With SPY-6, Navy Has Radar to Match the Range of its Missiles

The SPY-6(V)1 is being installed on Flight III Arleigh Burke-class DDGs. This air-and-missile-defense radar has been installed on the future USS Jack H. Lucas (DDG 125), shown here, scheduled to join the fleet in 2024. *HII*

ARLINGTON, Va. – The SPY-6 air and missile defense radar, the first of which has been installed on a guided-missile destroyer, will give the Navy a sensor worthy of its long-range Standard SM-3 Block IIA surface missiles, Raytheon officials said.

Briefing reporters April 1, Ken Spurlock, Raytheon's Strategic Missile Defense Requirements & Capabilities director, said the SM-3 missile "out-shot" the capabilities of earlier radars – presumably the SPY-1 on earlier DDGs. With the SPY-6, the SM-3 "can engage at the maximum range possible" for the missile.

Spurlock said the SPY-6 allows a ship to provide air and missile defense simultaneously, provide regional defense organically, offer greater clarity of the battlespace, give

more defense in depth, reduce the risk of fratricide and reduce the number of missiles needed to defeat a target.

Also briefing was Michael Nulk, Raytheon's associate director, Requirements and Capabilities – Naval Power, said the SPY-6 will give commanders the discrimination capability to make better decisions and to "change their shot doctrine."

"There is no other radar with the surface maritime capabilities of SPY-6," Wes Kremer, president of Raytheon Missiles & Defense, said in a March 31 release. "SPY-6 is the most advanced naval radar in existence, and it will provide our military a giant leap forward in capability for decades to come."

Raytheon Missiles & Defense was awarded a $651 million Naval Sea Systems Command contract, with options totaling $2.5 billion, for "hardware, production and sustainment for full-rate production" of the SPY-6 family of radars. The contract provides for five years of production for radars for up to 31 U.S. Navy ships of seven types.

Scott Spence, naval radars executive director at Raytheon Missiles & Defense, also briefing reporters, said the company had 46 SPY-6 shipsets under contract, with six of those in work at the Raytheon plant. He said the enlarged footprint of the SPY-6 production will help reduce sustainment costs.

Spence noted the last transmitter that Raytheon builds for the SPY-1 radar will be delivered in April, concluding 41 years of production for the SPY-1.

The SPY-6 family includes the SPY-6(V)1, being installed on Flight III Arleigh Burke-class DDGs. The (V)1 has four flat antenna faces each with 37 radar module assemblies. This air-and-missile-defense radar has been installed on the future USS Jack H. Lucas (DDG 125), scheduled to join the fleet in 2024. The second shipset has been delivered for installation on the future USS Ted Stevens (DDG 128).

The SPY-6(V)2 Enterprise Air Surveillance Radar (EASR) has a rotating face with nine RMAs. The (V)2 will equip the America-class and Wasp-class amphibious assault ships, San Antonio-class amphibious transport dock ships, and Nimitz-class aircraft carriers.

The SPY-6(V)3 EASR has three fixed faces each with nine RMAs. The (V)3 will be installed on Ford-class aircraft carriers and Constellation-class guided-missile frigates.

The SPY-6(V)4 EASR will have four fixed faces each with 24 RMAs. The (V)4 will be back-fitted on some Flight IIA Arleigh Burke-class DDGs.