

Evolved SEASPARROW Missile: The Evolution Continues

By: Frank Cevasco

The NATO SEASPARROW Project is the longest continually functioning cooperative weapons project in existence today. 44 years of successful cooperation with 12 participating nations clearly distinguishes it from other noteworthy cooperative efforts, as does its unique trans-Atlantic/trans-Pacific membership. Two earlier Common Defense Quarterly articles described the project's progression from a project focused on a fire control system and launcher variants into a cooperative endeavor that now includes the Evolved SEASPARROW Missile Block 1. This article focuses on the next chapter of cooperation for the NATO SEASPARROW Project—an upgraded version of ESSM referred to as the Evolved SEASPARROW Missile Block 2.

Background

The NATO SEASPARROW Project started in earnest in 1968 with a Memorandum of Understanding signed by four nations to develop the NATO SEASPARROW Surface Missile System. The four adapted the U.S. AIM-7E SEASPARROW missile for ship launch and combined it with a variety of internationally produced equipment such as digital computers, radar pedestals, radar microwave receivers, and firing officer's consoles. The NATO SEASPARROW Project expanded its scope of cooperation to encompass cooperative production and cooperative support of the overall NSSMS. As the success of the NATO SEASPARROW Project spread in the international community, the number of participating nations expanded over the years. 44 years later it continues with 12—Australia and 11 NATO members: Belgium, Canada, Denmark, Germany, Greece, the Netherlands, Portugal, Norway, Spain, Turkey, and the United States.

The NATO SEASPARROW Project Steering Committee is responsible for direction and management of the Project in accordance with a series of MOUs. The NATO SEASPARROW Project Office is responsible for executing the cooperative development, cooperative production and cooperative in-service support requirements of the participating nations. Recently, it adopted a new dimension that added a fourth element to the traditional cycle of cooperation. That new dimension is mission assurance which in the case of ESSM Block 1 includes: employment, product performance, and enhanced fleet support. The Project Office has also supports joint tactics development, threat assessment, cooperative firing simulations, common integration tools, and firing analyses to continually expand the scope of cooperation within the Consortium. The Project Office is supported by Government field activities, a prime contractor and an extensive network of international subcontractors; all selected based on their demonstrated ability to perform and their cost competitiveness. Over the ensuing years approximately 2,000 ESSMs were produced for the participants and export customers.

Effective defenses in all realms are invariably challenged by increasingly capable offensive threats. The 12 participants found themselves in just that position, agreeing in 1999 "... to establish an orderly process and structure for ensuring that the missile is updated, modified, and improved to provide performance enhancements consistent with future requirements and threat evolution..." The process included a rigorous examination of future threats, an assessment of Block 1 missile effectiveness against those threats, and an examination of alternative courses of action.

Block 1 ESSM was designed to protect against anti-ship cruise missiles, air threats, and surface threats to a range of approximately 40 km. Although Block 1 remains highly effective in countering today's threats, the upgraded version of ESSM known as Block 2 will build on Block 1's impressive capabilities. It will leverage existing technology and features a dual-mode X-band seeker, increased maneuverability, and other enhancements that will collectively enable it to defeat future threats to U.S. and allied navies operating in hostile environments. Unlike RIM-7 SEASPARROW missile and ESSM Block 1, Block 2's active seeker will support terminal engagement without the launch ship's target illumination radars. Between the semi-active capabilities that Block 1 brings and the active capabilities that Block 2 will bring, the Consortium's warfighters will have the best of both worlds when it comes to ship self defense.

Laying the groundwork for Block 2

The requirements review, analysis, and costing of alternative configurations culminated in 2009 when the NATO SEASPARROW Project Steering Committee commissioned a Block 2 Engineering and Manufacturing Development MOU. The decision process involving 12 sovereign nations can accurately be characterized as sometimes painstakingly long.

44 years of cooperation indicates remarkable stability for a complex cooperative project; the project's 44 year life also indicates the 12 participating nations understand the need for thoughtful deliberation, mutual respect, and patience. However, 44 years don't necessarily equate with a rapid decision making process. Block 2 will require approximately 15 years (1999-2014) to progress from Steering Committee decision to MOU signing. The comparable period for Block 1 was approximately ten years (1985-1995).

The extended process for Block 2 can be attributed to several 21st century factors, among them: an especially difficult financial environment in all 12 capitals where government funding for new projects is in short supply, decreased willingness by political leaders to allocate limited resources to defense at the expense of other national needs, and growing public weariness from troop deployments to the Balkans, Iraq, Afghanistan, and Libya. The usual programmatic challenges are also at play, e.g., differing visions of what constitutes a preferred solution (e.g., improved seeker, improved guidance, increased range) meaning a need for detailed trade-off studies.

The 12-nation membership is also a factor. Although there is strength in numbers that offers a wider range of technical alternatives and cost sharing once the project enters development and production, it is also a liability from the standpoint of the time it takes for the 12 nations to reach consensus. For example, the decision process can stall if a single Capital objects. Fortunately, the participants have been willing throughout the project's life to find ways to serve the collective good of the 12 and also satisfy their highest priority national security needs. In that context, the Steering Committee has approved over 1,200 unanimous decisions over the past 44 years, a truly impressive accomplishment.

Producing a Block 2 MOU

The next step in the cycle of cooperation is to begin a new cooperative Engineering and Manufacturing Development (E&MD) phase. To this end, the participating nations met on several occasions this year to begin the process of negotiating a new Block 2 E&MD MOU. The latest challenge confronting the Consortium is to have a fully negotiated and signed Block 2 E&MD MOU by June 2014 in order to start cooperative E&MD in FY15. They began their deliberations in February in the form of exploratory discussions which established broad parameters for the new MOU. Formal negotiations are scheduled to start in September. Although good progress has been made over the past seven months, there are some important issues that must be decided including:

- Ten nations are active participants in Block 1; how many nations will participate in Block 2?
- How much will they contribute?
- How many missiles is each nation planning to acquire?
- What economic benefits will each participant require in return for its contributions?

Obtaining answers to these questions will be difficult. Each delegation is understandably reluctant to commit its Capital to a course of action until they have additional insights about the program's content, and the plans of other participants. As expected, useful fragments of answers are emerging and the upcoming negotiation sessions are clearly on the path to deliver a signed ESSM Block 2 E&MD MOU in 2014.

Summary

Over the past 44 years, the NATO SEASPARROW Project has shown that international cooperation on a long-term basis is possible if the right ingredients are in place. The NATO SEASPARROW Project, through a combination of cooperation, consensus and commitment, has overcome obstacles to deliver a menu of capabilities to the Consortium's warfighters. In fact, it is the breadth and depth of the products and capabilities that separates the NATO SEASPARROW Project from the norm of cooperative projects. From NATO SEASPARROW's perspective, international cooperation is not a destination, it is a journey. By all indications, it looks like the ESSM Block 2 program will extend the Project's cooperative journey for decades to come.

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