



F-35 Lightning II Program

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CONTINUED TESTING OF F-35 JSF SENSORS A SUCCESS AT NORTHERN EDGE 2011

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6/27/2011 - **JOINT BASE ELMENDORF-RICHARDSON, Alaska** -- Participating in Northern Edge for the second time, F-35 Joint Strike Fighter sensor capabilities were tested in Alaska's premier multi-operational environment from June 13-24, 2011. Hosted by Alaskan Command, NE is a biennial U.S. Pacific Command exercise that prepares joint forces to respond to crises throughout the Asia-Pacific region. This year provided an invaluable opportunity to observe the performance of the F-35 JSF systems in multiple robust electronic warfare scenarios.

The AN/APG-81 active electronically scanned array radar (AESA) and AN/AAQ-37 distributed aperture system (DAS) were mounted aboard Northrop Grumman's BAC 1-11 test aircraft. Making its debut, the AN/AAQ-37 DAS demonstrated spherical situational awareness and target tracking capabilities. The DAS is designed to simultaneously track multiple aircraft in every direction which has never been seen in an air combat environment.

A return participant, the AN/APG-81 AESA demonstrated robust electronic protection, electronic attack, passive maritime and experimental modes, and data-linked air and surface tracks to improve legacy fighter situational awareness. It also searched the entire 50,000 square-mile Gulf of Alaska operating area for surface vessels, and accurately detected and tracked them in minimal time.

Navy Cmdr. Erik Etz, Deputy Mission Systems Integrated Product Team Lead from the F-35 JSF Program Office, said the rigorous testing of both sensors during NE 2011 served as a significant risk-reduction step for the F-35 JSF program.

"By putting these systems in this operationally rigorous environment, we have demonstrated key war fighting capabilities well in advance of scheduled operational testing," Etz added.

Having the exercise in June had its seasonal weather challenges for system operators to adapt and overcome. Inclement and cloudy weather hampered in-flight visibility. The DAS was significant in providing clear and discernable horizons, and views of ground features and nearby aircraft. It also wasn't dark enough for testing night vision functions. A surrogate test visor was used for displaying DAS imagery to the operators.

"The implications of F-35 JSF sensor systems for air-land-sea battle are immense," said Peter Bartos, Northrop Grumman's Test Director. "The testing at Northern Edge 2011 provided the opportunity to confirm the maturity and operational utility of key capabilities, and to identify any areas that might need refinement before entering formal operational testing on the F-35 JSF airframe."

He said the idea is to take the guess work out of development and testing, and to minimize or avoid issues that have plagued other major development programs in the past.

NE11 gathered more than 6,000 active duty, National Guard and Reserve component Army, Navy, Marine Corps, Air Force, and Coast Guard military participants the opportunity to train together in Alaska's vast Joint Pacific Alaska Range Complex, including the Gulf of Alaska maritime training area.