

National Test Facility for Aerospace Fuels Propulsion

This project will continue the development of a multi-faceted National Testing Facility with dedicated administration to support development and testing of alternative energy sources for aerospace equipment. The National Test Facility for Aerospace Fuels Propulsion, located at Purdue University, will provide single point access to testing of aerospace hardware, interfacing of engineering expertise and development, requirements data for fuel production and development, and data collection for economic assessments of fuel sources and green implications. The facility's mission is aligned with the Civil Aviation Alternative Fuel Initiative, which developed a roadmap for the integration of new fuel technologies into the aerospace industry. The mission of the facility also compliments the Department of Defense's commitment to transitioning all aircraft for flight on synthetic fuel blends. The project received support from the Air Force's Aerospace Propulsion account for fiscal year 2009 in the amount of \$1.36 million.

A gap remains in our nation's ability to fully test and develop new fuel and associated powerplant hardware. Much work remains to be done in determining the effects of green fuels on critical engine and tank components and to globally characterize the impact of these fuels on engine performance, reliability, and maintenance issues. Exhaust emissions are another critical parameter that presently have not been studied for new fuels. The National Test Facility will bring together novel research elements to provide first-time capabilities for comprehensive, long-term testing of hardware, engine performance, and exhaust emissions.