



April 3, 2015

The Honorable Caddy McKeown, Chair
House Committee on Transportation and Economic Development
State Capitol
800 Court Street
Salem, Oregon 97301

RE: HB 3193

Dear Chair McKeown and Members of the Committee:

Air quality and operations that affect air quality are important topics to the community and to the Port of Portland.

There is general agreement that lead must be eliminated from avgas. While outdoor concentrations of lead have greatly declined over the past few decades, in large part due to regulations removing lead from fuels used in cars and trucks, some aircraft still use leaded aviation gasoline (referred to as “avgas”). These aircraft are typically used for activities including business aviation and personal travel, instructional flying, aerial surveying, agriculture spraying, fighting and preventing fires, law enforcement, search and rescue and medical transport. Lead is not contained in jet fuel, which is used by commercial aircraft.

An unleaded replacement fuel that meets the needs of the entire general aviation fleet does not currently exist. Though a few existing fuel formulas may meet the minimum octane requirement, no existing fuel can match every essential performance characteristic of the leaded fuel currently certified by the Federal Aviation Administration (FAA) for use in piston-engine powered aircraft and helicopters.

Unleaded, ethanol-free automobile motor gasoline (referred to as “mogas”) can be used in some piston-engine powered aircraft. The piston-engine powered aircraft that can typically use this automobile fuel are the normally-aspirated (non-turbocharged), low-compression engines originally designed for 80-octane aviation fuel.

While the US Environmental Protection Agency (EPA) has jurisdiction over aircraft emission standards, the FAA regulates aviation fuels indirectly through its design approval and airworthiness



certification processes for aircraft engines. Any change in fuel type for either an aircraft type or simply an individual aircraft requires FAA approval and recertification.

Since, 2013, the FAA, the petroleum industry and aircraft owners have taken significant steps to develop an unleaded replacement fuel that will be usable by most general aviation aircraft by 2018. Currently, a number of candidate fuels have been submitted for evaluation and certification, including a fuel developed by Shell Oil Company

In addition to the efforts by the FAA to develop an unleaded replacement fuel, the EPA undertook a 1-year lead monitoring study of 15 airports that were deemed to have “the highest potential to have ambient lead concentrations approaching or exceeding the federal ambient standards” in order to assess the potential health impacts from general aviation lead emissions. The preliminary findings of the study found that only two of the 15 airports exceeded the health-based federal ambient air quality standard. As a result of the concentrations measured, four airports will continue monitoring for lead emissions from aircraft.

While the FAA’s goal for an unleaded avgas by 2018 will ultimately allow for the replacement of leaded aviation fuel, the Port commissioned a study to assess the feasibility and business case of providing “mogas” at Hillsboro Airport (HIO) until a replacement fuel for “avgas” is deployed and available.

The study showed that:

- Between 8.5 percent and 29.5 percent of aircraft affiliated with HIO could currently use “mogas” if it were offered.
- “Mogas” is already significantly less expensive than leaded fuel (“mogas” is currently \$2.75 to \$3.15 per gallon versus leaded avgas at \$4.95 to \$5.75 per gallon) that price difference is an advantageous factor to encourage fuel switching.
- Eighty percent of those pilots surveyed whose planes can use “mogas” would use it if the unleaded fuel price were approximately \$1.40 less expensive than leaded fuel.
- Of the surveyed pilots who expressed reservations in using “mogas,” many cited safety concerns.

As a result of the study, the Port is working with airport fuel providers to assess whether an unleaded “mogas” fuel program can be facilitated at HIO while we await the conclusion of FAA research into an unleaded replacement fuel for all piston-engine aircraft. The Port believes that the current market price difference of approximately \$2.00 per gallon of fuel will be sufficient to encourage owners of aircraft that can use unleaded “mogas” to make the switch now, before the new unleaded replacement fuel is available in 2018.



To help accelerate the processes already underway, the Port believes that it would be more beneficial to assist airports and their fuel providers in finding ways to bring unleaded “mogas” fuel to market in Oregon before the 2018 unleaded avgas replacement fuel debut. Currently, only two airports in Oregon offer unleaded “mogas” (Independence and Grants Pass). It is the Port’s hope that Hillsboro Airport will be the third airport to offer this product.

Impediments to bringing the unleaded “mogas” product online at airports have been the high cost of an additional storage tank for a third grade of fuel, solving supply and distribution issues for fuel that has not been blended with ethanol, insurance and risk issues for sales of a product that was originally developed for use in automobiles (not aircraft) and education of the pilot community to the environmental benefits of switching to the unleaded “mogas” fuel.

In the Port’s opinion, solving these and other impediments to “mogas” distribution and sales in Oregon would be more beneficial to the issue of lead emissions from aircraft than a tax on the fuel that is the only alternative for some aircraft owners and operators until a safe and effective replacement arrives in 2018. We would be pleased to work with members of the legislature and others in these efforts.

Sincerely,

Steve Nagy
General Aviation Operations Manager
Port of Portland