Report to Congress

Budget Models Used for Base Operations Support, Sustainment, and Facilities Recapitalization

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**Deputy Under Secretary of Defense
(Installations and Environment)**

**Office of the Under Secretary of Defense
(Acquisition, Technology, and Logistics)**

This report responds to Public Law 109-163, the National Defense Authorization Act for Fiscal Year 2006, which requires the Department of Defense to report on the budget models used for base operations support, sustainment, and facilities recapitalization.

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INTRODUCTION:

The Department of Defense is one of the world's largest organizations in terms of physical plant, managing and operating more than 571,900 facilities worldwide with a total replacement value greater than $650 billion in current dollars at the end of fiscal year 2005[1]. This large inventory of long-lived capital assets requires a significant annual commitment of resources to provide expected performance on an ongoing basis. To help predict these substantial resource requirements, DoD has classified them into several categories and has developed—or is now developing—tools and metrics to establish funding targets and measure performance.

This report addresses DoD's tools and funding for what generally represent the three largest of these requirement categories: Base operations support, facilities sustainment, and facilities recapitalization. These terms are defined below in section (3). This is the first of five annual reports prescribed by the Conference Report, coinciding with DoD's budget request for FY 2007. For the FY 2007 budget request, the level of maturity and standardization of these tools differs between categories, which is further explained in section (1).

REPORTING REQUIREMENT:

Public Law 109-163, the National Defense Authorization Act for Fiscal Year 2006, states:

SEC. 352. REPORTS ON BUDGET MODELS USED FOR BASE OPERATIONS SUPPORT, SUSTAINMENT, AND FACILITIES RECAPITALIZATION.

(a) REPORTS REQUIRED. – Not later than March 30 of each of the calendar years 2006 through 2010, the Secretary of Defense shall submit to the congressional defense committees a report describing the models used to prepare the budget requests for base operations support, sustainment, and facilities recapitalization submitted to Congress by the President under section 1105)a) of title 31, United States Code, for the next fiscal year.

(b) CONTENT OF REPORTS. -- The report for a fiscal year under subsection (a) shall include the following:

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[1] Department of Defense Base Structure Report, Fiscal Year 2005 Baseline

(1) An explanation of the methodology used to develop each model and, if there have been any changes to the methodology since the previous report, an explanation of the changes and the reasons therefor.

(2) A description of the items contained in each model

(3) An explanation of whether the models are being applied to each military department and Defense Agencies under common definitions of base operations support, sustainment, and facilities recapitalization and, if common definitions are not being used, an explanation of the differences and the reasons therefor.

(4) A description of the requested funding levels for base operations support, sustainment, and facilities recapitalization for the fiscal year covered by the defense budget materials and the funding goals established for base operations support, sustainment, and facilities recapitalization for at least the four succeeding fiscal years.

(5) If the requested funding levels for base operations support, sustainment, and facilities recapitalization for the fiscal year covered by the defense budget materials deviate from the goals for that fiscal year contained in the preceding report, or the funding goals established for succeeding fiscal years deviate from the goals for those fiscal years contained in the preceding report, a justification for the funding levels and goals and an explanation of the reasons for the changes from the preceding report.

CONTENT OF REPORT:

1. Methodology used to develop each model

A. Base Operations Support

The Department does not yet employ a standardized model to generate base operations support requirements, although a prototype model for facilities operation requirements (a subset of base operations support) is now complete, with full implementation planned for the FY 2010 budget. This section describes the model or methodology used by each military Service and the Defense Logistics Agency.

Army: The Army Installation Management Headquarters Information (AIM-HI) process is used to develop the services portion of the Army's base support requirements. The AIM-HI process uses a consistent methodology to develop predictive cost equations by service. These estimates are based upon what a service "should" cost and Army-wide performance standards. The Army's Installation Status Report (ISR) (Services) and Service Based Costing are the analytic underpinning of this process. Using the "should cost" methodology to develop requirements ensures consistent, standard programming across installations and that soldiers and families receive quality, predefined levels of support. This complies with Management Initiative Decision 901, 910, and 913, which mandate performance metrics and measurement.

The AIM-HI process uses a parametric approach based on pacing measures (cost drivers) and performance standards to predict full service cost known as the Standard Service Cost (SSC). Adjustments approved by Headquarters, Department of the Army (HQDA) may be added to the AIM-HI SSC baseline. Examples of adjustments include Department of Defense (DOD) mandated decreases as a result of Program Budget Decisions, Program Decision Memoranda and changes in laws and policy that mandate a change in the level of acceptable service, and "fact of life changes" such as increases in anti-terrorism/force protection after the terrorist attack on the Pentagon. The AIM-HI baseline data and the operation of the model are reviewed and validated annually by the Deputy Assistant Secretary of the Army (Cost and Economics).

Navy: The Base Operating Support (BOS) model is designed to generate required funding for four Common Output Level Standards (COLS) for each BOS function. Currently, 18 BOS functions (representing 67% of all BOS costs) are modeled. Nine functions are anticipated to remain Level of Effort (LOE) and are not modeled.

The model produces output based on a tiered output system, COLS 1-4. COLS 1 is the highest level of service and typically costs the most. COLS have been developed for each BOS function outlined in the Core Business Model. The models generate output by multiplying the number of units by unit cost. The example of janitorial service is provided to explain the methodology. The number of building square feet is multiplied by the unit cost for the frequency of service. COLS 1 for janitorial service requires cleaning the restrooms, trash removal, damp mopping, dusting, etc. more frequently than COLS 4. The unit cost is established in several ways including navy historical costs, commercial estimating manuals, data sources such as the Building Operators Management Association (BOMA), federal, state, and local government cost data, etc. A location factor is applied to account for varying cost of services around the world. Standard government inflation factors are used to escalate costs for the out-years.

During programming and budgeting, the desired COLS is selected by senior Navy leadership. Following execution of the budget, a performance data call is completed to measure output.   A series of questions are asked to determine which COLS was actually achieved for the given resources. Output is recorded in an annual Stockholders Report.   Following publication of the Stockholders report, teams of technical experts for each function assess accuracy of the model and adjust unit and cost drivers as required.

The model was developed by teams of functional and technical experts from budget submitting offices across the Navy. COLS and pricing and performance measurements were assessed by an Accreditation Team comprised of analysts on the Chief of Naval Operations staff through a process called Validation, Verification, and Accreditation (VV&A).

Since the BOS model was developed in 2003, there have been no substantial changes and only refinements to a few of the functional areas. For example, in the Base Support Vehicles and Equipment (BSV&E) function, the unit cost for vehicles changed from owned to leased as the navy has largely transitioned in lockstep with other federal agencies to vehicles leased through the General Services Administration (GSA) rather than owned vehicles.

Marine Corps: The Marine Corps currently does not use a comprehensive model for BOS cost development except in certain areas such as utilities. Estimates are made by direct review of historical program execution, and future needs done during the POM review process and are sufficient to meet top priority "must pay" (labor and contractual) BOS requirements in FY06 through FY11. The Marine Corps is participating in DoD's development of models in this area, and when they are ready, will be used as input in the POM process, replacing the current method. Since this is the first report, there are no changes to previous methodology, but this is the methodology we have been using for a significant period of time.

Air Force: The Air Force currently does not use a model/formula for BOS cost development except for two subsets: "facilities operation" and "base operating support."   Facilities operation provides engineering operations and services to accomplish municipal- type activities such as utility plant operations, purchased utilities, annual services contracts, and emergency services (fire protection/crash rescue and explosive ordnance disposal). Facilities operation requirements are based on the average of the previous 4-year non-civilian pay obligations. Base operating support provides in-house and contractual support for day-to-day operations at installations including the following: transportation, security forces, comptroller, staff judge advocate, personnel organizations, dining facility operations, lodging operations, contracting services, chaplain, supply/logistics operations, and administration.

Base operating support requirements are based on the BOS Cost Projection Formula. This formula forecasts requirements based on multiple linear regression analysis (MLRA) using the following factors: BOS personnel (officers, enlisted, civilians), plant replacement value (PRV), and contractor management equivalents (CME). The BOS Cost Projection Formula was

used for the first time in development of the FY06 budget request. Prior to development of the BOS Formula, requirements were based on 95% of previous 4-year non-civilian pay obligations, similar to the facilities operation methodology. The Air Force is participating in development of the DoD facilities operation model and also in the future Installation Services Model that will encompass the balance of BOS.

Defense Logistics Agency: The DLA currently does not use a comprehensive model for BOS cost development. Estimates are made by level of effort review of historical program execution, and future needs done during the PBR review process. The DLA is participating in the Department's development of models in this area.

B. Facilities Sustainment

DoD uses a standardized department-wide model for predicting facilities sustainment resource requirements: the DoD facilities sustainment model (FSM). FSM was first used in conjunction with the FY 2003 budget request. Since then, it has been updated annually with new inputs, although the fundamental methodology has remained unchanged.

FSM calculates the average annual sustainment cost for each facility in the department's inventory for each year in the budget request and Future Years Defense Program (FYDP), and assigns this cost to the appropriate organization and fund source (appropriation type) using various business rules. The complete table of FSM business rules and calculation methodology is provided in the appendix. The basic formula for the cost calculation is:

Annual sustainment requirement = facility quantity **x** sustainment cost factor **x** location factor **x** inflation

Where:

Quantity = the facility size expressed in the FAC[2] unit of measure (such as square feet)

Sustainment cost factor = the average annual unit cost (in current year dollars) for sustaining the average size facility in the given FAC

Location factor = a location adjustment based upon the local costs for labor, equipment, materials, and currency exchange rates (overseas) compared with an overall base-city average

Inflation = factor to adjust current year prices to the target future year

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[2] Facility Analysis Category, a DoD standardized facility classification. DoD has established approximately 400 FACs.

In addition to calculated costs, FSM includes a small number of "non-modeled" costs for specific sustainment requirements not directly associated with facilities in the real property inventories. These costs are calculated outside of the model and entered into the model as lump sum line items. Channel dredging is the most significant of these costs.

The FSM-calculated requirement provides the basis of the sustainment metric—the comparison of sustainment funding to the requirement for a given year, expressed as a rate:

Sustainment rate (%) = sustainment funding / FSM requirement

In the FY 2007 budget request, only those facilities primarily supported with O&M appropriations are included in the reported sustainment rate, although FSM also calculates the requirement for facilities supported with other appropriations (such as RDTE and Family Housing). For the rate to be complete and accurate, other sources of funding that contribute to sustaining this inventory are also included—specifically, Military Personnel, Host Nation Support, and the Defense Working Capital Fund.

C. Facilities Recapitalization

The Department does not employ a standardized department-wide model per se for predicting facilities recapitalization resource requirements for the FY 2007 budget request. However, each component within DoD employs a standardized Department-wide formula for calculating plant replacement value (PRV) that forms the basis for generating recapitalization requirements:

Plant Replacement Value = facility quantity x construction cost factor x location factor x P&D factor x historical factor x contingency factor x SIOH x inflation

Where:

Quantity = the facility size expressed in the FAC[3] unit of measure (such as square feet)

Construction cost factor = the average annual unit cost (in current year dollars) for constructing the average size facility to current standards in the given FAC

Location factor = a location adjustment based upon the local costs for labor, equipment, materials, and currency exchange rates (overseas) compared with an overall base-city average

P&D factor = an adjustment to account for typical project planning and design costs

Historical factor = an adjustment for historical architecture and materials (when applicable)

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3 Facility Analysis Category, a DoD standardized facility classification. DoD has established approximately 400 FACs.

Contingency factor = an adjustment for typical contingency costs during construction

SIOH = an adjustment for supervision, inspection, and overhead costs associated with construction management

Inflation = factor to adjust current year prices to the target future year

PRV is calculated for all facilities that fulfill a long-term need and would need to be used and modernized indefinitely, representing the "recapitalizable" facilities inventory for each Component. This "recapitalizable" PRV provides the basis of the recapitalization metric—the comparison of recapitalization funding to the "recapitalizable" PRV expressed as a rate:

Recapitalization rate (years) = "recapitalizable" PRV / annual recapitalization funding

The current DoD goal is to invest in facilities recapitalization sufficient to replace the inventory at a rate equal to its expected average service life, calculated as 67 years on average for the entire Department. Stated another way, the recapitalization investment goal is $1/67^{th}$ of the "recapitalizable" PRV for each Component for each year of the FYDP.

Recapitalization encompasses both renovation and replacement of existing facilities. In the FY 2007 budget request, only those facilities primarily recapitalized with Military Construction appropriations are included in the recapitalization metric. For the metric to be complete and accurate, other sources of funding that contribute to recapitalizing this inventory are also included—specifically, O&M, RDT&E, Defense Working Capital Fund, Military Personnel, and BRAC Military Construction.

2. Description of items contained in each model

A. Base Operations Support

This section describes the items contained in models for base operations support outlined in section 1.

Army: The AIM-HI process generates requirements in seven major service areas: Personnel and Community, Information Technology, Operations, Logistics, Engineering, Resource Management, and Command and Staff. The seven major service areas are separated into 64 distinct service areas. AIM-HI does not generate requirements for environmental quality (EQ) or sustainment. Environmental quality requirements are developed via bottom-up-build of project-level requirements by the installations, submitted through

their chain of command to HQDA for final review and validation using environmental program databases. Beginning with Program Objective Memorandum 08-13, development of EQ requirement costs will transition to the Environmental Cost Standardization methodology, an analytical approach which generates the cost of requirements based on historic execution data and key cost drivers from authoritative Army data sources.

Navy: The items contained in the BOS model are outlined in the Core Business Model (CBM) shown below. Previous to implementation of the CBM, the BOS requirement was presented in single lump sum based on historical data. Articulation of a single requirement to support such a wide range of functions, combined with limited ability to describe what COLS was obtained, made it difficult to allocate the proper amount of BOS funding considering other competing priorities. In addition, an inability to track execution by function, measure outcomes, or establish a link to readiness contributed to credibility issues in requirements justification. The CBM is separated into functional areas known as Special Interest (SI) items. Within each special interest items, there are several subdivisions known as sub-functions. Cost account codes (not shown on the chart) further divide the sub-functions to accurately capture costs of within each special interest item and sub-function during execution.
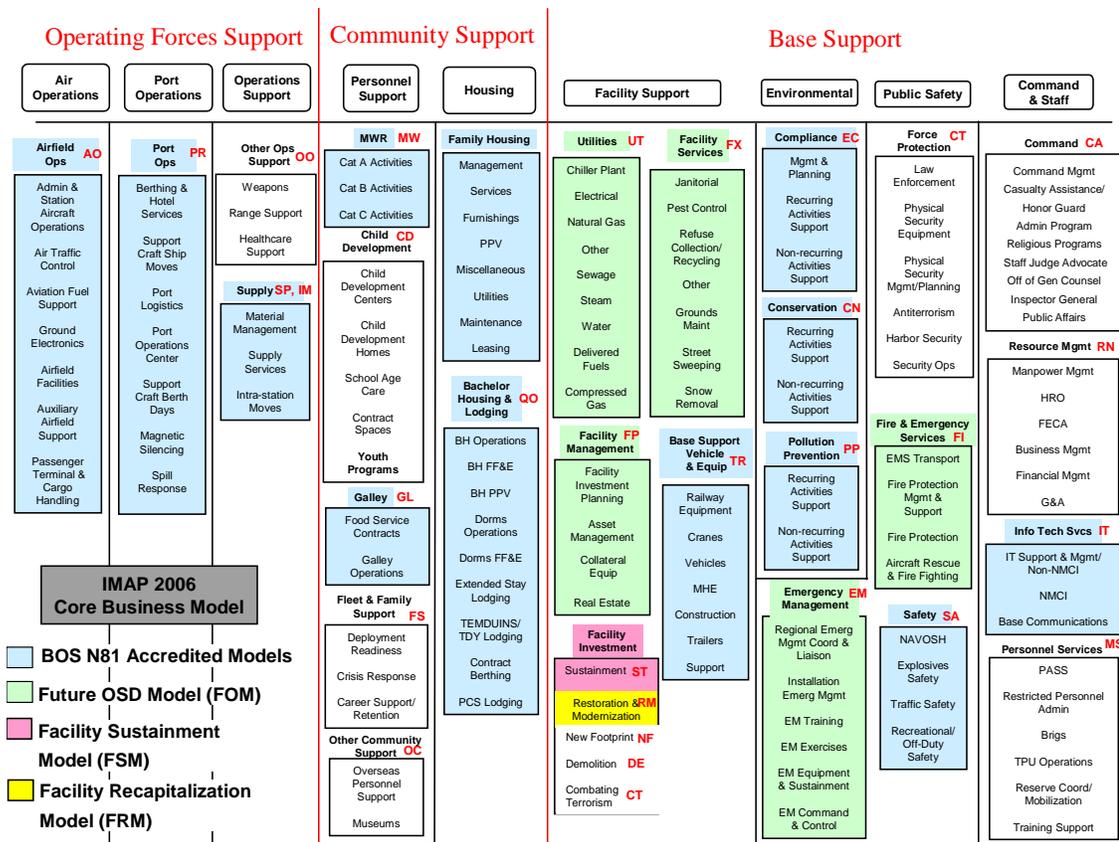
Marine Corps: This sub-activity group funds base support for the Expeditionary Forces Activity in five major services categories. Administrative services fund such functions as installation financial and military/civilian manpower management, base safety and legal services. Specific services fund organic supply operations in support of the installations, including vehicle operation and maintenance. Community services provide for support of living facilities, food services, recreation areas, special services programs and common use facilities. Real Property services consist of utilities operations and other engineering support. Base communication includes the operation and maintenance of telephone systems, data communications, radio, and facsimile equipment. Base communication also includes the administrative costs associated with message reproduction, distribution and payments for long distance toll charges. The environmental category includes compliance, conservation, pollution prevention, soil pollution abatement, and environmental restoration. Also included under Base Support are injury compensation payments and procurement of collateral equipment required to initially outfit new military construction projects at Marine Corps bases, posts and stations.

Air Force: As stated above, the Air Force does not use a model or formula for BOS cost development except for two subsets: "facilities operation" and "base operating support."   Facilities operation provides engineering operations and services to accomplish municipal- type activities such as utility plant operations, purchased utilities, annual services contracts, and emergency services (fire protection/crash rescue and explosive ordnance disposal. Base operating support provides in-house and contractual support for day-to-day operations at installations including the following: transportation, security forces, comptroller, staff judge advocate, personnel organizations, dining facility operations, lodging operations, contracting services, chaplain, supply/logistics operations, and administration.   In addition to the two subsets of BOS just described, remaining areas of Air Force base support include base communications, child development centers, environmental conservation/compliance, pollution prevention, and family support centers.

Defense Logistics Agency: As mentioned above, the DLA currently does not use a comprehensive model for BOS cost development. Estimates are made by level of effort review of historical program execution.

B. Facilities Sustainment. FSM calculates the facilities sustainment costs for DoD using the following inputs:

- The DoD Facilities Assessment Database (FAD), a physical data model comprised of the Military Department real property inventories, submitted and certified at the end of each fiscal year, which are then normalized into standard DoD-level facility analysis categories (FACs) with associated cost factors
- Forecasts for construction, disposals, and transfers through the FYDP submitted by each Military Service (incorporating Defense Agency and Activity input) to adjust the current real property inventory for planned future changes
- Sustainment cost factors (unit cost benchmarks for sustainment) by facility type (FAC)
- Cost factors to adjust for location (Sustainment Area Cost Factors), using the Area Cost Factor software program developed by the DoD Tri-Service Cost Engineering Working Group, applied at the county/province/city level
- Inflation (escalation) rates for construction published by the USD(Comptroller)
- Business rules submitted by each Component to assign the calculated costs to subordinate organizations and fund sources (appropriation types)

C. Facilities Recapitalization. Military Services and designated Defense Agencies calculate their respective plant replacement values to be recapitalized using the following inputs:

- The Military Department real property inventories, submitted and certified at the end of each fiscal year, which are mapped into standard DoD-level facility analysis categories (FACs) with associated cost factors
- Forecasts for construction, disposals, and transfers through the FYDP to adjust the current real property inventory for planned future changes
- Construction cost factors (unit cost benchmarks for construction) by facility type (FAC)
- Cost factors to adjust for location (Area Cost Factors), using the Area Cost Factor software program developed by the DoD Tri-Service Cost Engineering Working Group, applied at the county level
- P&D factor = 1.13 for medical facilities; 1.09 for all others
- Historical factor = 1.05
- Contingency factor = 1.05
- SIOH = 1.06 for continental U.S.; 1.065 for outside of the continental U.S.
- Inflation (escalation) rates for construction published by the USD(Comptroller)
- Business rules to parse the calculated PRV into subordinate organizations and fund sources (appropriation types)

3. Degree of standardization of definitions and models across the Department

A. Base Operations Support (BOS), is a term that applies to a broad variety of installation activities and comprises the majority share of installation-related funding. In the FY2007 budget request, base operations support is not commonly defined or modeled across the department. In 2004, the Department initiated a program restructuring effort to subdivide base operations support into smaller and standardized component parts. This resulted in the creation of a standardized DoD program element (PE) for facilities operation (functions that are directly related to use of facilities, such as janitorial services, grounds keeping, and utilities), and a follow-on project (still ongoing) to further define and standardize the remaining functions not directly related to facilities. In support of the facilities operation program, the department undertook development of a facilities operation model that is now in prototype. It is planned for full fielding in support of the FY 2010 budget request.

B. Facilities sustainment is supported by a common definition and common model across the Department of Defense. Facilities sustainment is defined as:

> Maintenance and repair activities necessary to keep a typical inventory of facilities in good working order over a 50-year service life. It includes:
>
> - Regularly-scheduled adjustments and inspections, including maintenance inspections (fire sprinkler heads, HVAC systems) and regulatory inspections (elevators, bridges)
> - preventive maintenance tasks
> - emergency response and service calls for minor repairs
> - major repair or replacement of facility components (usually accomplished by contract) that are expected to occur periodically throughout the facility service life
>
> Sustainment includes regular roof replacement, refinishing wall surfaces, repairing and replacing electrical, heating, and cooling systems, replacing tile and carpeting, and similar types of work. It does not include repairing or replacing non-attached equipment or furniture, or bldg components that typically last more than 50 years (such as foundations and structural members). Sustainment does not include restoration, modernization, environmental compliance, specialized historical preservation, general facility condition inspections and assessments, planning and design (other than shop drawings), or costs related to acts of God, which are funded elsewhere. Other tasks associated with facilities operations (such as custodial services, grass cutting, landscaping, waste disposal, and the provision of central utilities) are also not included.

C. Facilities recapitalization is also supported by a common DoD definition, comprised of restoration and modernization:

> Restoration and modernization (R&M) improves facilities. Restoration includes repair and replacement work to restore facilities damaged by inadequate sustainment, excessive

age, disaster, accident, or other causes. Modernization includes alteration of facilities solely to implement new or higher standards (including regulatory changes), to accommodate new functions, or to renew bldg components that typically last more that 50 years (such as foundations and structural members). Restoration and modernization do not include recurring sustainment tasks or certain environmental measures which are funded elsewhere. Other tasks associated with facilities operation (such as custodial services, grounds services, waste disposal, and the provision of central utilities) are also not included.

4. Requested Funding Levels and Goals

A. Base Operations Support

Army

BOS at PB07 ($Millions)	FY07
OMA	5,235
OMAR	528
OMNG	632
Total	6,396
% Funded	66%

Funding goals: The FY07 President's Budget funds BOS at 66% of the requirement. Historically, during the year of execution, funding from other accounts is reprogrammed to cover "must fund" BOS programs. The Army's goal remains to fund BOS at 90% of the requirement across the FYDP.

Navy

Base Operating Support

	FY 07	FY 08	FY 09	FY 10	FY 11
PB-07	$3,572	$3,672	$3,687	$3,737	$3,764
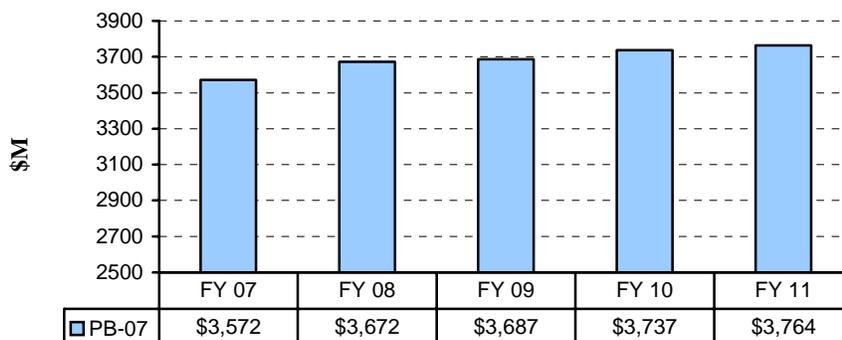
The requested BOS SI dollar amounts above are to achieve the output goal of COLS-2 in the programs of Air Operations and Port/Other Operations. The Morale, Welfare, and Recreation program would achieve the output level of COLS-2/3 while all other BOS SI items would achieve an output level of COLS-3.

Based on civilian and military personnel reductions, the following output level is predicted for each SI item:

    COLS-3:

Child Development	Force Protection	Emergency Management
Bachelor Housing	Safety	Fleet & Family Support
Supply	Utilities	Fire & Emergency Svcs
Galley	Base Support Vehicles & Equipment	

    COLS-3/4:

Air Operations	Facility Services	MWR
Port Operations		

    COLS-4:

Resource Management	Personnel Services	Facility Management
Environmental Compliance	Command	

USMC

Total BOS Budget ($millions)	FY07	FY08	FY09	FY10	FY11
	$1,659	$1,606	$1,607	$1,630	$1,647

The Marine Corps goal is to fund at this level through FY11. Sufficient funds are available to meet top priority "must pay" labor and contractual requirements for FY06. If reductions are made to BOS other essential functions may be seriously reduced or un-funded entirely.

Air Force

Total BOS Budget ($millions)	FY07	FY08	FY09	FY10	FY11
	$6,285	$5,240	$5,414	$5,268	$5,280

The Air Force does not have an overall percentage of requirements funded in BOS. For the two subsets described in paragraph 1A, facilities operation and base operating support, the FY07 percentage of requirements funded are 82% and 63%, respectively. The facilities operation funding goal is to fund 95% of the requirement based on the average of the previous 4-year non-civilian pay obligations. The base

operating support funding goal is to fund 90% of the requirements based on the BOS Cost Projection Formula.
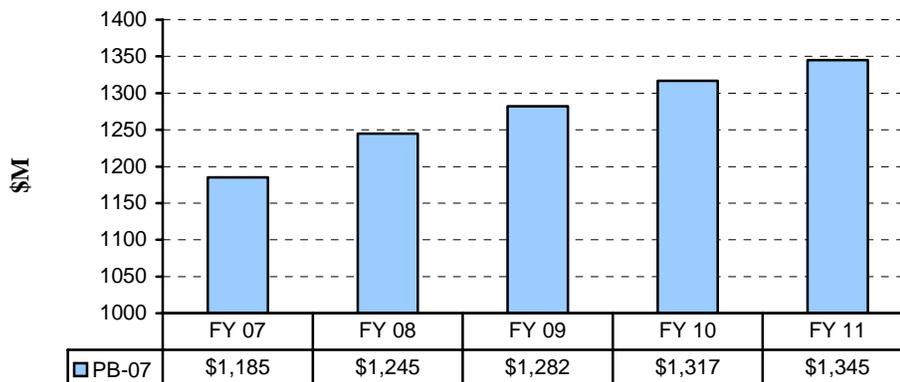
B. Facilities Sustainment

<u>Army</u>

Sustainment at PB07 ($Millions)	FY07
Sustainment	
OMA	1,742
OMAR	207
OMNG	382
Total Sustainment	**2,331**
Total Sustainment % Funded	**89%**

The Army's goal for the FYDP is to fund requirements to at least 90% of the FSM benchmark for sustainment.

<u>Navy</u>

Sustainment

	FY 07	FY 08	FY 09	FY 10	FY 11
☐ PB-07	$1,185	$1,245	$1,282	$1,317	$1,345

The Navy requests sustainment at 95% in FY 2007 and has a goal to fund sustainment at a rate of 100% in FY08-FY11.

USMC

(1) Total Sustainment Budget (O&M funding in $millions)	FY07	FY08	FY09	FY10	FY11
	$464.6	$469.1	$538.8	$550.4	$508.4
(2)Actual funding percent	94%	91%	101%	100%	90%

The requested funding level results in the sustainment rate (percent of the FSM benchmark that is funded) reflected in Row 2. This funding level will result in a slightly faster degradation of facilities than would result from fully funding sustainment. The reduction from full sustainment is in response to competing funding requirements within the Marine Corps.

Air Force

Total Force Sustainment ($M)	FY07	FY08	FY09	FY10	FY11
	$1688.8	$1832.0	$1900.0	$1945.5	$1951.6
Sustainment Rate	86%	91%	92%	92%	90%

The requested funding level results in the sustainment rate (percent of the FSM benchmark that is funded) shown. The reduction from full sustainment funding is in response to competing funding requirements within the Air Force. The Air Force goal is to fully fund sustainment at 100% of the FSM requirement.

C. Facilities Recapitalization. The funding levels identified below for facilities recapitalization are inclusive of the following appropriations: Military Construction, Military Personnel, Operations and Maintenance, RDT&E, and DWCF.

Army

Restoration/Modernization funding ($millions)	FY07
Active	2 ,576
Reserve	568
Guard	507
Total R&M	3,651
Recap Rate (yrs)	50 yrs

Army will temporarily reach recapitalization rate of 50 years in FY07 due to influx of Base Realignment and Closure (BRAC) 2005, Integrated Global Presence Basing Study (IGPBS) and Army Modular Force (AMF) funding. While the Army's recapitalization rates through FY09 are expected to exceed the 67-year goal due to BRAC and IGPBS requirements, the Army will fall about $115M short of meeting the 67-year goal in FY10. The large amount of funding for IGPBS, BRAC, and AMF will not continue beyond FY11.

Navy

Facilities Recapitalization

	FY 07	FY 08	FY 09	FY 10	FY 11
PB-07	$1,395	$1,695	$2,192	$1,653	$1,242

This funding results in the following yearly recapitalization rates for the Navy: FY07 – 83 yrs; FY08 – 70 yrs; FY09 – 54 yrs; FY10 – 73 yrs; FY11 – 98 yrs.

USMC

	FY07	FY08	FY09	FY10	FY11
(1) Total Restoration and Modernization Funding ($millions)	$227.1	$354.0	$381.7	$400.3	$392.5
(2) Actual Recap Rate (yrs)	112	74	70	69	72

The requested funding level results in a recapitalization rate reflected in Row 2. This rate will result a slight increase in the overall age of our facilities and will limit our efforts to modernize existing facilities. This funding level is in response to competing requirements within the Marine Corps.

Air Force

($M)	FY07	FY08	FY09	FY10	FY11
Total Recap Investment =	1,115.9	2,032.7	2,782.3	2,301.8	1,619.7
Recap Rate (years)	125	68	49	59	84

The Air Force accepts risk in facilities recapitalization in FY07. Additional funding for BRAC construction requirements contributes to the facility recapitalization rate in FY08 and beyond. As a result, the Air Force narrowly misses the goal of a 67-year facility recap rate in FY08.

Defense Logistics Agency

($M)	FY07	FY08	FY09	FY10	FY11
Total Recap Investment =	184.1	318.3	324.0	330.3	294.2
Recap Rate (years)	107	64	65	66	76

DLA meets the DoD goal of a 67-year facility recapitalization rate from FY08 through FY10, and comes close in FY11.

APPENDIX: FSM v7 BUSINESS RULE SYNCHRONIZATION MATRIX

STEP	Air Force	Army	Navy	USMC
Pre-processing (in FAD)	Assign FAC to each record Perform UM conversions as necessary Adjust too-large records as necessary	Assign FAC to each record Perform UM conversions as necessary Adjust too-large records as necessary	Assign FAC to each record Perform UM conversions as necessary Adjust too-large records as necessary	Assign FAC to each record Perform UM conversions as necessary Adjust too-large records as necessary
1) Merge tables	Merge the Air Force facility table with other services into a common facility table. Do the same with the Air Force installation table.	Merge the Army facility table with other services into a common facility table. Do the same with the Army installation table. Identify all ARNG facilities with an ASC that indicates there is no federal support IAW Table A-10 and delete from FSM processing.	Merge the Navy/USMC facility table (Inventory/iNFADS) with other services into a common facility table. Do the same with the Navy/USMC installation table (List of Installations created by FSM). Capture the NFA Number and use it in place of the PR Number.	Merge the Navy/USMC facility table with other services into a common facility table. Do the same with the Navy/USMC installation table.
2) Add / modify installation data	In the installation table: *Add installation and parent installation DIEG (Air Force Diego Garcia); assign to major command PACAF.* Adjust Parent installation for installation FTEV (Eglin aux. field #9) from FTFA to FTEV; assign to major command AFSOC. *Remove comment reference "adjust parent".* Adjust Major Command to AF Space Cmd for installations listed in AF missile sites [F-8] and for installation ACJP (Los Angeles AFB). Adjust Major Command to USAFE for all installations whose Parent installation = MQNA (Lajes AB). Make installations BAAK (Barajas Admin. Office) and FPBD (Ft. Bliss ANG sta) their own parent installations. Change QSEU, QSRG, VVPN, and JFHC to MACOM "0V" (AFSOC) from "1C" (ACC). Change GHFQ and MZVT to Anderson (AJJY) instead of Falcon (GLEN).	In the installation table: *Correct ARNG prime installation numbers.* As necessary, correct/adjust county name field of installations to match names in Area cost factor tables [C-10]. Add pseudo installations for non-modeled costs in accordance with table [C-13].	In the installation table: Add pseudo Activities for non-modeled costs in accordance with table [C-13].	In the installation table: Assign a Major command to each installation using the USMC Major Commands table [M-2]. Add pseudo installations for non-modeled costs in accordance with table [C-13].

STEP	Air Force	Army	Navy	USMC
3) Assign prime/parent installation/Activity	Assign a parent installation to each record, based upon its **installation code** using the installation table.	Assign a primary installation to each record, based upon its **installation number** using the installation table.	Assign a "primary" Activity to each record equal to its Maintenance UIC (Data Element 701) For all records with a NULL value for the Maintenance UIC assign N00052.	Assign a "primary" installation to each record equal to its **installation**.
4) Assign major command / claimant	Assign a major command to each facility record, based upon its **installation code** using the installation table.	Assign a major command to each facility record, based upon its **installation number** using the installation table.		Assign a major command to each facility record, based upon its **installation** using the installation table.
5) Assign location	Assign a country, state (if applicable), and county to each facility record based upon its **installation code** using the installation table.	Assign a country, state (if applicable), and county to each facility record based upon its **installation number** using the installation table.	[Country, state, county, and city data is already provided in the facility table from the FAD. If this data is missing, assign the Activity default location from the installation table.	[Country, state, county, and city data is already provided in the facility table from the FAD. If this data is missing, assign the Activity default location from the installation table.]
6) Assign Service region		Assign an IMA region to each facility record. For each facility record with a prime installation with a **region display code** = Y in the installation table, assign the region indicated for the prime. For each facility record with a prime installation with a **region display code** = N in the installation table, assign a "pseudo region" based upon its **major command code** as follows: • MCC=G: assign NA-ARNG (not assigned—ARNG) • MCC=S: assign NA-USAR (not assigned—reserve component) • MCC=all others: assign NA-ACTIVE (not assigned—Active component)	Assign a Region Command to each facility record based upon Regional UIC (data Element 003) For all records where the Mission Claimant is UIC N00018 (BUMED), adjust to regional UIC N00018 (BUMED).	
7) Assign Unified Command	Assign a Unified Command to each facility record based upon its **location** using the Unified Command table [C-14].	Assign a Unified Command to each facility record based upon its **location** using the Unified Command table [C-14].	Assign a Unified Command to each facility record based upon its **location** using the Unified Command table [C-14].	Assign a Unified Command to each facility record based upon its **location** using the Unified Command table [C-14].

STEP	Air Force	Army	Navy	USMC
8) Adjust zero-asset records (see Note 1)	Apply the FAC zero-asset size adjustment wherever possible using the tables in CATCODE zero-size corrections [C-2]. Make a report of all records with adjusted asset sizes.	Make a report of all records with adjusted asset sizes. Apply the FAC zero-asset size adjustment wherever possible using the tables in CATCODE zero-size corrections [C-2].	Apply the FAC zero-asset size adjustment wherever possible using the tables in CATCODE zero-size corrections [C-2]. Make a report of all records with adjusted asset sizes.	Apply the FAC zero-asset size adjustment wherever possible using the tables in CATCODE zero-size corrections [C-2]. Make a report of all records with adjusted asset sizes.
9) Identify duplicate (consolidated) hospital records	Identify consolidated hospitals (records with **inventory control code** B in CATCODE 510001). Record their facility numbers for use later.			
10) Remove non-owned, multi-purpose, or duplicate facilities	Identify records with **ownership code** 1, 2, 4, 6, 7, H, J, K, M, N, P, Q, or R, and with **inventory control code** A, D, or E; use these records. Of these records, identify the facility nos. for those in FAC 8910. Then identify the records with these facility nos. with **inventory control code** X in **CATCODEs** 811145, 813228, 813231, 821115, 821116, 821155, 826123, 831165, 890134, 890271; use these records. Remove all other records.	Identify records with **ownership code** 1, 3, 5, or 7; or 9 or B where the **major command code** = G (ARNG); or 4 where the **installation number** is 48186 (Corpus Christi), 18950 (Crane), or 0696A (Concord, CA). Use these records; remove all others.	Identify records with **estate code** that begins with 1, or 22, 23, 24, 25, 27, 2A, or 2B; or 21 at **Activities** N32960, N62585, N62588 or N63005. Use these records; remove all others.	Identify records with **estate code** that begins with 1, or 23, 24, 25, 27, 2A, or 2B; or 21 at **installation** M62613 (Iwakuni) or M67400 (Camp Butler). Use these records; remove all others. Identify records with MFSC = 7 and Maintenance Responsibility UIC = M%. Include in FSM. Identify records with **MFSC** = 7 and **Maintenance Responsibility UIC** not equal to Mxxxx; remove these records. Identify records with **a MFSC of P or a Special Area Code of PV**; remove these records. .

STEP	Air Force	Army	Navy	USMC
11) Assign funding organization and source	Assign "AF Active" as the default funding organization for all facility records. Identify and assign the funding source(s) for each record based upon its **installation** using the **funding splits** in the AF Installation funding table [F-1]. Identify records with **major command code** 0M; adjust funding org to AF Reserve and fund source to O&M. Identify records with **major command code** 54; adjust funding org to AFNG and fund source to O&M.	Change the sustainment organization code from '02' to '13' for those SC7 facilities at Ft. Riley and T10 facilities at various locations IAW with table A-9.	Identify and assign the funding organization and source for each facility record using the **maintenance fund source code** in the Navy Fund codes table [N-1]. Identify all records where the MFSC = 6 (NAF) in FACs 7332, 7333, 7340, 7348, 7411, 7412, 7413, 7414, 7415, 7416, 7417, 7418, 7421, 7422, 7431, 7441, 7442, 7443, 7444, 7446, 7512, 7516, 7517, 7518, 7521, 7523, 7524, 7532, 7541, or 7542; adjust the fund source to O&M	Identify and assign the funding organization and source for each facility record using the **maintenance fund source code** in the USMC fund codes table [M-1]. Identify all records where the MFSC = 6 (NAF) in FACs 7332, 7333, 7340, 7348, 7411, 7412, 7413, 7414, 7415, 7416, 7417, 7418, 7421, 7422, 7431, 7441, 7442, 7443, 7444, 7445, 7446, 7511, 7512, 7516, 7517, 7518, 7521, 7522, 7523, 7524, 7532, 7541, or 7542; adjust the fund source to O&M. For records at Activities M67021 and M68479, where MFSC = 4, adjust funding organization to MC Reserve and fund source to O&M.
12) Adjust funding for inter-Service permits	Identify facilities transferred from Navy UIC N68539 (NAVSUPPFAC DIEGO GARCIA IO) to AF using the AF Diego Garcia table [F-2]. For these records, delete the catcode and facility number, change funding org from Navy to AF active and installation to DIEG, and adjust fund source and major command as listed in the installation table. Identify all facilities at Army INSNO 38521; For these records, delete the catcode and facility number, adjust Service to AF, funding org to AF Active and installation to EGYN (Cavalier AFS), and adjust fund source and major command as listed in the installation table. Identify facilities transferred from the Air Force at Eglin AFB, FL to the Navy EOD School using table N-6. For these records, change funding org from AF to Navy active.	Identify all facilities at Army INSNO 38521; For these records, delete the catcode and facility number, adjust Service to AF, funding org to AF Active and installation to EGYN, and adjust fund source and major command as listed in the installation table.	*Identify and delete facilities permitted from Navy to Army:* 1. For records at **Activity** N00216 (NAS Corpus Christi) where **MFSC** = 7 2. For records at **Activity** N61018 (NSWC Crane) where **MFSC** = 7 3. For records at **Activity** N61065 (WPNSUPPFAC SEAL BEACH CA) listed on the Army Concord table [N-4] 4. Identify facilities transferred from AF (FTEP & FTFA Eglin AFB) to Navy using the Navy EOD School table [N-6]. For these records, delete the catcode and facility number, change funding org from AF to Navy active, installation to UIC N00204, Region to Navy Region Gulf Coast, and fund source to O&M, and add Maintenance UIC N00204.	

STEP	Air Force	Army	Navy	USMC
13) Adjust funding by CATCODE use	Adjust (as necessary) the funding organization(s) and funding source(s) for each record by CATCODE, using the Sustainment Filter Ratio Table [C-3].	Adjust (as necessary) the funding organization(s) and funding source(s) for each record by CATCODE, using the Sustainment Filter Ratio Table [C-3].	Adjust (as necessary) the funding organization(s) and funding source(s) for each record by CATCODE, using the Sustainment Filter Ratio Table [C-3].	Adjust (as necessary) the funding organization(s) and funding source(s) for each record by CATCODE, using the Sustainment Filter Ratio Table [C-3].
14) Adjust funding exceptions to CATCODE use rule	Identify all records in FAC 7347 where the country is not US; adjust the funding organization to AF active and fund source to O&M. For records with **FACs** 1241, 1251, or 4111 at **installation codes** listed in table F-9, adjust the funding organization to AF Active.	At West Point, change all records with **funding organization** TMA to Army active.	For records in **CATCODEs** 3XXXX at **Activities** N00168, N00183, or N00259, adjust funding organization to TMA. For facilities at UIC N68469 (USNA) in the Navy-DLA exceptions table [N-3], adjust fund organization and source per the **maintenance fund source code** in the Navy Fund codes table [N-1]. For NFA 100000520000 at activity UIC N68469 and NFA 100001355491 at activity UIC N63821, adjust the funding organization to Navy Active. (O&M funding of 2 schools.) Identify all records in FAC 7347 where the country is not US; adjust the funding organization to Navy Active and fund source to O&M.	Identify all records in FAC 7347 where the country is not US; adjust the funding organization to MC Active and fund source to O&M.
15) Adjust funding for hospital components	Identify all records measured in SF with **inventory control code** D that are parts of hospitals, by matching facility numbers of hospital "B" records identified previously. For these records, adjust the FAC to 5100, the funding organization to TMA, and fund source to O&M. Identify all other non-SF records with **inventory control code** D that are parts of hospitals, by matching facility numbers of hospital "B" records identified previously. For these records, adjust the funding organization to TMA and fund source to O&M without changing the FAC.			

STEP	Air Force	Army	Navy	USMC
16) Adjust funding for family housing infrastructure (see Note 2)	For each parent installation, adjust the fund source as necessary of records with CATCODEs specified in the Infrastructure CATCODEs table [C-4], to account for FH infrastructure.	For each prime installation, adjust the SRM sustainment fund code as necessary of records with CATCODEs specified in the Infrastructure CATCODEs table [C-4], to account for FH infrastructure.	To account for PPV of Family Housing Identify only the FH facilities at installations in table N-7. Remove all other FH facilities at all other Navy Installations. In FY 08 delete those FH facilities at Installations in table N-8.	
17) Adjust funding by facility user	*Identify records with **using agency codes** specified in the AF Using Agency Codes table [F-3]; adjust the funding organization or source for these records as specified in the table.*		Map Maintenance UIC N68937 to UIC N60530 at China Lake.	
18) Adjust funding for specific RDTE facilities	Identify RDTE facilities using the AF RDT&E table [F-4]; adjust the funding org. to AF active and fund source to RDTE.		For all records at UICs N44852, N61751 and N62814 where fund source is RDTE Navy Active change to RDTE TMA.	
19) Adjust funding for additional Defense Agency facilities	Identify additional defense agency facilities using table C-5. Adjust the funding organization to the defense agency specified in the table. Ignore all records already adjusted by a funding split to DLA in table C-3; preserve the split as-is.		Identify additional defense agency facilities using table C-5. Adjust the funding organization to the defense agency specified in the table. Ignore all records already adjusted by a funding split to DLA in table C-3; preserve the split as-is.	Identify additional defense agency facilities using table C-5. Adjust the funding organization to the defense agency specified in the table. Ignore all records already adjusted by a funding split to DLA in table C-3; preserve the split as-is.

STEP	Air Force	Army	Navy	USMC
20) Identify closures	Determine the percentage of each FH-related facility (those with CATCODEs allocated 100% to FH in the RPM filter ratio table [C-3]) to be counted as open, based upon its **installation code** using the "MFH open ratio" column in the AF Installation header file [F-1]. (Ratio represents % of each facility to be counted as open, i.e., 1 = 100% open; 0.2 = 20% open; 0 = closed.) Do the same for all other (non-FH) records using the "inst. open ratio" column from the same table. For INSNO "PTGE" all records in FAC 1451 should be closed.	Close all facilities at **installations** listed in the Army closed installations table [A-3]. Close a percentage of facilities at specified **installations** based upon **facility type** using the Army partial-installation closures table (A-6).	Close all facilities with **Excess Code** 2 or 3 in the facilities table. Close all facilities with **maintenance fund source code** 8 or 9 in the Navy Fund codes table [N-1]. Close all facilities for activity/Installations N00849, N40003 N57053, N61864, N62055, N63063, N63427, N66754, N69124, N69157, N69170, N69171, and N91662. Close Facilities in Table N-9 for activity/Installation UIC N68469. Close all facilities in Table N-10 for activity/installation N62688.	Close all facilities with **maintenance fund source code** 8 or 9 in the USMC fund codes table [M-1]. Close all facilities at **UICs** M60050 (El Toro) and M62535 (Tustin).
21) Assign Defense Agency sub-organization (see Note 3)	For all records where the **funding organization** is DLA or DoDEA, assign a subordinate organization as described in Note 3. Re-assign specified DLA facilities to the correct DLA business areas.	For all records where the SRM sustainment organization code is 30 through 38 or 51, assign a subordinate organization as described in Note 3. Re-assign specified DLA facilities to the correct DLA business areas.	For all records where the **funding organization** is DLA or DoDEA, assign a subordinate organization as described in Note 3. Re-assign specified DLA facilities to the correct DLA business areas.	For all records where the **funding organization** is DLA or DoDEA, assign a subordinate organization as described in Note 3. Re-assign specified DLA facilities to the correct DLA business areas.
22) Add ANG facilities	Add facilities at civilian airfields used by the ANG listed in the ANG shared-use facilities table [F-6] to ANG assets at the installation indicated in the table.			
23) Adjust inventory through the FYDP (see Note 4)	Adjust the inventory for future changes to determine the supported assets through each year of the FYDP (06-11) using forecast tables for new construction [C-6], transfers [C-7], aggregate disposals [C-8], and facility disposals [C-9].	Adjust the inventory for future changes to determine the supported assets through each year of the FYDP (06-11) using forecast tables for new construction [C-6], transfers [C-7], aggregate disposals [C-8], and facility disposals [C-9]. Adjust for excess assets using tables remaining excess [A-2], and excess installations [A-4]. Excess all facilities at INSNO 02341 (Ft. Greely) that are not listed on the Ft. Greely facilities table [A-7]. Army records assigned to other services (by SRM code) need to be re-assigned to Army.	Adjust the inventory for future changes to determine the supported assets through each year of the FYDP (07-12) using forecast tables for new construction [C-6], transfers [C-7], aggregate disposals [C-8], and facility disposals [C-9]. Adjust for excess assets where identified by **Excess code** 1 in the facilities table.	Adjust the inventory for future changes to determine the supported assets through each year of the FYDP (06-11) using forecast tables for new construction [C-6], transfers [C-7], aggregate disposals [C-8], and facility disposals [C-9].

STEP	Air Force	Army	Navy	USMC
24) Adjust funding for family housing	For all records where the **fund source** is FH, adjust the fund org to Air Force active except where fund org = DLA.		For all records where the **fund source** is FH, adjust the fund org to Navy active except where fund org = DLA.	For all records where the **fund source** is FH, adjust the fund org to USMC active except where fund org = DLA. For UIC M67400, Housing Indicator = "YES", - do not count these facilities. Assets belong to the Air Force
25) Adjust fund source for Defense Agencies	For all records where the **funding organization** is DLA and the **fund source** is <u>not</u> FH or NAF, adjust the fund source to WCF. For all records where the **funding organization** is DeCA, adjust the fund source to NAF.	For all records where the **SRM sustainment org code** is 23, adjust the SRM sustainment fund code to 11.	For all records where the **funding organization** is DLA and the **fund source** is <u>not</u> FH or NAF, adjust the fund source to WCF. For all records where DeCA indicator = yes, adjust the fund source to NAF. For FAC 5500 at the following UIC's change to FAC 5302 N42237 NAVAMBCARECEN N00129 NAVAMBCARECEN N00206 NAVAMBCARECEN N32411 NAVAMBCARECEN N69232 NAVAMBCARECEN *N32446* *NAVAMBCARECEN* For FAC 5100 at the following UIC's change to FAC 5101 N00168 National Naval Medical N00183 Naval Medical Center, *N00259 Naval Medical Center*	For all records where the **funding organization** is DLA and the **fund source** is <u>not</u> FH or NAF, adjust the fund source to WCF. For all records where the **funding organization** is DeCA, adjust the fund source to NAF.

STEP	Air Force	Army	Navy	USMC
26) Determine cost factors for location, year, and FAC	Determine the area cost factor (ACF) for each record: 1. For records with **installation codes** listed in the Area cost factor table [C-10], use the ACF specified in the table. 2. For all other records, first determine the **county code** in which its installation is located using the installation table. Using the county code, determine the ACF from table C-10. 3. For records whose county is not listed in table C-10, determine the **state** or **country** in which its installation is located using the installation table. Using the state or country, determine the statewide or countrywide average ACF from table C-10. 4. For any remaining records, use an ACF of 1.0. Determine the inflation rates through the FYDP using the inflation factors table [C-11]. Determine the sustainment cost factor for each record based upon its **FAC** using the Sustainment Cost Factors table.	*Determine the area cost factor (ACF) for each record:* 1. For records with **installation nos**. listed in the Area cost factor table [C-10], use the ACF specified in the table. 2. For all other records, first determine the **county name** in which its installation is located using the installation table. Using the county name, determine the ACF from table C-10. 3. For records whose county is not listed in table C-10, determine the **state** or **country** in which its installation is located using the installation table. Using the state or country, determine the statewide or countrywide average ACF from table C-10. 4. For any remaining records, use an ACF of 1.0. Determine the inflation rates through the FYDP using the inflation factors table [C-11]. Determine the sustainment cost factor for each record based upon its **FAC** using the Sustainment Cost Factors table.	Determine the area cost factor (ACF) for each record based upon its **county code** or **city code** using the Area cost factor table [C-10]. For records whose county code or city code is not listed, determine the ACF based upon the **state code** or **country code** using table C-10. For any remaining records, use an ACF of 1.0. Determine the inflation rates through the FYDP using the inflation factors table [C-11]. Determine the sustainment cost factor for each record based upon its **FAC** using the Sustainment Cost Factors table.	Determine the area cost factor (ACF) for each record based upon its **county code** or **city code** using the Area cost factor table [C-10]. For records whose county code or city code is not listed, determine the ACF based upon the **state code** or **country code** using table C-10. For any remaining records, use an ACF of 1.0. Determine the inflation rates through the FYDP using the inflation factors table [C-11]. Determine the sustainment cost factor for each record based upon its **FAC** using the Sustainment Cost Factors table.

STEP	Air Force	Army	Navy	USMC
27) Calculate sustainment requirements for each record	Calculate the sustainment requirement for each record and year (FY06 through FY11), by multiplying the supported asset by the FAC sustainment cost factor by the area cost factor by the inflation factor for the given year. Adjust for inactive landfills. Identify records listed in the AF Inactive Landfills table [F-7]; adjust sustainment for these facilities to zero.	Calculate the sustainment requirement for each record and year (FY06 through FY11), by multiplying the supported asset by the FAC sustainment cost factor by the area cost factor by the inflation factor for the given year. Adjust for inactive landfills. Identify records in **FAC 8333** (sanitary landfill); adjust the sustainment for each to 74% of its original amount (representing percentage of active sanitary landfills). Identify records in **FAC 8334** (hazardous waste landfill); adjust the sustainment for each to 78% of its original amount (representing percentage of active HW landfills). Adjust for different UM calculation. Identify records in **FAC 8122;** adjust the sustainment for each to 33% of its original amount. Add "Special Bills" records with a predetermined sustainment amount from the Non-modeled cost table [C-13]. Identify all ARNG records. Apply ASC federal funding percentage to the supported asset. In addition, non-Guard Army records which have a sustaining organization of '02' and a catcode of '17180' should have supported asset multiplied by 0.75.	Calculate the sustainment requirement for each record and year (FY06 through FY11), by multiplying the supported asset by the FAC sustainment cost factor by the area cost factor by the inflation factor for the given year. Adjust for inactive landfills. Identify records in **FAC 8333** (sanitary landfill) that are not at Activities N61018, N68469, N40003, N60514, N61755, or N61078, adjust sustainment for these facilities to zero. Add "Special Bills" records with a predetermined sustainment amount from the Non-modeled cost table [C-13].	Calculate the sustainment requirement for each record and year (FY06 through FY11), by multiplying the supported asset by the FAC sustainment cost factor by the area cost factor by the inflation factor for the given year. Adjust for inactive landfills. Identify records in **FAC 8333** (sanitary landfill) that are not at UIC M00264, M00318, M00581, M67001, M67399, or M67865; adjust sustainment for these facilities to zero. Add "Special Bills" records with a predetermined sustainment amount from the Non-modeled cost table [C-13].
28) Sum sustainment requirements by FAC and installation	Sum sustainment requirements for all records by FAC and by parent installation.	Sum sustainment requirements for all records by FAC and by prime installation.	Sum sustainment requirements for all records by FAC and by Activity.	Sum sustainment requirements for all records by FAC and by installation.
29) Sum sustainment requirements at higher levels	Sum sustainment requirements for each major command and all Air Force.	Sum sustainment requirements for each major command, region, and all Army.	Sum sustainment requirements for each region command, major claimant, and all Navy.	Sum sustainment requirements for each major command and all USMC.

NOTES

NOTE	Business rule	Description	Methodology
Note 1	Adjust zero-asset records	Estimates the asset in the FAC UM for a record with an asset of zero in the FAC UM, but a positive asset in an alternate UM.	• For each zero-asset record with a CATCODE listed on the worksheet "use set-to values" in CATCODE zero-size corrections: If the record has no positive asset in any unit of measure (UM), make no adjustment. If the record has a positive asset in an alternate UM, adjust the asset to the "set-to" value for the FAC from the table FAC size screens for FY03. • For each zero-asset record with a CATCODE listed on the worksheet "calculate" in CATCODE zero-size corrections: If the record has no positive asset in any UM, make no adjustment. Otherwise, find all other records within the FAC group specified on the worksheet (those with CATCODES within a FAC that have one UM = FAC UM and at least one common alternate UM) that have positive assets in both the FAC UM (UM_{FAC}) and the common alternate UM (UM_{alt}). For each of these records, calculate the ratio of the assets in the FAC UM to the assets in the alternate UM. Then determine the median average value for the ratio among all records in each FAC group. The median value is defined as follows: If all of the ratios in a FAC group are arranged in ascending order of magnitude, then the median value $M = \dfrac{n+1}{2}nd$ value, where n equals the number of records (ratios). When n is odd, the median is the middle value of the group; when n is even, it is the mean of the two middle values. o Multiply this median ratio by the record's alternate UM asset, to derive the estimated asset size in the FAC UM: $$Asset_{UM_{FAC}} = ratio \times Asset_{UM_{Alt}} \quad \text{(for each zero-asset record where } Asset_{UM_{Alt}} > 0 \text{)}$$ o If the calculated asset value in the FAC UM exceeds the FAC upper limit, adjust the asset to the "set-to" value for the FAC from the table FAC size screens for FY03. o If the zero-asset record is zero in the alternate UM but positive in a third UM, adjust the FAC UM asset equal to the "set-to" value for the FAC from the table FAC size screens for FY03.

NOTE	Business rule	Description	Methodology
Note 2	Adjust funding for FH infrastructure	Estimates and allocates the percentage of infrastructure on an installation supporting family housing (a separate fund source).	• Determine the "FH ratio" for the prime/parent installation by dividing all FH-related assets (records with CATCODEs in the <u>Sustainment filter ratio table</u> [C-3] with 100% allocation to FH) measured in square feet, by the total assets on the prime/parent installation measured in square feet: $$FH\ ratio = \frac{\sum Assets_{\text{FH–SF}}}{\sum Assets_{\text{Total–SF}}} \qquad \text{(for each prime / parent installation)}$$ [If this value equals zero (reflecting an absence of FH-related assets), do not proceed to the next step.] • Split all assets in the specified infrastructure CATCODEs [table C-4] for each prime/parent installation into FH-funded and installation-funded: o For records in CATCODEs labeled "RATIO" in table C-4, multiply the asset size for each record by the FH ratio above to obtain the FH asset allocation: $$Asset_{\text{FH infrastructure}} = FH\ ratio \times Asset_{\text{infrastructure}}$$ o For records in CATCODEs labeled with a fixed percentage in table C-4, multiply the asset size for each record by this percentage to obtain the FH asset allocation: $$Asset_{\text{FH infrastructure}} = Fixed\ \% \times Asset_{\text{infrastructure}}$$ o Adjust the fund source for these assets to FH. Make the asset size of the installation infrastructure assets equal to the remainder, so that installation infrastructure assets + FH infrastructure assets = 100% of total infrastructure assets: $$Asset_{\text{installation infrastructure}} = Asset_{\text{infrastructure}} - Asset_{\text{FH infrastructure}}$$

NOTE	Business rule	Description	Methodology
Note 3	Assign Defense Agency sub-organizations	Assigns facilities belonging to specified Defense Agencies to subordinate organizations of those agencies	*For all Air Force, Navy, and USMC facility records where the funding organization is **DLA,** or Army facility records where the SRM sustainment organization code is **30-38**, assign the sub-organization (business area) as follows:* • *If the facility is listed in the DLA RPI table, use the business area listed in the table for that facility* • *If the facility is DLA new construction in a Service forecast table, use the business area listed in the table for that facility* • *For remaining facilities in a FAC listed in the <u>DLA business areas</u> table [C-15], use the business area specified for the FAC.* • *For any remaining facilities, use the business area for HQ DLA.* *For all Air Force, Navy, and USMC facility records where the funding organization is **DoDEA,** or Army facility records where the SRM sustainment organization code is **51**, assign the sub-organization (area) as follows:* • *For facilities in a country or state listed in the <u>DoDEA areas</u> table [C-16], use the area specified.* • *For any remaining facilities, use the area "Other."*

NOTE	Business rule	Description	Methodology
Note 4	Adjust inventory through the FYDP	Adjusts the baseline (current) inventory to account for future changes	*Starting with the baseline inventory of facilities, make adjustments as follows to forecast the inventory to year 1 of the FYDP:* • Subtract asset disposals scheduled for completion through year 1. The completion year or effective year of a disposal is considered to be the year following the program year. Where disposals are identified by facility, adjust the record's asset to zero. Where disposals are identified in aggregate by FAC and prime/parent installation, add a record with an asset value equal to the negative of the disposal amount. • Add new construction scheduled for completion through year 1. The completion year or effective year of new construction is considered to be the second year following the program year. Add a record for the new construction amount by FAC and prime/parent installation. • Adjust for transfers through year 1. Where identified, adjust the organization to that specified (usually, a defense agency return to the host service). The effective year of a transfer is considered to be the year following the program year. • Adjust for excess assets identified in year 1. For all records identified as excess, adjust the asset to zero and the "excess" amount to the original asset value. For excess identified in aggregate (by FAC and prime installation), add a record with the "excess" amount and add a second record with the "asset" amount equal to the negative of the "excess" amount. *To project inventory for each of the following years (year 2 through year 6) of the FYDP:* • Adjust excess assets back to zero. (Excess is not cumulative.) Subtract excess assets from the "excess" amount and add them back in to the "asset" amount. • Subtract asset disposals scheduled for completion in year 2, as described above. • Add new construction scheduled for completion in year 2, as described above. • Adjust for transfers in year 2, as described above. • Adjust for excess assets identified in that year, as described above. • Repeat for years 3 through 6. For all new records (i.e., new construction and aggregate-type disposals), assign a location, major command/claimant, Unified Command, Service region (if appropriate) and Defense region (if appropriate) using the methodology for existing facility records. (For Navy/USMC forecasts, this requires using the Activity/installation default location from the installation table.) Report projected inventory using the following terms: • **Active Asset** = projected on-hand asset <u>less</u> excess asset and closed asset. $$Asset_{Active} = Asset_{on\text{-}hand} - Asset_{Excess} - Asset_{closed} \quad \text{(for any given FAC and prime/parent installation)}$$ • **Supported Asset** = active asset plus the percentage of sustainment support to excess assets (15%) times the excess asset. $$Asset_{Supported} = Asset_{Active} + (15\% \times Asset_{Excess}) \text{ (for any given FAC and prime/parent installation)}$$

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FSM Reference Tables

FSM Common tables

Table	Description
C-2 legend	Zero-size calculation rules for various UM combinations
C-2a	Catcodes adjusted by using the FAC "set-to" value
C-2b	Facility records where an initial zero size in the FAC UM was adjusted to the FAC "set-to" value
C-2c	Catcodes adjusted by applying a calculated ratio
C-2d	Facility records where an initial zero size in the FAC UM was adjusted using a calculated ratio
C-3	Sustainment filter ratio table
C-4	Infrastructure category codes
C-5	Defense Agency RPI
C-6	New construction
C-7	Transfers
C-8	Disposals (aggregate)
C-9	Disposals (facilities)
C-10	FY04 Area cost factors
C-11	Inflation factors
C-12	Sustainment and construction cost factors
C-13	Non-modeled cost table
C-14a	Unified Command assignments
C-14b	Unified Commands
C-15	DLA business areas for unassigned facilities
C-16	DoDEA areas

FSM Air Force tables

Table	Description
F-1	AF Installation header
F-2	Diego Garcia--Navy permit to Air Force
F-3	Business rules for AF Using Agency (Tenant) Codes
F-4	AF RDT&E Facilities
F-6	ANG shared-use facilities
F-7	Air Force inactive landfills
F-8	AF missile sites
F-9	Missile sites fuel facilities

FSM Army tables

Table	Description
A-1a	Army prime installation fund codes
A-1b	Army installation fund codes
A-1c	Army fund codes
A-2	Army remaining excess inventory
A-3	Army closed installations
A-4	Army excess installations
A-5	Army Catcode 17142 Facilities
A-6	Army partial-installation closures
A-7	Ft. Greely active facilities
A-8	Consolidated category codes
A-9	ARNG Facilities w/ASC of SC7
A-10	ARNG ASCs with Fed Sustainment %

FSM Navy tables

Table	Description
N-1	Navy fund codes
N-3	Navy-DLA exceptions
N-4	Activity N61065--Navy transfer to Army
N-6	Table for EOD School
N-7	Family Housing UICs
N-8	Family Housing Closure in FY08
N-9	Nebraska Ave Closure

FSM USMC tables

Table	Description
M-1	USMC fund codes
M-2a	USMC organizations
M-2b	USMC Major Commands