APPENDIX A

COORDINATED SHIPBOARD ALLOWANCE LIST PREPARATION AND PROCESSING

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6-A.0 INTRODUCTION

This appendix defines the Coordinated Shipboard Allowance List (COSAL) and provides procedures for the development and distribution of COSAL data. A ship's COSAL is the definitized allowance document for a ship. It combines a ship's configuration with technical and logistical data. The COSAL establishes the allowance for spare and repair parts, Maintenance Assistance Modules (MAMs), Operating Space Item (OSI), General Purpose Test Equipment (GPETE), special purpose test equipment, and special tools required to operate and maintain systems and equipment installed in U.S. Navy ships. The COSAL is provided as data to ships that have the Shipboard Non-tactical ADP Program (SNAP) installed and as a hard copy document for ships that do not have the SNAP program. Most ships in the Fleet now have SNAP and this is the preferred method of providing COSAL data to ships in the Fleet. Hard copy COSAL documents are difficult to update and maintain in that COSAL maintenance for hard copy documents must be performed manually and allowance changes and updates must be made by pen and ink. This appendix provides step by step actions required to implement the policies set forth in Chapter 6 Section 6.4 of this manual. It describes a COSAL in terms of its derivation from the Weapon Systems File (WSF) and describes the actions and milestones that must be completed to develop the data required to support a COSAL computation. SNAP provides an automated methodology for maintaining the ship's configuration baseline and for maintaining inventory control of the ship's allowances of spares and Maintenance Assistance Modules (MAMs).

6-A.1 COSAL STRUCTURE

The structure of a COSAL depends on the method by which the COSAL data is extracted and delivered to a ship. For non-automated ships, the COSAL is published and delivered in printed copy in hard bound manuals. For Shipboard Non-tactical ADP Program (SNAP) ships, a database of configuration, logistics, and allowance data is provided. The structure of hard copy and automated COSAL data is explained in the following paragraphs.

6-A.1.1 Hard Copy Format

Hard copy COSALs are structured as follows:

INTRODUCTION - The introduction to a COSAL is best defined as a document that describes the COSAL content and structure in detail and trains personnel in the daily use of the COSAL.

SUMMARY OF ALLOWANCE PARTS LISTS/SUMMARY OF ALLOWANCE EQUIPAGE LISTS (SOAPL) - The SOAPL provides a list in numerical sequence of the APLs/AELs that are included in the COSAL.

a. COSAL PART I INDEXES - COSAL indexes are as delineated below:

- Index Section A - Nomenclature Sequence to APL. This index provides a listing of systems and equipment included in the COSAL. This index provides system and equipment nomenclature in noun name alphabetical sequence. Each system or equipment is cross referenced to APL number, quantity installed, Allowance Support Code, Service Application Code (SAC), and Mission Criticality Code (MCC).

- Index Section B - SAC to APL. This index provides a listing of systems and equipment included in the COSAL. This index provides system and equipment nomenclature in SAC sequence. Each SAC is cross referenced to the system or equipment MCC, the system or equipment nomenclature, APL/PAL/AEL number, quantity installed in the service and the Allowance Support Code.

- Index Section C - APL/AEL Sequence to Equipment Identification Code (EIC) to Functional Group Code (FGC). This index lists systems and equipment included in the COSAL in APL/PAL/AEL number to EIC sequence to FGC identification number. Each APL/PAL/AEL listed is cross referenced to the Application Identification Number Activity Code (AINAC), EIC, FGC, SAC, Work Center, system or equipment nomenclature, Maintenance Index Page (MIP), Record Identification Number (RIN), quantity installed, location in ship, serial number, valve mark, circuit symbol number, and the Commercial and Government Entity (CAGE) of the system or equipment.

- Index Section D - EIC Sequence to APL/AEL. This index lists systems and equipment included in the COSAL in EIC to APL/AEL sequence. Each EIC is cross referenced to the system or equipment APL/AEL number, AINAC, and Mission Criticality Code (MCC).

- Index Section E - FGC to APL/AEL. This index lists systems and equipment included in the COSAL in Automated Integrated Language System Identification Number (AILSIN)/FGC to APL/AEL sequence. Each AILSIN/FGC is cross referenced to the system or equipment APL/AEL and AINAC.

b. COSAL PART II DOCUMENTATION - COSAL documentation consists of APLs, Circuit Symbol cross reference data, AELs, Allowance Component Lists (ACLs), and Preliminary Allowance Lists (PALs). This section provides the following data:

- Section A - Allowance Parts Lists (APLs). This Section provides a copy of each APL included in the COSAL computation. ACLs and PALs are included in this section.
- Section C - Allowance Equipage Lists (AELs). This section provides copies of all AELs included in the COSAL computation.

c. COSAL PART III STOCK NUMBER SEQUENCE LISTS (SNSLs). SNSLs list all spares, MAMs, OSI, and consumables required to operate and maintain a ship for a sustained period of time. SNSLs provide a cross reference from the National Stock Number (NSN) or Navy Item control Number (NICN) to item name, application (the APL, PAL, or AEL for which the item is to provide support), unit of issue, allowed quantity, allowance note codes, ship population (number embedded in various systems and equipment installed in the ship), MEC, supply management coding, custody code, unit price, derivation code, and any allowance override code. The various SNSLs provided are as follows:

- Section A - Storeroom Items (SRI). This SNSL provides a listing of spares and other items that are to be stored in a ship's Supply storerooms under the custody of the ship's Supply Officer.
- Section B - Operating Space Items (OSI). This SNSL provides a listing of allowed OSI from applicable APLs/PALs/AELs. OSI quantities are not computed allowances but are provided as defined by allowance documents. OSI is turned over to operating departments for use in the space designated by ships drawings and operating directives.
- Section CF - Maintenance Assistance Modules (MAMs). This SNSL identifies the list of MAMs authorized for the ship. MAMs are replaceable modules used to fault isolate, through progressive module substitution, a failed module within a system or equipment. This section is derived by extracting all items that have a note code "N" from applicable APLs/PALs. MAMs are identified on the PAL/APL for the system or equipment they are to support and are provided in the quantities specified on the applicable APL/PAL. MAMs are normally stored in the space with the system or equipment they support.

d. COSAL PART III CROSS REFERENCE LISTS AND DATA. In addition to SNSLs, Part III of the COSAL provides update information that can aid in the identification of the spares, MAMs, OSI, and consumables listed on the SNSLs. It also provides SNSLs for consumables that are not derived from APLs, PALs, nor AELs. The following cross reference lists and SNSLs are provided:

- Section C - Old to New NSNs/NICNs. This cross reference list provides a listing of old NSNs and NICNs that have been changed or updated. This listing is tailored to provide data for only those items that are applicable to the COSAL in which they are included.
- Section D - Alternate Number to NSN Cross Reference. This ship tailored listing provides a cross reference from the part, drawing, or piece number to the applicable NSN or NICN.
- Section E - General Use Consumable List (GUCL). This listing is provided to ships that are joining the Fleet for the first time, or to a ship that is either re-entering the Fleet from the Reserve Fleet or after a major conversion. The GUCL lists the consumable materials needed for ship maintenance and upkeep as well as administrative materials. The GUCL is not computed through a COSAL math model. It is not equipment related and therefore has no relationship to APLs or AELs. The GUCL is not updated.
- Section F - I Cognizance Forms and Pubs. This listing is provided to ships that are entering the Fleet for the first time, or to a ship that is either re-entering the Fleet from the Reserve Fleet or from a major conversion. This listing provides an allowance of applicable forms that are required in the daily administrative functions of the ship. This list is tailored for the class of ship it is to support. This listing is not equipment related and therefore has no relationship to APLs or AELs. This COSAL section is provided by the Naval Inventory Control Point-Philadelphia (NAVICP-P, formerly the Naval Aviation Supply Office [ASO]).

6-A.1.2 Automated COSAL Format

In an effort to simplify data storage on board ship and bring about a "paperless" environment, the Navy is increasingly using computerized methods of managing supply and configuration information. The automated COSAL was developed to accommodate the Shipboard Non-tactical ADP Program (SNAP). SNAP provides the capability to identify additional logistics data that pertains to a ship’s operations and maintenance (e.g., Training Records, Personnel Records, Technical Manuals, Planned Maintenance System (PMS) data, drawings, etc.). The SNAP database contains and uses APL, AEL, and PAL data. This allows shipboard personnel to use the SNAP computer to find the desired information and display it on the computer screen or print the data as needed. Using computers to manage information previously contained only in a hard copy COSAL allows for the rapid and accurate updating of COSAL data.

6-A.1.2.1 SNAP II Subsystems

The SNAP II database consists of five interactive subsystems as follows:

- The Maintenance Data Subsystem (MDS, also known as the Organizational Maintenance Management Subsystem [OMMS]). The MDS/OMMS Subsystem is an on-line interactive file compatible with the Maintenance and Material Management (3-M) System, and provides for the following actions:
  - Ship Equipment File maintenance
  - Ordering of maintenance and non-maintenance related parts
  - Generation and tracking of Configuration Change Requests
  - Technical Document Reference File access
  - Current Ship's Maintenance Project (CSMP) actions
- The Supply and Financial Management (SFM) Subsystem. The SFM Subsystem provides cost data relevant to parts ordering and monitoring, inventory management, budgeting, and reporting. It includes:
  - Financial Aid Module (ship's Operating Target [OPTAR] Record)
  - COSAL Cost Visibility by type of support (i.e., HM&E, Ordnance, Electronics, Nuclear Spares, MAMs, RSS, and OSI)
  - Stock Record File
- The Administrative Data Management Subsystem (ADMS). The ADMS provides support for the following:
  - Personnel Assignments
  - Career Development and Retention Programs
  - Health and Morale Programs
- The System Management Subsystem (SMS). The SMS performs management and services in support of the other functional subsystems. It provides for:
  - System Security
  - System Backup
  - Program Update

- The Integrated Logistics Management (ILM) System. The ILM is used to facilitate accurate analysis and processing of the ship’s configuration and allowance data during an Integrated Logistics Overhaul (ILO). ILM supports:
  - Configuration Analysis Group (CAG) processing
  - Coordination with Repair Parts Analysis Group (RAG)
  - Stock Record File Management - Calculate shortages and excesses and generate requisitions
  - Storeroom Inventory Processing - Inventories and discrepancy management

6-A.1.2.2 SNAP II Files

The SNAP II database is comprised of several files that must function interactively. These files must be accessed through the SNAP II subsystems to obtain allowance data and identify allowed items. The SNAP II System is subdivided into files and those with primary impact on supply support are:

a. The MDS/OMMS Subsystem contains the following files:

- The Ship's Equipment File. This file provides a summary of the configuration of the systems and equipment installed in the ship. The APL and COSAL files are linked to the Ship’s Equipment File.
- The APL File. This file contains the Component Characteristics File (CCF) and the Logistics Support Status Code (LSSC) information.
- The COSAL File. This file contains the parts data associated with each APL, PAL, or AEL. This file does not provide allowance quantities for parts.
- The Logistics Data File. This file contains associated logistics data (i.e., Technical Manual Data, Maintenance Index Page information).

b. The SFM subsystem contains the following:

- The Stock Record File. This file contains the allowances of spares, MAMs, and special tools plus the quantity on hand and on order.
- Cross Reference Files. This file contains NSN/NICN cross reference information.
- Requisition File. The requisition file manages and tracks the status of the ship's requisition transactions.

6-A.2 COSAL COMPUTATIONAL MATH MODELS

The development of COSAL or SNAP database allowances is driven by the ship's configuration baseline, maintenance and insurance level of the ship, duration period, equipment criticality, and computational model selected. This COSAL development process requires extracts of systems and equipment data from Ship Configuration and Logistic Support Information (SCLSI) and WSF databases. Most COSAL computation models begin by calculating the expected quantity of each part needed for a specified period of time. The models then calculate an allowance quantity based on the expected number of replacements. The COSAL computational models vary based on the parameters built into the model. The following list consists of the math models used in the computation of a COSAL:

- .5 FLSIP PLUS
- .25 FLSIP
- .10 Modified FLSIP (MOD-FLSIP)
- Readiness Based Sparing (usually applied at system/equipment level)
- TRIDENT
- Conventional

RBS and .5 FLSIP Plus are the models most commonly used in the COSAL computation process. See chapter 2 for a complete explanation of the RBS process.

6-A.2.1 .5 FLSIP PLUS

The .5 FLSIP Plus Model uses engineering data and operational factors to determine allowance candidates. Engineering data (i.e., equipment criticality, part essentiality, replacement factor, population installed, etc.,) are reviewed along with operational factors (i.e., Operational Availability [Ao], Maintenance Philosophy, endurance levels, affordability) to provide an allowance designed to meet Fleet readiness and sustainability requirements.

The .5 FLSIP PLUS Model extracts spares that are considered vital and have a predicted demand of at least one in two years as allowances. For items not cutting for allowance based on this expected usage, CASREP and 3-M data are assessed to determine additional allowance quantities. The specific criteria may vary by ship type.

6-A.3 COSAL PREPARATION

COSALs are initially prepared when a ship is undergoing construction. During that period of time, a ship's configuration file is developed using the Real-Time Outfitting Management Information System Configuration Status Accounting (ROMIS CSA) and SCLSIS. ROMIS CSA is an automated data system that performs Configuration Status Accounting (CSA) for systems and equipment as they are installed in a ship.

6-A.3.1 Incremental COSALs

A ship is constructed over an extended period of time (usually three to five years). A shipbuilding contract requires a shipbuilder to acquire and install Contractor Furnished Equipment (CFE) needed to construct the ship and install Government Furnished Equipment (GFE). A shipbuilding contract further stipulates that the shipbuilder is responsible for providing the initial On Board Repair Parts (OBRPs) required to operate and maintain the CFE installed by the contractor. Due to the time that it takes to acquire parts and to provide the shipbuilder an opportunity to take advantage of buying parts from the original equipment manufacturer, the Navy extracts several increments of the COSAL. Although the number of COSAL increments may vary, the NAVSEA policy requires four increments for a lead ship of a class and three increments for each follow ship. These increments coincide with the installation schedule and provide an allowance for the systems and equipment installed in a ship at a specified period of time. The number of increments extracted for a ship varies based on the size of the ship and the length of the construction period. COSAL increments are scheduled to provide the ultimate number of spares and are based on a percentage of completion of installation of systems and equipment.

6-A.3.1.l Purpose of Incremental COSALs

The purpose of the incremental COSAL is to define responsibility for initial OBRPs and OSI, as well as to provide early identification so the items can be acquired in a timely fashion to ensure meeting readiness milestone requirements. Each part listed in the Incremental SNSL (ISNSL) is designated as CFE or GFE. Each ISNSL provides adds and deletes so spares levels can be adjusted. Additionally, the status of outfitting can be measured throughout the construction period. The shipbuilding contractor is responsible for acquiring and providing the initial allowance of spares designated as CFE. The COSAL increments provide the Shipbuilder with a computed level of spares which reduces the number of individual spares that must be acquired.

6-A.4 COSAL MAINTENANCE

Once SNAP is initialized the ship enters the COSAL maintenance phase. This phase will continue until the ship is struck from the records. The data files and systems used to extract a COSAL are dynamic in nature. As the ship's configuration changes, the SCLSI database is updated. As the WSF is updated, the parts history file changes which means that APLs, AELs, and PALs are constantly changing. Therefore, a method of updating all ships' COSALs is a necessity. For manual ships, COSALs are updated on a monthly basis through Automated Monthly COSAL Maintenance Action Report (AMCMAR). Automated Shore Interface (ASI) data is used to provide monthly maintenance to SNAP ships.

6-A.4.1 Automated Ships

Ships that have SNAP installed receive monthly ASI data containing configuration, logistics, and allowance information to update their SNAP database.

6-A.4.2 Non-Automated Ships

Upon receipt of the AMCMAR, the ship's Supply Officer is responsible for making pen and ink changes to the COSAL reflecting the update information. This data is provided on a monthly basis.