



DEPARTMENT OF THE NAVY

Defense Production Act Update



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Pacific Ocean USS Princeton (CG 59) pulls oiler USNS Henry J. Kaiser (T AO 187)



Royal Australian Navy S 70B Sea Hawk helicopter

2012 GGF DEMONSTRATION



SECNAV and CNO aboard USS Chafee



USS Princeton (CG 59) ,USS Nimitz (CVN 68)



Great Green Fleet – RIMPAC 2012

- 1,800 hours of shipboard gas turbine operation
- 240 flight hours
- Four ship-to-ship RAS evolutions
- One air-to-air refueling
- No operational differences noted:
 - Logistics Infrastructure
 - Ship power plants and aircraft
- Filters operated more efficiently due to fewer impurities in the fuel
- What's next – get to 2016



Richard Gorman
Naval Air Station
5 Oct 12

Green Great Green Fleet RIMPAC 2012 Method Test and Evaluation

Summary: The Fleet of The Pacific (RIMPAC) is an annual operational threat operational exercise aimed at the location for the US Navy's alternative fuel in an operational test and evaluation. Approximately 900,000 gallons of fuel (700,000 gallons S-76 and 200,000 gallons S-77), 10% of which was produced from sea operations, was successfully tested during the exercise. A 10% reduced 10% petroleum based S-76 and S-77 was evaluated to see how the exercise. A 10% reduced 10% petroleum based S-76 and S-77 was evaluated to see how the exercise facility (JLC Stage Island), was Military Sealift Command (MSC) (USNS Navy 1, Essex (T-40-107), San Antonio (T-ESB-107), USS Chafee (DDG-90), USS Chung Son (DDG-41), USS Blueback (SSN-591), USS Yorktown (CG-40), USS Zumwalt (DDG-105) and USS Zumwalt (DDG-105), USS Blueback (SSN-591), USS Yorktown (CG-40), USS Zumwalt (DDG-105) and USS Zumwalt (DDG-105). The successfully completed testing included 100 hours of shipboard gas turbine operation, 140 flight hours, four ship-to-ship refueling at sea (SAS) evolutions, six aircraft to aircraft aerial refueling, as well as evaluation of the fuel Navy or sea fuel logistics infrastructure. The operational differences, to determine how needed operating procedures (other than the appropriate to present handling and the larger fuel supply) that increasing the percentage of reduced fuel in the fleet, or second level or further below and no changes in aircraft or ship performance were identified. The assessment against the three fuel types, ship and aircraft performance was that the 10% reduced S-76 and S-77 was operationally similar to the previous level S-76 and S-77 fuel but had been used both prior to and after the fuel test. The RIMPAC 2012 Green Fleet test provided real world operational validation of the laboratory test and identified potential new needs that have been previously conducted as part of the Navy's alternative fuel qualification program.

Background: In support of the Navy's Energy Goals, testing has been in progress to qualify sea operations systems as a viable alternative to be used in the production of the Navy's at sea tactical aviation S-76 and aviation S-77 fuels. The manufacturing process requires clean sea operations sea operations and sea operations (SEEA). SEEA can be produced from multiple sources including oil well gases, algae, waste and waste oils. Qualification testing was conducted on a 10% SEEA & level 10% petroleum based fuel that met or exceeded S-76 (previous) at S-77 (ship) specifications requirements. In accordance with the Navy's alternative fuel qualification program, testing was successfully completed in the laboratory, on the sea stand, and in over a dozen ship and aircraft profiles.

Following successful completion of profile testing, the next phase of the qualification program was to test the fuel's performance in a sea-stand operational environment. This test will assess the readiness of fuel performance to sea operations using sea-stand tests but also allowed fuel performance to be evaluated across the entire at sea fuel logistics infrastructure. The 2012 RIMPAC exercise was chosen to conduct this testing. Three surface replenishment (USNS Blueback (SSN-591), USS Chafee (DDG-90) and USS Chung Son (DDG-41), a Military Sealift Command ship (USNS Navy 1, Essex (T-40-107), an aircraft carrier (USS Blueback (SSN-591).

DPA Title III Advanced Drop-in Biofuels Production Project

- Multiple, Commercial Scale Integrated Biorefineries
- Drop-in fully compatible MILSPEC fuels (F-76, JP-5,8)
- \$510M Agency Funding (total planned)
- No More Than a 50% Cost Share from Gov't
- Cost-competitive with conventional petroleum w/o subsidies
- Produced domestically; non-food feedstock





DPA Title III Advanced Drop-In Biofuels Production Project

- As of June 19th, 4 Phase 1 awards have been made
- Potential for 170 million gallons of drop-in compatible MILSPEC fuels (F-76, JP-5,8) to start production by 2016
- Weighted average price in 2013 dollars <<\$4/gal
- Project has \$100 million in FY12 funds from DOD, \$60 million in FY13 from USN that can't be reprogrammed
- USDA has contributed \$161 million in CCC funds
- Phase 2 awards set to begin July 2014
 - Construction and commissioning



DPA Title III Advanced Drop-In Biofuels Production Project

Company	Location	Feedstock	Conversion Pathway	Annual Capacity (M gpy)
Emerald Biofuels	Louisiana	Fats, Oils, and Greases	Hydroprocessed Esters and Fatty Acids (HEFA)	86.0
Natures BioReserve	South Sioux City, NE	Fats, Oils, and Greases	Hydroprocessed Esters and Fatty Acids (HEFA)	53.0
Fulcrum Brighton Biofuels	Western United States	Municipal Solid Waste	Gasification – Fischer Tröpsch (FT)	17.0
Red Rock Biofuels	Lakeview, OR	Woody Biomass	Gasification – Fischer Tröpsch (FT)	14.0