



The Spirit of '76 Pod Newsletter

September 1994 Issue 1

A Westinghouse Norden Systems Publication

Introduction

Over the next few weeks, a long-sought goal of our IR&D program will finally be attained: a state-of-the-art Norden AN/APG-76 radar will fly in a wing pod on a U.S. Navy S-3 airplane. The first test flights will take place at the Patuxent River Naval Air Station in Maryland, followed shortly by radar trials and operational tests at Cecil Field Naval Air Station in Jacksonville, Florida.

Six months from now, a second pod containing a similar radar will fly under the wings of a U.S. Air Force F-16 flying from Eglin Air Force Base, also in Florida.

Both pod-mounted radars incorporate a long-range data link, enabling a ground command center to view the same displays as the airborne operators to facilitate real-time image exploitation, situational awareness, and target designation.

Other capabilities being developed under IR&D funding, which can be provided to the U.S. forces are:

- A wide-area surveillance capability,
- Dramatically improved image quality (i.e., better resolution),
- Precision targeting coordinates.

This newsletter is dedicated to informing you of the progress of these two efforts, and other associated Norden R&D efforts that further improve the performance of the AN/APG-76 radars flying for the U.S. Government.

Each issue will contain late-breaking news stories and radar images from the flight tests, as well as background information on the MMRS program, the two pod programs, and the enhanced capabilities being offered to the U.S. Government.

--Dr. Dan Held
Director of Advanced Airborne Radar Programs
Westinghouse Norden Systems

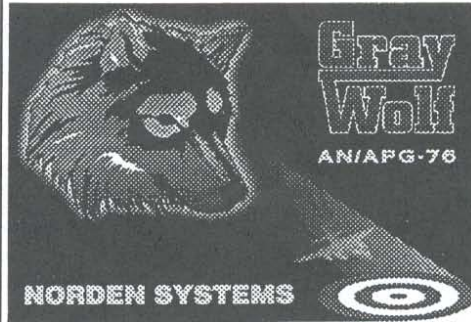


AN/APG-76 Multimode Radar System
Installed in Pod



AN/APG-76 Pod Flown on a U.S. Navy S-3

**Gray Wolf
Navy S-3 Pod**



In 1993 Commander Sea Control Wing Atlantic (CSCWL, Cecil Field, FL) accepted Norden's offer to conduct a proof-of-concept demonstration of the AN/APG-76 radar mounted in a cargo pod on the wing of an operational S-3 Viking aircraft.

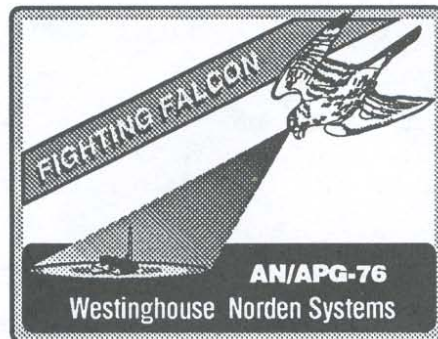
The objective of this demonstration, as stated by Capt. Phil Voss (CSCWL), is to "... demonstrate S-3B "first-on-scene" surveillance and targeting capability to help achieve "battle space dominance." It will simultaneously demonstrate a capability to

support Battle Group and Fleet Expeditionary Forces in the Littoral environment, (and) to complement and assist other overhead systems in support of the Land campaign..."

This project, and the installed aircraft system, are code-named "Gray Wolf." The system includes a Norden-modified S-3 cargo pod containing the production AN/APG-76 and F-4 radome. Norden, with the assistance of the Naval Air Warfare Center (NAWC, Patuxent River), has modified an S-3 Viking of squadron VS-24 to accept the pod and associated controls, displays, and data link for transmission of real-time radar imagery and tactical data.

All ground tests have been completed, and NAWC is conducting safety-of-flight tests before certifying the Gray Wolf for fleet use. Initial fleet use is scheduled for mid-September.

**Air Force
F-16 Pod**



Norden made a similar offer of a podded AN/APG-76 to the Air Force. A formal Project Order was signed by General Hinton (Air Combat Command) in March, 1994, to install the radar in a modified F-15 600-gallon fuel tank to be flown on a two-seat F-16D Fighting Falcon aircraft.

The primary objective of the Air Force program is to "... demonstrate sensor technologies that could assist in detecting, tracking, and identifying mobile missile launchers..."

The 600-gallon pod configuration is representative of the production version which will be interchangeable between Navy, Air Force, Marine, and Coast Guard aircraft to perform various tactical missions. Its design minimizes the need for aircraft wiring modifications and uses an advanced flat panel display and overlay touch panel for its compact man-machine interface, used in conjunction with rear-seat multi-function displays.

Norden has received two 600-gallon tanks and associated design information from the Air Force, and is designing the structural modifications necessary to house the radar and associated equipment. Aircraft modifications to the F-16 and integration of the pod will be performed by the 84th Test Squadron (Tyndall AFB, FL). The pod will be installed at Eglin AFB, Florida, and is scheduled to fly operationally next spring.

--Norman Thomas
Program Manager
Westinghouse Norden Systems