



OSCAM Navy Suite v7.0 System Model
Data Guide and Historical Dataset Reference

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INTRODUCTION

This document is intended to provide information about the inputs to the OSCAM Navy Suite, Systems model and the historical data used to populate the historical datasets. This version of the users guide is specific to OSCAM Navy Suite 7.0 and the FY08 datasets. This version is also specific to only Primary Data inputs.

Each input to the model is described in this document. Inputs can be found by sector and number. For each input the following information is provided:

- A definition of the input
- The data source(s) of the information in the historical datasets
- A description of the historical dataset methodology
- Specific notes about the input (if required)
- An example of what format data should be entered in (if required)

The FY08 OSCAM Systems historical datasets are the most recent set of historical datasets published. The datasets contain information from VAMOSOC for FY00-FY07. The goal of the OSCAM Program Office is to include a 10 year moving average of data to populate the datasets. VAMOSOC data elements are referenced throughout this document. For more information on any of the VAMOSOC data elements, download the user's guide for the respective universes from the VAMOSOC website, www.navyvamosc.com.

Other data sources for the datasets include: Maintenance and Material Management (3M) via OARS (Open Architecture Retrieval System), the FY2009 DOD Military Personnel Composite Standard Pay and Reimbursement Rates, and NCCA FY08 Inflation Indices.

The FY08 historical datasets are kept in several databases: Communications, Electronic Data Transfer Systems (EDTS), Electronic Warfare Systems (EWS), Engines, Environmental Support Systems, Fire Control Systems (FCS), Guns, Mine Countermeasures, Missile Launchers, Radars, and Sonar. Each database contains many data records for individual system within that category.

Data records in the Communications database are:

- AN/USQ-82(V) SHIP DATA MULTIPLEX SYSTEM
- AN/USQ-144H ADNS (AUTOMATED DIGITAL NETWORK SYSTEM)
- AN/USQ-185 CENTRIXS-M (COMBINED ENTERPRIZSE REGIONAL INFORMATION EXCHANGE SYSTEM – MARITIME)
- AN/SYQ-7/26/28 TACTICAL MESSAGING
- AN/WSC-6 SHIPBOARD TERMINAL SYSTEM
- AN/USQ-119/166/172/184/187(V) GCCS-M (GLOBAL COMMAND AND CONTROL SYSTEM – MARITIME)
- AN/USC-38 EHF SATCOM
- AN/USQ-153 ISNS (INTEGRATED SHIPBOARD NETWORK SYSTEM)

Data records in the EDTS database are:

- AN/SYS-2 INTEGRATED AUTOMATIC DETECTION AND TRACKING SYSTEM (IADT)
- AN/URC-107 JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)
- AN/USG-1/2 COOPERATIVE ENGAGEMENT CAPABILITY (CEC)

Data records in the Engines database are:

- LM-2500 GAS TURBINE ENGINE
- MAIN PROPULSION DIESEL ENGINES (MPDE)
- SHIPS SERVICE DIESEL GENERATOR (SSDG)
- EMERGENCY DIESEL GENERATOR (EDG)
- ALLISON GAS TURBINE GENERATOR

Data records in the Environmental Support Systems database are:

- AN/UMK-4(V) NAVY INTEGRATED TACTICAL ENVIRONMENTAL SUPPORT SYSTEM (NITES 2000, SHIP)
- AN/SMQ-11(V) METEOROLOGICAL SATELLITE DATA AND RECEIVER RECORDER
- AN/UMQ-12A MINI-RAWIN SYSTEM (MRS), GLOBAL POSITIONING SYSTEM (GPS)
- SHIPBOARD METEOROLOGICAL AND OCEANOGRAPHIC OBSERVING SYSTEM (SMOOS)

Data records in the EWS database are:

- AN/SLQ-32 ELECTRONIC WARFARE SYSTEM
- AN/SLQ-25/25A NIXIE TORPEDO COUNTERMEASURES TRANSMITTING SYSTEM
- AN/WLQ-4(V)/(V)1 COUNTERMEASURE RECEIVING SET
- AN/WLR-8(V)2/(V)5 COUNTERMEASURE RECEIVING SET
- AN/SRS-1(V) SIGNAL DETECTION-DIRECTION FINDING SET

Data records in the FCS database are:

- MK-15 CLOSE-IN WEAPON SYSTEM (CIWS)
- COMBAT CONTROL SYSTEM MK-1
- AN/SWG-1(V)/1A(V) HARPOON SHIP COMMAND LAUNCH CONTROL SYSTEM (HSCLCS)
- MK-86 GUN FIRE CONTROL SYSTEM
- AN/SQQ-89 SURFACE ASW COMBAT SYSTEM
- MK-92 FIRE CONTROL SYSTEM

- AN/BSY-1(V) COMBAT CONTROL ACOUSTIC-SYSTEM
- COMBAT CONTROL SYSTEM MK-2
- AN/SYQ-20 ADVANCED COMBAT DIRECTION SYSTEM
- MK-116 UNDER WATER FIRE CONTROL SYSTEM MODS 1, 2, AND 4
- MK-23 TARGET ACQUISITION SYSTEM (TAS)
- MK-31 RAM GUIDED MISSILE WEAPONS SYSTEM
- MK-118 UNDERWATER FIRE CONTROL SYSTEM
- MK-57 NATO SEA SPARROW SURFACE MISSILE SYSTEM (NSSMS)
- AN/BSY-2 SUBMARINE COMBAT SYSTEMS
- MK-7 AEGIS WEAPON SYSTEM
- AN/BYG-1(V) SUBMARINE COMBAT CONTROL SYSTEM
-

Data records in the Guns database are:

- 5"/54 CALIBER MK-45 GUN
- MK-75 76MM OTO-MELARA GUN

Data records in the Mine Countermeasures database are:

- AN/SLQ-48(V) MINE NEUTRALIZATION SYSTEM

Data records in the Missile Launchers database are:

- MK-41 VERTICAL LAUNCHING SYSTEM

Data records in the Radars database are:

- AN/SPQ-12(V) RADAR DISPLAYS AND DISTRIBUTION SYSTEMS (RADDs)
- AN/SPQ-14(V) ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)
- AN/SPQ-9B RADAR
- AN/SPS-73(V) RADAR
- AN/SPS-55 RADAR
- AN/SPS-49(V) RADAR
- AN/SPS-64(V)3/(V)9 RADAR
- AN/BPS-15 SERIES RADAR
- AN/SPS-48E RADAR
- AN/BPS-16(V) RADAR
- AN/SPS-67(V)3 RADAR
- AN/SPS-40E RADAR

Data records in the Sonar database are:

- AN/BQQ-10 SONAR
- TB-16/BQ SUB FATLINE TOWED ARRAY

- TB-29/BQ SUB THINLINE TOWED ARRAY
- AN/BLQ-10 ELECTRONIC SUPPORT MEASURES (ESM) SYSTEM
- AN/SQS-56 SONAR
- AN/BQQ-5 SONAR SYSTEM
- AN/SQS-53A SONAR
- TB-23/BQ SUB THINLINE TOWED ARRAY
- AN/WSC-6 SHIPBOARD TERMINAL SYSTEM
- AN/USQ-119/166/172/184/187(V) GCCS-M (GLOBAL COMMAND AND CONTROL SYSTEM – MARITIME)
- AN/USC-38 EHF SATCOM
- AN/USQ-153 ISNS (INTEGRATED SHIPBOARD NETWORK SYSTEM)

These specific systems were chosen by the OSCAM Program Management team to include all systems that have been reporting data within the previous eight fiscal years.

OPERATIONS INPUT FORM

1: System Production Cost (\$K)

Definition: This is the production cost of the system. This does not contribute directly to the O&S cost, but can be used to calculate modernization costs when a user is utilizing Detailed databases. There is no functional value for this input at the Primary database level.

Data Source: N/A

Historical dataset methodology: This input is not populated in the historical dataset

2: System Installation Cost (\$K)

Definition: The cost of installing a system. This does not contribute directly to the O&S costs, but can be used to calculate disposal costs when a user is using Primary databases. Disposal costs can be calculated as a percentage of installation cost.

Data Source: N/A

Historical dataset methodology: This input is not populated in the historical dataset

3: System Weight (lbs)

Definition: The weight of the system. It is assumed that the weight of the system remains constant throughout the system life. At the Primary database level, this input can affect disposal costs if Input 13 is populated.

Data Source: N/A

Historical Dataset Methodology: This input is not populated in the historical dataset

4: Operator Manning (people/sys)

Definition: The number of personnel required to operate the system on board the ship. This number can include sailors with specific NECs, as well as those without a qualifying NEC.

Data Source: VAMOSOC Shipboard Systems Universe; www.navyvamosc.com

Historical Dataset Methodology: The Shipboard Systems Universe within VAMOSOC houses descriptive personnel data for each system that is reported on in that universe. For all systems, personnel requirements were pulled for the most recent year that system was in service. In some cases, VAMOSOC reported a range of personnel requirements. For example, the Allison Turbine Gas Generator reports a personnel requirement of 6-7. In the case where a range was reported the highest personnel requirement was used as an input. VAMOSOC includes both maintenance and operations personnel in its reporting and does not differentiate between the two. To account for this, the assumption is made that half of the personnel are required for maintenance and half are needed for operations. All data used from VAMOSOC is therefore divided by 2, to obtain the input for Operator Manning.

5: Maintainer Manning (people/sys)

Definition: The number of personnel required to maintain the system on board the ship. This number can include sailors with specific NECs, as well as those without a qualifying NEC.

Data Source: VAMOSOC Shipboard Systems Universe

Historical Dataset Methodology: The Shipboard Systems Universe within VAMOSOC houses descriptive personnel data for each system that is reported on in that universe. For all systems, personnel requirements were pulled for the most recent year that system was in service. In some cases, VAMOSOC reported a range of personnel requirements. For example, the Allison Turbine Gas Generator reports a personnel requirement of 6-7. In the case where a range was reported the highest personnel requirement was used as an input. VAMOSOC includes both maintenance and operations personnel in its reporting and does not differentiate between the two. To account for this, the assumption is made that half of the personnel are required for maintenance and half are needed for operations. All data used from VAMOSOC is therefore divided by 2, to obtain the input for Operator Manning.

6: Operator Manning Labor Rate (\$K/yr)

Definition: The average salary of systems operators. Annual enlisted (E-4) salary DoD composite rates are used. The composite rate includes the following military personnel appropriation costs: average basic pay plus retired pay accrual, Medicare-eligible retiree health care (MERHC) accrual, basic allowance for housing, basic allowance for subsistence, incentive and special pay, permanent change of station expenses, and miscellaneous pay.

Data Source: FY09 DoD Military Composite Standard Pay and Reimbursement Rates Department of the Navy Table

Historical Dataset Methodology: Unlike ships, shipboard systems do not have specific UICs assigned to them. Because there is no UIC, personnel costs that are directly associated with the system cannot be pulled out of the VAMOSC Personnel Universe. The personnel information reported in the VAMOSC Shipboard System Universe does not report rank for the associated system personnel, so an assumption must be made concerning the level of the personnel performing operations. The assumption made by the OSCAM Program team is to use the composite rank for an E-4 as the average salary of an operator. In FY09 the composite rate for Navy E-4 is \$64,246. The salary is then divided by 1000 to obtain a \$K/yr rate of \$64.246. All systems use this labor rate for operator costs.

7: Maint Manning Labor Rate (\$K/yr)

Definition: The average annual salary of organizational level maintainers. Annual enlisted (E-4) salary DoD composite rates are used. The composite rate includes the following military personnel appropriation costs: average basic pay plus retired pay accrual, Medicare-eligible retiree health care (MERHC) accrual, basic allowance for housing, basic allowance for subsistence, incentive and special pay, permanent change of station expenses, and miscellaneous pay.

Data Source: FY09 DoD Military Composite Standard Pay and Reimbursement Rates Department of the Navy Table

Historical Dataset Methodology: Unlike ships, shipboard systems do not have specific UICs assigned to them. Because there is no UIC, personnel costs that are directly associated with the system cannot be pulled out of the VAMOSC Personnel Universe. The personnel information reported in the VAMOSC Shipboard System Universe does not report rank for the associated system personnel, so an assumption must be made concerning the level of the personnel performing “on the line” maintenance. The assumption made by the OSCAM Program team is to use the composite rank for an E-4 as the average salary of an operator. In FY09 the composite rate for Navy E-4 is \$64,246. The salary is then divided by 1000 to obtain a \$K/yr rate of \$64.246. All systems use this labor rate for maintainer costs.

8: Fuel Cost (\$K/sys/yr)

Definition: Cost of all petroleum, oil and lubricants (including fuel additives) consumed by the LM2500 gas turbine engine and/or Allison gas turbine generator for operations and maintenance. This element is applicable to the LM2500 gas turbine engine and Allison gas turbine generator only.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 1.2.1 Ship Petroleum, Oil & Lubricants (POL) within the VAMOSC Shipboard Systems Universe represents fuel costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

9: Ordnance Cost (\$K/sys/yr)

Definition: Costs associated with expendable ordnance stores consumed by shipboard ordnance systems in non-tactical operations (such as firepower demonstrations), training exercises, and test & evaluation. This element does not include the costs of targets, range costs, post-firing analysis, and other miscellaneous costs, nor does it include combat-related costs.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 1.2.4 Expendable Stores within the VAMOSC Shipboard Systems Universe represents ordnance costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

Note: VAMOSC tracks these costs for eight ordnance systems: AN/SWG-1A Harpoon, MK15 CIWS, MK26 GMLS, MK31 RAM, MK41 VLS, MK45 5"/54, MK57 NSSMS, and the MK75 OTO Melara.

10: CPM Cost (\$K/sys/yr)

Definition: The acquisition cost of procurement funded (OPN and WPN) material used in accomplishing alterations under Fleet Modernization.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 3.3.4 Centrally Provided Material within the VAMOSC Shipboard Systems Universe represents CPM costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

11: Mod Installation Cost (\$K/sys/yr)

Definition: Cost of installation, material and services procured for the alteration of a shipboard system by Public & Private shipyards and organizations other than the installing shipyard.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Elements 3.3.1 Fleet Modernization - Public Shipyards, 3.3.2 Fleet Modernization - Private Shipyards, and 3.3.5 Other - FM within the VAMOSC Shipboard Systems Universe represents Mod Installation costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

12: De-Installation Cost Ratio (%)

Definition: The ratio of the de-installation cost to the installation cost.

Data Source: N/A

Historical Dataset Methodology: This data element is not populated in the historical datasets.

Note: A value of 70 means the de-installation cost is 70% of the installation cost for the system.

13: Disposal Cost (\$K/lb.)

Definition: This is the cost per pound of disposing of material from systems both at retirement and during modernization.

Data Source: N/A

Historical Dataset Methodology: This data element is not populated in the historical datasets.

OPERATIONAL MAINTENANCE DATA INPUT FORM

UNSCHEDULED ACTIONS TAB

14: Action per System per Year

Definition: The average number of unscheduled actions performed per system per year by the organizational activity. Unscheduled actions are corrective maintenance actions performed due to some degree of system failure.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data, and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

15: Person-Hours per Action

Definition: The average number of Person-Hours required per unscheduled action performed by the organizational activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

16: Repair Parts per Action

Definition: The average number of repair parts used per unscheduled action by the organizational activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

17: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an unscheduled action by the organizational activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

18: Repairables per Action

Definition: The average number of repairables used per unscheduled action by the organizational activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

19: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an unscheduled action by the organizational activity. The exchange price is charged when a carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

20: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an unscheduled action by the organizational activity. The issue price is charged if no carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

21: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the organizational activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

SCHEDULED ACTIONS TAB

22: Action per System per Year

Definition: The average number of scheduled actions performed per system per year by the organizational activity. Scheduled actions involve maintenance performed on a defined recurring basis.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

23: Person-Hours per Action

Definition: The average number of Person-Hours required per scheduled action performed by the organizational activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

24: Repair Parts per Action

Definition: The average number of repair parts used per scheduled action by the organizational activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

25: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during a scheduled action by the organizational activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSOC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

26: Repairables per Action

Definition: The average number of repairables used per scheduled action by the organizational activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

27: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during a scheduled action by the organizational activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

28: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during a scheduled action by the organizational activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

29: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the organizational activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

ALTERATIONS TAB

30: Action per System per Year

Definition: The average number of alteration actions performed per system per year by the organizational activity. Alterations are intended to improve the ship's capability to accomplish its mission, improve the safety of the ship and its crew, or correct a reliability or maintainability problem which has been identified with a piece of equipment or ship subsystem.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

31: Person-Hours per Action

Definition: The average number of Person-Hours required per alteration action performed by the organizational activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

32: Repair Parts per Action

Definition: The average number of repair parts used per alteration action by the organizational activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

33: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an alteration action by the organizational activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSOC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

34: Repairables per Action

Definition: The average number of repairables used per alteration action by the organizational activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

35: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an alteration action by the organizational activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

36: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an alteration action by the organizational activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

37: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the organizational activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 0% is used for all historical datasets.

INTERMEDIATE MAINTENANCE ASHORE INPUT DATA

38: Direct Labor Rate (\$K/hr)

Definition: The hourly labor rate for maintenance personnel at the intermediate ashore maintenance activity. Annual enlisted (E-5) salary DoD composite rates are used. The composite rate includes the following military personnel appropriation costs: average basic pay plus retired pay accrual, Medicare-eligible retiree health care (MERHC) accrual, basic allowance for housing, basic allowance for subsistence, incentive and special pay, permanent change of station expenses, and miscellaneous pay.

Data Source: FY09 DoD Military Composite Standard Pay and Reimbursement Rates Department of the Navy Table

Historical Dataset Methodology: Unlike ships, shipboard systems do not have specific UICs assigned to them. Because there is no UIC, personnel costs that are directly associated with the system cannot be pulled out of the VAMOSC Personnel Universe. The personnel information reported in the VAMOSC Shipboard System Universe does not report rank for the associated system personnel, so an assumption must be made concerning the level of the personnel performing maintenance. The assumption made by the OSCAM Program team is to use the composite rank for an E-5 as the average salary of a maintainer. A higher ranking is used for the I-Level maintainers compared to O-Level due to the more skilled nature of the work required. In FY09 the composite rate for Navy E-5 is \$74,296. The salary is then multiplied by .00055 and divided by 1000 to obtain a \$K/hr rate of \$.041. All systems use this labor rate for I-Level maintainer costs.

39: Overhead Factor

Definition: The overhead factor is used to adjust the labor rate to account for overhead.

Data Source: Assumption

Historical Dataset Methodology: An overhead factor of 1.0 is input for all historical datasets.

Note: E.g., direct rate =\$15/hr, overhead factor is 1.35, then the overhead rate would be 35% and the total hourly rate would be $\$15 \times 1.35 = \20.25 .

UNSCHEDULED ACTIONS TAB

40: Action per System per Year

Definition: The average number of unscheduled actions performed per system per year by the intermediate maintenance ashore activity. Unscheduled actions are corrective maintenance actions performed due to some degree of system failure

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

41: Person-Hours per Action

Definition: The average number of Person-Hours required per unscheduled action performed by the intermediate maintenance ashore activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

42: Repair Parts per Action

Definition: The average number of repair parts used per unscheduled action by the intermediate maintenance ashore activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

43: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an unscheduled action by the intermediate maintenance ashore activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

44: Repairables per Action

Definition: The average number of repairables used per unscheduled action by the intermediate maintenance ashore activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

45: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an unscheduled action by the intermediate maintenance ashore activity. The exchange price is charged when a carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

46: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an unscheduled action by the intermediate maintenance ashore activity. The issue price is charged if no carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

47: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance ashore activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

SCHEDULED ACTIONS TAB

48: Action per System per Year

Definition: The average number of scheduled actions performed per system per year by the intermediate maintenance ashore activity. Scheduled actions involve maintenance performed on a defined recurring basis.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

49: Person-Hours per Action

Definition: The average number of Person-Hours required per scheduled action performed by the intermediate maintenance ashore activity.

Data Source: 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

50: Repair Parts per Action

Definition: The average number of repair parts used per scheduled action by the intermediate maintenance ashore activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

51: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during a scheduled action by the intermediate maintenance ashore activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

52: Repairables per Action

Definition: The average number of repairables used per scheduled action by the intermediate maintenance ashore activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

53: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during a scheduled action by the intermediate maintenance ashore activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

54: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during a scheduled action by the intermediate maintenance ashore activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

55: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance ashore activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

ALTERATIONS TAB

56: Action per System per Year

Definition: The average number of alteration actions performed per system per year by the intermediate maintenance activity. Alterations are intended to improve the ship's capability to accomplish its mission, improve the safety of the ship and its crew, or correct a reliability or maintainability problem which has been identified with a piece of equipment or ship subsystem.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

57: Person-Hours per Action

Definition: The average number of Person-Hours required per alteration action performed by the intermediate maintenance ashore activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

58: Repair Parts per Action

Definition: The average number of repair parts used per alteration action by the intermediate maintenance ashore activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

59: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an alteration action by the intermediate maintenance ashore activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSOC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSOC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSOC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

60: Repairables per Action

Definition: The average number of repairables used per alteration action by the intermediate maintenance ashore activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

61: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an alteration action by the intermediate maintenance ashore activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

62: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an alteration action by the intermediate maintenance ashore activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

63: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance ashore activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 0% is used for all historical datasets.

INTERMEDIATE MAINTENANCE AFLOAT DATA INPUT FORM

64: Direct Labor Rate (\$K/hr)

Definition: The hourly labor rate for maintenance personnel at the intermediate afloat maintenance activity. Annual enlisted (E-5) salary DoD composite rates are used. The composite rate includes the following military personnel appropriation costs: average basic pay plus retired pay accrual, Medicare-eligible retiree health care (MERHC) accrual, basic allowance for housing, basic allowance for subsistence, incentive and special pay, permanent change of station expenses, and miscellaneous pay.

Data Source: FY09 DoD Military Composite Standard Pay and Reimbursement Rates Department of the Navy Table

Historical Dataset Methodology: Unlike ships, shipboard systems do not have specific UICs assigned to them. Because there is no UIC, personnel costs that are directly associated with the system cannot be pulled out of the VAMOSC Personnel Universe. The personnel information reported in the VAMOSC Shipboard System Universe does not report rank for the associated system personnel, so an assumption must be made concerning the level of the personnel performing maintenance. The assumption made by the OSCAM Program team is to use the composite rank for an E-5 as the average salary of a maintainer. A higher ranking is used for the I-Level maintainers compared to O-Level due to the more skilled nature of the work required. In FY09 the composite rate for Navy E-5 is \$74,296. The salary is then multiplied by .00055 and divided by 1000 to obtain a \$K/hr rate of \$.041. All systems use this labor rate for I-Level maintainer costs.

65: Overhead Factor

Definition: The overhead factor is used to adjust the labor rate to account for overhead.

Data Source: Assumption

Historical Dataset Methodology: An overhead factor of 1.0 is input for all historical datasets.

Note: E.g., direct rate =\$15/hr, overhead factor is 1.35, then the overhead rate would be 35% and the total hourly rate would be \$15 x 1.35 = \$20.25.

UNSCHEDULED ACTIONS TAB

66: Action per System per Year

Definition: The average number of unscheduled actions performed per system per year by the intermediate maintenance afloat activity. Unscheduled actions are corrective maintenance actions performed due to some degree of system failure

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

67: Person-Hours per Action

Definition: The average number of Person-Hours required per unscheduled action performed by the intermediate maintenance afloat activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

68: Repair Parts per Action

Definition: The average number of repair parts used per unscheduled action by the intermediate maintenance afloat activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

69: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an unscheduled action by the intermediate maintenance afloat activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

70: Repairables per Action

Definition: The average number of repairables used per unscheduled action by the intermediate maintenance afloat activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

71: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an unscheduled action by the intermediate maintenance afloat activity. The exchange price is charged when a carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

72: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an unscheduled action by the intermediate maintenance afloat activity. The issue price is charged if no carcass is turned in. This includes all associated supply chain costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

73: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance afloat activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

SCHEDULED ACTIONS TAB

74: Action per System per Year

Definition: The average number of scheduled actions performed per system per year by the intermediate maintenance afloat activity. Scheduled actions involve maintenance performed on a defined recurring basis.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

75: Person-Hours per Action

Definition: The average number of Person-Hours required per scheduled action performed by the intermediate maintenance afloat activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

76: Repair Parts per Action

Definition: The average number of repair parts used per scheduled action by the intermediate maintenance afloat activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOS database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOS database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

77: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during a scheduled action by the intermediate maintenance afloat activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOS database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOS database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOS database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

78: Repairables per Action

Definition: The average number of repairables used per scheduled action by the intermediate maintenance afloat activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOS database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOS database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

79: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during a scheduled action by the intermediate maintenance afloat activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

80: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during a scheduled action by the intermediate maintenance afloat activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

81: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance afloat activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 95% is used for all historical datasets.

ALTERATIONS TAB

82: Action per System per Year

Definition: The average number of alteration actions performed per system per year by the intermediate maintenance activity. Alterations are intended to improve the ship's capability to accomplish its mission, improve the safety of the ship and its crew, or correct a reliability or maintainability problem which has been identified with a piece of equipment or ship subsystem.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per system per year are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

83: Person-Hours per Action

Definition: The average number of Person-Hours required per alteration action performed by the intermediate maintenance afloat activity.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Person-hours per action are pulled directly from the 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

84: Repair Parts per Action

Definition: The average number of repair parts used per alteration action by the intermediate maintenance afloat activity. Repair parts are parts which are maintained with a discard philosophy instead of a repair philosophy.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

85: Cost per Repair Part (\$K)

Definition: The average cost per repair part used during an alteration action by the intermediate maintenance afloat activity. The replacement cost is the cost of purchasing a new part plus all associated supply chain costs.

Data Source: OARS 3M, NCCA Inflation Indices

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Cost per repair part (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

86: Repairables per Action

Definition: The average number of repairables used per alteration action by the intermediate maintenance afloat activity. A repairable is a component having a repair philosophy; when removed, it is usually sent to the depot to be repaired.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3M system for the eight most recent years of data and an average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

87: Average Exchange Cost (\$K)

Definition: The average exchange cost per repairable used during an alteration action by the intermediate maintenance afloat activity. The exchange price is charged when a carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average exchange costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

88: Average Issue Cost (\$K)

Definition: The average issue cost per repairable used during an alteration action by the intermediate maintenance afloat activity. The issue price is charged if no carcass is turned in. This includes all associated supply system costs.

Data Source: OARS 3M

Historical Dataset Methodology: Data is pulled directly from the OARS 3M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average issue costs (\$K) are pulled directly from the OARS 3M system for the eight most recent years of data. The data is gathered in TY\$ and must be converted to FY09\$. Issue costs and repair parts cost are inflated using the OMN Purchases weighted index while exchange costs are inflated using OMN/LF Comp weighted index. The difference between indices represents the different inflation experienced for purchasing new equipment/parts and holding and maintaining inventory and is consistent with how each cost category is inflated in the VAMOSC database. Once all cost data has been converted to FY09\$ an eight year average is calculated that is used for the OSCAM input. Subsequent data sets will continue add data in until a rolling ten year average can be calculated.

89: Exchange Factor (%)

Definition: The percentage of repairables turned in for repair during an unscheduled action by the intermediate maintenance afloat activity.

Data Source: Assumption

Historical Dataset Methodology: The OARS 3M system does not provide exchange factor data for scheduled maintenance or I-level maintenance. An assumed value of 0% is used for all historical datasets.

OTHER SECTORS INPUT TAB

90: Shipyard Maint Cost (\$K/sys/yr)

Definition: The cost of shipyard maintenance performed on a system while the ship is in a scheduled ship overhaul. These costs can include both scheduled and unscheduled maintenance for the system.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 3.6.5 Equipment Rework – Government within the VAMOSC Shipboard Systems Universe represents shipyard maintenance costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

91: Contr Depot Maint Cost (\$K/sys/yr)

Definition: This is the cost incurred for each system per year for program manager (PM) funded contractor depot maintenance.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 3.6.4 Equipment Rework – Contractor within the VAMOSC Shipboard Systems Universe represents contractor depot maintenance costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

92: Other Depot Maint Cost(\$K/sys/yr)

Definition: This is a catch-all category for miscellaneous depot level maintenance costs not captured elsewhere,

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Elements 3.9.1 Maintenance - Depot - Public Shipyards – Systems and 3.9.2 Maintenance - Depot - Private Shipyards – Systems, which are sub-elements to 3.9 Other Depot, within the VAMOSC Shipboard Systems Universe represents other depot maintenance costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

93: S/W Maint Cost (\$K/program/yr)

Definition: The cost (for the whole program) of maintaining the system software. Software maintenance includes correcting faults, improving performance or their attributes, or adapting to a changed environment. It occurs at a constant rate as long as there are systems in service.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 4.4 Software Support within the VAMOSC Shipboard Systems Universe represents software support costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

94: ETS Cost (\$K/program/yr)

Definition: This is the cost (for the whole program) for engineering technical services (ETS) which include contractor and Navy services. It occurs at a constant rate as long as there are systems in service.

Data Source: VAMOSC Shipboard Systems Universe

Historical Dataset Methodology: Element 4.3 Engineering and Technical Services within the VAMOSC Shipboard Systems Universe represents ETS costs. All data that has been reported in the last eight years from FY00-FY07 for expenditures are pulled in FY09\$ for this category. The number of system years experienced is also pulled from the VAMOSC database. Expenditures are divided by the number of system years reported to calculate an average \$/sys/yr. This average is then divided by 1000 to convert to \$K/sys/yr. If eight years of data is not available for any given system as many years as is available is used to calculate the average.

95: Student Days (SD) Per Sys Per Yr

Definition: The average number of student-days per system per year for courses specific to the shipboard system. A student-day is defined as one student having one day of course training.

Data Source: VAMOSC Shipboard Systems Universe, VAMOSC program office

Historical Dataset Methodology: Not all of the data needed to populate this input is available in the public VAMOSC Universes. Data is sent directly to the OSCAM Program Office by the VAMOSC program office that identifies, by Course Identification Code (CIN), the number of students graduated, number of instructor days needed per course, and the total cost spent on that course, delineated by FY. Data is collected on a year by year basis, meaning that the only new data collected for the current datasets is reflective of the time since the last data release. All data that has been reported in the last seven years from FY01-FY07 is included in included in this category. Student days per year are calculated by multiplying the number of students graduated per year by the number of instructor days per class. Using the VAMOSC Shipboard Systems Universe, CIN codes are cross-referenced with systems. The cross-referencing allows total student days per system type to be calculated. The student days per system type are then divided by number of systems present in a given year, resulting in Student Days per Sys per Yr. If seven years of data is not available for any given system as many years as is available is used to calculate the average.

Note: Data for training is only available for FY01 and after.

96: Military Instructor Cost/SD (\$K)

Definition: The average cost per student-day of instructors funded via MPN appropriations for courses specific to the shipboard system. Does not include costs for general (pipeline) courses or student pay.

Data Source: VAMOSC Shipboard Systems Universe, VAMOSC Program Office

Historical Dataset Methodology: Not all of the data needed to populate this input is available in the public VAMOSC Universes. Data is sent directly to the OSCAM Program Office by the VAMOSC program office that identifies, by Course Identification Code (CIN), the number of students graduated, number of instructor days needed per course, and the total cost spent on that course, delineated by FY. Data is collected on a year by year basis, meaning that the only new data collected for the current datasets is reflective of the time since the last data release. All data that has been reported in the last seven years from FY01-FY07 is included in included in this category. Prior year cost data is inflated using the MPN weighted index to represent the current year costs. Student days per year are calculated by multiplying the number of students graduated per year by the number of instructor days per class. Using the VAMOSC Shipboard Systems Universe, CIN codes are cross-referenced with systems. The cross-referencing allows total student days per system type and total costs per system type to be calculated. The student days per system type are then divided by number of systems present in a given year, resulting in Student Days per Sys per Yr. Total costs are then divided by Student Days per Sys per Yr to develop a Cost per Student Day. If seven years of data is not available for any given system as many years as is available is used to calculate the average.

Note: Because no delineation is given in respect to training costs, all costs have been categorized as instructor related costs. The Other Training Cost/Student Day is assumed to be \$0.

97: Other Training Cost/SD (\$K)

Definition: Cost per student-day of materials, rent, and overhead of the training facilities and instructors funded via O&MN appropriations for system specific courses. Does not include general (pipeline) course costs or student pay.

Data Source: Assumption

Historical Dataset Methodology: Because no delineation is given in respect to training costs, all costs have been categorized as instructor related costs. The Other Training Cost/Student Day is assumed to be \$0.

ACRONYM LIST – Glossary of OSCAM related terms

Term	Air	Navy	Definition
*.CER		Y	OSCAM Cost Estimating Relationships (PCT generated) file
*.CHR		Y	OSCAM Characteristics file
*.CSV	Y	Y	Comma Separated Values file
*.DTF	Y	Y	Data Transfer Format file
*.HIS	Y	Y	OSCAM Historical Database file
*.SEC		Y	OSCAM Secondary / Detailed Database file
*.USE	Y	Y	OSCAM User Database file
*.WBD	Y		OSCAM Detailed Work Breakdown Structure file
*.WBS	Y		OSCAM Simplified Work Breakdown Structure file
*.WNA	Y		OSCAM Workspace file
*.WSH		Y	OSCAM Ship Workspace file
*.WSY		Y	OSCAM Sys Workspace file
3M		Y	OARS Ships' 3-M System – Maintenance and Material Management
A/C	Y		Aircraft
AAAV	Y	Y	Advanced Amphibious Assault Vehicle
AAV	Y	Y	Amphibious Assault Vehicle
AE	Y	Y	Ammunition Ship Class
AE/TAE	Y		Ammunition Ship Class
AFS	Y	Y	Combat Store Ship Class
AIMD	Y		Aircraft Intermediate Maintenance Department
AIRRS	Y		Aircraft Inventory & Readiness Reporting System
AMAF	Y		Type Equipment Code (TEC) for F/A-18C
AOA	Y	Y	Analysis of Alternatives
AOE	Y	Y	Fast Combat Support Ship Class
APU	Y		Auxiliary Power Unit
ASN	Y	Y	Assistant Secretary of the Navy
ATMSR	Y		Aircraft Type Model Series Report (database)
AV-3M	Y		Aviation Maintenance, Material, Management
AVDLR	Y		Aviation Depot Level Repair
BAH	Y		Basic Allowance for Housing
Balancing Loop	Y	Y	Loop in an SD ID with an odd number of –ve links
BAS	Y		Basic Allowance for Subsistence
BCM	Y		Beyond Capability of Maintenance
BOS	Y		Base Operations Support
BUNO	Y		Bureau Number
BUPERS	Y		Bureau of Naval Personnel
C-17	Y	Y	Cargo aircraft
C4I	Y	Y	Command & Control, Communications, Computers and Intelligence
CAGE	Y		Commercial And Government Entity

Term	Air	Navy	Definition
CAIG	Y	Y	Cost Analysis Improvement Group
Cats/Traps	Y		Catapults/Landings with Arresting Gear
CBD	Y	Y	Commerce Business Daily
CERs	Y	Y	Cost Estimating Relationships
CES		Y	Cost Element Structure
CETS	Y		Contractor Engineering Technical Services
CIN		Y	Course Identification Code
CL		Y	Class
CLS	Y		Contractor Logistic Support
CM		Y	Continuous Maintenance
CNA	Y		Center for Naval Analyses
CNET	Y		Chief of Naval Education and Training
CNO	Y	Y	Chief of Naval Operations
COG	Y		Cognizant Code
COH		Y	Complex Overhaul
COMET	Y	Y	Cost of Manpower Estimating Tool
CONUS		Y	Continental United States (?)
COSAL		Y	Coordinated Shipboard Allowance List
CPM		Y	Centrally Provided Material
CY	Y		Calendar Year
DASN	Y	Y	Deputy Assistant Secretary of the Navy
DAU	Y	Y	Defense Acquisition University
DBs	Y	Y	Databases
DCM		Y	Drydock Continuous Maintenance
DD(X)	Y		Multi-Mission Surface Combatant
Delphi	Y	Y	Programming Language
DEMA		Y	Docking Extended Maintenance Availability
DFAS	Y		Defense Finance and Accounting Service
DLIS	Y		Defense Logistics Information Service
DMDC	Y		Defense Manpower Data Center
DMISA	Y		Depot Maintenance Inter-service Support Agreement
DMP		Y	Depot Modernization Period
DMT	Y	Y	Data Management Tool
DoD	Y	Y	Department of Defense
DON	Y	Y	Department of the Navy
DPIA		Y	Docking Planned Incremental Availability
DPMA		Y	Docking Planned Maintenance Availability
DRPM	Y	Y	Direct Reporting Program Manager
DSRA		Y	Dry-Dock Selected Restricted Availabilities
E5	Y		Enlisted personnel – Petty Officer Second Class (Navy)
ECP		Y	Engineering change proposals
EDSRA		Y	Extended Drydocking Selected Restricted Availability
EFV	Y	Y	Expeditionary Fighting Vehicle
EIC		Y	Equipment Identification Code

Term	Air	Navy	Definition
Eng	Y		Engine
EOC		Y	Engineered Operating Cycle
EOH		Y	Engineered Overhaul
ERO		Y	Engineered Refueling Overhaul
ERP		Y	Extended Relief Period
ESRA		Y	Extended Selected Restricted Availability
ESWBS		Y	Expanded Ship Work Breakdown Structure
ETS		Y	Engineering and Technical Services
F-22	Y	Y	US Air Force Fighter Aircraft (F-22 Raptor program)
FAQs	Y	Y	Frequently Asked Questions
FASH	Y	Y	Future Amphibious Support Helicopter
FHP	Y		Flying Hour Program
FICA	Y		Federal Insurance Contributions Act
FLD		Y	Full Load Displacement
FM&C	Y	Y	Financial Management and Comptroller
FMB	Y	Y	Financial Management Budget (Navy Office of Budget)
FMP		Y	Fleet Modernization Program
FRS	Y		Fleet Readiness Squadron
Ft		Y	Feet
FTE	Y		Full-Time Equivalent
FY	Y	Y	Fiscal Year
HQMC	Y		Headquarters Marine Corps
Hrs	Y	Y	Hours
HVR-CSL	Y	Y	HVR Consulting Services Ltd
IBM	Y	Y	IBM Business Consulting Services
ID	Y	Y	Identifier
ID	Y	Y	Influence Diagram
IDD		Y	Interim Dry-docking
IDSRA		Y	Incremental Docking Selected Restricted Availability
IFT		Y	In Fleet Time
I-Level	Y	Y	Intermediate Level
IMP		Y	Incremental Maintenance Program
INAC		Y	Inactivation Availability
IOC		Y	Initial Operating Capability
IPT	Y	Y	Integrated Product Team
IRR		Y	Combined Inactivation, Reactor Compartment Disposal and Hull Recycling Availability
ISD		Y	In Service Date
ISEA		Y	In Service Engineering Agent
ISRA		Y	Incremental Selected Restricted Availability
IT	Y		Information Technology
IV&V	Y	Y	Independent Verification and Validation
JCN Org	Y		Job Control Number
JP-5	Y		Jet Fuel

Term	Air	Navy	Definition
JSF	Y		Joint Strike Fighter
LANT & PAC		Y	Atlantic Fleet and Pacific Fleet
LCCE	Y	Y	Life Cycle Cost Estimate
LMDSS	Y		Logistics Management Decision Support System
LSD		Y	Light Ship Displacement
M	Y	Y	Meters
M1A1	Y	Y	Abrams tank
MALS	Y		Marine Aviation Logistics Squadron
MALS AUG	Y		Marine Aviation Logistics Squadron Augment
MARCORSYSCOM	Y	Y	Marine Corps Systems Command
MAVD		Y	Materially Available Vessel Days
Max		Y	Maximum
MCC	Y		Monitor command code
MIHA	Y		Moving-In Housing Allowance
Min		Y	Minimum
MMP		Y	Major Maintenance Period
MOD	Y	Y	Ministry of Defence, UK
MOTU		Y	Mobile Technical Unit
MPH	Y	Y	Miles Per Hour
MPN	Y		Military Personnel Navy Appropriation
MSC	Y		Military Sealift Command (database)
MTBR	Y		Mean Time Between Removals
N/A		Y	Not Applicable
NADEP		Y	Naval Aviation Depot
NALC		Y	Naval Ammunition Logistic Code
NAMSR	Y		Naval Aviation Maintenance Subsystem Reporting (database)
NAMSR PLUS	Y		Naval Aviation Maintenance Subsystem Reporting – Expanded (database)
NAPRA	Y		Naval Air Pacific Repair Activity
NATEC	Y		Naval Air Technical Data & Engineering Service Command
NAVAIR	Y	Y	Naval Air Systems Command
NAVICP	Y		Naval Inventory Control Point
NAVSEA	Y	Y	Naval Sea Systems Command
NAVSUP	Y		Naval Supply Systems Command
NAWC-TSD	Y		Naval Air Warfare Center Training Systems Division
NCAD	Y	Y	Naval Cost Analysis Division
NCCA	Y	Y	Naval Center for Cost Analysis
NEC	Y	Y	Navy Enlisted Code
Negative (-ve) Link	Y	Y	SD ID link where an increase/decrease in the influencing variable leads to a change in the opposite direction in the influenced variable
Negative Loop	Y	Y	Loop in an SD ID with an odd number of negative (-ve) links
NETS	Y		Naval Engineering Technical Services
NFO	Y		Naval Flight Officer
NIIN	Y		National Item Identification Number

Term	Air	Navy	Definition
NMCI	Y		Navy / Marine Corps Intranet
NODES	Y	Y	Navy Obligation Data Extraction System
NOLSC	Y		Naval Operational Logistics Support Center
NPRE	Y		Non-Program Related Engineering
NSWCCD	Y		Naval Surface Warfare Center, Carderock Division
NU		Y	Not Underway
O&S	Y	Y	Operating and Support
O3	Y		US Navy Lieutenant
OHA	Y		Overseas Housing Allowance
O-Level	Y	Y	Organizational Level
OMN	Y		Operation and Maintenance Navy Appropriation
OPNAV	Y		Operations Navy
OPTEMPO	Y	Y	Operations Tempo
OSCAM	Y	Y	Operating and Support Cost Analysis Model
OSD	Y	Y	Office of the Secretary of Defense
OSD(C)	Y		Office of the Secretary of Defense Comptroller
PA&E	Y	Y	Program Analysis and Evaluation
PCS	Y	Y	Permanent Change of Station
PCT		Y	Parametric Costing Tool
PDM	Y		Program Depot Maintenance
PEBD	Y		Pay Entry Base Date
PEMA		Y	Pierside Extended Maintenance Availability
PEO IWS 3	Y		Program Executive Office for Integrated Warfare Systems
PIA		Y	Planned Incremental Availability
PIRA		Y	Pre-Inactivation Restricted Availability
PLCCE	Y	Y	Program Life Cycle Cost Estimate
PM	Y		Program Manager
PM		Y	Planned Maintenance
PMA	Y		Program Manager Aviation (NAVAIR PMA-271)
PMA		Y	Planned Maintenance Availability
POCs	Y	Y	Points of Contact
POL		Y	Petroleum, Oils and Lubricants
POM	Y	Y	Program Objective Memorandum
Positive (+ve) Link	Y	Y	SD ID link where an increase/decrease in the influencing variable leads to a change in the same direction in the influenced
Positive Loop	Y	Y	Loop in an SD ID with an even number of negative (-ve) links
Powersim	Y	Y	System Dynamics Software
PRE	Y		Program Related Engineering
PRL	Y		Program Related Logistics
PROG		Y	Progressive Maintenance
PSA		Y	Post Shakedown Availability
PwC		Y	PricewaterhouseCoopers
R&D		Y	Research and Development
RAM	Y		Rolling Airframe Missile

Term	Air	Navy	Definition
RAND	Y		A nonprofit research and analysis institution
RAV		Y	Restricted Availability Depot Level Repair
RCM		Y	Reliability Centered Maintenance
RCOH		Y	Refueling Complex Overhaul
RD&A	Y	Y	Research, Development and Acquisition
Reinforcing Loop	Y	Y	Loop in an SD ID with an even number of negative (-ve) links
RFP	Y	Y	Request For Proposal
ROH		Y	Regular Overhauls
ROH		Y	Regular Overhaul
RPM	Y		Real Property Maintenance
R-TOC	Y	Y	Reduced-Total Ownership Cost
RUC	Y		Reporting Unit Code
S/W		Y	Software
SCO		Y	Service Craft Overhaul
SD	Y	Y	System Dynamics
SEAOPDET	Y		Sea Operational Detachment
SECNAV	Y		Secretary of the Navy
SER	Y		Serial Number
SHU		Y	Steaming Hours Underway
SIMAs		Y	Shore Intermediate Maintenance Activities
SPAWAR	Y	Y	Space and Naval Warfare Systems Command
SPO	Y	Y	System Program Office
SRA	Y		Shop Replaceable Assemblies
SRA		Y	Selected Restricted Availability
SW	Y	Y	Software
Sys		Y	Shipboard Systems
TAD	Y	Y	Temporary Additional Duty
T-ADC(X)	Y	Y	Auxiliary Dry Cargo Carrier
TAFS	Y		Combat Store Ship Class
T-AKE	Y	Y	Advanced Auxiliary Dry Cargo Ship
TAV		Y	Technical Availability Depot Level Repair
TD	Y		Technical Directive
TDY	Y		Temporary Duty
TESS		Y	Tactical Environmental Support System
TMS	Y		Type Model Series
TOC	Y	Y	Total Ownership Cost
UIC	Y	Y	Unit Identification Code
USAF	Y	Y	United States Air Force
USMC	Y	Y	United States Marine Corps
V	Y	Y	Version
V&V	Y	Y	Validation and Verification
VAMOSC	Y	Y	Visibility and Management of Operating and Support Costs (database)
Ver	Y	Y	Version
VHA	Y		Variable Housing Allowance

Term	Air	Navy	Definition
Vs.		Y	Versus
WBS	Y	Y	Work Breakdown Structure
WRA	Y		Weapons Replaceable Assemblies
WUC	Y		Work Unit Code
Yr		Y	Year