NAVAL SHIP WEAPON SYSTEMS ENGINEERING STATION BACKGROUND

The Naval Ship Weapon Systems Engineering Station (NSWSES) provides technical direction and engineering assistance in research, development, test, evaluation, integration, procurement, production, installation, maintenance, quality control, logistics support, training, and service use aspects of assigned weapons and support systems and equipments as directed by the Commanders of the Naval Systems Commands.

A field activity of the Naval Ordnance Systems Command, Washington, D.C., the NSWSES supports nearly 150 combatant and auxiliary ships of the U.S. Navy. The Station also renders assistance to 21 ships of seven allied nations - Italy, the Netherlands, Australia, Germany, France, Japan and Spain - equipped with either TERRIER or TARTAR surface-to-air missile systems.

Commanded by Captain E.A. Christofferson, the Station combines in-house engineering and integrated logistics support capabilities with industry improvements and feedback from the Fleet to increase reliability and readiness of offensive and defensive weapon systems deployed on a global scale.

The need for a field activity such as NSWSES became apparent during the Navy's post-World War II concentration on the development and installation of highly complex surface missile systems.

Navy officials maintained that positive control and direct supervision was essential for long-range planning and missile systems progress. Consequently, a task force was appointed to study the matter, and as a result, the Station was commissioned in July 1963 with authority to work across bureau lines to achieve desired goals.

Although support for the Navy's TERRIER, TARTAR, TALOS and Basic Point Defense systems is the primary objective of the Station, considerable effort is being directed toward the engineering development, test and evaluation and production phases of weapons systems for defense of the Fleet in the 1970s and 1980s.

New or modified programs in which the Station is involved include AEGIS - The Shield of the Fleet, the Ship's Anti-Missile Integrated Defense (SAMID), HARPOON, and the Interim Surface-to-Surface Missile Systems, the Lightweight (5-inch 54 caliber) Gun Weapon System, the Standard Missile, and the NATO Seasparrow.

The NATO Seasparrow is a "second generation" system which will be used by the U.S. Navy as the heart of its improved Point Defense. Assistance provided by NSWSES to the system's project office includes configuration management, personnel and documentation, facilities, engineering and evaluation, data analysis and reliability studies. The Station is also concerned with the shipboard installation and checkout of Seasparrow.

AEGIS will be the Navy's major defensive missile weapon system. All new guided missile ships scheduled to join the Navy in the mid 70s will be equipped with AEGIS, a surface-to-air missile system able to "look" in all directions almost instantaneously.

The SAMID program is a relatively new concept designed to improve the present capability of a ship's defense against anti-ship missiles by combining existing shipboard weapons, sensors, and electronic countermeasures into a total system.

HARPOON and the Interim Surface-to-Surface Missile Systems are being developed as new weapons to provide the Fleet with a defensive and offensive capability of rapid response to the threat of highly-maneuverable missile-equipped patrol boats and the larger combatant ships.

The Standard Missile is an improved-performance, high-reliability missile having either a medium-range or an extended-range capability (depending upon the type of propulsion used).

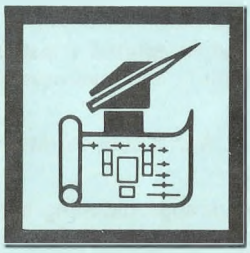
The compact and rapid-fire lightweight 5-inch 54 caliber gun is the first completely new major shipboard gun system produced during the past 20 years. It reflects the Navy's renewed emphasis on improved conventional ordnance to meet present and future needs.

Technical and engineering support is also provided to the Naval Ship Systems Command in matters relating to underway replenishment at sea, weapon system alignment, prearrival inspection procedures, 3-D radars and equipment handling procedures.

The Station is a relatively young but dynamic organization. From a nucleus of 58 people NSWSES has grown into a strong, aggressive command made up of more than ~~1,800~~ 1,170 professionals dedicated to meeting the needs of the United States Navy and its allies.

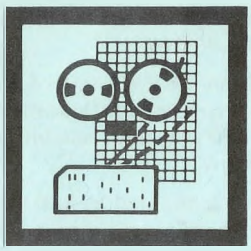
MAJOR RESPONSIBILITIES OF THE WEAPON ENGINEERING STATION

ENGINEERING SUPPORT



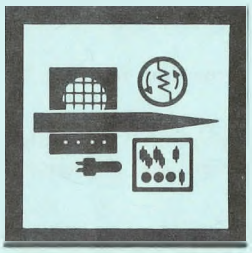
CONFIGURATION MANAGEMENT – To establish configuration management of surface missile system (SMS) equipments, the Station identifies each system as defined in technical documents, controls changes to the hardware, and maintains a record of changes so that the identification remains valid. Block change baselines have been established to improve system performance and operability.

SYSTEMS INTEGRATION – The Station's broadened scope of responsibility in the area of weapons in-service engineering has brought to light the importance of the dependency of weapon systems upon supporting and ancillary shipboard systems. Significant inroads into the complexities of shipboard systems integration have been made by such programs as Anti-Ship Missile Defense/Ship's Anti-Missile Integrated Defense.



SHIP ASSISTANCE – For ships of new construction or major overhaul, the Station provides a Ship Qualification Assistance Team to aid in the development of the full operational capability of personnel and the weapon system. Special Assistance Teams assist ships with operational problems beyond the scope of ship's personnel.

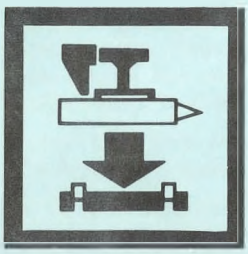
OVERHAUL SUPPORT – An integral part of in-service engineering includes overhaul planning and support to ships and shipyards prior to and during regular overhaul periods. This support is in the form of configuration information, test packages, and the assistance of Station engineers in performing required system tests.



DESIGN AND DEVELOPMENT – In addition to its in-service engineering functions, the Command provides assistance in the design and development of new and modified missile systems, e.g., Point Defense, AEGIS, HARPOON, and additional weapon systems such as guns and electronic warfare.

UNDERWAY REPLENISHMENT – A major engineering effort at the Missile Engineering Station is to provide control of all actions which affect the operational readiness of underway replenishment systems in the Navy. This includes development work on new systems, as well as corrective action programs on current systems.

LOGISTICS SUPPORT



TECHNICAL DATA – The total concept of documentation describes the development and initiation of systems to maintain and control all technical data for surface missile systems. This includes the responsibility for establishing requirements for documentation (software) and providing integrated data to support second-source procurement, installation, training, operation, maintenance, and logistics of hardware. Through constant review and close liaison with the user at all Naval activities and the Fleet, technical data is improved and kept current to ensure its effectiveness.

MATERIAL SUPPORT – The Command provides a Navy-wide point of contact for actions relating to material support for surface missile systems by working for the development of new inventory management techniques, by providing guidance to supply inventory control points, and by monitoring material support actions.

CONTRACTS MANAGEMENT – The Weapon Engineering Station is responsible for procurement of all SMS ordnance alterations, and repair and maintenance of systems equipment, as well as the initiation and administration of contracts for tasks and programs assigned to the Station. Contracts for materials and services in support of special programs are also initiated and administered.

MAINTENANCE SUPPORT – The Station provides industrial engineering services and standardization procedures for assembly and test of SMS missiles, and develops programs to expand the Navy's industrial capacity to repair SMS equipment. Management of SMS support and test equipment program is provided and plans are developed to establish policy governing maintenance support for the life of new systems.

TRAINING SUPPORT – The Station provides support to SMS maintenance schools, and when required, directly to the Fleet, for training ships' personnel. It also provides SMS training programs and assistance to activities supporting the Fleet in various capacities.

NSWSES

During this first decade, the Station's mission has been broadened by modifications to the original 3-T systems, the development of the Basic Point Defense System and by the added responsibilities for replenishment at sea, guns, radar, surface-to-surface and other offensive and defensive weapon systems.

In November 1972, this increase in responsibilities and change in mission created a need for a name change to Naval Ship Weapon Systems Engineering Station. However, the Station will continue to be known as "Nemesis."

NEMESIS
The Mythological
Greek Goddess
of Retributive Justice