

# EPA Needs to Revisit Fuel Vents

Well, the first year without subsidizing U.S. refiners and farmers for using corn to make ethanol-blended gasoline has passed, and the world didn't end. Gas prices haven't soared, growing corn is still profitable, and most of the members of Congress who reversed their political stands are still in office. I'm pretty certain that when historians and economists look back on the 30-year-old, \$20-billion tax break for turning corn into fuel, it will be seen for what it is: failed politics masquerading as "clean" energy policy.

*Practical Sailor* has covered the effects of ethanol on marine fuel systems in depth over the last several years. Most of our focus has been on helping prevent the problems that ethanol causes in engines and fuel system (*PS*, January 2007). I bring up politics only because it relates to this month's story on recently enacted federal regulations that require fuel-vent filters on new boats. (See page 11.)

Our stand on environmental regulation is simple. We support protecting the marine environment with sound, practical policies that are founded on good science. However, based on our tests with fuel-vent filters, the U.S. Environmental Protection Agency (EPA) and other backers of the new mandate have overlooked some basic facts.

The new guidelines, designed to reduce emissions of volatile organic compounds (VOC) into the atmosphere,

will require fuel tanks on new boats with gasoline inboards to have vent filters. This isn't a bad thing. Cars have had these filters since the 1970s. Not only do vent filters reduce emissions, they can improve engine performance. The filters, cylinder-shaped cartridges filled with a granulated filter media, are installed in-line with the vent hose to control the natural "breathing" that releases VOCs. The filters also prevent water vapor from precipitating inside the tank (causing all kinds of headaches) and help preserve fuel quality.

Rather than carry out common-sense tests in the lab or on the water to determine what filter media is practical and effective in the marine environment, the EPA researchers relied on past experience with automobiles, basic lab tests, and a few limited field tests on boats. Its chief oversight? The EPA did not conduct any field tests during the spring, when—as every ethanol-plagued boater knows all too well—wide daily temperature swings accelerate the exchange of gasses inside and outside the tank. Despite widespread use of other filter media, the agency tested only one type of filter media: carbon.

Based on its research, the EPA specified granulated carbon in the filters, as required in cars. The trouble is that after several diurnal temperature changes during a mid-Atlantic spring, carbon granules become saturated. In

our experiments, testers could clearly see the water droplets forming inside the carbon filters; there were no such signs of saturation in our filters using silica gel. It appears that even soaked carbon filters still reduce VOC emissions, but as we found, they don't work in the spring as well as silica-gel pellets. Silicone, it seems, is a more cost-effective and—dare we say—environmentally friendly solution.

It's not as if the EPA scientists didn't know about silicone. Silica gel and alumina are used in various industries to keep fuels, compressed air, and hydraulic lines dry. We can only assume that politics and a rush to enact the new regulations got in the way of more sensible research.

What does this mean for boaters? The good news is that with the carbon-granule vent filters, new boats will have less water creeping into their tanks. The bad news? The new filter regulations reveal, once again, that our energy and environmental policy continues to be shaped by politics—rather than by science.



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Cover photo: A rugged cruiser's bow gleams at the 2012 Annapolis Boat Show. (Photo by Ralph Naranjo.)

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### EDITOR

DARRELL NICHOLSON

### MANAGING EDITOR

ANN KEY

### TECHNICAL EDITOR

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### CONTRIBUTORS

SKIP ALLAN, KEN DELAVIGNE, DREW FRYE, DAVID GILL, FRANK LANIER, DAVID LISICIO, JOE MINICK, THERESA NICHOLSON, SCOTT RIMMER

### EDITORS AT LARGE

DAN DICKISON, NICK NICHOLSON, DOUG LOGAN, DAN SPURR

### CREATIVE DIRECTOR

JUDI CROUSE

### PUBLISHER

TIMOTHY H. COLE

### EDITORIAL OFFICES

7820 Holiday Drive South, Suite 315  
Sarasota, FL 34231  
practicalsailor@belvoirpubs.com

### CUSTOMER SERVICE, WEB, BACK ISSUES, or FAX SERVICE

PO Box 5656  
Norwalk, CT 06856-5656  
800/424-7887  
customer\_service@belvoir.com

### SUBSCRIPTION DEPARTMENT

800/829-9087  
www.practical-sailor.com/  
customer\_service/  
Box 8535

Big Sandy, TX 75755-8535  
For Canada: Box 7820 STN Main,  
London, Ontario N5Y 5W1



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Contact Jennifer Jimolka, Belvoir Media, 203/857-3144

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