a 0-30 psig pressure gauge to measure the gasoline delivery pressure.

## 6. Pre-Test Procedures

6.1 Use a stopwatch to accurately measure the gasoline dispensing rates at high, medium, and low nozzle hold-open clip settings. For those nozzles without hold-open latches, use wedges to simulate the three latch positions. Record this data on the Liquid Removal Field Data Sheet shown in Figure 37-2.

6.2 Use the 0-30 psig pressure gauge to quantify the gasoline delivery pressure. If possible, this pressure shall be measured with only one nozzle is dispensing the given gasoline grade. Record this pressure on the Liquid Removal Field Data Sheet.

6.3 Position the Delta P Test Unit 48 inches from the face of the dispenser in order to represent a typical refueling configurations.

6.4 Completely drain all liquid from the vapor passage of the coaxial hose. Sufficient time shall be allocated for this pre-test procedure, especially if the hose has internal convolutions.

6.5 Use the graduated cylinder to pour 150 milliliters of gasoline into the vapor passage of the hose.

6.6 Completely drain the gasoline from the vapor passage back into the graduated cylinder. Subtract this quantity from the original 150 milliliters. This value represents the volume of gasoline lost due to surface adhesion to the hose wall.

6.7 With no dispensing activity occurring at the gasoline dispensing facility, conduct the dynamic back pressure tests at nitrogen flowrates of 20, 60, and 100 CFH, in accordance with Source Test Procedure ST-27. Record the results on the Liquid Removal Field Data Sheet. This establishes the dry baseline values for dynamic back pressures.

## 7. Testing

7.1 Use the graduated cylinder to pour 150 milliliters of gasoline into the vapor passage of the hose.

7.2 With no dispensing activity occurring at the gasoline dispensing facility, conduct the dynamic back pressure test, in accordance with Source Test Procedure ST-27, at nitrogen flowrates of 20, 60, and 100 CFH. Record this data on the Liquid Removal Field Data Sheet. This establishes the wet baseline values for dynamic back pressures. Ensure that the dynamic back pressure, at 60 CFH, does not exceed six (6) inches H<sub>2</sub>O. This will preclude the possibility of premature nozzle shutoff while dispensing fuel. If the wet baseline value is less than two (2) inches H<sub>2</sub>O, use the graduated cylinder to add sufficient gasoline to raise the dynamic back pressure to a minimum of two (2) inches H<sub>2</sub>O.

7.3 Move the Delta P Test Unit and position a vehicle such that the fillpipe inlet is in approximately (+/- six inches) the same location previously occupied by the Delta P Test Unit fillpipe.

7.4 Using the low hold-open clip setting, dispense 10.0 gallons into the vehicle gas tank. Record the exact gallonage on the Liquid Removal Field Data Sheet.

7.5 Move the vehicle and return the Delta P Test Unit to its original position, using the traced outline of the base to verify its position.

7.6 Conduct the dynamic back pressure test, in accordance with Source Test Procedure ST-27, at nitrogen flowrates of 20, 60, and 100 CFH. Record this data on the Liquid Removal Field Data Sheet. These values represent the post-refueling dynamic back pressures.

7.7 Carefully drain any gasoline present in the vapor passage of the hose into the graduated cylinder. Record this data on the Liquid Removal Field Data Sheet.

7.8 Repeat Sections 6.3 through 6.7 and Sections 7.1 through 7.7 with the hold-open clip in both the medium and high positions. Record this data on the Liquid Removal Field Data Sheet.

## 8. Calculations

8.1 The volume of liquid gasoline removed from the hose vapor passage per gallon of gasoline dispensed is calculated as follows:

$$V_R = \frac{(V_I - V_W) - V_F}{G}$$

Where:

- $V_R$  = Gasoline removed per gallon dispensed, milliliters/gallon
- $V_I$  = Total initial volume poured into hose vapor passage, milliliters
- $V_W$  = The liquid lost due to wall adhesion, from Section 6.6, milliliters
- $V_F$  = The volume of gasoline remaining in the hose vapor passage after dispensing, from Section 7.7, milliliters
- $G$  = The total gallons dispensed, from Section 7.3, gallons

8.2 The percent increase in dynamic back pressure, from dry baseline to post refueling conditions, is calculated as follows:

$$P_i = \frac{P_{PR} - P_{DB}}{P_{DB}} \times 100$$

Where:

- $P_i$  = The percent increase in dynamic back pressure from dry baseline to post refueling conditions, percent
- $P_{PR}$  = The post refueling dynamic back pressure, inches  $H_2O$
- $P_{DB}$  = The dry baseline dynamic back pressure, inches  $H_2O$
- 100 = Conversion factor from decimal fraction to percent

## 9. Reporting

9.1 The results shall be reported as shown in Figure 37.3.

APPENDIX J.4

SAN DIEGO TEST PROCEDURE TP-91-2 PRESSURE DROP VS  
FLOW/LIQUID BLOCKAGE TEST PROCEDURE

**SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT  
TEST PROCEDURE TP-91-2\***

**PRESSURE DROP VS FLOW/LIQUID BLOCKAGE TEST PROCEDURE  
PHASE II BALANCE SYSTEM INSTALLATIONS**

**1.0 INTRODUCTION**

This procedure is used to determine compliance with District Rules 61.4 and 61.8; Chapter 3, Article 5, California State Health & Safety Code (H&SC); and Title 17, Section 94006, California Code of Regulations (CCR). Back pressures due to flow resistances in the vapor return nozzles, hoses, dispensers, and piping was found, over years of testing, to be the primary cause of vapor losses from the balance vapor recovery systems. Therefore, various sections of Rule 61.4, the State Health & Safety Code, and Section 94006 of the CCR deal directly or indirectly with this potentially serious problem. All the applicable California State Air Resources Board (ARB) Executive Orders specify specific flow resistance limitations that are included in this procedure. Failure to meet this criteria is a violation of District Rule 61.4 and State law. New and modified installations that do not meet the criteria are not, according to State law, certified vapor recovery systems. Rule 61.8 and State law require that only certified systems be installed. Furthermore, this procedure is used to detect prohibited equipment defects listed pursuant to District Rule 61.4 and CCR Section 94006, and to determine if the underground vapor piping configuration complies with the applicable ARB Executive Orders as required by District Rules 61.4 and 61.8 and State law.

This procedure consists of two separate tests which must be conducted sequentially in the order indicated below:

**1.1 Pressure vs Flow Test (Dry Test):** This test is used to determine the pressure drop (flow resistance) through balance Phase II vapor recovery systems (including nozzles, vapor hose, swivels, dispenser piping and underground piping) at prescribed flow rates. The test method consists of flowing gaseous nitrogen through a calibrated test panel into the vapor recovery system at various flow rates to simulate the back pressure created during vehicle refueling. The resulting back pressures are measured near the nozzle faceplate using a pressure gauge and compared with ARB certification criteria.

**1.2 Liquid Blockage Test (Wet Test):** This test is used to determine if the piping configuration is correct and to detect low points in the piping where the accumulation of liquid condensate may cause blockages which restrict the flow of vapors and thus decrease the system's vapor collection efficiency. The test method consists of introducing gasoline into the vapor piping at the dispenser. When the gasoline can be heard dropping into the appropriate tank, enough gasoline is

This Test Procedure supercedes TP-79-2-A & TP-79-3-B. The Liquid Blockage Test described in this test procedure is also applicable for aspirator-assist Phase II installations.

deemed to have been added to create a blockage should a low point or other restriction be present. Gaseous nitrogen is introduced into the vapor piping at a rate of 60 standard cubic feet per hour (SCFH). A liquid blockage is indicated either by the needle pegging on the pressure gauge and/or wild pulsing of the needle, or a reading in excess 0.45 inches of water gauge (wcg) back pressure at a flow of 60 SCFH of nitrogen.

Where there is underground piping, the San Diego Air Pollution Control District only requires that the test be performed after all vapor piping is in place and covered. Nevertheless, it is recommended for new construction that the contractor conduct this blockage test both before and after the vapor recovery piping is covered to minimize the extensive effort and cost associated with repairing the piping system should the vapor recovery system fail the test.

## 2.0 PREREQUISITES TO TESTING

The following requirements must be met before a valid test can be performed:

- 2.1 The District Must Be Notified - The appropriate person specified in the Air Pollution Control District Authority to Construct letter must be contacted within 10 working days of completion of construction to establish a mutually agreeable test date. Normally, the tests will be witnessed by a District representative; however, a District engineer may, under certain circumstances, authorize testing without a District observer being present. If the District is not notified of this test or any other required tests, then this test or other required tests may be declared invalid. If found invalid, testing may have to be repeated with a District observer present.
- 2.2 Condition of the Vapor Recovery System - The vapor recovery system must be proven leak tight with the District's pressure decay/leak test (see TP-91-1), or other method approved by the District, prior to conducting this test. There can be no alteration of the vapor recovery system between the time the pressure decay/leak test is conducted and this pressure drop test is run.
- 2.3 Restriction of Gasoline Dispensing Operations - During testing of a given product, no dispensing of that product will be allowed. If the vapor spaces of the underground storage tanks are manifolded, dispensing of gasoline from the entire station shall be prohibited during testing.

## 3.0 EQUIPMENT

The following equipment will be needed to perform the pressure vs flow and the liquid blockage tests :

- 3.1 A bottle of gaseous nitrogen and pressure regulators capable of regulating final downstream pressure to 5.0 pounds per square inch gauge (psig) are required. Use assorted valves, fittings, and pressure tubing as necessary. A means of providing a grounding path from the bottle of compressed nitrogen must be employed. The bottle shall be grounded for safety. It is recommended that the tubing be flexible metal tubing or non-metallic tubing that incorporates a grounding path throughout its length.

A pressure relief valve must be installed prior to testing. Attached it to the vapor piping or a storage tank vent within the piping system. The pressure relief valve must be adjusted to release at one psig (27.7 inches of water column gauge.) (The diaphragms in balance system nozzles are not designed to withstand pressures exceeding one psig and may be accidentally ruptured if this procedure is not followed.)

**WARNING** - The nitrogen bottle must be securely fastened to a large, stationary object at all times. A compressed gas cylinder which falls and is damaged can easily become a lethal projectile.

- 3.2 A flow regulator is required that is capable of delivering nitrogen at very low pressure and at measured flow rates of 20, 60 and 100 SCFH.
- 3.3 A test panel as shown in Figure 1 must be used for testing balance system vapor flow restrictions. The panel consists of a section of vehicle fill pipe, attached pressure gauges, a drain to drain off gasoline liquid that spills into fillpipe from the nozzle fill spout, a plug in the back through which nitrogen enters the fill neck, a flow gauge to adjust nitrogen flow, control valves and attachments to connect the nitrogen bottle. The pressure drop through the Phase II system is determined using a gauge capable of accurately measuring pressures from 0 to 1 inch of water column gauge ("wcg) and readable in increments of 0.01" wcg. The gauge is used to measure back pressure before and after the gasoline is introduced. Pressure is to be sensed through a port, perpendicular to the direction of flow, located as close as possible to the vapor piping. An additional simultaneous-reading gauge with a 0 to 10" wcg range is desirable to quantify excessive flow resistance.

#### 4.0 TEST PROCEDURES

##### 4.1 Pressure vs Flow Test (Dry Test):

The farthest dispensing nozzle from the underground tanks for each product grade shall be tested using the following procedure unless otherwise required in the Authority to Construct letter.

- 4.1.1 Prop open only the Phase I drybreak valve at the tank with the same

product as the nozzle being tested. (The pressure drop is measured through the nozzle, vapor hoses, dispenser, vapor piping and through the tank to the Phase I drybreak. This comes close to duplicating the actual flow resistances that occur during normal operations.) Set up traffic barriers in the vicinity of the drybreak valve to preclude the approach of potential ignition sources.

- 4.1.2 For manifolded systems, install the pressure relief safety valve, set at one psig (27.7 inches of water), over the opening of one of the storage tank vents and cap the remaining storage tank vents. (Manifolding the tank vent lines is prohibited.) For non-manifolded systems, test each product vapor recovery system separately with the pressure relief safety valve installed on the vent of the storage tank being tested. (Alternative setups may be used as long as they do not interfere with the objectives of the test and have prior District approval.) (Note: The tank vents are closed because it was discovered that wind flowing over open vents 12 feet high can interfere with the pressure measurements, even with the drybreaks open. Since the pressure decay/leak test must be conducted first, the caps and relief valve are usually already in place.)
- 4.1.3 If there is no remote check valve in the dispenser, proceed to Step 4.1.4. If the Phase II balance system employs a remote vapor check valve that can be disabled by removing the poppet on the fuel side, carefully open the fuel side of the remote vapor check valve and remove the fuel poppet. Replace the threaded plug on the fuel side of the valve.
- 4.1.4 Connect the pressure drop test device to the vapor return piping and the regulated nitrogen source. If the nitrogen is introduced through the vapor recovery nozzle, apply a film of lubricant to the faceplate of the nozzle to be tested and insert the nozzle into the fillpipe simulator of the test device. The nozzle must fit tightly.
- 4.1.5 Zero the pressure gauges.
- 4.1.6 Adjust the pressure regulators and the pressure drop panel flow control valve to produce a nitrogen flow rate of 20 SCFH. Record the back pressure (balance system pressure drop) measured immediately upstream of the vapor piping, i.e., at the entrance to the nozzle, in the appropriate space of the data log (attached).
- 4.1.7 Repeat steps 4.1.6 above with flow rates of 60 SCFH and 100 SCFH.
- 4.1.8 If the system failed to meet the criteria for passage set forth in Section 5.1, make necessary replacements of or adjustment to the nozzles, vapor hoses, swivels, dispenser piping, or underground piping to bring

the measured pressure drops within the appropriate standard.

- 4.1.9 After completion of the pressure vs flow test, close and cap the underground storage tank vapor dry break valves and remove the closures from the tank vent pipes.
- 4.1.10 For Phase II balance systems with remote vapor check valves, carefully reassemble the remote vapor check valve by removing the plug on the fuel side and reinserting the fuel poppet. Replace the threaded fuel plug.

4.2 Liquid Blockage Test (Wet Test):

Each dispensing nozzle/vapor return piping inlet shall be tested using the following procedure unless otherwise stated in the Authority to Construct letter. Testing shall be done starting with the farthest dispensing nozzle from the underground storage tanks for each product.

- 4.2.1 Prop open only the vapor dry break valve at the tank with the same product as the nozzle being tested. Set up traffic barriers in the vicinity of the dry break valve to preclude the approach of potential ignition sources.
- 4.2.2 Install a pressure relief safety valve set at a maximum cracking pressure of one pound per square inch gauge (27.7 wcg) at the vent of one of the storage tanks. If the system has manifolded vapor piping, cap the vents of the other storage tanks. If the system has non-manifolded piping, be sure the pressure relief valve is on the tank that has the same product as that which is dispensed at the location where liquid is introduced to the vapor piping.
- 4.2.3 For each nozzle, introduce gasoline into the vapor piping inlet located at or in each dispenser. (Don't introduce gasoline through the vapor return nozzle and vapor hose.) Have someone listening at the open Phase I drybreaks to identify the tank where liquid splashing is heard. For systems with manifolded underground vapor piping, the liquid must drop into the leaded product tank, or the lowest octane unleaded tank if there is no leaded product. For non-manifolded systems with separate underground vapor piping, 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 piping. If the product at the nozzle does not match the product in the tank, the underground piping is crossed and the system fails the test. For both manifolded and non-manifolded systems the piping must be the same as the configuration approved in the District's Authority to Construct letter or the facility fails the test.

- 4.2.4 Restore the dispensing/vapor return system to its normal balance system configuration.
- 4.2.5 If there is no remote check valve in the dispenser, proceed to Step 4.2.6. If the Phase II balance system employs a remote vapor check valve, that can be disabled by removing the poppet on the fuel side, carefully open the fuel side of the remote vapor check valve and remove the fuel poppet. Replace the threaded plug on the fuel side of the valve.
- 4.2.6 Connect the pressure drop test device to the vapor return piping and the regulated nitrogen source. If the nitrogen is introduced through the vapor recovery nozzle, apply a film of lubricant to the faceplate of the nozzle to be tested and insert the nozzle into the fillpipe simulator of the test device. The nozzle must fit tightly.
- 4.2.7 Zero the pressure gauges.
- 4.2.8 Adjust the pressure regulators and the pressure drop panel flow control valve to produce a nitrogen flow rate of 60 SCFH. Note the response and reading of the pressure gauge immediately upstream of the vapor piping, i.e., at the entrance to the nozzle. Record the back pressure reading on the attached data log under "wet test".
- 4.2.9 If during the "wet test" the back pressure gauge pegs at full scale or continuously fluctuates, note this in the "Comments" section for the nozzle being tested.
- 4.2.10 If the system failed to meet the criteria for passage set forth in Section 5.2, make necessary repairs or adjustments to the tested piping to eliminate the blockage.
- 4.2.11 For Phase II balance systems with remote vapor check valves, carefully reassemble the remote vapor check valve by removing the plug on the fuel side and reinserting the fuel poppet. Replace the threaded fuel plug.
- 4.2.12 Repeat steps 4.2.1 through 4.2.11 for each nozzle/vapor return piping inlet associated with the vapor return line being tested.
- 4.2.13 After completion of the liquid blockage test for all nozzles connected to the vapor return line, close and cap the underground storage tank vapor dry break valves and remove the closures from the tank vent pipes.

5.0 TEST STANDARDS

5.1 Pressure vs Flow Test (Dry Test):

In accordance with the California Air Resources Board (ARB) Executive Orders for balance systems, the system passes the pressure vs flow test if at the nitrogen flow rates of 20, 60 and 100 SCFH the flow resistance measured does not exceed the following pressure limits:

- (a) 0.15 inches of water gauge at 20 SCFH
- (b) 0.45 inches of water gauge at 60 SCFH
- (c) 0.95 inches of water gauge at 100 SCFH

5.2 Liquid Blockage Test (Wet Test):

The system fails if the back pressure gauge pegs at full scale or continuously fluctuates during the "wet test", or if the "wet test" back pressure reading at 60 SCFH flow rate exceeds the maximum standard of 0.45 inches of water gauge prescribed in the applicable ARB Executive Orders.

6.0 REPORTING REQUIREMENTS

For those sites having Authorities to Construct requiring this or any other District tests, documentation of the required testings must be submitted to the District before a Permit to Operate will be issued. It is the ultimate responsibility of the applicant to make sure that the necessary documentation is submitted to the District; however, the District will accept test documentation directly from the contractor performing the tests. When a District observer is present and NCR forms are used, the observer will take the original of the form with him/her back to the office.

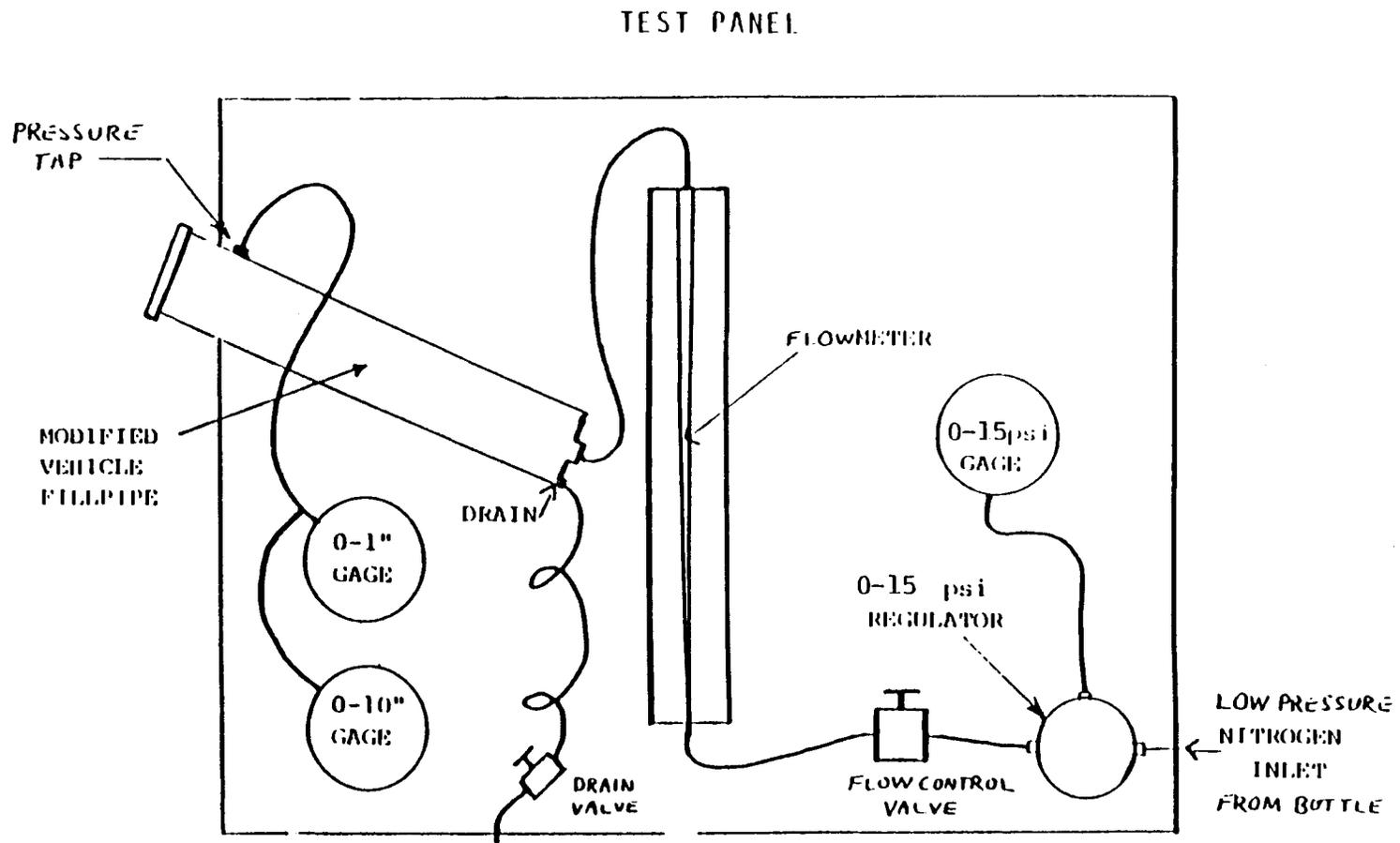


Figure 1



APPENDIX J.5

SAN DIEGO TEST PROCEDURE TP-92-1 PRESSURE DECAY/LEAK TEST  
PROCEDURE

**SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT  
TEST PROCEDURE TP-91 -1\***

**PRESSURE DECAY/LEAK TEST PROCEDURE  
PHASE I & PHASE II VAPOR RECOVERY INSTALLATIONS**

**1.0 INTRODUCTION**

This procedure is applicable to facilities that recover vapors from vehicle fueling operations (Phase II vapor recovery). It is used to determine compliance with District Rules 61.3, 61.4, and 61.8; Chapter 3, Article 5 of the State Health & Safety Code (HS&C); and Section 94006, Title 17, California Code of Regulations (CCR). Rule 63.1 requires 95% vapor recovery during the truck delivery of fuel to bulk storage tanks (Phase I vapor control). Air aspirated into the fuel during Phase I deliveries prevents compliance. Vapor leakage from adjacent tanks with a vapor manifold to the tank receiving fuel also precludes compliance. This will not happen if the system is leak tight. Rule 61.4 and State law require that the vapor recovery nozzle backpressure shut-off mechanisms not malfunction in any way. This procedure is used to check the shutoff mechanisms. Rule 61.4 and State law also require that all Phase I and Phase II vapor recovery systems perform with the same effectiveness as the State Air Resources Board (ARB) certification test systems associated with the applicable State Executive Orders defining the systems. All ARB test systems passed the pressure decay/leak criteria of the procedure that follows. It is impossible for any vapor recovery system failing the criteria to be as effective as the corresponding ARB certification test system. Rule 61.8 and State law require that all vapor recovery systems be ARB certified. To be certified, all bulk storage tanks must be connected to the Phase II vapor recovery system. This procedure is used to check vapor manifolds. The following procedure may also be used to identify equipment defects prohibited by Rule 61.4 and Section 94006 of the CCR.

**2.0 PREREQUISITES TO TESTING**

The following requirements must be met before a valid test may be performed:

- 2.1 The District Must Be Notified - The appropriate person specified in the Air Pollution Control District Authority to Construct letter must be contacted within ten working days of completion of construction to establish a mutually agreeable test date. Normally, the tests will be witnessed by a District representative; however, the District engineer may, under certain circumstances, authorize testing without a District observer being present. If the District is not notified of this test or any of the other required tests, then this test or any other required test may be declared invalid, in which case a retest will be required.
- 2.2 Minimum Tank Ullage - The ullage (vapor space) in each tank being tested must be at least 10% of the tank's capacity, but in no case less than 300 gallons

---

\*This Test Procedure supercedes TP-88-1 & TP-79-4.

per tank. If the tanks are manifolded, each tank must meet the minimum ullage requirement described above.

- 2.3 Maximum Tank Ullage - There is no maximum tank ullage requirement. However, since the required test duration is directly proportional to the amount of tank ullage, it is recommended that the total tank ullage be kept as close as possible to the minimum tank ullage requirement to preclude excessively long tests.
- 2.4 Condition of the Vapor Recovery System - The complete vapor recovery system must be installed and intact during the test. If the installation includes a Phase II vapor recovery system, all hoses, nozzles, fittings, valves, and other system components must be installed as if the system were to be placed into service. All system components must be free of all visible defects such as torn or punctured bellows, loose or torn faceplates, or defective check valves. Plugging the vapor return plumbing where a leaking vapor recovery nozzle or remote check valve has been discovered is not allowed.
- 2.5 Restrictions on Gasoline Transfer Operations - Bulk transfers of gasoline into the storage tanks within one hour prior to the test is prohibited. In addition, dispensing of gasoline is not allowed during the test.

### 3.0 EQUIPMENT

The following equipment will be needed to perform this test. (Refer to the schematic presented in attached Figure 1 for a typical set-up.)

- 3.1 A bottle of compressed gaseous nitrogen and pressure regulators capable of regulating final downstream pressure to 1.0 pound per square inch gauge (psig) is required. Use assorted valves, fittings, and pressure tubing as necessary. A means of providing a grounding path from the bottle of compressed nitrogen is required. The bottle shall be grounded for safety. It is recommended that the tubing be flexible metal tubing or non-metal tubing that incorporates a grounding path throughout its length. A pressure relief device must also be installed prior to testing. The pressure relief device is installed to prevent accidental over pressurization. The pressure relief device must be adjusted to vent at one pound per square inch gauge (27.7 inches water column gauge).

#### WARNINGS:

- a. Attempting the pressure decay test without a pressure relief device may result in over-pressurizing the system, which may create a hazardous condition and may cause damage to the

underground storage tanks, associated piping, and other system components.

- b. The nitrogen bottle must be securely fastened to a large, stationary object at all times. A compressed gas cylinder which falls and is damaged can easily become a lethal projectile.

3.2 An accurate device for measuring pressure, such as a water manometer (preferable) or a Magnehelic gauge (or equivalent), is required to measure the system pressure. This device must be graduated in increments of one tenth (0.1) of an inch of water column pressure.

3.3 A stopwatch accurate to within 1 second.

#### 4.0 TEST PROCEDURE

4.1 Determine the ullage of the underground storage tank (or tanks, if manifolded). Measure the gasoline gallonage in the underground storage tank(s). Calculate the ullage space for the storage tank(s) by subtracting the gasoline gallonage present from the tank capacity(ies). Note the ullage and total tank capacity in the appropriate space of the data log (attached). The actual tank ullage must meet the minimum tank ullage criteria specified in Section 2.2.

4.2 Calculate the required test duration by multiplying the total ullage (in thousand gallons) by 5.0. Note the resulting required test time (in minutes) in the appropriate space on the data log.

4.3 Install the pressure relief device, grounding wire, fittings, tubing, and equipment needed to pressurize and to monitor the system vapor space (see Figure 1). Nitrogen can be introduced into the system through the storage tank vent pipe or through the vapor return piping.

4.4 For manifolded systems, install the pressure relief safety valve, set at one psig (27.7 inches of water), over the opening of one of the storage tank vents and cap the remaining storage tank vents. (Manifolding the vent line is prohibited since this infers with the check of underground vapor manifolds.) For non-manifolded systems, test each product vapor recovery system separately with the pressure relief safety valve installed on the vent of the storage tank being tested. (Alternative setups may be used as long as they do not interfere with the objectives of the test and have prior District approval.)

4.5 Remove the Phase I adapter cap(s) on the vapor return drybreak valve(s) of the underground storage tank(s). The system must pass the pressure

decay/leak test with the drybreak cap(s) removed. It is permissible for the tank fill cap(s) to be in place on the fill adapter(s) during the test.

- 4.6 With no dispensing taking place, begin pressurizing the vapor system (or subsystem for individual vapor return line systems) to 11 inches water column gauge (wcg). Let the system sit for fifteen minutes to allow vapor pressure stabilization in the tank(s). Check the vent cap assembly(ies), nitrogen connector assembly, nozzles, vapor return adapter(s) and all accessible vapor connections using leak detecting solution to verify that the test equipment is leak tight. If after fifteen minutes, the ullage pressure is still above 10 inches wcg, reduce the system pressure to 10.0 inches wcg. If the ullage pressure is below 10 inches wcg, then again pressurize the vapor system to 10.0 inches wcg.
- 4.7 With the system pressurized to 10.0 inches wcg, begin the test. Start the stopwatch and note the time at which the test was begun in the appropriate space on the data log.
- 4.8 Intermediate readings may be taken to monitor the performance of the system, but the final system pressure reading must be taken at the end of the required test duration calculated in step 4.2 and recorded in the appropriate space on the data log. Refer to the test standards specified in Section 5.0 below to determine the acceptability of the final system pressure result.
- 4.9 While the system is still pressurized, check the integrity of the automatic back pressure relief device on each nozzle connected to the vapor recovery system being tested by pulling on the nozzle's trigger. The back pressure relief device is acceptable if there is no resistance when the nozzle's trigger is pulled. Nozzles with defective back pressure relief devices shall be replaced.
- 4.10 At the end of the pressure decay test, with the tank(s) still pressurized, complete the following checks:
  - (a) For systems with vapor manifolded tanks, depress the Phase I vapor drybreak valve of each tank to see if gases are released under pressure. (A tank where gases are not released under pressure is not manifolded to the Phase II vapor piping as required by District rules and State law.)
  - (b) For non-manifolded systems, depress the drybreak valve of each tank to see if the product in the storage tank matches the product dispensed by the nozzles where checks were made of the back pressure shut-off mechanisms. (This is a check to see if the underground vapor piping is crossed and goes to the wrong storage tanks. If crossed piping is indicated, verify by sending five gallons of liquid down the Phase II piping while a second person listens for

splashing at the tank with the drybreak open. See test procedure TP-91-2-Liquid Blockage Test/)

(c) Remove the caps of the fill risers of the storage tanks. If it appears that any gasket is damaged or missing, it must be replaced and the fill adapter tightened.

- 4.11 If the system failed to meet the criteria for passage set forth in Section 5.0, repressurize the system and check all accessible vapor connections using leak detecting solution. If vapor leaks in the system are encountered, repair or replace the defective component(s) and repeat the pressure decay test (steps 4.6 through 4.8). (Note: applicants and contractors are advised to do a pre-test before the District witnesses compliance tests. Repairs that keep the District inspector waiting or that result in scheduling a re-test may result in substantial reinspection fees.)
- 4.12 Depressurize the system by carefully removing the vent cap assembly(ies). Allow any remaining pressure to be relieved through the vent pipe(s).
- 4.13 If the vapor recovery system utilizes individual vapor return lines for each gasoline product or each underground storage tank, repeat the entire pressure decay/leak test for each vapor return system (steps 4.1 through 4.12).

## 5.0 TEST STANDARDS

The minimum allowable pressure decay time from 10.0 to 9.0 inches wcg shall be 5.0 minutes per 1000 gallons ullage.

This means that from an initial pressure of 10.0 inches wcg, if the system pressure reading at the end of the required test duration, as calculated using the methodology specified in Section 4.2, is less than 9.0 inches wcg, the system fails.

## 6.0 REPORTING REQUIREMENTS

For those sites having Authorities to Construct requiring this or any other District tests, documentation of the required testings must be submitted to the District before a Permit to Operate will be issued. It is the ultimate responsibility of the applicant to make sure that the necessary documentation is submitted to the District; however, the District will accept test documentation directly from the contractor performing the tests. When a District observer is present and NCR forms are used, the observer will take the original of the form with him/her back to the office.

PRESSURIZATION APPARATUS

J.5-7

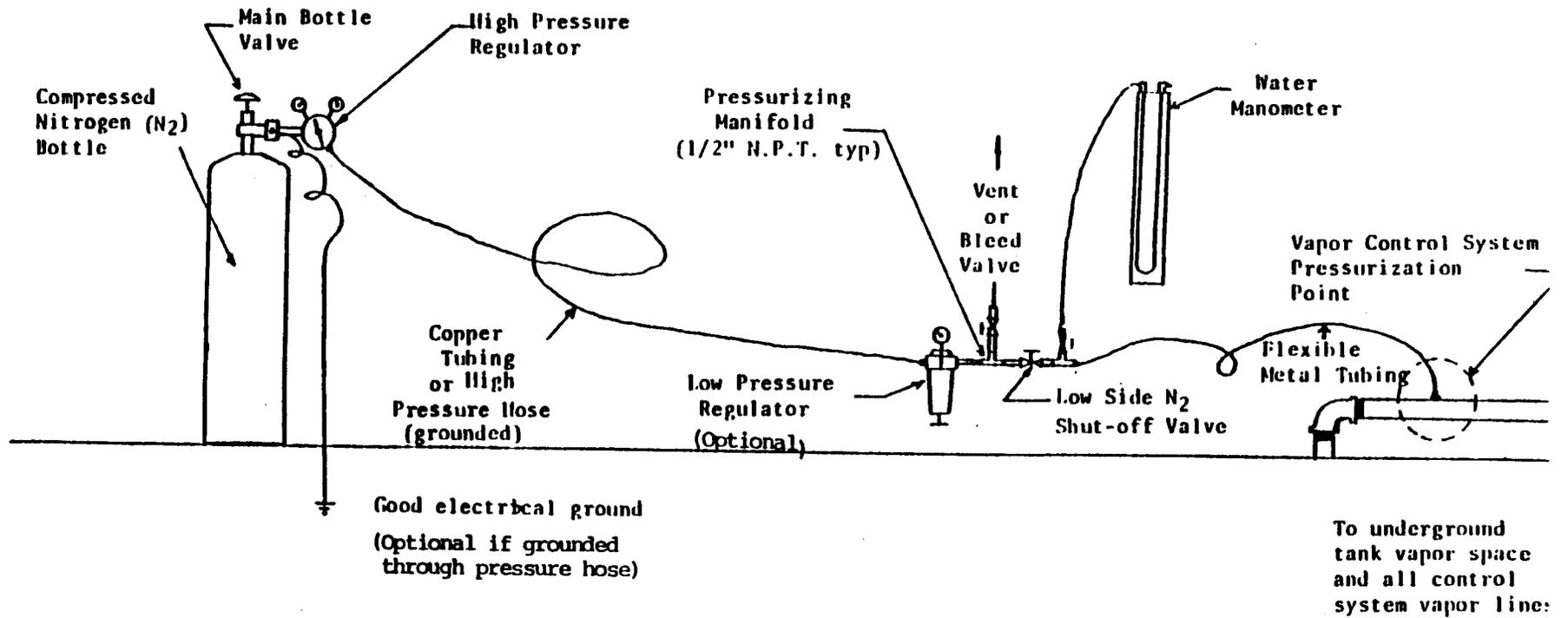


Figure 1

## PRESSURE DECAY LOG

Site DBA: \_\_\_\_\_ Test Date: \_\_\_\_\_  
 Address: \_\_\_\_\_ APCD Observer: \_\_\_\_\_  
 \_\_\_\_\_ Test Conductor: \_\_\_\_\_  
 Test Contractor: \_\_\_\_\_ Office Phone No: \_\_\_\_\_

Tank Capacity (total, if manifolded): \_\_\_\_\_ gallons

Product(s): \_\_\_\_\_

Tank Ullage (total, if manifolded): \_\_\_\_\_ gallons

$\frac{\text{Ullage Volume}^*}{\text{Total Volume}} \times 100 = \text{_____} \%$

\*The ullage (vapor space) in each tank being tested must be at least 10% of the tank's capacity, but in no case less than 300 gallons per tank.

**Pressure Decay Test Criteria:**

Test Duration = (5.0 minutes/1000 gallons ullage) x \_\_\_\_\_ thousand gallon ullage  
 = \_\_\_\_\_ minutes\*\*

\*\*The pressure decay test is failed if the final pressure at the end of the test duration, as calculated above, is less than 9.0" wcg.

Time of Day	Elapsed Time From Start of Test	System Pressure (*wcg)
	0 minute	10.0
	_____ minutes**	

APPENDIX K  
INSPECTION INFORMATION

Detailed inspection procedures and checklists are helpful in the development and implementation of a consistent and equitable enforcement program. All of the standard agency pre- and post-inspection procedures such as identification of the purpose of the inspection and consultation with the owner/operator after the inspection should be followed. In addition, procedures specific to the inspection of Stage II equipment can be developed. This appendix contains inspection checklists and procedures developed by areas for their Stage II inspection programs. Specifically, this appendix contains the following sections:

- Section K.1      Example Inspection Forms from San Diego District and the District Enforcement Policy
- Section K.2      Bay Area District Inspection Checklist
- Section K.3      South Coast District Inspection Report
- Section K.4      New Jersey Inspection Report
- Section K.5      Missouri Inspection Checklist
- Section K.6      New York Inspection Checklist
- Section K.7      Massachusetts Inspection Checklist
- Section K.8      Dade County, FL, Inspection Checklist



APPENDIX K.1

COUNTY OF SAN DIEGO  
AIR POLLUTION CONTROL DISTRICT

ANY NAME: \_\_\_\_\_ ID # \_\_\_\_\_ P/O # \_\_\_\_\_

In compliance with Rule 10(b)? Yes  No \_\_\_\_\_ 10(c)? Yes \_\_\_\_\_ No

Operating in compliance with P/O conditions. Yes \_\_\_\_\_ No

Phase I Vapor Recovery

Submerged fillpipe measurement/tank size/component condition.

Prod. <u>U</u>	Capacity <u>6K</u>	SFP Meas. <u>4"</u>	D/B Cond. <u>OK</u>	Cap Cond. <u>OK</u>
Prod. <u>SU</u>	Capacity <u>4K</u>	SFP Meas. <u>4"</u>	D/B Cond. <u>OK</u>	Cap Cond. <u>Replac</u>
Prod. <u>SU</u>	Capacity <u>4K</u>	SFP Meas. <u>4"</u>	D/B Cond. <u>OK</u>	Cap Cond. <u>OK</u>
Prod. <u>R</u>	Capacity <u>12K</u>	SFP Meas. <u>4"</u>	D/B Cond. <u>OK</u>	Cap Cond. <u>OK</u>

Vent pipes in compliance with P/O and E.O. Requirements. Yes \_\_\_\_\_ No \_\_\_\_\_

Phase II Balance Vapor Recovery System

Are the nozzles certified for the Balance System? Yes  No \_\_\_\_\_

Are nozzles installed in accordance with the E.O. shown on the P/O? Yes  No \_\_\_\_\_

Are the required nozzle components in place and in good condition? Yes  No \_\_\_\_\_

Are the vapor recovery hoses of the required size and length and as shown on the P/O?

Yes  No \_\_\_\_\_ Are the correct swivels installed? Yes  No \_\_\_\_\_

Are flow limiters required, if so are the correct limiter installed? Yes  No \_\_\_\_\_

Does the hose configuration allow for adequate drainage? Yes  No \_\_\_\_\_

a. Does the hose-to-island dimension meet the requirements of E.O. G-70-52-A?

Yes  No \_\_\_\_\_

Are there liquid or vapor leaks? Yes \_\_\_\_\_ No  Where? \_\_\_\_\_

N/V written? Yes  No \_\_\_\_\_ Rule(s) 10c, 21, 61.4

List any defect found by the Defect Code and show the number for each type of defect.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notice to Repair issued? Yes  No \_\_\_\_\_

List any Notice to Repair item and the number of each item.

Bella Slits, Loose Spots, Misswired Check Valve

Vehicle fuelling operation observed? Yes  No \_\_\_\_\_

COUNTY OF SAN DIEGO  
AIR POLLUTION CONTROL DISTRICT

HA03-01

EQUIPMENT LIST

PAGE 1

SECTOR A ID NUMBER 03858A

COORDINATES : X = 17471 Y = 1661

INSPECTION FOR OCTOBER (ANNUAL)  
RENEWAL MONTH : FEBRUARY

DBA:

OWNERSHIP:

EQUIPMENT ADDRESS:

MAILING ADDRESS:

CONTACT: PRESIDENT

PLEASE

PRINT

NAME

TITLE

PHONE

SIGNATURE

DATE

*Manager*

STC CODE :

CORPORATION

PARTNERSHIP

INDIVIDUAL

DATE AT THIS LOCATION :

GOVERNMENT AGENCY

PUBLIC DISTRICT

INSPECTOR:

DATE:

ITEM

EQUIPMENT DESCRIPTION

POB/DEC

COMPLIANCE STATUS

1. GASOLINE SERVICE SITE (24 EMCO WHEATON A3005 COAXIAL NOZZLES)  
PHASE II VRS; EMCO WHEATON BALANCE PER ARB EO G-70-17-AB;  
COAXIAL HOSES AND HIGH-RETRACTORS PER ARB EO G-70-52-AI, EXHIBIT 8;  
PHASE I VRS; TWO POINT, PER ARB EO G-70-97-A;  
TANKS; 2-4,000; 1-6,000 & 1-12,000 GALLON.

POB 6619

DEC 0670C

(HJG) 1188

880215

*Inspected*  
*21 NV # 6431*  
*6.4 - NV "*  
*41960.2 no defects*

FEE SCHEDULES: 26A24

APPLICABLE RULES : 0061.3 0061.4 0061.7

*Signs & 500# posters, No Visible Liquid Leaks, No Defects, Vent Per CH*

*NV - No Hold open Latches (HOL) Below*

*N/R - see Below*

ITEMS :

*# 1 - R - HOL*

*# 4 - R - HOL*

*# 7 - R - HOL*

SFP	D/B	MUS
<i>SU R/Plp</i>	<i>OK</i>	<i>OK 4"</i>
<i>U OK</i>	<i>OK</i>	<i>4"</i>
<i>R OK</i>	<i>OK</i>	<i>4"</i>

*SU - HOL*

*1 - " Measure C.V.*

*SU - "*

*U - 6.11R, HOL*

*U - 2.44' P.H. sl.*

*U - "*

*# 2 - R - HOL*

*# 5 - R - HOL*

*# 8 - R - Locker/out/HOL*

*SU - " Loss post*

*SU - OK*

*SU - HOL*

*U - "*

*U - HOL*

*U - HOL*

*# 3 R - HOL*

*# 6 - R - HOL, Loss post*

*SU - "*

*SU - Locker out/HOL*

*U - OK*

*U - HOL*

K-1-3

05481

AIR POLLUTION CONTROL DISTRICT  
COUNTY OF SAN DIEGO  
9150 CHESAPEAKE DRIVE  
SAN DIEGO, CALIFORNIA 92123  
TELEPHONE (619) 555-0912 621-3

Seq.

# NOTICE OF VIOLATION

Date: \_\_\_\_\_

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ (Zip Code)

Location of Violation: \_\_\_\_\_ City: \_\_\_\_\_ (Zip Code)

You are hereby notified that a VIOLATION of RULE 16.6(h) of the Rules and Regulations of the San Diego Air Pollution Control District, SECTION 41700 of the California Health and Safety Code, SECTION \_\_\_\_\_ of the California Administrative Code, was committed on 2/12/90 by: OPERATOR STATION

GASOLINE DISPENSING FACILITY WHICH IS PART OF PERMIT NO. 6649. EQUIPMENT RENEWED THE PERMIT WHICH EXPIRES FEBRUARY 1, 1990 AND FAILURE TO POST MAINTENANCE SIGNS AND DISPLAY BOTH FREE NUMBER FOR COMPLAINTS IN THE DISTRICT IN WHICH THE STATION IS LOCATED, SPECIFICALLY NEED OPERATIONAL SIGNS AND TOLL FREE NUMBER 1-800

Pursuant to Section 42400 of the Health and Safety Code of the State of California, any person who violates any Order, Rule or Regulation of the State Board or of an Air Pollution Control District is guilty of a MISDEMEANOR. Every day during any portion of which such violation occurs constitutes a separate offense.

ADVISE THIS DISTRICT IN WRITING, WITHIN 10 DAYS, OF THE CORRECTIVE ACTION TAKEN TO RESOLVE THIS VIOLATION. YOUR RESPONSE DOES NOT PRECLUDE THE POSSIBILITY OF FURTHER LEGAL ACTION.

Issued By (Signature) \_\_\_\_\_ Date 12/30 Time \_\_\_\_\_

X SIGNING THIS NOTICE ACKNOWLEDGES RECEIPT OF THE NOTICE.  
IT IS NOT AN ADMISSION OF GUILT.

Issued To: \_\_\_\_\_ Title: PRESIDENT

X Signature of Person Receiving Notice \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Sector A ID# \_\_\_\_\_ Permit No. \_\_\_\_\_ Equip. RD Method M1

Tagged Defects										Cleared				
Code	No	Code	No	Code	No	Code	No	Code	No	Code	No	Yr	Mo	Day

Follow up action \_\_\_\_\_

Disposition NEA - 6/5/91 THE FEE PAID

NOTICE OF VIOLATION

NAME \_\_\_\_\_ DATE \_\_\_\_\_

ADDRESS \_\_\_\_\_

PERSON IN AUTHORITY \_\_\_\_\_ TITLE PRESIDENT

OPERATOR \_\_\_\_\_ ADDRESS \_\_\_\_\_

STATEMENT: COMMERCIAL PERMIT ADMINISTRATOR IN LAS VEGAS HEAD OFFICE. I JUST TOOK OVER THIS JOB A MONTH AGO. MY PREDECESSOR LEFT THIS PUBLIC MESSAGE WILL MAIL A CHECK FOR RENEWAL RIGHT AWAY.

INSPECTOR'S REPORT PURSUANT TO A MID YEAR INSPECTION I SAW THAT THE PERMIT TO OPERATE HAD EXPIRED ON FEBRUARY 1, 1990. I TELEPHONED THE DISTRICT AND CONFIRMED THAT THE PERMIT HAD EXPIRED. DURING MY INSPECTION I SAW THAT NOZZLE OPERATIONAL SIGNS AND THE TOLL FREE TELEPHONE NUMBER WERE NOT POSTED.

THE STATION WAS IN OPERATION DISPENSING GASOLINE AS I SAW DISPENSING INTO A BLACK CHEVROLET WITH CALIF. LICENSE 2GCT945. O.F.S. 12 GALLONS OF UNLEADED GASOLINE BY A MALE CAUCASIAN, DARK HAIR, 165 LB, 5'10".



October 16, 1990

TO: Vapor Recovery Engineering Staff

FROM: Teresa Morris *TM*  
Barnard R. McEntire *BRM*

SUBJECT: GASOLINE DISPENSING FACILITY ENFORCEMENT POLICY  
(EFFECTIVE IMMEDIATELY)

## NOTICE OF VIOLATION (N/V)

Initial Engineering Vapor Recovery inspections shall be conducted using the attached defect list as a guide. If any listed defects are found, the defective equipment may not be operated legally until corrective action is completed or a variance granted. The engineering inspector will advise the source of noncompliance and issue a Defect Advisory.

In addition, the engineering inspector shall place an Out of Order tag on any nozzle associated with a defect as indicated on the attached list. Section 41960.2(d) of the State Health and Safety Code states, "When a district determines that a component contains a defect specified pursuant to subdivision (c), the district shall mark the component "Out of Order". No person shall use or permit the use of the component until the component has been repaired, replaced, or adjusted, as necessary, and the district has reinspected the component or has authorized use of the component pending reinspection." [State identified defects pursuant to CCR Section 94006 and District identified defects pursuant to Health and Safety Code 41954(g) and District Rule 61.4(c)(5).]

If the applicant has demonstrated that it is possible to operate a portion of the dispensing facility in compliance with Rules 61.3 and 61.4, then they will be issued written temporary authorization to operate that portion until repairs are made to the rest of the equipment. For example, if two out of ten nozzles are defective, the applicant may receive a Startup Authorization to operate the eight nozzles that are in compliance if the facility as a whole remains in compliance with the emission

standards. However, if the facility cannot be operated in compliance, no temporary authorization can be issued. The engineering inspector shall provide the applicant with general information regarding the variance process and advise the site operator to call the Enforcement Division. The applicant shall also be advised by the Engineering inspector that they are subject to a Notice of Violation from the District's Enforcement Division if they operate any equipment not authorized by an Startup Authorization, Permit to Operate or variance.

### NOTICE TO REPAIR (NTR)

For all defects not identified in the attached list, both District Rule 61.4(c)(5) and Health and Safety Code Section 41960.2(e) allow seven days for repairs or adjustments to be made. The engineering inspector shall issue a Notice to Repair (NTR). (For example, an NTR would be issued if the system fails the pressure decay leak test, or vapor return hoses do not meet the lengths or loop requirements of the State Executive Orders, or flow rates are excessive, etc.) The engineering inspector shall advise the applicant that if the repairs are not completed within seven days, they may be subject to a Notice of Violation. Temporary authorization will be issued with the condition that repairs be completed within 7 days for minor problems. If corrections are not called in by the 7th day, the source shall be contacted by Engineering staff regarding actions taken by the site and reminded that if the problem has not been corrected, a Notice of Violation may result. If corrective action has not been completed, the engineering inspector shall forward documentation to Enforcement. Where testing is needed to confirm compliance, the temporary authorization shall expire the day after the compliance test has been witnessed by the engineering inspector. The reinspection date will be scheduled at the end of the initial inspection.

If upon reinspection, the engineering inspector determines a source falsely reported corrections, the Enforcement Division shall be notified within one week and provided a copy of the NTR and supporting documents. Enforcement action will be taken.

Failure to complete the repairs associated with vehicle fueling is a violation of District Rule 61.4(c)(3) which states the vapor recovery system shall be installed, operated, and maintained so that its performance in actual use is the same as the ARB certification test system. It is also a violation of Health and Safety Code Section 41960.2 which states the system must be in good working order. Furthermore, the ARB has ruled that any system that is defective is not, in accordance with the Executive Orders, a certified system. Therefore, the installation would also be in violation of District Rule 61.8 and Health and Safety Code Section 41954(f), both of

which require certified systems and certified components. Seven day notices can only be issued once for the same problem involving the same equipment.

### PHASE I

Health and Safety Code Section 41960.2 does not clearly deal with Phase I only operations. Title 17, Code of Regulations, Section 94006 does not list Phase I only defects. Therefore, Rule 61.3 prevails. The source must be advised that fuel delivery without the drop tube is a violation. Any Phase I system that is inoperative, missing or damaged so as to impair the effectiveness of the Phase I System is a violation (Rule 61.3(c)(5)). A Defect Advisory shall be issued and the variance process explained. A Startup Authorization shall not be issued in such cases. The engineering inspector will inform the applicant that a Notice of Violation will be issued if they take a delivery prior to installation of the submerged fillpipe or prior to the correction of other defects. All other Phase I only problems such as missing fill cap, short drop tube, etc., will be subject to a seven day NTR, although an NTR is not required by the Health and Safety Code or District Rules and Regulations.

### GENERAL PROCEDURES

Each NTR will have three copies. The original shall be issued to the applicant. The second and third copies will be retained by the engineering inspector. The engineering inspector shall submit the second copy to Enforcement as needed to document a violation. The third copy is to be retained by Engineering in the site folder.

It is Enforcement's decision and responsibility to follow-up with the issuance of Notices of Violation after receiving report and back-up information indicating a source is operating in violation of District rules or state law.

An initial engineering inspection may cover more than one day if the number of nozzles and type of system involved cannot be tested and inspected in a single day. However, initial inspections involving more than one day must have prior approval from the Senior Engineer in charge of Vapor Recovery. The project engineer will try to determine the potential duration of an initial inspection of a large facility and make prior arrangements for testing and inspection to cover subsequent days.

A second inspection is to cover items that failed the initial field evaluation. NTRs can only be issued for non-listed defects that are revealed for the first time during

the second inspection. All other defects are violations. Information documenting the Notice of Violation shall be forwarded to Enforcement. The engineering inspector shall issue a Defect Advisory and advise the applicant of the variance process. If the facility fails the second inspection, the temporary authorization cannot be extended. Enforcement is to be provided the inspection report and supporting documents. The source must be provided with the hearing board advisory and advised to contact the District's Enforcement Division.

If an application for permit is denied in accordance with Rule 20, the source shall be advised to reapply and to submit full fees. A new application package shall be provided. The source must be advised of the hearing board process.

In all cases where enforcement action is requested, it must be accompanied by a request form, a copy of the Defect Advisory, a copy of the NTR and supporting documentation.

BRMc:TM:ap

Attachments



APPENDIX K.2

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
VAPOR RECOVERY INSPECTION SHEET





**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 ELLIS STREET  
SAN FRANCISCO, CALIFORNIA 94109  
(415) 771-6000

Date: \_\_\_\_\_

Company: \_\_\_\_\_ Terminal: \_\_\_\_\_

Your gasoline cargo tank was tested on the above date by District Source Test personnel for compliance with the CARB year-round leak-rate criteria and/or internal vapor valve certification rate.

The cargo tank(s), listed below by CT#(s), failed to comply with the District requirement(s) as indicated:

CT#: \_\_\_\_\_ [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F

CT#: \_\_\_\_\_ [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F

- A. The year round leak-rate criteria adopted by the ARB. The cargo tank shall be removed from service immediately, repaired and tested for certification in accordance with CARB's "Certification and Test Procedures for Vapor Recovery Systems of Gasoline Delivery Tanks." A Violation Notice will be issued for violation of District Regulation 8, Rule 33 or Rule 39, and mailed to you. The attached test form should be completed and returned with your response to the Violation Notice. \*
- B. The applicable year-round leak-rate criteria adopted by the ARB. Because the cargo tank was loading diesel over diesel, no violation occurred. However, subsequent loading of gasoline without repair and recertification in accordance with CARB's Certification and Test Procedures may result in a violation of Regulation 8, Rule 33 or Rule 39.
- C. The internal vapor valve exceeded the annual certification rate of 5" H<sub>2</sub>O pressure increase in 5 minutes. This does not constitute a violation, however the excess should be corrected.
- D. Missing or expired CARB decal. The cargo tank shall be removed from service immediately and certified in accordance with CARB's Certification and Test Procedures. A Violation Notice will be issued for violation of District Regulation 8, Rule 33 or Rule 39, and mailed to you. \*
- E. Missing or expired CARB decal. Because the cargo tank was loading diesel over diesel, no violation occurred. However, any subsequent loading of gasoline without certification in accordance with CARB's Certification and Test Procedures may result in a violation of Regulation 8, Rule 33 or Rule 39, Section 304.
- F. Failure to maintain equipment leak free, vapor tight or in good working order. The cargo tank shall be removed from service immediately and repaired. A Violation Notice will be issued for violation of Regulation 8, Rule 33 or Rule 39, and mailed to you. \*

\* NOTE: All Violation Notices responses shall be mailed to: Mutual Settlement Group, Enforcement Division BAAQMD, 939 Ellis Street, San Francisco, CA 94109.

If you need additional information, please contact Tony Gambardella at (415) 771-6000 extension 214.

**BAAPCD INSPECTION DATA SHEET  
PHASE II VAPOR RECOVERY SYSTEM**

STATION \_\_\_\_\_ ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_  
 MANAGER \_\_\_\_\_ PHONE \_\_\_\_\_ DATE \_\_\_\_\_  
 OWNER \_\_\_\_\_ PHONE \_\_\_\_\_ PERMIT # \_\_\_\_\_

\*\*\*\*\*  
 NO. OF SELF-SERVICE ISLANDS \_\_\_\_\_ NO. OF UNLEADED DISPENSERS \_\_\_\_\_  
 NO OF FULL-SERVICE ISLANDS \_\_\_\_\_ NO. OF REGULAR DISPENSERS \_\_\_\_\_  
 TOTAL NO. OF DISPENSERS \_\_\_\_\_ NO. OF PREMIUM DISPENSERS \_\_\_\_\_  
 \*\*\*\*\*

K.2-4

	PUMP NUMBER												
	NOZZLE TYPE												
	GASOLINE GRADE												
DEFECTIVE		YES	NO										
NOZZLE	1. MOUNTING RACK												
	2. FACE SEAL												
	3. PLASTIC CUP												
	4. RETAINING RING												
	5. BELLWS												
	6. UNACCEPTABLE TYPE												
HOSE	7. FLAT SPOT												
	8. TORN												
	9. KINKED												

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

VIOLATION NUMBER \_\_\_\_\_ INSPECTOR \_\_\_\_\_

Station \_\_\_\_\_ Address \_\_\_\_\_ GDF# \_\_\_\_\_  
 City \_\_\_\_\_ Zip \_\_\_\_\_ Tel.( ) \_\_\_\_\_

Phase II System Type  
 Balance  Other \_\_\_\_\_  
 Hirt  Exempt 8-7- \_\_\_\_\_

Phase I System Type  
 Two Point  Other \_\_\_\_\_  
 Coaxial  Exempt 8-7- \_\_\_\_\_

Number of Storage Tanks - Gasoline \_\_\_\_\_ Diesel \_\_\_\_\_ Methanol \_\_\_\_\_

PRODUCT GRADE	TANK SIZE (GALLONS)	POPPETED DRYBRAKES		DUST COVER(S)	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Registered Owner \_\_\_\_\_ P or N # \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_  
 Telephone ( ) \_\_\_\_\_ Drivers Name \_\_\_\_\_

VEHICLE TYPE	CT #	CARB DECAL #	EXPIRES (M/D/Y)	# OF COMPARTMENTS
TRUCK				
TRAILER				
MI				

COMPARTMENT NUMBER	PRODUCT GRADE	GALLONS DROPPED	VAPOR LEAKS % LEL	LIQUID LEAKS DROPS/MINUTE	AIR ENTRAINMENT COAXIAL ONLY
					<input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> E
					<input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> E
					<input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> E
					<input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> E
					<input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> E

Cargo Tank Not Equipped With Vapor Recovery  Vent Pipe Emissions  
 Vapor Recovery On Cargo Tank Not Used  Start of Drop  Y  N  
 Vapor Recovery On Cargo Tank Defective  Middle of Drop  Y  N  
 Vapor Recovery Hose Defective  End of Drop  Y  N

VN # \_\_\_\_\_ Regulation 8-33- \_\_\_\_\_ VN # \_\_\_\_\_ Regulation 8-7- \_\_\_\_\_

Inspector \_\_\_\_\_ # \_\_\_\_\_ Inspection Date \_\_\_\_\_ Time \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Combustible Gas Detector # \_\_\_\_\_ Calibration Due Date \_\_\_\_\_



APPENDIX K.3

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT INSPECTION  
REPORT



# South Coast Air Quality Management District INSPECTION REPORT

9150 FLAIR DRIVE, EL MONTE, CA 91731

IDENTIFICATION NUMBER		023456		PERMIT #	M00001		ITEM #	
FIRM NAME								
2		ARCO DEALER ROBERT SMITH						
LOCATION ADDRESS								
ADDRESS		1000 W. BASELINE AVE			CITY	SAN		COUNTY
7		ZIP	92410		8		BERNARDINO	31 SB 4
TELEPHONE		914-555-1212		AIR BASIN	UTM	SIC	SECTOR	
9				33 SC 1	10	32 5541	11	KC
MAILING ADDRESS								
ADDRESS		1000 W. BASELINE			SECTION 55			
3					BUSINESS TELEPHONE	714-555-1212		
CITY		STATE		ZIP				
4		SAN BERNARDINO		CA.		92410		
APPLICATION DATA								
APPLICATION TYPE		BUSINESS TYPE		BOARD OF EQUALIZATION				
13		14		12				
				SREH23-000012				
20		THRU PUT (LEADED)		BALLONS		18		NUMBER OF TANKS
								03
21		THRU PUT (UNLEADED)		BALLONS		19		NUMBER OF NOZZLES
								06
22		THRU PUT (DIESEL)		BALLONS		23		CONTROLS
								91
25		THRU PUT (GASOHL)		BALLONS		46		FILL
								1
46		TYPE				48		VAPOR 1 & 2
								3
LAST INSPECTION DATE		INSTALLATION DATE		PERMIT DATE		INSPECTOR CODE		
34		38		18		42		
						I-812		
INSPECTION DATE				7-16-85		APP. #		
						789101		
PRODUCT	NUMBER OF TANKS	NUMBER OF NOZZLES	ACTION CODE		INFO. CHANGE			
GASOLINE			ANNUAL INSP.		X		P/D	
DIESEL			C/B		B/B		- X/A	
GASOHL			ALT		E/F		APPL	
METHANOL			OPERATOR REPRESENTATIVE SIGNATURE		R. Smith			
WASTE OIL			INSPECTOR SIGNATURE		R. Cluesne			

Example 1.14 Sample Inspection Report completed by an inspector.

**RULE 461 - INSPECTION REPORT SUMMARY**

NOZ NO.	BELLOWS	SWIVEL	F V HOSES	RETR	SPOUT	LATCH EQUIP	FACE SEAL	FLOW REST	N/C	TAG	LEAK
R											
E											
G											
S											
U											
P											
U											
N											
L											
M											
E											
OK											
G											
A											
OK											

T = TORN      C = CUT      M = MISSING      L = LOOSE      S = SHORT      N = NOT CERTIFIED      B = BROKEN  
 LO = LONG      F = FRAYED      D = DUAL      CO = COAX      O = OFFSET      SU = SUBMERGED

SYSTEM	REQUIREMENTS
90-BAL STD	1, 2, 4, 5, 6, 11, 20
91-BAL RET	1, 2, 4, 5, 6, 13, 20
92-BAL COAX	2, 6, 20
81-RJ STD	3, 4, 7, 11, 12, 20
82-RJ RET	3, 4, 7, 12, 13, 20
83-HIRT STD	3, 7, 11, 15 thru 20
84-HIRT RET	3, 7, 13, 15 thru 20
85-HASSTECH	8, 9, 14, 16, 17, 19, 20
86-HEALY	10, 20, 21

LOCATION SKETCH

**KEY**

- |               |                        |
|---------------|------------------------|
| 1-A3003       | 11-ARV                 |
| 2-A3005       | 12-MOD. ASP. V. CL. VV |
| 3-A3006, 3007 | 13-RETRACTOR           |
| 4-FLOW REST.  | 14-VAC. PUMP           |
| 5-OPW7VC      | 15-AIR COMP.           |
| 6-OPW11VC     | 16-MAG. GAUGE          |
| 7-OPW-E       | 17-BURNER              |
| 8-OPW-HP1     | 18-PILOT               |
| 9-HUSKY-HP2   | 19-ELEC. PANEL         |
| 10-HEALY      | 20-VENT. P.V.V. 12'    |
|               | 21-JET PUMP            |

**REMARKS**

TANK NO.	PRODUCT	SIZE	FILL	O/CO	CAP	A/U	DRK	INHC
1								
2								
3								
4								
5								
6								
7								
8								



APPENDIX K.4  
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
INSPECTION REPORT

DEQ-062  
1/88

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF ENVIRONMENTAL QUALITY  
BUREAU OF ENFORCEMENT OPERATIONS

PLANT ID #	INSPECTOR ASSIGNED
A1581	BOO

FIELD INVESTIGATION ASSIGNMENT REPORT

DATE ASSIGNED	DATE DUE
DATE COMPLETED	COUNTY
4/23/91	Middlebury

COMPANY NAME \_\_\_\_\_

LOCATION \_\_\_\_\_

CDS CLASS: A1 \_\_\_\_\_ A2 \_\_\_\_\_ B \_\_\_\_\_ NSPS \_\_\_\_\_ NESHAPS \_\_\_\_\_ PSD \_\_\_\_\_

AIR GRANT (105):  Yes  No PLT: PT \_\_\_\_\_ S2 \_\_\_\_\_ CO \_\_\_\_\_ N2 \_\_\_\_\_ VO \_\_\_\_\_ Other \_\_\_\_\_

TYPE OF ASSIGNMENT 

CYCLE
-------

Complaint  APEDS

Order Followup

Other (by code) 65124

COMPLAINANT NAME \_\_\_\_\_ PHONE # \_\_\_\_\_

COMPLAINANT ADDRESS \_\_\_\_\_

DATE RECEIVED \_\_\_\_\_ TIME RECEIVED \_\_\_\_\_ RECORDED BY \_\_\_\_\_

ASSIGNMENT WEST Inspection

PLANT CONTACT Joe Grillo  
 TITLE Assistant  
 ARRIVAL TIME AT PLANT 1530  
 TOTAL ASSIGNMENT TIME 30  
 STACKS INSPECTED 1 TEMPS \_\_\_\_\_  
 TOTAL SOURCES INSPECTED 15  
 DEQ-012 COMPLETED FOR SUBCHAPTERS \_\_\_\_\_

SUBCHAPTER	# INSP
8	2
16	15
17	15
OTHER	

COMPLAINT	TYPE	NUMBER
Time/Date at Complainant _____		
Verified: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Give details below		
VIOLATION FOLLOWUP INSPECTION		
Violation Log # _____		
Order Dated _____		
Subchapter Violated _____		
Compliance Achieved <input type="checkbox"/> Yes <input type="checkbox"/> No		
Give details below		

TYPE SAMPLE COLLECTED \_\_\_\_\_  
 # OF SAMPLES COLLECTED \_\_\_\_\_  
 COMMENTS (by code) 001

DETAILS OF INSPECTION Inspection conducted 3-17-91 to WEST UNIT  
Subchapter 17 and 16 industrial wastes 174670 valid stage  
T NJDEP RARC Pick # 061475 200. 3/19/95 and valid  
Stage II NJDEP RARC Pick # 083936 200. 3/21/93. This facility  
has two boilers, one oil and one coal. Stage II air cleaning  
regulator installed in November 1988. Monthly checks  
although not in 60 mgd capacity. Pressure drop and house  
work performed by West Industrial on 5/24/90 -  
R v P in G.C. delivered by Sewer Co. of Middlebury on  
4/20/91. Nozzle was repaired -

TEL # (908) 591-1282

INSPECTOR'S SIGNATURE William M. ...  
 TITLE: St. Public Health  
 SUPERVISOR'S REVIEW approved  
 INITIALS: Ma DATE: 5/1/91  
14-29-91

SEE ATTACHED FOR ADDITIONAL INFORMATION:  YES  NO

GS# 78-91

4/29/91

VEM-032B 75 HICKSIDE

**Section D**

(Use Form VEM-032 [Stage 1] for each location which does not have a DEP ID Number.)

DEP ID #	Facility Location (City)	County	Throughput* (Gals.)	Log Number (DEP Use Only)
A 1581	RT9 L Texas Road		826,800	09900164

\* Throughput in gallons dispensed at this location from 9-1-86 to 8-31-87.

**Section E**

Please check (only 1) the certified Stage II Vapor Recovery equipment that will be installed at each location. The number next to each manufacturer represents the California executive order that certified that equipment.

- Atlantic Richfield (G-70-25-AA)
- Chevron (G-70-53-AA)
- Emco Wheaton (G-70-17-AA)
- Exxon (G-70-23-AA)
- Hasstech (G-70-7-AB)
- Healy (G-70-70-AA)
- Hirt (G-70-33-AB)
- Mobil (G-70-48-AA)
- OPW (G-70-36-AA)
- Red Jacket (G-70-14-AA)
- Texaco (G-70-38-AA)
- Union (G-70-49-AA)
- Other \_\_\_\_\_ Calif. Ex. Order # \_\_\_\_\_

**FOR DEPARTMENT USE ONLY — DO NOT WRITE BELOW THIS LINE**

Application for authorization to install the above indicated Stage II vapor recovery system is hereby:  **APPROVED**  **DENIED**

Reason for Denial:  No Fee  No Certified Controls  
 Application is Illegible  No Signature

NSR DECISION DATE: 8-10-90 BY: Louis M. [Signature]  
 Chief, Bureau of New Source Review

**NOTE:** If applications are approved, you will be sent form VEM-017 at a later date. Form VEM-017 will include your New Jersey Plant ID Numbers, New Jersey Stack Numbers, and Certificate Numbers. This form must be readily available at locations above until you receive your VEM-017 forms.



APPENDIX K.5  
MISSOURI DNR INSPECTION REPORT



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
AIR POLLUTION CONTROL PROGRAM  
8460 WATSON RD., ST. LOUIS, MISSOURI 63119  
MOBILE SOURCE UNIT I/M

Info #

PHONE (800) 334-6946

NAME  CORP  PART  INDIV FC# #2096

ADDRESS \_\_\_\_\_ DATE 8/30/90

CITY \_\_\_\_\_ STATE Mo ZIP CODE 63052 TELEPHONE NO. \_\_\_\_\_

RE. PREMISE AT IMPERIAL CITY \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

OPERATOR NAME \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

ADDRESS SAMC CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

REASON FOR INSPECTION  SEMI-ANNUAL  ALTERATION  COMPLAINT  OTHER \_\_\_\_\_

VIOLATION RECHECK DATE & NO. \_\_\_\_\_  EXCESS EMISSIONS RECHECK DATE & NO. \_\_\_\_\_  CHANGE OF OWNERSHIP

EQUIPMENT OPERATING  YES  NO FUEL IN TANKS  YES  NO

TOTAL GASOLINE NOZZLES 8 TYPE OF NOZZLES OPW 11UV EWA4001

SIZE OF GASOLINE TANKS 300 - 2,000 TYPE OF STAGE II SYSTEM Balance - Single Post

1. COULD THE VIOLATION HAVE BEEN PREVENTED?  YES  NO (EXPLAIN BELOW)

2. WAS POOR MAINTENANCE INVOLVED?  YES  NO (EXPLAIN BELOW)

3. PREVIOUS VIOLATIONS OF THE SAME TYPE?  YES  NO (DATE OF MOST RECENT)

4. WAS VIOLATION OBSERVED BY ANOTHER AGENCY?  YES  NO (WHO?)

5. OBSERVED VAPORS?  YES  NO

6. OBSERVED HEAT CONVECTIONS?  YES  NO

7. OBSERVED TWO VEHICLE FILLS  YES  NO

8. BREAKDOWN CALLED IN?  YES  NO (WHEN?)

9. DEFECTS REPAIRED WHILE INSPECTOR PRESENT?  YES  NO

PUMP/NOZZLE NO.	TYPE OF DEFECTS	IDENTIFY DEFECTIVE EQUIPMENT ON LOCATION SKETCH	PUMP/NOZZLE NO.
	TORN/CUT BOOT > 1" LGTH.		
	TEAR > 1/4" TO A SIDE		
	HOLE > 1/4" DIA. (OVER >)		
	FACEPLATE NO SEAL > 1/4" CIR.		
	FLEX CONE 1/4" CIR MISSING		
	BOOT OFF OR CLAMPED BACK		
	LATCHING DEVICE MISSING		
	INOPERATIVE CHECK VALVE		
	FLOW RESTRICTORS MISSING		
	NOZZLE LEAKING		
	SWIVELS MISSING		
	VAPOR HOSE CRIMPED SEVERED		
	RETRACTORS LOOSE BROKEN		
	PROCESSOR UNIT NOT OPER.		
	COMPRESSOR OFF		
	SYSTEM TURNED OFF		
	NO PHASE II		
	DRYBREAK NOT SEALING		
	IMPROPER EQUIPMENT		
	DISCONNECTED EQUIPMENT		
	OTHER		
		EXCESS EMISSIONS	
		TORN/CUT BOOT < 1" LGTH.	
		TEAR < 1/4" TO A SIDE	
		HOLE < 1/4" DIA. (UNDER <)	
		FACEPLATE NO SEAL < 1/4" CIR.	
		OTHER	

TIME (I) INSPECTOR'S FINDINGS

SEVERED HOSE : #1

TORN FACE PLATE & 1/4" CIR : #2

LOOSE SPACER : #3

CUT IN HOSE : #4 - I don't know why this was tagged. It must have been VERY small cut.

INSPECTOR'S CONCLUSIONS NO V. NOEE (1478) ISSUED FOR ABOVE DEFECTS

TAGGED OUT OF SERVICE

#1 TDT # = 481577.7

#2 TDT # = 621497.9

REPORTING INSPECTOR W. Ruppel REPORT COMPLETED see #5



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF ENVIRONMENTAL QUALITY  
 AIR POLLUTION CONTROL PROGRAM  
**NOTICE OF VIOLATION/EXCESS EMISSIONS**

P.O. BOX 176  
 JEFFERSON CITY, MO 65102

CENTRAL OFFICE  
 NO. 1478

<input checked="" type="checkbox"/> NOTICE OF VIOLATION <input checked="" type="checkbox"/> NOTICE OF EXCESS EMISSIONS		DATE AND TIME <div style="display: flex; justify-content: space-between;"> <span>8/30/90</span> <span>10:15</span> </div> <div style="text-align: right;"> <input checked="" type="checkbox"/> AM  <input type="checkbox"/> PM         </div>	
SOURCE (NAME, ADDRESS, LOCATION) <hr/> <div style="text-align: center; font-size: 1.2em;">5933 Hwy 61-67</div> <hr/> <div style="display: flex; justify-content: space-around;"> <span>IMPERIAL</span> <span>Mo</span> <span>63052</span> </div>			
MAILING ADDRESS	CITY	STATE	ZIP CODE
NAME OF OWNER OR MANAGER			
IN VIOLATION OF MISSOURI AIR CONSERVATION COMMISSION REGULATION 10CSR 10- S. 220 <div style="text-align: center; font-size: 1.2em;">Control of Petroleum Liquid Storage Loading &amp; Transfer</div>			
REMARKS ON NATURE OF VIOLATION			
NOV: SEVERED Hose : # 1      tagged      Tot# = 421597.7 <hr/> Loose Spout : # 2      tagged      Tot# = 621427.9 <hr/> NOEE: Torn Faceplate < 1/4 Circ : # 2 <hr/> CUT IN Hose : # 8. <hr/>			
SIGNATURE (PERSON RECEIVING NOTICE)		SIGNATURE (PERSON ISSUING NOTICE)	
<i>Wanda Dunn</i>		<i>Charles A. Dechard</i>	
TITLE OR POSITION		TITLE OR POSITION/DNR REGION	
<i>owner</i>		<i>Inspector Stage II SLRO</i>	

MO 780-0178 (3-88)      DISTRIBUTION: WHITE - AIR POLLUTION CONTROL PROGRAM; CANARY - REGIONAL OFFICE; PINK - SOURCE



APPENDIX K.6

NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
STAGE II VAPOR RECOVERY INSPECTION FORM

N.Y.S. DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
 NASSAU COUNTY DEPARTMENT OF HEALTH  
 GASOLINE STORAGE & TRANSFER SYSTEM  
 RENEWAL APPLICATION  
 CERTIFICATE TO OPERATE - STAGE II  
 VAPOR RECOVERY INSPECTION FORM

LOCATION FAC

OWNER (1) (2) (3) (4) (5)	FACILITY (6) (7) (8) (9) (10) OPER:	INSPECTION DATE: / / INSPECTOR'S NAME: <hr/> CONTACT : PHONE :
SUBMERGED FILL (Y/N) _____  <u>STAGE I</u>  GASKETS (M, T) _____ DUAL SYSTEM DRY BREAK OPERATIONAL (Y/N) _____ COAXIAL SYSTEM OPERATIONAL (Y/N) _____	STATUS KEY : A - ACCEPTABLE      L - LEAKING B - BROKEN            M - MISSING D - DEFECTIVE        N - NO F - FLAT                T - TORN I - IMPROPER         U - UNCERTIFIED K - KINKED            Y - YES	GAS GRADES : R - REGULAR LEADED U - UNLEADED S - SUPER UNLEADED
<u>STAGE II</u>  EQUIPMENT COMPATIBILITY (Y/N) _____ OPERATING INSTRUCTIONS / 800 NO'S (Y/N) _____	NOZZLE TYPE : 1 - EMCO WHEATON A3005 2 - EMCO WHEATON A4001 3 - EMCO WHEATON A4003 4 - EMCO WHEATON A3007 5 - OPH 11VF 6 - HEALY 200	
NOZZLE NUMBER		
GAS GRADE (R, U, S)		
NOZZLE TYPE (1, 2, 3, 4, 5, 6, U)		
NOZZLE BOOT (A, F, I, L, M, T)		
AUTOMATIC SHUTOFF (A, D)		
CHECK VALVE (A, I, L, M, U)		
FACE SEAL (A, I, M, T)		
RETRACTORS (A, D, I)		
HOSE (A, F, K, L, T)		
LATCH DEVICE (A, B, M)		
NOZZLE SWIVEL (A, D, L, M)		
DISPENSER SWIVEL (A, D, L, M)		
PASS (Y/N)		

K.6-2

8 (6/86)

LOC	FAC	EP
-----	-----	----

Inspected on \_\_\_/\_\_\_/\_\_\_ AT \_\_\_ AM  
PM time

IN-TE - APPLICANT  
PINA - DATA ENTRY  
YELLOW - REGIONAL OFFICE

### DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF AIR RESOURCES NOTICE OF COMPLIANCE DETERMINATION

TO Name _____ Address _____ City _____ ZIP _____ Contact _____	FOR Source Description _____ <input type="checkbox"/> INSPECTION <input type="checkbox"/> COMPLAINT <input type="checkbox"/> OTHER } Type _____
--	--

#### MULTIPLE EMISSION POINTS

LIST IF MORE THAN ONE

_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

#### INSPECTION COMMENTS (DESCRIBE VIOLATION, IF ANY)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### COMPLIANCE STATUS

**NON COMPLIANCE**: PLEASE TAKE NOTICE THAT based upon this inspection, there is reason to believe that you are in violation of Article 19 of the New York Environmental Conservation Law and the regulation promulgated thereunder 6 NYCRR Part(s) \_\_\_\_\_.

PLEASE TAKE FURTHER NOTICE THAT the sanctions for such violations include a civil penalty of up to \$10,000 plus \$ 500 per day the violation continues a criminal fine of up to \$10,000 per day of violation, and/or imprisonment of up to one year per day of violation.

**YOU ARE HEREBY DIRECTED TO TAKE CORRECTIVE ACTION**

- IN COMPLIANCE
- SOURCE SHUT DOWN
- SOURCE REMOVED
- OTHER  
Type \_\_\_\_\_

#### DISPOSITION

AGREEMENT FOR VOLUNTARY COMPLIANCE BY \_\_\_/\_\_\_/\_\_\_

OTHER \_\_\_\_\_ BY \_\_\_/\_\_\_/\_\_\_

FURTHER ACTION NOT REQUIRED

REINSPECTION TO BE MADE BY \_\_\_/\_\_\_/\_\_\_

PRIOR ACTION(S) COMPLETE

INSPECTION PERFORMED BY \_\_\_\_\_ (print) TITLE \_\_\_\_\_

DEC REPRESENTATIVE'S SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

DEC RESERVES THE RIGHT TO TAKE FURTHER ENFORCEMENT ACTION FOR ANY VIOLATION NOTED IN THIS NOCD OR ANY OTHER VIOLATION OF THE ENVIRONMENTAL CONSERVATION LAW.

for further information please contact -

\_\_\_\_\_ name \_\_\_\_\_

\_\_\_\_\_ title \_\_\_\_\_ phone no. \_\_\_\_\_



APPENDIX K.7

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF AIR QUALITY CONTROL  
COMPLIANCE INSPECTION FORM



DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF  
AIR QUALITY CONTROL

This receipt is to inform you, the owner/operator of a motor vehicle dispensing facility, that an inspector from the Department of Environmental Protection's Division of Air Quality Control has visited.

The inspector visited your facility in order to determine compliance with the Department's Stage I and II vapor recovery program. (310 CMR 7.24)

This receipt is NOT a certificate of compliance, nor is it a notice of non-compliance.

If, as a result of the inspection, the facility has been determined to be out of compliance with the regulations, you will be informed of the enforcement action(s) which will be taken.

The Department thanks you for your cooperation in contributing to the success of these important air pollution control programs.

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

STAGE II INFO LINE (617) 556-1035

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF  
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APPENDIX K.8  
DADE COUNTY, FLORIDA  
INSPECTION CHECKLIST



**TECHNICAL REPORT DATA**

*(Please read instructions on the reverse before completing)*

1. REPORT NO. EPA-450/3-91-022b		2.	3. RECIPIENT'S ACCESSION NO.	
4. TITLE AND SUBTITLE Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Vol. II-Appendices			5. REPORT DATE November 1991	
			6. PERFORMING ORGANIZATION CODE	
7. AUTHOR(S)			8. PERFORMING ORGANIZATION REPORT NO.	
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Environmental Protection Agency Office of Air Quality Planning and Standards Emission Standards Division (MD-13) Research Triangle Park, NC 27711			10. PROGRAM ELEMENT NO.	
			11. CONTRACT/GRANT NO. 68D10116	
12. SPONSORING AGENCY NAME AND ADDRESS US Environmental Protection Agency Office of Air and Radiation Washington, DC 20460			13. TYPE OF REPORT AND PERIOD COVERED Final	
			14. SPONSORING AGENCY CODE EPA/200/04	
15. SUPPLEMENTARY NOTES				
16. ABSTRACT The Clean Air Act Amendments (CAAA) of 1990 require the installation of Stage II vapor recovery systems in many ozone nonattainment areas and direct EPA to issue guidance as appropriate on the effectiveness of Stage II systems. This document provides guidance on the effectiveness of Stage II systems and other Stage II technical information on emissions, controls, costs, and program implementation. Stage II vapor recovery on vehicle refueling is an effective control technology to reduce gasoline vapor emissions that contain volatile organic compounds (VOC) and hazardous air pollutants. Vehicle refueling emissions consist of the gasoline vapors displaced from the automobile tank by dispensed liquid gasoline. The Stage II system collects these vapors at the vehicle fillpipe and returns them to the underground storage tank.				
17. KEY WORDS AND DOCUMENT ANALYSIS				
a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS		c. COSATI Field/Group
Gasoline Air Pollution Refueling Service Stations Stage II		Air Pollution Control		
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