
Security Assistance at SPCC: The Navy Ships Parts Control Center

By

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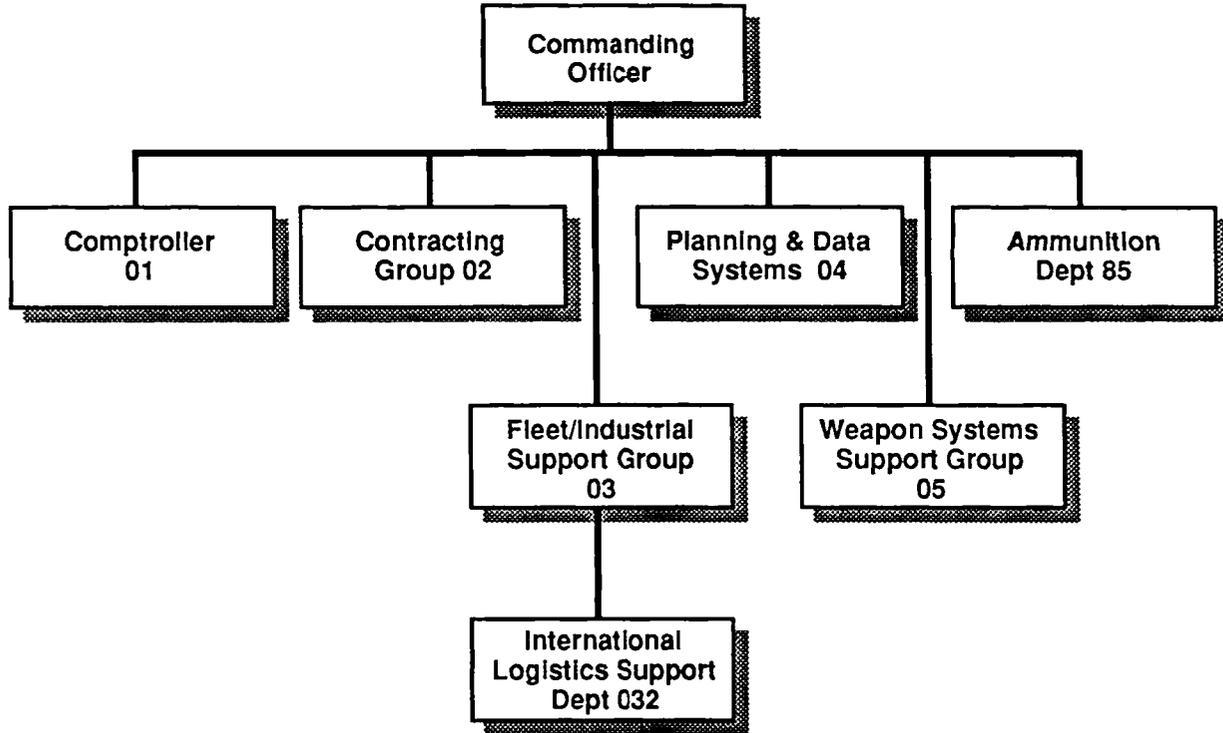
The Ships Parts Control Center's International Logistics Support Department is located in the Fleet/Industrial Support Group and acts as the single point of contact at SPCC for all security assistance program matters. This effort involves the planning, coordinating, directing, implementing, and executing of program management functions related to initial and follow-on support for naval weapons systems being provided by the U.S. Navy to foreign governments under the security assistance program.

Security assistance is one of the fastest growing segments of SPCC's business. For FY92, the program constituted 7 percent of SPCC sales (\$83.4 million) and 6 percent of the requisition workload (42,000) sales for FY93 are projected to top \$100 million. Based on sales from FY90 to the present, SPCC top customers are Australia, Spain, Japan, Taiwan, Greece, and the United Kingdom. Sales to these customers have included new construction, Frigates and Destroyers, and Ship Transfers. With the downsizing, decommissioning, and transfer of U.S. ships to foreign navies, SPCC's business continues to grow in both volume and complexity. Today's customers are maintaining the readiness of World War II vintage destroyers (Fram and Gearing Class) while at the same time building ships in their respective shipyards for which the U.S. Navy is providing major government furnished equipment (GFE) (Ordnance and Electronics) and related support. In addition to supporting foreign ships, SPCC also has a major role in the support of HARPOON, SPARROW, SIDEWINDER, WALLEYE, and HARM missile systems.

This expanding role for SPCC is not by accident. When foreign customers investigate sources for a weapon system, they are not only interested in the end item, but also in the follow-on support supplied by SPCC (the U.S. Navy's ICP for ships and submarines) that frequently provides the incentive to many security assistance customers to buy from the United States rather than another country or directly from commercial sources. This support is so important that it is U.S. Navy policy to include a logistics support plan for each weapon system or equipment offered for sale.

The SPCC Security Assistance Organization. A review of the SPCC role in security assistance begins by examining the organization as shown in Figure 1. At present, there are 123 security assistance funded man-years at SPCC. Seventy-six of these man-years are full time dedicated to provide program-related support to the 60 customer countries SPCC support. These personnel are assigned primarily in the Fleet/Industrial Support Group and the Weapon Systems Support Group, with other assigned personnel in the Ammunition Department Contracting, Planning, and Data Systems Group and the Comptroller.

FIGURE 1



The Fleet/Industrial Support Group houses the International Logistics Support Department which serves as the command's focal point for security assistance matters. The SPCC Security Assistance Case and Program Managers are located in this department. The International Logistics Support Department consists of four divisions (Missile, Major Systems, Supply Support, and Ammunition) and has 53 civilians and 1 military dedicated solely to security assistance support. Additionally, Liaison Officers for Japan, Saudi Arabia, and Canada are located in this department. The Weapon Systems Support Group provides 36 security assistance man-years responsible for life cycle weapons support, to include provisioning, cataloging, inventory management, allowance documentation, and repairables management. SPCC has a dedicated Security Assistance Acquisition Division within the Contracting Group which makes it second only to the Fleet/Industrial Support Group in the number of security assistance dedicated personnel with 15. The Ammunition Department is a vertical organization which provides inventory management and technical support to our security assistance customers.

The primary function performed by SPCC for security assistance is that of program and supply support for those weapon systems and equipment assigned to SPCC for support. Although SPCC's role is rapidly expanding to take on management support for major systems/equipment, our role in security assistance is primarily one of providing secondary spare and repair parts for major systems managed by the U.S. Navy Hardware Systems Commands (Naval Sea, Naval Air, and Space and Warfare).

Price and Availability. Requests for Price and Availability (P&A) are normally received via NAVSUP and SPCC must respond to these requests within 45 days. Requests received at SPCC run the spectrum from non-supported test equipment or communication equipment to material handling equipment. During FY92, SPCC processed 132 P&A requests with an average processing turnaround time of 27 days. Of the amounts processed, 62 (47 percent) resulted in

signed and accepted FMS cases. Based on the P&A estimates provided, SPCC is currently involved in the management of 947 FMS cases (totaling \$656 million) as either Case Administering Officer (CAO) or Project Directive Line Manager.

Initial Support. Once an FMS case is signed and implemented to SPCC, action is initiated to identify the type of support required. For SPCC, this effort typically involves the provisioning of a Ship Weapon System or equipment to determine the spare and repair parts required for onboard usage as well as wholesale system backup. The onboard support requirement is normally to support a 90 day support period and is published in an allowance document called a COSAL (Coordinated Shipboard Allowance List). The wholesale system backup support is normally produced for a two year support period and is published in a document called a COSMAL (Coordinated Shorebased Material Allowance List). SPCC also produces a GRL (Gross Requirements List) which is developed to support missiles and electronics Ground Support Equipment (GSE) for a period of two years. During FY92, SPCC produced 40 COSALs, 33 COSMALs, and 37 GRLs within a combined material outfitting value of \$365 million.

Follow-On Support. Once the security assistance customer has received, installed, and started to operate the weapon systems and/or equipment, thereby depleting initial support provided, replenishment requisitions are submitted by the security assistance customer for processing under either a DRP (Direct Requisition Procedures) or a CLSSA . Under DRP, the customer requisitions are processed for issue from U.S. stock if stock levels are above the reorder point. DRP requisitions not satisfied by the SPCC inventory managers are passed to the Contracting Group for procurement. Unlike DRP, under CLSSA, SPCC has approximately 30 FMS cases where the customer has invested in the U.S. Navy Supply System, thereby augmenting and allowing stock levels for the FMS customers requisitions to have equal access to wholesale stock in the same manner as with U.S. Navy requisitions. For FY92, SPCC processed 22,005 DRP and 3,200 CLSSA requisitions.

Included in the DRP requisitions received for processing are 301 high priority emergent requirements which are processed under an expediting service called CASREP (Casualty Report). SPCC has two dedicated expeditors for this effort. Response time from receipt of requisition to either stock issue or contract award is an average of 11 days.

In addition to processing requisitions for stock issue, SPCC processed 2,165 ROR (Repair of Repairables) transactions for security assistance customers.

Major Programs. Based on security assistance-related Defense Business Operating Fund (DBOF) sales for FY90 - FY92, coupled with the increase in cases managed, the major programs supported by SPCC are:

- Sale of Electronic and Ordnance Government Furnished Equipment to support Frigate New Construction for Taiwan, Australia, Portugal, Turkey, Greece, and Spain.
- Ship Transfers to Greece, Taiwan, and Turkey.
- Japan AEGIS.
- HARPOON/SIDEWINDER/SPARROW.
- PHALANX Gun [Close-In Weapon System (CIWS)]

Special Projects. SPCC provides several services to assist the foreign customer with supply support. Training is provided at SPCC in a range of one day or week to several weeks or months depending on the customers' needs. While the majority of the training is Inventory

A key ingredient for quality initial and follow-on supply support for a newly acquired or updated weapons system is the allowance document provided for the system. The Navy SPPC in Mechanicsburg PA, is responsible for providing allowance documents to foreign customers for their ships, submarines, and missile systems.

The "basic" allowance document produced for naval FMS customers as well as U.S. Navy ships, is the Coordinated Shipboard Allowance List or "COSAL". This is the shipboard maintenance and supply document listing both installed equipment and supporting piece parts for the ship. The COSAL assists the shipboard technician in identifying and ordering parts either out of ships stock, or from the shore establishment. It also identifies the special tools and test

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By

Tailoring Allowance Documents for FMS Customers

With the decommissioning of U.S. ships and their potential transfer to foreign customers, SPPC conducts supportability analysis and reviews with the Naval Sea Systems Command and the prospective security assistance customer. SPPC has conducted supportability reviews for FF1052 KNOX Class Frigates, DDG2 ADAM Class Destroyers, and FFG1 BROOKE and GARCIA Frigates.

Major Wayne Cross (seated), WO Norman Gautreau, and Paula Etkin of the Canadian Force Liaison Office.



Control Point orientation and operation, individual custom-tailored training in the area of provisioning and configuration management, is frequently requested and provided.

equipment authorized for preventive and corrective maintenance to maximize self-sufficiency during extended periods at sea.

The Coordinated Shore-based Material Allowance Listing or "COSMAL" is the allowance document which provides backup stockage levels ashore for resupply to the ships in the foreign navy, and provides either direct or re-supply support to in-country maintenance activities. In effect it is an intermediate level of stock between the shipboard COSAL allowance, the maintenance activities, and the U.S. supply system. Typically COSMAL allowances are "folded into" the country's own stockage levels at the waterfront Naval Supply Center.

There are currently four models in use at SPCC for the production of the COSAL document. The "standard" model, which is used for most U.S. ships as well as foreign customers, is the Fleet Logistics Support Improvement Program or FLSIP model, or its enhanced version "MOD-FLSIP".

The FLSIP and MOD-FLSIP models are fixed protection models which, as tailored to U.S. requirements, attempt to provide a 90 percent protection level against a stockout for a 90 day period. The FLSIP allowance computation process is essentially a six step process. First, all maintenance significant repair parts which can be removed and replaced by shipboard personnel, for all installed equipment, are considered as allowance candidates. Second, the number of times each part appears in each system is multiplied by the total quantity of systems installed to obtain the parts total population. Third, each part's population is multiplied by its best replacement factor (BRF). The BRF is a given numerical value which is based on the expectation that an item will be replaced either in planned maintenance or as a result of random failure. The BRF is expressed as a function of one calendar year. In other words, a BRF of 2.0 indicates that the item would be expected to fail twice a year, a BRF of .2 once every five years, and so forth. Fourth, if the BRF times population computes to at least 4.0, in other words one replacement in 90 days, then the item computes for demand based stockage in at least its minimum replacement unit. Fifth, if the expected usage of an item is greater than one in four years (in other words greater than .25) and less than one replacement in 90 days, the part is stocked as an insurance item, but only if the item is "vital" to the ship as determined by the part's Military Essentiality Coding and Mission Criticality Coding maintained by SPCC. Sixth, planned maintenance requirement items or tailored override requirement items are "forced" into the COSAL in the minimum replacement unit quantities. Under the MOD-FLSIP enhancement, if the item does not qualify for stockage under the standard FLSIP rules, the Item Mission Essentiality Code is considered. If the item is considered essential (code 3 or 4) then the BRF times population cut point is reduced from .25 to .10. In other words if the item has an expected failure of one in ten years, it is stocked as an insurance item. Naturally there is a substantial additional cost associated with this additional range and depth of material.

Recently, in an effort to reduce costs while maintaining effectiveness, SPCC has developed an essentially new model, which we feel will be the key to quality and affordable allowance lists for both the U.S. Navy and foreign customers in the foreseeable future. The new model is called .5 FLSIP Plus. Historically, utilizing the MOD-FLSIP model, the U.S. Navy estimates that a minimum of 75 percent of items stocked aboard ship do not receive a demand between overhauls. SPCC has run six test COSALS and implemented four in the fleet, using the new model. The average value of these COSALS has been reduced 24 percent from the standard, the number of line items reduced an average of approximately 18 percent, while generally less than plus or minus 1 percent change in effectiveness has been experienced. The model was approved for fleet use by the Chief of Naval Operations in March of this year.

Like FLSIP the new model .5 FLSIP Plus uses a Best Replacement Factor times population calculation to establish the allowance candidates for the ships COSAL. The product of these two

variables must be greater than or equal to .5, or one replacement in two years, before the item is considered for stockage. Raising the cut-point to .5 has the effect of excluding a large number of non-movers from allowance lists, substantially reducing the cost. The downside is that if the model were left at this point, roughly a 10 percent loss in effectiveness against the MOD-FLSIP standard would be experienced. This problem is overcome by reinvesting some of the savings derived from raising the cut point. Ship Class demand information from the fleet maintenance data system (3M) and casualty reporting (CASREP) system, for ships with configurations that match as closely as possible that of the ship receiving the COSAL, is utilized to identify "add back" candidates which raise the COSAL effectiveness at a moderate cost. The essence of this methodology is its recognition of actual demand, and its lack of total reliance upon theoretical replacement factors. The result is an effective "tailored" COSAL with a modest investment cost. SPCC is now ready to utilize this model in producing COSALs for our international customers.

The COSMAL, which provides resupply support ashore for the ship's COSAL and the supporting maintenance activities, can also be tailored to meet specific customer needs. Parameters can be adjusted to affect the range, depth, and value of the COSMAL stockage recommendations. First, an accurate assessment of the in-country maintenance capability must be obtained. Depot, intermediate, and organizational level facilities each require different ranges of spare parts, and the COSMAL is tailored to meet the appropriate maintenance level. Second, a support period must be selected. Most foreign customers select a two year support period, but COSMALs have been produced for customers with five year support, and the capability exists to produce up to twenty-five year support period COSMALs. Third, for items predicted to fail less than once during the selected support period, a range factor can be applied. As this factor is increased, more items are considered for stockage than would normally be the case (these are essentially insurance items). Fourth, for items predicted to fail more than once during the selected support period a depth factor can be applied; however, the effect on numbers of line items and therefore cost is less pronounced than with the range factor. As the depth factor is increased, the depth of stock of candidate items already considered increases. COSMAL output can be provided in a variety of medium options, including hard copy, floppy disks, or magnetic cartridges.

Historically, very few foreign countries have taken action to update their allowance documents subsequent to initial production. In those instances where the foreign ship receives a new U.S. weapon system, the ship frequently receives a "stand alone" mini-COSAL for that weapon system only. This situation has the drawback that the mini-COSAL is not "integrated" with the ship's main COSAL, leading to sub-optimization of piece part support for the ship.

The lack of an update system may not have been as great a problem as it would appear, in that the configuration of foreign ships has remained relatively static when compared to the U.S. standard. However, as foreign navies obtain increasingly sophisticated U.S. weapons systems, and more frequently participate as partners in the various U.S. Navy weapons systems upgrade programs, the need to maintain the COSAL and COSMAL up to date in terms of configuration status has become more important.

The U.S. Navy provides COSAL updates to its non-mechanized ships through a process known as the Automated Monthly COSAL Maintenance Action Report or AUTOMCMAR. From the customer's point of view this title is a bit misleading in that while the product is a manual report, it is automated in its production at SPCC. The AUTOMCMAR report computes onboard repair part allowances based on the customer's specific maintenance level, protection period, and sparing model. Use of the AUTOMCMAR process affords the foreign customer the following advantages: when combined with a process to update the SPCC Weapons System File, such as the Configuration Data Accountant system, it allows the customer to receive piece part support for changes in the configuration of the weapons system, and integrates these additional

allowances into the existing allowance document; it provides National Stock Number suppression and replacement information for stock numbers appearing in a given maintenance cycle; it can provide changes in allowance quantities based on significant changes in demand patterns; the product optimizes allowances by providing a consolidated Stock Number Sequence List based on the total population of a given line item within that month's maintenance cycle for the specific ship or shore activity; the process at SPCC allows for direct update of the SPCC Ship's History File providing an accurate record of foreign customer funded allowances resulting from individual ship or shore activity COSAL maintenance, data which would be available at customer request at a later date; and, the process provides for more timely updates of "bald" Allowance Parts Lists found in a new COSAL. These APLs are generally for newly fielded equipments which have not yet been fully provisioned and for which no formal APLs have been published. APLs transitioning to full support are automatically promulgated with the AUTOMCMAR report, allowing customers to more quickly dispense with interim support provided by Allowance Appendix Packages.

In summation, SPCC offers foreign customers a variety of allowance list products tailored to the customer's needs, both in terms of the model used and the parameters set within each model. We are particularly enthusiastic about the possibilities the .5 FLSIP Plus COSAL model offers for effective COSAL support at an affordable price. SPCC is also able to provide tailored updates to allowance lists between allowance list production cycles, allowing the customer to keep his allowance document up to date, and ensuring that his initial investment in supportability is not degraded over time.

The Ship Transfer Process at SPCC

By

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As the U.S. Navy continues to downsize, more and more ships are removed from the active fleet and become candidates for transfer to foreign governments. Since these ships can offer attractive alternatives to costly new construction programs, the volume of ship transfers has steadily increased since 1989, and now represents a significant portion of the U.S. Navy's International Logistics business.

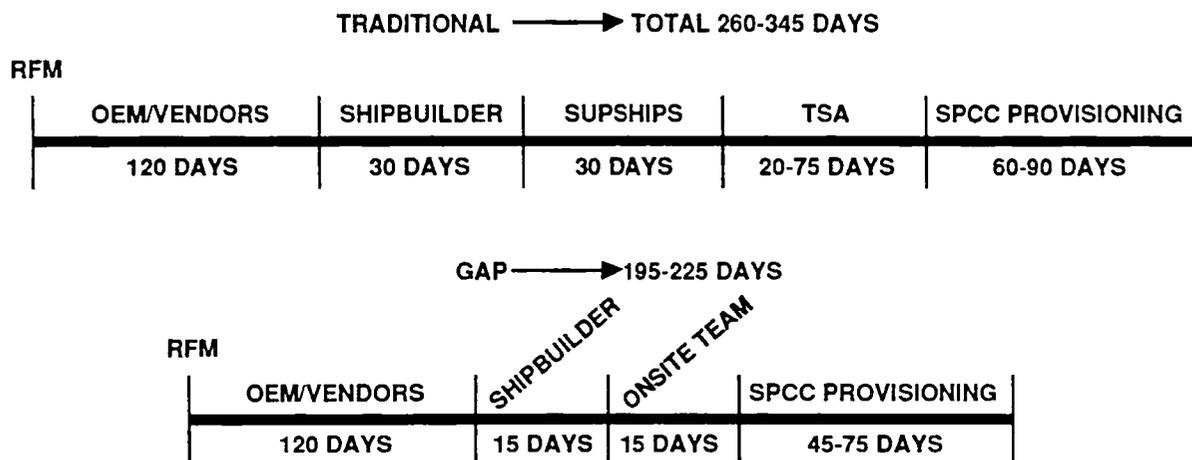
Ship transfers support U.S. foreign policy objectives by satisfying defense requirements of allied navies, and by strengthening mutual defense arrangements. Ships are transferred through either Foreign Military Sales (FMS) or Foreign Military Lease (FML) procedures, and are coordinated with the Chief of Naval Operations, the Secretary of Navy, and the Secretary of Defense. Congressional notification is always required.

It is U.S. Navy policy to transfer ships using the "total package approach," which emphasizes the support items, training, and services required to efficiently introduce and operationally sustain a weapon system. As the U.S. Navy's program support inventory control point for ship-related weapon systems, SPCC has direct involvement in two key elements of the total package approach—initial and follow-on support.

Initial support includes determining the spare and repair parts and support equipment required for both shipboard and backup shorebased stockage. SPCC participates in the shipboard

specification sheets which form the minimum data to provision a system or equipment. This data is then developed into PTD by SPCC provisioners and loaded into the Interactive Computer Aided Provisioning System (ICAPS) program for downloading to SPCC's Ships Provisioning System (SPS) producing APL and COSAL required by the customer.

TIME LINES
Traditional vs GAP



Developing the data in this way allows provisioning in a concurrent, or teaming concept. The TSA accomplishes the maintenance and technical coding at the same time SPCC provisioners enter cataloging and supply coding. This time savings, in addition to the time saved by not having the ship or equipment builder format data for submittal to the TSA and SPCC, can shave from six months to one year off the standard provisioning process.

Summary. GAP is not a standard process—it is really a range of available services with varied potential outcomes, products, and services:

- On Board Repair Parts (OBRP)
- Level A Weapon System File Loading
- Tools and Test Equipment List (TTEL)
- Site Validations
- Buy Lists
- Concurrent ISS Requirement Development
- Advance Repairable Identification Code (RIC) Assignment

The goal is to provide unique solutions to unique situations. Currently, we are working on three FMS Patrol Boat GAP Projects:

- 51' Patrol Craft Fast
- 27' Harbor Patrol Boats
- 42' Patrol Craft Coastal