



# Frequently Asked Questions

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## Effect of Proposed Evaporative Emission Standards for Marine Manufacturers

*The U.S. Environmental Protection Agency (EPA) is proposing new evaporative emission standards for gasoline-fueled boats and personal watercraft. These proposed standards would require most new boats produced in 2008 or later to be equipped with low-emission fuel tanks or other evaporative emission controls. This fact sheet describes the proposed program and its expected impact on boat manufacturers and fuel tank manufacturers.*

### Why is EPA regulating marine fuel systems?

We analyzed evaporative emissions from gasoline fuel tanks used in boats and determined that they emit over 100,000 tons of gasoline vapors each year across the United States. Most of these emissions occur either from permeation of the fuel through plastic fuel tanks and rubber hoses, or as a result of heating of the fuel from normal daily temperature changes (diurnal emissions). These vapors contribute to the formation of smog and contain toxic compounds such as benzene. The Clean Air Act requires EPA to set emission standards to address these problems. These impacts are described in more detail in "FAQ: Environmental Impacts of Recreational Vehicles and Other Nonroad Engines" (EPA420-F-01-030, September 2001).

## **Who is responsible for compliance?**

The proposed regulations would apply to new boats when they are sold. So it would be the responsibility of the boat manufacturer to ensure that each boat sold is in compliance with the new standards. Boat manufacturers could choose to certify fuel tanks and hoses themselves or to purchase certified fuel tanks and hoses. Fuel tank and hose manufacturers who only sell products to boat manufacturers that certify their boats themselves would not be required to certify their tanks or hoses separately, but could choose to do so.

## **What are the proposed standards?**

We are proposing standards for diurnal, fuel tank permeation, and hose permeation emissions. The proposed evaporative emission standards are 1.1 g/gallon/day for diurnal, 0.08 g/gallon/day for fuel tank permeation, and 5 g/m<sup>2</sup>/day for hose permeation. This represents about an 80 percent reduction from the average evaporative emission rate of current marine vessels.

## **How would I comply with the standard?**

There are two ways in which you could show compliance with the diurnal standard. First, you could build all of your boats to have emission rates at or below of 1.1 grams per gallon. Second, you could choose to comply with this standard on average using various technologies. In either case, you would need to certify your emissions to EPA. For the permeation standards, all of your fuel tanks and hoses would have to have emission rates lower than the proposed standards.

## **How do I certify?**

The Clean Air Act specifies that certification must be based on emission test data. Our program calls for a manufacturer to measure emissions from its fuel system according to new test procedures that we are proposing. These test procedures include separate methods for measuring diurnal emissions, tank permeation, and hose permeation. However, we realize that few of the potentially affected manufacturers would have the ability to build their own test facilities and conduct their own emission testing. That is why we are proposing to allow manufacturers to use test data collected by EPA and others for selected marine evaporative emission control technologies. To use this data, you would only need to demonstrate that emission controls are sufficiently similar to the ones that we have already tested.

## **Which technologies has EPA tested?**

We have tested several evaporative emission control technologies that we believe will be used by manufacturers to meet our marine evaporative emission standard. These include pressurized fuel tanks, insulated fuel tanks, and fuel bladders. We plan to continue testing and retesting these technologies during 2002 so that we have a reliable database when the Final Rule is published. We will also continue testing permeation barriers for fuel tanks and hoses prior to the Final Rule and any new technologies that are identified.

## **What technologies could be used to meet the new standards?**

Each of the technologies being tested has some defining characteristics, as described below. If you can show that your controls have the same characteristics, then you can use the data we already have to show that you meet emission standards.

- Nonpermeable tanks and hoses - We presume that metal tanks and hoses are nonpermeable, and that plastic tanks are permeable. However, we are aware that there are plastic tanks and rubber hoses that have very low permeability, especially those with some sort of a permeation barrier. Thus, you could certify a plastic tank or rubber hose as nonpermeable, if you can provide an appropriate data and technical analysis.
- Pressurized tanks with pressure-relief valves - The defining characteristics for pressurized tanks are the pressure at which the relief valve opens, and how it works. The system we tested works by remaining sealed until the tank pressure reaches the vent pressure, and then maintains a constant tank pressure by slowly bleeding pressure.
- Insulated tanks - This approach works by minimizing the daily temperature change. The defining characteristic is the number of degrees that the fuel temperature changes when the insulated tank is exposed to the test temperature cycle in an enclosed environment compared to an uninsulated tank. Thus, you could use emission test data if you could show that your insulation works to keep the temperature change from exceeding the temperature change observed in our test.
- Bladder tanks - We tested a sealed bladder tank. All bladder tanks that are sealed should not have measurable diurnal emissions. However, a bladder tank that is vented can have significant emissions. Therefore, based on our current test data, only sealed bladder tanks would be needed.
- Volume-compensating air bladders - The most critical characteristic for this system is the ratio of the volume of the air bladder to the vapor volume of the fuel tank. However, since these systems require small pressures or vacuum within the tank to open and close the bladder, the pressure relief system is also important.

### **What else would I need to do to certify?**

In addition to providing test data, the proposed regulations would require that you submit an application for certification annually, and that you maintain records of your products for eight years.

### **How does this affect small businesses?**

Many fuel tank manufacturers are small businesses. We incorporated provisions for small businesses into the proposal. It includes ample lead time, a number of technology options for compliance with the proposed requirements, and a set of flexibilities to ease certification and compliance after the rule is implemented.

### **Are there potential safety implications?**

EPA consulted with the U.S. Coast Guard (USCG) throughout the development of this proposal. A key aim of our approach has been to develop technology options for both permeation and diurnal control which will meet USCG regulatory requirements and be safe in use. We will continue to consult with USCG on safety issues related to potential control technology and requirements throughout the rulemaking.

### **How can I comment on the proposed rule?**

We welcome your comments on the proposed rule. You may submit comments by sending an E-mail to [mcnprm@epa.gov](mailto:mcnprm@epa.gov), or, for more detailed instructions on submitting written comments, please see the *Federal Register* notice. It is available from the EPA Air Docket by calling (202) 566-1742; please refer to Docket No. A-2000-02. In addition, you can access the *Federal Register* notice and related documents electronically on our Web page for recreational marine issues at: [www.epa.gov/otaq/marinesi.htm](http://www.epa.gov/otaq/marinesi.htm).

### **Where can I get more information?**

Keep an eye on our web page for more information and developments. For further information, please contact Mike Samulski at:

U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
2000 Traverwood Drive  
Ann Arbor, MI 48105  
E-mail: [samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)