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U.S. Environmental Protection Agency
EPA Docket Center
1200 Pennsylvania Ave., NW
Washington, DC 20460

RE: EPA-HQ-OAR-2018-0167
Comments Submitted Electronically

Acting Administrator Wheeler:

The National Marine Manufacturers Association (NMMA) is pleased to provide the U.S. Environmental Protection Agency (EPA) with the following comments regarding the 2019 Standards for the Renewable Fuel Standard Program EPA-HQ-OAR-2018-0167.

NMMA is the leading recreational marine industry trade association in North America, representing 1,400 boat, engine, and accessory manufacturers. NMMA members collectively produce more than 80 percent of the recreational marine products sold in the United States. Recreational boating is a significant driver of the country's economy, employing 650,000 people across more than 34,000 boating businesses, with \$39 billion in annual sales.

142 million recreational boaters take to the water annually in the U.S., consuming over 2.3 billion gallons of gasoline, which accounts for 25% of non-highway use. The proposed RVO levels for 2019 are deeply concerning to the recreational boating industry, due to the negative impact on marine engines, vessels, and consumers. Maintaining conventional ethanol volumes at 15 billion gallons, as the rule for 2019 proposes, will continue to flood the market with higher blends of ethanol without addressing looming issues, including: the guaranteed availability of E10, consumer demand for E0, the need for robust education on E15 usage and impacts, and breaking down regulatory roadblocks to alternatives like bio-isobutanol.

NMMA and the entire recreational boating industry strongly oppose EPA's 2019 RVOs proposal. Finalizing this rule, as proposed, would deny consumers choice at the pump, while endangering their safety on the water. NMMA calls on the EPA to use its waiver use authority to adjust the 2019 RVOs to better serve all stakeholders, reflect consumer demand, and mitigate against misfueling.

Demand for E10 and E0

Marine engines are designed, calibrated, and certified by EPA to operate on blends of gasoline up to 10 percent ethanol by volume; while federally prohibited from operating on E15. NMMA members through the U.S. Department of Energy's Renewable Energy Laboratory have extensively studied the effects of E15 on marine engines. The results unequivocally show safety problems caused by significant engine damage, poor engine performance and difficulty starting.

The 2019 RVO proposal does nothing to guarantee the continued availability of E10, while billions of gallons of E15 would continue to enter the marketplace. Ninety-five percent of boaters fuel their

boats at traditional gas stations. While NMMA does not support higher levels of ethanol in the marketplace, we ask this Administration, at the very least, to mandate that when E15 is sold, E10 must also be available at retail gas stations. This would ensure access to appropriate, and federally mandated, fuel blends for boats and other off-road equipment.

Recreational boats are designed and built to last for decades. While newer engines are certified to operate on E10, a legacy fleet of over 16 million engines currently remain in operation. The fuel system and engine components are often jeopardized by the corrosive effects of ethanol. According to BoatU.S., 90 percent of boaters prefer E0 over other alternatives¹. A recent survey by the publication *Boating Industry*, also indicated that 92 percent of respondents have seen damage to boat engines caused by higher blends of ethanol².

Emissions and durability testing have compared E15 and E0, and examined exhaust emissions, exhaust gas temperature, torque, power, fuel flow and engine performance. Specifically, the testing showed degraded emissions performance outside of engine certification limits as well as increased fuel consumption³. In separate testing on engine durability, each tested engine showed deterioration, including two of the three outboard engines with damages severe enough to prevent them from completing the test cycle⁴.

And while the EPA concurred with these findings, as evident by its prohibition against the use of E15 (and higher blends) in marine engines, the 2019 RVO proposal does nothing to truly address the marine engine market. In fact, the proposal fails to ensure that the industry's products have access to the fuel supply it needs and demands, while increasing the probability for misfueling with non-approved fuels.

We again call on this Administration to take into account market demand and consumer preference for E0 when finalizing overall volumes.

Additionally, EPA's E0 analysis continues to focus strictly on the marine engine sector, failing to take into account the millions of other engines prohibited to use mid and high level blends of ethanol. From motorcycles and all-terrain vehicles, to lawnmowers and generators, to classic cars and snowmobiles, there is a significant market of engines that cannot use E15. Much like the consumer demand among boat owners for ethanol free options, the same is held true for these other groups as well. In fact, 95% of boats are refueled at traditional retail gas stations on land, not at marinas. It's vital that EPA consider this statistic when formulating fuel policy. EPA should amend the proposal to more accurately reflect market conditions of all non-road engines and products prohibited from use of E15 when setting the 2019 RVOs.

Failure to adjust the E0 supply will interfere with market demand and deny consumer choice at the pump.

¹ <http://www.boatus.com/pressroom/release.asp?id=1140#.WZ7dTyiGM2w>

² <http://boatingindustry.com/features/2017/07/12/ethanol-still-a-significant-challenge-survey-says/>

³ <https://www.nmma.org/assets/cabinets/Cabinet515/Volvo%20Penta%20engines%20and%20E15%20NREL%20Report.pdf>

⁴ <https://www.nmma.org/assets/cabinets/Cabinet515/Mercury%20Engines%20and%20E15%20NREL%20Report.pdf>

Misfueling Mitigation Plan (MMP) concerns

Beginning in 2011, EPA instructed stakeholders to “develop a broad public education and outreach campaign that provides both consumers and retailers with the information they need to avoid misfueling.” NMMA heeded this request, working with other stakeholder groups to develop and promote educational outreach efforts. Notably the “Look Before You Pump” campaign, conducted in partnership with the Outdoor Power Equipment Institute, and through distribution of “No E15” labels to recreational boat and engine manufacturers. NMMA has also educated its member companies and worked with industry partners to raise consumer awareness. We have partnered with safety/certification organizations, state boating associations and national groups like BoatU.S. and the American Sportfishing Association. However, industry efforts are limited to the point of sale and new purchases, so it is incumbent on EPA to educate all consumers, including those who are existing owners. Industry led efforts have limitations and are challenging, and therefore EPA’s assistance is required.

Even though the recreational boating community is doing our part, EPA has failed to adequately uphold the law’s mandates and we continue to have concerns over EPA’s Misfueling Mitigation Plan (MMP), which fails to adequately educate boaters and off-road product users regarding the effects and proper usage of E15. A recent 2018 Harris Poll found that only 38 percent of Americans believe that higher blends of ethanol are safe for any type of gasoline powered engine⁵. This is up from 31 percent compared to 2017. Even more troubling, 65 percent of Americans assume that any gas that is sold at a gas station must be safe for all engines. This is also up from 60 percent from prior polling. The current MMP is limited to a pump label, which in itself is severely inadequate and fails to provide robust outreach for the safety of our consumers and consumer products.

EPA acknowledged this concern in the November 2015 final rulemaking, and stated the agency’s willingness to work with “industry, other private stakeholders, and our government partners.” However, to date, EPA has not reached out to NMMA on such a project, nor has it reached out to any other stakeholder group with similar concerns. Furthermore, the current proposal fails to discuss any such concern. The word “misfueling” does not appear in the entire proposed rule and there is no substantive mention of potential engine damage or the MMP.

We would like to remind the EPA that an enhanced, government-led public awareness campaign is not unprecedented. In the 1970s, the EPA transitioned the country to unleaded fuels through a combination of educational initiatives that greatly went beyond a pump label. The recreational boating industry believes that the further proliferation of E15 is akin to the introduction of unleaded gasoline and thus merits a greater government-led public awareness effort.

Overall, the MMP is lacking and ineffective. Fuel pump labeling should not be the sole consumer outreach method. Research has proven that labels are not an effective method to warn the public. According to the Association for Consumer Research, warning labels do not influence consumers’ perceptions of hazards and risks, and the research went on to find that this lack of influence is exasperated when such warning labels are applied to commonly-used products, such as a gas pump. This is reaffirmed by recent research that showed while 92 percent of consumers notice the price at a pump, only 41 percent notice warning labels and just 21 percent notice ethanol content. In previous

⁵ <http://opei.org/new-poll-finds-consumer-confusion-mis-fueling-rising-around-blended-ethanol-fuels-and-outdoor-power-equipment/>

research, 50 percent noticed warning labels and 24 percent noticed ethanol content⁶. The evidence is clear that the problem of lack of awareness is getting worse. At a minimum, fuel pump labeling should be held in conjunction with broader outreach campaigns, as was the original intent of the EPA.

Congress has begun to take note of the need for better public information and misfueling measures at the pump. Bi-partisan legislation has been recently introduced that would require EPA to revise the labeling requirements for fuel pumps that dispense E15: H.R. 5855, the Consumer Protection & Fuel Transparency Act.

Under H.R. 5855, EPA would be required to solicit input and requirements for these revised labels from industries that manufacture vehicles, engines, and equipment prohibited from using E15, including boats, lawnmowers, chainsaws, motorcycles, and snowmobiles. It would also require the word “WARNING” on the labels, which would be no smaller than 5x7 inches. Additionally, the legislation would require pictograms on the labels that depict specific products that are prohibited from using E15 including a boat, lawnmower, chainsaw, motorcycle, and snowmobile. The bill would require the label to include other indicators developed by the Administrator in consultation with the American National Standards Institute (ANSI). The legislation would also require a new separate warning label for blender pumps so that consumers are warned about the possibility of residual fuel left in the dispensing hose.

H.R. 5855 would also require a public information campaign, in consultation with affected industries, that provides adequate awareness of the risks associated with E15 and the vehicles, engines, and equipment prohibited from using E15. Additionally, EPA would be required to develop keypad confirmation technology that would warn consumers at the point of sale prior to E15 dispensing.

EPA has the ability to carry out the criteria that is laid out in H.R. 5855 without Congressional action. We would encourage EPA to lead and act on the important misfueling mitigation items that are set forth in this legislation and we seek to work collaboratively with EPA to accomplish these objectives in combination with the finalization of the 2019 RVOs.

EPA’s failure to develop a true MMP will lead to unintended and potentially dangerous, consequences. As discussed previously, E15 and other higher blends of ethanol have the potential to cause significant engine damage; such usage will void warranties, and could result in expensive repair bills, and/or distress on the water.

NMMA calls on the EPA to adhere to their pledge to work with all parties to develop a better and more effective MMP, and to take the components of H.R. 5855 and implement them as part of a new misfueling mitigation strategy.

Bio-isobutanol

Increasing the amount of ethanol in the gasoline supply through higher RVOs is not the only pathway to achieve the objectives of the Renewable Fuel Standard. The recreational boating industry has

⁶ <http://opei.org/new-opei-survey-shows-education-sorely-lacking-on-higher-ethanol-fuel-blends/> and <http://opei.org/new-poll-finds-consumer-confusion-mis-fueling-rising-around-blended-ethanol-fuels-and-outdoor-power-equipment/>

been a leader in exploring next-generation biofuels and while our main concern with the RVO proposal focuses on the potential growth of E15 and problems associated with it, we would be remiss if we didn't take the opportunity to discuss bio-isobutanol, a viable alternative that is already available. Bio-isobutanol can be produced from corn or other biomass, contains 30 percent more energy than ethanol, and behaves more similarly to conventional gasoline compared to ethanol.

Over the last eight years, the marine industry has conducted extensive tests and published peer-reviewed technical papers on bio-isobutanol. NMMA and the entire marine industry has approved bio-isobutanol for use in marine engines at up to 16.1 volume percent in gasoline. Bio-isobutanol produced no more emissions than E10 or pure EPA-approved certification test fuel and did not result in any boat fuel system, engine, or emissions failures throughout the years-long evaluation period. The Department of Energy has designated bio-isobutanol as a “drop-in fuel”, 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. In June of 2015, engine manufacturers from across the recreational boating industry announced their endorsement of bio-isobutanol as a suitable and safe alternative biofuel⁷. Furthermore, the marine industry approval for bio-isobutanol fuel blends has helped lead to multiple bio-isobutanol fueling stations across the U.S., providing an immediately accessible biofuel choice for consumers.

We applaud EPA's decision in June to approve bio-isobutanol at 16.1 volume percent for on-highway use. This will help pave the way for further availability of this great ethanol fuel alternative. However, there are still roadblocks to bio-isobutanol availability that EPA needs to address, specifically:

1. Lower end Reid Vapor Pressure (RVP):

Reformulated Gasoline (RFG) requirements based on the complex model seek a minimum RVP of 6.4 psig. Neat bio-isobutanol has an RVP of approximately 5 psig, so when blended with standard Reformulated Blendstock for Oxygenate Blending (RBOB) or Premium Blendstock for Oxygenate Blending (PBOB), the blended RVP could be approximately 6 psig. **We ask for an adjustment of the bottom end of the RVP limit to allow current RBOBs for ethanol to be used for bio-isobutanol blending.** Please keep in mind there is no EPA bottom end RVP limit for non-RFG fuel.

2. Process Transfer Documents:

Process Transfer Documents (PTDs) from refiners who produce RBOBs are required to state that their RBOB is compatible with bio-isobutanol. Refiners automatically include a statement that their product is compatible with up to 10% ethanol by volume (but there is no mention of bio-isobutanol).

In order to use the RBOB from the comingled tank at a terminal to splash-blend 12.5% (or 16.1%) bio-isobutanol, each and every refiner that owns an RBOB position at that comingled RBOB tank needs to make a statement that their RBOB

⁷ *Recreational Boating Industry Turning to Biobutanol as Alternative Biofuel*
<http://www.nmma.org/press/article/19947>

is compatible with Clean Air Act requirements by a statement in their PTD. This is not a practical requirement given the small volumes of bio-isobutanol currently available.

In order to expand the availability of bio-isobutanol for on-highway use, we seek EPA approval to accept the refiner's ethanol statement on their PTD for their RBOB to include bio-isobutanol at equal or higher percentages as stated for ethanol. We believe that this is justifiable given that the main RFG testing criteria is for benzene, sulfur, RVP, and distillation curve, and bio-isobutanol blended at equal or higher percentages will inherently improve each of these criteria.

The government supported ethanol production through years of incentives such as low interest loans, agricultural incentives, tax credits and subsidies for every gallon of ethanol produced. The aforementioned policy changes for bio-isobutanol will not require government funding, but will immediately support the growth of a proven and accepted biofuel alternative to ethanol. Increasing the amount of ethanol in the gasoline supply through higher RVOs is not the only pathway to achieve the objectives of the Renewable Fuel Standard. EPA should recognize bio-isobutanol, the science-based research, and subsequent endorsement by recreational marine engine manufacturers proving its viability as a next-generation biofuel.

Conclusion

In summary, NMMA opposes the EPA's 2019 RVO proposal. This proposed rule endangers millions of boat owners by denying them choice at the pump, and imposes an excess supply of mid and high level blends of ethanol on the market without sufficient education and guaranteed access to safe and approved fuel blends. If E15 or higher blends become the common marketplace fuel, misfueling will occur and engines will be damaged, and the American consumer will be stuck paying the bill for an outdated government policy. In absence of a more workable rule, one that takes into consideration these real concerns, NMMA strongly urges the EPA to utilize its waiver authority and amend the proposal to reflect actual market conditions.

Thank you for the opportunity to provide comments. If you have any questions about our priorities or would like more information, please do not hesitate to contact me at nvasilaros@nmma.org, 202-737-9763.

Sincerely,



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