LONG BEACH AIRPORT
Building a Better Way to Fly

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AIRPORT ADVISORY COMMISSION
City of Long Beach
California

Staff Report: Air Quality Impacts of Airplanes in Long Beach

General aviation 100 low lead gasoline known as "avgas," remains the only transportation fuel in the United States that contains lead. Environmental regulations have led to the global replacement of leaded transportation fuels. General aviation jet turbine aircraft and commercial aircraft use Jet-A fuel. Jet-A fuel has no lead; however, general aviation piston powered aircraft use 100LL low lead fuel. The lead additive in avgas protects piston-engine aircraft against damaging detonation or uncontrolled combustion. Thus, operating an aircraft without adequate fuel performance can result in engine failure. Over 160,000 piston-engine aircraft rely on this fuel for safe operation.

In California, there are 219 general aviation airports. These airports are home to 99,594 pilots and 37,128 general aviation aircraft that rely upon aviation gasoline. General aviation is an important economic engine that accounts for 1.7 million jobs in our state. Consequently, members of the general aviation community have expressed concerns with the inevitable consequences of a disruption of the supply of low lead avgas. This would have a significant economic consequence that would impact a large number of people.

Even though the use of avgas has lessened significantly over the past several years, proposed environmental regulations along with production and distribution issues threaten the availability of leaded avgas. At Long Beach Airport, avgas sales have declined about 49 percent since 2002, which reflects an overall decline in general aviation operations and a change in fleet mix.

Long Beach airport cannot prohibit the use of this fuel, as it is a matter of national interest under the control of the federal government; however, the Long Beach Airport supports federal legislation, regulations and/or initiatives that promote a financially prudent transition towards safe "green" aircraft fuel while balancing the safety and financial concerns of the general aviation community. The airport encourages the public to support initiatives outside the City's control currently being undertaken by Federal Aviation Administration (FAA).

Two years ago, the FAA was approached by the General Aviation Coalition (GAC) to take a leadership role in the industry efforts to develop and deploy an unleaded avgas.

The GAC is an industry group that represents key stakeholders in aviation such as aviation consumers, manufacturers, fuel producers and distributors, such as the General Aviation Manufacturers Association (GAMA), the Aircraft Owners and Pilots Association (AOPA), the Experimental Aircraft Association (EAA), the American Petroleum Institute (API), and the National Air Transportation Association (NATA).

In response to the GAC's request, the FAA issued a charter in January 2011 that established the Aviation Rulemaking Committee (ARC) for Unleaded Avgas Transition.

The Unleaded Avgas Transition Aviation Rulemaking Committee (UAT-ARC) met for the second time in Washington, D.C., in May 2011. As with the first meeting on March 2011, 20 members of the committee from FAA, Environmental Protection Agency (EPA), equipment manufacturers, fuel producers, fuel distributors, and owners/operators attended. During the meeting, there was strong consensus that an extension of the charter end date was needed beyond July 31, 2011. In recognition of the importance of this effort, the FAA promptly took action and extended the term of the charter by six months to January 31, 2012. The FAA will also periodically report on the progress of this committee, and staff will provide updates as necessary.

Currently, no safe alternative exists to replace leaded aviation gas for the entire piston-powered aircraft fleet. Fortunately, significant federal and private resources are being expended to facilitate a transition away from the necessary use of lead in aviation gasoline. The FAA, with exclusive oversight for aviation safety, and the EPA, which oversees environmental regulation of aircraft emissions, are working with the general aviation industry on the safe transition to an unleaded aviation gasoline for piston-powered aircraft. This collaboration is being accomplished through the FAA's Unleaded Avgas Transition Aviation Rulemaking Committee, which is tasked to address a host of factors including safety certification, fuel production and distribution, and environmental and economic concerns.

However, recently the FAA released a special airworthiness bulletin, which advised aircraft operators that a new blend of very low lead avgas (100VLL) was approved for use on most general aviation piston powered aircraft, which contains about 20 percent less lead content. 100VLL is designed as an interim replacement fuel until a completely unleaded 100LL replacement is available.

Several months ago, there were reports about air quality studies at airports in Southern California and the use of 100LL (low lead) general aviation fuel used by most piston-powered aircraft. These studies are mathematical based projections which do not use actual monitoring.

However, as part of the 2005 Environmental Impact Report for Long Beach Airport, a Human Health Risk Assessment was completed in June of 2007. The HHRA determined that soil samples around the airport "are unlikely to represent a significant human health risk." This finding was supplemented by a 2006 on-airport soil study that indicated lead content was below "California Total Threshold Limit Concentrations and Soluble Threshold Limit Concentrations," and below "California Human Health Screening Levels for Residential Land Use." There are no studies which directly link 100LL to negative health effects near airports

Furthermore, according to a study at the Van Nuys airport, the South Coast Air Quality Management District (SCAQMD) found that all air lead emissions were below national air

quality standards. Similarly, the SCAQMD monitored lead at the Santa Monica Airport in 2006-2007, and found that even the highest levels of emissions near the airport were within EPA air quality standards.

Going forward, the general aviation community is asking Congress to authorize $2 million annually over four years in the FAA's research and development budget for Alternative Fuels for General Aviation. This research program will help develop FAA performance and certification methodologies necessary for qualification and certification of alternative unleaded aviation fuels.

Additionally, Congress has expressed a significant interest in prioritizing federal activities by the FAA and NASA qualifying unleaded aviation fuel and safe transition to this fuel for the fleet of piston engine aircraft. The House FAA Reauthorization and Reform Act of 2011 (H.R. 658) includes a provision directing the FAA to develop a plan, within 120-days of enactment, containing the specific research and development objectives for a transition to an unleaded aviation gas, including consideration of aviation safety, technical feasibility, and other relevant factors, and the anticipated timetable for achieving the objectives.

Long Beach Airport will continue to work with the Airport Advisory Commission's Technical subcommittee as necessary, to foster the City's efforts in support of federal legislation, regulations and/or initiatives that promote a financially prudent transition towards safe "green" aircraft fuel while balancing the safety and financial concerns of the general aviation community. Staff will monitor progress of federal initiatives and report back to the Environmental Committee as requested. The City can also collaborate with the Southern California Association of Governments (SCAG)/Aviation Technical Advisory Committee to advocate for the implementation of greener fuel initiatives at the federal level.

Respectfully Submitted,

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