

The P2R2 Section was developed to minimize the amount of liquid, solid, and gaseous pollution as well as energy & water consumption within Pinellas County.

If you are interested in the economic & environmental benefits of reducing wastes, please contact the P2R2 Section at (727) 464-4761.

**Pinellas County
Department of Environmental Management
Pollution Prevention and Resource Recovery Section
512 S. Ft. Harrison Ave.
Clearwater, FL 33756**



What You Should Know About Stage I Inspections ...



and Your Vapor Recovery Equipment

Developed by
Pinellas County Government
Department of Environmental Management
Pollution Prevention and Resource Recovery Section



Printed on Recycled Paper

About This Manual

This manual is designed to assist facilities who have Stage I vapor recovery equipment with practices to reduce emissions during gasoline storage tank refueling.

Manuals are developed by the Pollution Prevention and Resource Recovery Section of the Pinellas County Department of Environmental Management, a non-regulatory program that provides waste reduction technical assistance. Program staff provide information on new technologies, process modifications, substitute products, and current industry-specific Best Management Practices (BMPs). Staff can assist businesses in their efforts to become more efficient, profitable, and competitive, while complying with regulatory requirements. As a Pinellas County business, no fees are charged for using the Pollution Prevention and Resource Recovery Program's services. On-site waste reduction assistance is available by contacting program staff at (727) 464-4761.

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Introduction

The 1990 Clean Air Act Amendments (CAAA) require many industries to reduce emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). Regulatory requirements could increase operating cost while business competition and the costs to produce goods and services continue to rise on an annual basis. In fact, increased competition demands reducing costs.

What is pollution prevention?

Pollution prevention (P2) is the **reduction** or **elimination** of pollutants or wastes **at the source**. The idea behind pollution prevention is to avoid producing the waste in the first place. If the waste is not produced, then you don't have to worry about storage or disposal problems. Having less waste means a better environment for all of us.

Why Should You Consider Waste Minimization and Pollution Prevention?

Pollution prevention is one approach to reducing toxic HAP and VOC emissions. Preventative maintenance is more cost effective than discovering inoperable equipment during a Stage I Inspection.

What can you do?

Often things are done a certain way simply because, *"It's always been done that way."* Remember, there is always room for improvement and, *"An ounce of [pollution] prevention is better than a pound of cure."*

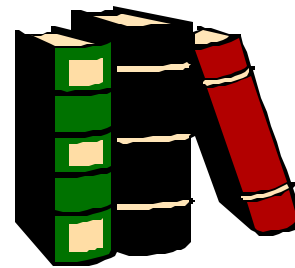
Additional assistance is also available through your industrial associations:

Florida Petroleum Marketers and Convenience Store Association

Executive Director: Richard A. McAllister
phone: (850) 877-5178

Florida Petroleum Council

Contact: Bob McVety
phone: (850) 561-6300



The P2R2 Section has additional resources available on project funding, energy efficiency programs, product/equipment technology, and technical assistance. For additional information, contact our section at (727) 464-4761.

Assistance Centers and Resources

Pinellas County Dept. of Environmental Management Pollution Prevention & Resource Recovery (P2R2) Section Air Quality Division	727-464-4761 727-464-4422
Pinellas County Solid Waste	727-464-7500
Florida Department of Environmental Protection Hazardous Waste Compliance Assistance Program	800-741-4337
Resource Conservation and Recovery Act (RCRA) Hotline	800-424-9346
Florida Small Business Assistance Program (FSBAP)	800-722-7457
Waste Reduction & Technology Transfer (WRATT)	800-476-8686
Southern Waste Information Exchange (SWIX)	800-441-7949
Waste Reduction Resource Center (WRRC)	800-476-8686
Pollution Prevention Information Clearinghouse (PPIC)	202-260-1023
RCRA/Superfund Hotline:	800-424-9346
Recycling Hotline	800-947-3873



What is Stage I Vapor Recovery?

Stage I vapor recovery refers to the capture of vapors during the refueling of your gasoline storage tanks by a cargo tanker. Your vapor recovery equipment is a very important factor in the Clean Air Act equation. Vapor recovery equipment reduces hydrocarbon emissions during the transfer of gasoline from a tanker truck to your storage tank. In-coming gasoline displaces these vapors during refueling. The recovery equipment then routes the vapors in your tank to the tanker through a hose to prevent venting of pollutants into the air we breathe.



Benzene and other aromatics that are added to gasoline to increase octane are considered air toxics. The majority of air toxics are chemical compounds that do not burn completely in the engine. Benzene, a known human carcinogen, remains in the atmosphere for extended periods of time. According to EPA, automobiles account for 50 percent of all air toxic emissions.

What You Need to Know about Stage I Inspections

Stage I Vapor Recovery, the control of vapors from gasoline transfer into storage tanks is regulated under Florida Administrative Code 62-252. A fine of up to \$10,000/day may result if Stage I equipment is absent or inoperable and if vapors are not controlled.

Stage I Facilities in Pinellas County

Pinellas County has over 400 stations that receive Stage I Inspections annually under the Gasoline Vapor Control Program. Stage I refers to the vapor recovery system attached to your

gasoline storage tanks. Air Quality Inspectors visit facilities randomly throughout the year to perform the inspections. The inspector will check the vapor recovery line, drop tube, fill line, caps, and seals. Cap and lid seals play a key role in minimizing vapors released to the atmosphere by keeping the recovery systems vapor tight on a continual basis.



If refueling is occurring while the inspector is present, the delivery tanker will be checked to verify proper use of the vapor recovery equipment.

Sample inspection form used by Pinellas County Air Quality

on the gas pumps can teach your customers the correct way to use the and prevent spills. Some facilities provide gasoline spill prevention tips across automated pump displays, such as “One Click Does The Trick,”


Whichever method of customer education you may be considering, the Pollution Prevention and Resource Recovery (P2R2) Program can assist you with your efforts.


In Closing...

Regular preventative maintenance and self inspections on your fuel delivery equipment is your best assurance of compliance with Stage I Vapory Recovery regulations. By educating your employees and your customers with information in this manual, you prevent wastes while protecting your equipment and the environment!

When you refuel your vehicle...

Stop filling your gas tank as soon as the pump nozzle clicks off. Topping off your tank increases your chances of spilling gasoline and releasing hazardous vapors.

 **STOP**
Dispense Gasoline With Care.



equipment from service until you can fix it or replace it.

Customer Education

Customer education plays a key role in equipment maintenance. Your customer may be your first alert to inoperable equipment. A pump that continuously stops delivering fuel for a customer may have a clogged line. Until an equipment problem is corrected, remove the pump from service. This will help prevent, spills, mishaps, and frustrated customers.

If a nozzle continues to shut off when filling an empty gas tank, a liquid blockage or a nozzle component may be improperly installed or broken. If the line is still clogged after extending the hose, contact your service representative. If a micro-switch is broken inside the nozzle, the nozzle will not automatically shut off, and can cause overfilling of the tank. Again, overfilling can cause spills and blocked vapor lines. Do not use malfunctioning equipment until the problem is corrected.

Informing you of inoperable or malfunctioning equipment is not the only role your customer plays in equipment maintenance. Customer refueling habits can affect the proper operation of your equipment and could invite spills. When pumping gasoline, a working nozzle shuts off or clicks when the tank is full. We are all guilty of doing it ... pumping for a few more clicks. This is referred to as "topping off". Topping off minimizes the air space in the vehicle's gas tank that is necessary for a vehicle to run as efficient as possible. The air space is necessary for the vapors to accumulate during gas combustion. In addition, what results without the customer even knowing is a possible block in the delivery pump line and the problem escalates. Blocked nozzles will click off too soon for the next customer creating a frustrating cycle. All this from topping off. Should a delivery line become clogged, simply raising and extending the hose will unblock the line.

Posting signs (like the one displayed here)

Did you know...

Use of the vapor recovery system by tankers is required during refueling. Recovery systems reduce smog formation, toxic fume releases, fire hazards, and gasoline odors. Violating air pollution regulations in Pinellas County can be very costly. In fact, penalties can be up to \$10,000/day per violation!



If the vapor recovery system is not used, the harmful vapors escape and contribute to our air pollution.

What kind of vapor recovery system do I have on my tanks?

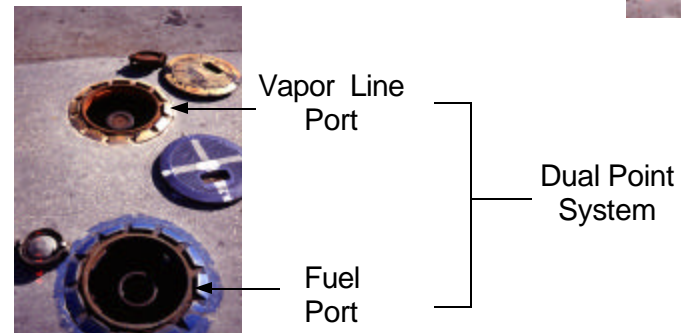
Your Stage I vapor recovery system could be a dual point or coaxial system.

Dual Point

Dual Point systems consist of two separate tank openings, one for delivery of the product and the other for the release of vapors back into the delivery tanker.

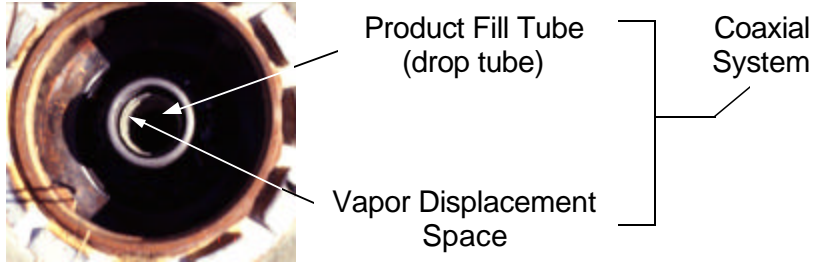


Dual Point System



Coaxial

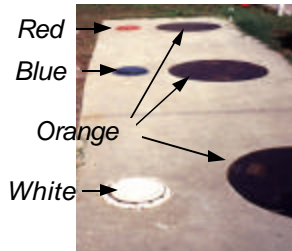
Coaxial systems have only one tank opening. The opening is usually four inches in diameter with a three inch diameter product fill tube inserted into the opening. Fuel enters through the inner tube while vapors are displaced in the space between the inner and outer tubes.



Why are storage tank lids color coded?

If you look at the lids on your gasoline storage tanks, you will notice that they are color coded. The Petroleum Marketing Association designed the color code to assist you and the fuel tanker driver with identification of the contents of each fuel storage tank. The lids of the storage tanks are color coded according to the following system:

- White lid: 87 Octane (regular unleaded)
- Blue lid: 89 Octane (Plus formula)
- Red lid: 93 Octane (Super)
- Orange lid: Vapor recovery line



Self-inspections can save you money!

Equipment that is in good condition will save you money. Preventative maintenance can protect you against inoperable equipment and potential fines of up to \$10,000/day.

While a Stage I Inspection only evaluates your gasoline storage tanks condition for gasoline deliveries, it is in your best interest as an owner that you also inspect the entire system-s condition regularly (tanks, fuel pumps, nozzles, etc.). Your station-s vapor recovery system recovers vapors from the delivery truck providing your gas. Vapors are recovered as gasoline. Therefore, it is important to realize that un-recovered vapors equal lost product and increased harmful emissions into the air that you and your customers breathe.

A self-inspection checklist can make preventative maintenance part of your facilities routine activities.

- Y Check your tanks and vapor recovery equipment monthly or after a delivery of gasoline is received (whichever is more frequent). Depending on the type of recovery system, your equipment may include coaxial drop tubes, dual springs, seals, and caps. On a coaxial system, check that the drop tube is within approximately two inches from the top edge of the fill port. In a dual recovery system, the dual spring should be checked and caps should be placed back on the fill port and vapor recovery port.



Cap and Seal

- Y During gasoline delivery, observe that the delivery driver hooks up to both the fill port and vapor port lines, or uses a coaxial system.

Daily:

- Y Check pump hoses for tears, kinks, and flattening. Tears allow vapors to escape into the air. Flattened or kinked hoses can cause the gas nozzle to continually shut of during fueling. Replace any damaged coaxial tubes or lines.
- Y Identify problems and correct them.
- Y Replace defective components and deteriorated seals.

If you identify a problem during a self inspection, remove the