

Minnesota H.F. 2741

Submission of Testimony by the National Marine Manufacturers Association

On behalf of the National Marine Manufacturers Association (NMMA), I am writing to express the association's strong opposition to HF 2741, a bill that would increase the content of ethanol in fuel to twenty percent by volume by 2018 and limit general biofuel development. Rather than extending the ethanol content percentage mandate, Minnesota should reevaluate the risks and costs associated with high ethanol blends. At the very least, the Minnesota legislature should consider alternative biofuels as a renewable fuel source, particularly based on the Department of Energy's recent funding for biobutanol testing.

By way of background, NMMA is the nation's largest recreational marine industry association, representing nearly 1,700 boat, engine, and marine accessory manufacturers. NMMA members collectively produce more than 80 percent of all recreational marine products made in the United States. Recreational boating is a popular pastime in Minnesota, with 814,000 registered boats, ranking it as the 2nd most popular boating state. The recreational boating industry is an important contributor to the Minnesota economy, hosting the annual Minneapolis Boat Show and adding substantially to the \$39 billion in total national retail expenditures on recreational marine products and services.

NMMA opposes HF 2741 because it:

- Encourages the sale of E20 fuel in Minnesota by 2018 and provides no safeguards to prevent consumers from using high ethanol content fuel, where such use could result in serious human safety, environmental, and technological concerns.
- Establishes a state policy promoting only ethanol based fuel, while failing to acknowledge the potential benefits of broader biofuel development.

While the Environmental Protection Agency (EPA) has approved the use of E15 only in 2001 and newer motor vehicles, it has not been approved for use in legacy vehicles (about 50% of the vehicles on the road today) or in heavy-duty vehicles, motorcycles, marine engines, off-road vehicles, lawnmowers, snowmobiles, and outdoor power equipment. HF 2741 fails to account for this federally-mandated restriction, by using language that promotes high ethanol content fuel beyond the current partial waiver set by the EPA.

High ethanol content fuel presents serious and well-documented human safety, environmental, and technological concerns. The Department of Energy's (DOE) Office of Energy Efficiency & Renewable Energy released results of two studies, in the fall of 2011, on the effects of using E15 fuel in marine engines. The report shows significant problems with outboard, stern drive, and inboard engines, including severe damage to engine components and an increase in exhaust emissions. The tests revealed performance issues like stalling, corrosion leading to oil or fuel leaks, increased emissions and damaged valves, rubber fuel line and gaskets. This study reinforces NMMA's concerns that E15, and high ethanol content blends, is not a suitable fuel for marine engines. NMMA urges this committee to review the DOE study and witness the graphic images of marine engine damage resulting from E15 use.

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[Study found at: <http://www.nrel.gov/docs/fy12osti/52909.pdf>.]

HF 2741 makes no effort to prevent consumers from misusing E15 or higher ethanol content fuel. Misfueling – putting fuel in a gasoline engine which is not recommended by the manufacturer or allowed by EPA regulations – can cause poor performance and engine failure. Meaningful consumer information is necessary to enable consumers to select the right fuel for specific engines. Though the EPA has issued a misfueling rule establishing E15 pump labeling, NMMA believes the inconspicuous label will do little to educate consumers and protect against misfueling.

The overwhelming majority of recreational boats are trailerable and refueled at regular automotive gas stations. Boaters, and nearly all consumers, make fuel choices based on price, and most boaters know that manufacturers advise that they should run only regular grade gasoline in their engines. Should a new fuel, such as E15 or E20, be promoted and sold at gas stations as a general purpose fuel, no amount of labeling and virtually no economically viable safeguard would prevent the misfueling of recreational boats. For many consumers, use of blends higher than E10, may void manufacturer warranties, leaving consumers financially accountable for fixing the failures normally covered by warranties.

The following points specifically address our additional high ethanol content concerns:

1. **Marine Engines/Equipment Are Not Designed, Calibrated, EPA Certified or Warranted to run E15.** There is an enormous and diverse array of nearly 17 million legacy marine products currently operating in the United States—and those boats, engines, and fuel systems currently being manufactured—none of which has been designed, calibrated, or certified to be compatible with any gasoline fuel containing more than 10 percent ethanol by volume. Owner’s manuals and warranty documents specifically advise consumers not to use more than E10.

2. **E15 Will Increase Air Emissions from Marine Engines.** All available evidence indicates that the introduction and use of E15 or any ethanol-blended gasoline above E10 will result in an increase in NOx (a smog-forming pollutant) emissions due to leaner operation, higher combustion temperatures, gumming and corrosion of fuel systems, and degradation to air emission control devices. All recreational marine engines and heavily regulated by EPA, and these engines are certified as compliant with air emissions regulations only up to E10.

3. **E15 Will Cause Substantial Harm to Existing Marine Equipment.** There is a significant amount of technical and anecdotal information that concludes that the introduction of E10 into the gasoline supply has caused significant damage and failure to boats. Although boat and engine manufacturers have adjusted and now design equipment to run on E10, the introduction of E15 will result in: (1) Damage to rubber parts; (2) water contamination in the fuel system due to ethanol’s hygroscopic properties; (3) increased water absorption and phase-separation of gasoline and water while in tank; (4) corrosion of fuel system components and fuel tanks; (5) higher exhaust gas temperature due to enleanment; (6)

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performance issues, such as drivability (i.e. starting, stalling, fuel vapor lock); (7) damage to valves, push rods, rubber fuel lines and gaskets.

4. **E15 Poses Safety Risks for Boaters, Anglers.** Boats and their engines must be reliable and are designed to perform very specifically in relation to their power source. The harsh marine environment and the potential jeopardy boaters could be in as a result of product failure is a serious safety issue. Any performance problem resulting from the use of an incompatible fuel such as E15, including the temporary failure of an engine due to vapor lock, while out in the open ocean is an independently sufficient reason to ensure any new fuel introduced into the marketplace is compatible with marine equipment.
5. **No Safeguards are in Place to Ensure Continued E10 Availability.** The EPA partial waiver specifically prohibits E15 for use in 2001 or older vehicles, small engines, and marine engine equipment. Should E15 become the standard marketplace fuel, no safeguards are in place to ensure consumers have widely available access to E10, the only fuel for which many cars, engines, and marine vessels can legally operate. Promotion of E15 without ensuring E10 availability will result in consumer misfueling and inadvertent vehicle, vessel, and engine damage.

Due to the recreational boating industry's concern that E15 and higher content ethanol fuel is not suitable for boat engines, NMMA and the American Boat and Yacht Council (ABYC) have conducted preliminary evaluations on isobutanol-gasoline blends, to explore alternative biofuels. The NMMA and ABYC isobutanol evaluations tested components, including older fiberglass tanks, and engines during on-the-water testing of inboard, outboard, jet pump and two-stroke outboard engines. The tests show isobutanol to produce no more emissions than pure, EPA-approved test gasoline, while producing 30 percent more energy than ethanol. The DOE has designated isobutanol a "drop-in biofuel," meaning it can be used to displace petroleum under the Energy Independence and Security Act of 2007, and increasing its use could help reduce greenhouse-gas emissions.

HF 2741 is unnecessarily restrictive by only promoting ethanol based biofuel. With the promising results of isobutanol as a drop in fuel, and the serious concerns marine engines face with E15 use, Minnesota should develop a state policy supporting all renewable biofuel development.

Given these concerns and the DOE testing showing significant harm to marine engines, we strongly urge this committee to delay an extension of the state's E20 mandate and examine a state policy supporting all biofuel development, not just ethanol based.

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Please do not hesitate to contact me with any questions or concerns regarding this position at 202-737-9763 or nvasilaros@nmma.org. Thank you for your consideration of our views.

Sincerely,

T. Nicole Vasilaros, Esq.
Manager, State Government Relations and Legislative Counsel

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