Viper Shield EW Suite Gets FMS Production Green Light for F-16 Block 70/72

By Richard Scott

Lockheed Martin Aeronautics (Fort Worth, TX) has received a not-to-exceed $520.4 million contract modification to fund production of the L3Harris Technologies AN-254(V)1 Viper Shield integrated electronic warfare (EW) suite for F-16 Block 70/72 Foreign Military Sales (FMS) customers.

Awarded by the Air Force Life Cycle Management Center (Wright-Patterson AFB, Ohio), the contract modification expands the current long-lead materials contract to encompass FMS production for Bahrain, Bulgaria, Morocco, Slovakia, and Taiwan. The total cumulative face value of the contract is $897.4 million.

Lockheed Martin in March 2021 contracted the L3Harris Space & Airborne Systems business to develop the AN/ALQ-254(V)1 Viper Shield EW suite to protect F-16 Block 70/72 aircraft configurations. Adopting an integral fit in its baseline version, the Viper Shield system has been custom designed to integrate with the Block 70/72 weapon system, including the aircraft's AN/APG-83 multi-mode radar.

Based on an upgradable COTS-based architecture, Viper Shield is characterized as a software-defined system combining a digital radar warning receiver (DRWR) with a DFRM-based self-protection jammer. Enhanced DRWR system performance provides improved probability of intercept against agile threats, while a new human machine interface provides the pilot with full situational awareness and easier interaction with the system. The Viper Shield system also implements a sophisticated RF compatibility scheme to seamlessly integrate with the APG-83

radar.

L3Harris in May this year successfully completed testing of the latest Viper Shield software release – Drop 4 – at the US Air Force's Integrated Defensive Avionics Laboratory (IDAL). According to the company, testing at IDAL demonstrated the ability of the DRWR system to identify and display threats of interest, sort through the background signal environment and provide accurate situational awareness to the pilot. Drop 4 software is now running in Lockheed Martin's own systems integration laboratory.

Earlier software drops had demonstrated interoperability with the AN/APG-83 radar, so proving that both systems can operate concurrently without disrupting or degrading the other. The Viper Shield interface with the F-16 Block 70/72 Mission Computer was also tested and validated.

The next major software drop – implementing full DRWR and electronic countermeasures capability – is planned for delivery in the fourth quarter of 2024. Viper Shield development is due to wrap up by the third quarter of 2025, with production deliveries to Lockheed Martin to start in later that year.