Logistics Management Institute

Economic Analysis of the Depot Maintenance Accounting Systems

Volume 2: Appendices

DF502MR1

March 1996

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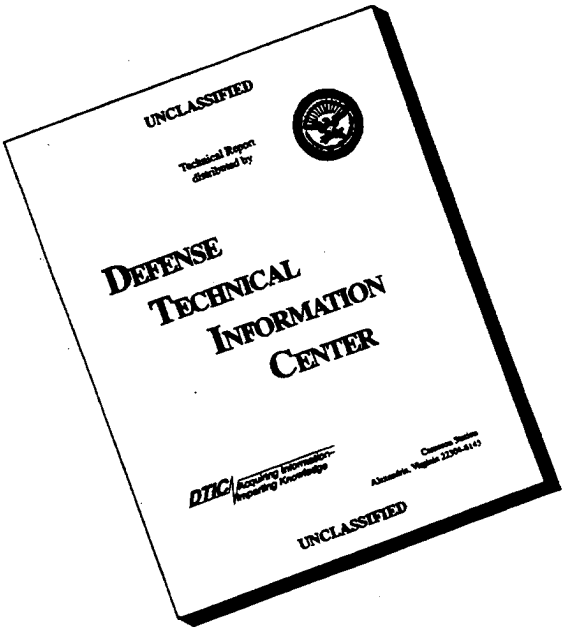

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APPENDIX B

Concepts of Operations

CONCEPT OF OPERATIONS: STANDARD INDUSTRIAL FUND SYSTEM

I. CONCEPT OF OPERATIONS

II. OVERVIEW

A. Purpose of the system.

To support the external financial reporting requirements of DFAS relative to the financial condition of the installation, status of operations, and to provide internal management information to the DA depot managers to facilitate the effective and efficient execution of the Depot Maintenance workload.

B. Facilities.

1. The Standard Industrial Fund Accounting System supports the DBOF accounting operations at Letterkenny Army Depot, Tobyhanna Army Depot, Red River Army Depot, Corpus Christi Army Depot, Tooele Army Depot, Sierra Army Depot and Anniston Army Depot. The system also supports the Bluegrass Depot Activity, Pueblo Depot Activity, Umatilla Depot Activity, and Savanna Depot Activity. Further, the system supports the operations of McAlester Army Ammunition Plant, Crane Army Ammunition Plant, and Hawthorne Army Ammunition Plant. The Operation and Maintenance Army annual appropriation accounting system contained within the Standard Industrial Fund System (SIFS) is operational at all depots and activities supported and at the US Army Security Assistance Center located at New Cumberland, PA.

2. The system is targeted for implementation at the IOC arsenal sites between Oct 95 and Oct 96. Rock Island Arsenal is targeted for implementation in Oct 95. That action is currently in process. Preliminary analysis has been conducted relative to the implementation of Pine Bluff Arsenal scheduled for Mar 96. Watervliet Arsenal is scheduled for implementation on Oct 96.

3. All data processing operations will be performed by DISA MegaCenters. Currently, those MegaCenters operate IBM or IBM compatible Mainframes in Chambersburg, PA, Rock Island, IL, and Huntsville, AL. Scheduling support is provided by depot Directors for Information Management at Letterkenny, Tobyhanna, Tooele, Red River, Corpus Christi, and Anniston.

4. DFAS support is currently provided by DAO operations at Letterkenny, Tobyhanna, Anniston, and Red River. However, it is expected that over the next two to three years, all DBOF accounting operations for U.S. Army Industrial Operations Command (IOC) depots and arsenals will be consolidated using the SIFS as the accounting system of record. The consolidated DFAS operation will be at the Rock Island, IL DFAS Operating Location.

C. Identify major milestones for deployment to named facilities.

Major Deployment milestones are:

- Oct 95 Rock Island Arsenal
- Mar 96 Pine Bluff Arsenal
- Oct 96 Watervliet Arsenal

D. Identify organization(s) responsible for development.

The Systems Integration Management Activity - East is the organization responsible for the development of the Standard Industrial Fund System software. SIMA-E is located in Chambersburg, Pa. SIMA-E reports to the Army Industrial Operations Command, and operates on a fee for service basis. Funding for software modifications, maintenance and enhancements is provided by the DFAS Center in Indianapolis, IN.

III. ACCOUNTING FUNCTIONALITY

A. Fund Distribution.

1. Summary of functions provided.

The Industrial Operations Command Centralized Workloading System (HAS) electronically receive all work request and pass them in-line to the depots. The Maintenance Production Planning and Control (PPC) module of Integrated Logistics Systems (ILGS) processes all orders, Procurement Requisition Order Numbers (PRONs), received from HAS by the performing activity. Each order received is established in the active order file after an automatic computation of estimated resource requirements for material and man-hours is performed. All orders received are processed against a historical cost estimating file referred to as the End Item Master Data Record and the Work Center Rate Standards File. These files contain the estimated material/labor costs and the man-hour requirements by work

center. Production controllers then review the cost estimate to ensure that it is accurate. Action must then be initiated to either accept, mark-up, or reject the job order. If accepted, a Job Order/Program Control Number (JO/PCN) is assigned, and it is automatically passed to the Cost Accounting (CA) application for providing order status and cost collection.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The General Fund Module of SIFS performs these functions.

3. What non-financial systems does it interface with?

The system interfaces with the IOC Headquarters Application System, and the AMC Installation Supply System.

B. General Ledger.

1. Summary of functions provided.

The General Fund/Financial Inventory Accounting Module is designed to collect, validate, record, maintain, and report financial data applicable to DBOF Depot Maintenance and other business areas, appropriated funds (e.g., Operation and Maintenance, Army), miscellaneous receipts, unapplied disbursing officer deposits, and other financial areas. It maintains the various financial ledgers and general ledger account structures; produces the internal management reports regarding status of funds, cash, accounts receivable, and accounts payable for use by the Defense Accounting Officer; automatically produces the Installation Command Accounting Reports (ICAR), the Data Element Management Accounting Reports (DELMAR); produces other financial statements/reports required for submission to higher headquarters; and provides for monthly and year end close-out of general ledger accounts. SIFS uses the DOD Standard General Ledger and is transaction driven.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The General Fund Module of SIFS performs these functions.

3. What non-financial systems does it interface with?

The system interfaces with the IOC Headquarters Application System, and the AMC Installation Supply System, and the Integrated Logistics System Materiel Requirements Planning II System. See chart of all interfaces at Enclosure 1.

C. Fixed Assets.

1. Summary of functions provided within this area.

This function will be accomplished external to the accounting system by the Defense Property Accounting System. The Defense Property Accounting System is a part of the Integrated Logistics System of which SIFS is another subcomponent. The DPAS is used for processing documentation associated with fixed asset accountability and real property accountability. Depreciation expense is automatically passed to CA and to the general ledger. Capitalized values will be posted to the accounting system automatically, based on an interface between SIFS and DPAS.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The Defense Property Accounting System performs these functions and passes financial information relative to recording the asset and its associated depreciation to SIFS who performs the accounting functions.

3. What non-financial systems does it interface with?

None.

D. Cost Accounting.

1. Summary of functions provided within this area.

The SIFS Cost Application (CA) is a standard job order, cost accounting application and uses the accrual basis of accounting to accumulate DBOF costs at JO/PCN level. It is noted that plans call for standard product/process cost functionality to be incorporated in the CA application (as a standard feature) for use by process type work centers (e.g., painting, plating, blasting, and the manufacturing function when the identification of costs to specific JO/PCNs is not economically feasible or cannot be done with reasonable accuracy). Installations needing a product/process cost methodology are currently running their own local unique programs until such time as a standard application is developed. ATAAPS is the primary source of input for labor and production count

transactions for cost accounting. Material transactions are input to AMCISS and passed to the CA application.

2. What system performs the function. e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The Cost Accounting Module of SIFS performs these functions.

3. What non-financial systems does it interface with:

The system interfaces with the IOC Headquarters Application System, and the AMC Installation Supply System. It also interfaces with the ILGS Material Requirements Planning II System the Defense Property Accounting System, the Self Service Supply System, STARCIPS, and DCPS payroll systems, the Automated Time Attendance and Production System, the Integrated Facilities System - Micro. The Automated Financial Entitlements System interface is expected to be completed in July 95,

E. Payables.

1. Summary of functions provided within this area.

Most commercial accounts payable functionality will be supported by Commercial Accounts module of Automated Financial Entitlements System (AFES) which includes entitlement computations, determination of discounts, payment scheduling, an automated bills register, and provides a suspense file of open contracts. An interface with the Standard Army Automated Contracting System (SAACONS) has been developed to allow the passing of procurement date to the commercial accounts module of AFES and the passing of disbursing data for selected items back to SAACONS.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The Automated Financial Entitlements System, today performs this function. Data will be electronically interfaced to SIFS in July 95. The AFES system will be replaced by STANFINS-Redesign which will use the AFES interface file to pass the data to SIFS.

3. What non-financial systems does it interface with?

The system interfaces with the Standard Army Automated Contracting System (SAACONS).

F. Receivables.

1. Summary of functions provided within this area.

The receivable portion of SIFS is designed to process transactions that establish, update and revise accounts receivable records. Accounts Receivable transactions are generated through the cost summary cycle during month-end processing. The general ledger accounts are updated during this cycle and audit trail reports are produced depicting the aged receivable balances (based on date of last transaction). Collections are processed as they are received to liquidate the receivables. Receivables are also updated automatically for sale of material inventory to non-DBOF customers.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The General Fund Module of SIFS perform these functions.

3. What non-financial systems does it interface with?

The system interfaces with the IOC Headquarters Application System, and the AMC Installation Supply System.

G. Billing.

1. Summary of functions provided within this area.

Billing in the SIFS system is accomplished two ways. Centralized billing is accomplished for the bulk of the work accomplished within SIFS. Centralized billing is accomplished using the IOC HAS system which allows all installation bills to be combined for one customer. This billing is normally accomplished on a bi-weekly basis, except that weekly billings are run in September of each year. This process is in effect for the IOC depots and arsenals. SIFS also has a local billing option within the cost accounting module. Billing for local programs, tenant bills and the IOC ammunition plants can be directly accomplished by SIFS.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The General Fund Module of SIFS performs these functions, for local bill items. An interface with the IOC HAS system performs centralized billing in an electronic media for the preponderance of the customer orders.

3. What non-financial systems does it interface with?

The system interfaces with the IOC Headquarters Application System, and the AMC Installation Supply System.

H. Disbursing/Collections.

1. Summary of functions provided within this area.

This function will be accomplished external to the accounting system by the Automated Financial Entitlements System. The Disbursing module of AFES provides for cash blotter maintenance, check generation, and savings bond and check accountability. Data is available and passed to SIFS for collections and disbursements relative to contracts, purchase orders, travel, etc.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The AFES System performs these functions and it will be electronically interfaced with SIFS in July 95.

3. What non-financial systems does it interface with?

I. Inventory Accountability.

1. Summary of functions provided within this area.

AMCISS is designed to perform in an installation level supply environment and is retail oriented. It processes and accounts for all issues, requisitions, receipts, turn-ins, and excess; performs material requirements studies; identifies material for automatic return and/or reporting; reserves material under special accounts using a stratification concept; and tracks material issues to unique cost centers and programs which are supportive to work management and cost control requirements. The AMCISS system provides the subsidiary records that support inventory balances reported in the financial statements.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The Financial Inventory Accounting Module of SIFS performs these functions.

3. What non-financial systems does it interface with?

The system interfaces within the AMC Installation Supply System.

J. Travel.

1. Summary of functions provided within this area.

This function will be accomplished external to the accounting system by the Automated Financial Entitlement System (AFES). Travel payments originate in AFES. This system automates the entitlement functions (i.e., travel, disbursing, and commercial accounts) of installation finance and accounting offices. The Travel module of AFES provides for advance determination, travel voucher settlement, an automated travel history, the generation of management reports, and generation of workload statistics. Data will be available to SIFS to accrue (obligate) estimated travel costs in Jul 95.

2. What system performs the function, e.g., is it part of the system or is it accomplished by an external system that then interfaces with the system?

The AFES system performs these functions and will electronically pass the information to SIFS in Jul 95.

3. What non-financial systems does it interface with?

None.

IV. OTHER FUNCTIONALITY.

A. Payroll Support.

This function will be accomplished external to the accounting system by the Standard Army Civilian Payroll System, until such time as that system is replaced by the Defense Civilian Payroll System. Currently, Anniston, Tooele, McAlester, and USASAC are using the DCPS. The remaining

SIFS user sites are scheduled to be converted to DCPS within the next 2 years

B. Personnel Support.

This function will be accomplished external to the accounting system by the Army Civilian Personnel Reporting System, ACPERS.

C. Other Functions. Identify additional functions performed by the system at current locations. Also, note other significant interfaces not discussed elsewhere.

1. An Automated Internal Operating Budget (AIOB) application is also available in the SIFS. The Internal Operating Budget (IOB) is a comprehensive financial plan for a budget year, by cost center or group of cost centers, designed to implement the program and related financial guidance by an activity. It can be established at directorate, division, or branch level; however, the Industrial Operations Command (IOC) requires that it be prepared at branch level. Current budgets are developed based on manpower versus historical workload data. The AIOB provides (in monetary terms) operating requirements for personnel, materials, supplies, travel, transportation of things, rents, contractual services, leave, depreciation, labor hours, and man-years to accomplish a programmed workload. It is based on the estimated cost of operations (direct and indirect) of each organizational element or cost center engaged in accomplishing the activity work program.

2. Work Measurement. The SIFS system has a work measurement module contained within it that provides for the development and analysis of performance standards relative to individual tasks. These standards measure the should take time to perform a specific function. The work measurement standard are used to assess the percent effectiveness of a given operation, function, or work unit. The are used for trend analysis, scheduling, bidding, and work flow analysis. Standards can be engineered, statistical, historical or actual hours to perform a specific function.

V. SYSTEM FEATURES.

General System Features. SIFS is primarily a mainframe application which is run in the IOC DMBA environment, although there are numerous other users outside this business area, including ammunition plants. The programming language is COBOL and most routines are batch update. The system is highly integrated with the other systems of the ILGS and most data is passed on line with a single source of entry. However, there are individual screens within SIFS that allow for the on-

line entry of all data currently passed through an existing interface. The system was designed initially in the late 1960s and has been continuously updated. SIFS also contains a "shadow database" of some 1500 data elements that can be accessed through DATACOM dataquery language. The basic system structure is based on Data Management Routines - an indexed sequential data base that provides for certain preformatted and other user specified queries. A report writer referred to as the Output Reports Management System is also available to allow selected portions of standard output to be displayed on screen and printed at the use convenience. Users also have access to the HAS database which can be accessed via S2K. See chart at Enclosure 2.

System Dependencies and/or Peculiarities. The SIFS system has strong interfacing capabilities with other component elements of the SDS and HAS. A number of data elements unique to the SDS are shared with all the interfacing systems, although the system is modularized and can be fully accessed by other external interfaces or data input. The HAS interface provides for the receipt of customer order funds and supports a centralized billing process. The AMCISS interface provides a three-way pass of data supporting supply, financial and contracting functionality.

System Strengths. The system and all interfacing systems are supported and maintained by the same activity, and the system supports all users in a standard mode of operations. SIFS is a mature system and has been extensively enhanced over the years. The system employs a transaction driven DOD Standard General Ledger and possesses excellent on-line screen help capabilities.

A. Required Features - e.g., query, ad hoc reporting, downloading, security, data updates, on-line access, electronic or facsimile signatures, editing, backup and recovery.

The system uses DMRs as noted above. The system also has a DATACOM DB relational software package which allows for ad hoc reporting and query. Files can be downloaded to other mainframe, mini-computer or PC as required. Data updates occur most frequently in daily batch although some routines are updated on-line. On-line screen access is available to the system through a series of CICS screens. The system provides for electronic certification of time and attendance data only. The system has comprehensive, automated backup restart and recovery capabilities.

B. Operating environment- hardware, software, physical locations, etc.

C. What platforms? Who owns them and where are they?

D. Funding Responsibilities.

As noted above, funding for the SIFS is provided by DFAS-I on a fully reimbursable, fee for service basis. SIFS is capitalized and owned by DFAS.

E. Reporting.

1. External.

External reporting occurs primarily to DFAS-I, Department of Army, Industrial Operations Command and DFAS DAO personnel located at the individual system user sites.

2. Local/Business Area.

Local reporting is to the Installation Commander and his support staff in the Depot Maintenance and Supply Management Business Areas. The system is also used by the Department of Public Works located on each installation. Tenant activities such as health clinics, schools, and various other activities use the accounting system.

CONCEPT OF OPERATIONS: NAVAIR INDUSTRIAL FINANCIAL MANAGEMENT SYSTEM (NIFMS)

I. CONCEPT OF OPERATIONS

The NIFMS will be deployed to all Depot Maintenance activities within the Navy and Marine Corps. It will perform core accounting functions and will interface with feeder systems such as a time and attendance module and a material inventory module. The DoD standard feeder systems being developed under the Depot Maintenance Standard System (DMSS) are not expected to be in place prior to NIFMS deployment. Feeder systems currently in use at deployment sites will be used unless an activity elects to utilize one or more of the NIFMS standard feeder systems.

II. OVERVIEW

A. Purpose:

The NIFMS is a standard DBOF financial system that supports the Depot Maintenance business area. The system has been selected to support DBOF's Research and Development business area as well.

B. Where:

Naval Aviation Depots (NADEPs) - currently deployed

- Cherry Point, N.C.
- Norfolk, Va., (scheduled to close)
- Jacksonville, Fla.
- Pensacola, Fla. (scheduled to be downsized/closed)
- Alameda, Ca. (scheduled to close)
- North Island, Ca.

Marine Corps Logistics Bases (MCLBs) - planned

- Albany, Ga.
- Barstow, Ca.

Naval Ordnance Centers (NOCs) - planned

- Atlantic - 1 system at Yorktown, Va. supports Yorktown, Va.; Charleston; S.C.; , & Earle, N.J.
- Pacific - 1 system at Seal Beach, Ca supports Sealbeach, Ca. ; Concord, Ca; & Corona; Ca.

Naval Shipyards (NSYs) - planned

- Norfolk, Va.
- Puget Sound, Wa.
- Pearl Harbor, Hi.
- Portsmouth, N.H.

Data processing for NIFMS (mainframe) is accomplished at Defense Information Systems Agency (DISA) megacenters usually remote from the depot operation. DISA will determine which megacenters support which depots. Once NIFMS is converted to an Open Systems Environment (OSE) it will run on minicomputers at each site. The OSE version of NIFMS will be available not earlier than FY98/99.

Financial accounting for the depots is performed by the Defense Finance and Accounting Service (DFAS) at sites remote from the depots.

C. When:

NIFMS will begin deploying first to the Research Centers (under a separate initiative). Within the Depot Maintenance business area, the deployment priorities are:

- First, Marine Corps Logistics Bases - which have the most pressing need. The Marine Corps may also elect to deploy one or more of the standard NIFMS feeder systems, simplifying conversion efforts. Deployment to the sites will begin in FY 97 and complete that year.

- Second, Naval Ordnance Centers. Deployment to these sites will be facilitated by NIFMS deployment to the R&D community which use many of the same feeder systems as the NOCs. Deployment to the first NOC will occur mid-FY98 with the second site following six months later.

- Third, Naval Shipyards. Deployment to the first shipyard will occur in early FY99 with the second site following six months later. Remaining shipyards will convert at the rate of one per quarter, with all sites converted by the end of FY00.

The following chart illustrates this schedule:

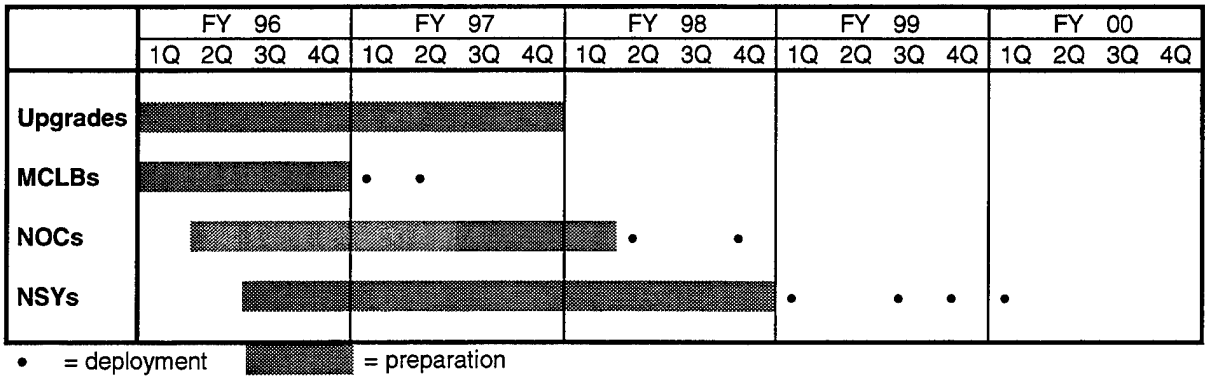


Figure B-1.
NIFMS DMBA Deployment Schedule

D: Who:

In addition to the sites listed above, the following organizations will be impacted:

- **NAVAIR:**

NIFMS Central Design Agency (CDA) -Patuxent River, Md.
NAVAIR Industrial Material Management System (NIMMS) CDA - Patuxent River, Md.

- **NAVSEA:**

Shipyard Management Information System (SYMIS) CDA - Indian Head, Md.
Shipyard material management system CDA - Puget Sound NSY, Wa.
Naval Ordnance Management Information System (NOMIS) CDA - Indian Head, Md.
Standard Labor Data Collection And Distribution (SLCADA) CDA - Yorktown, Va.
Integrated Logistics Supply Management Information System (ILSMIS) CDA - Crane, In.

- **Commander MCLBs** - Albany, Ga.

Marine Corps Industrial Fund CDA (?)

- **DFAS:**

DFAS - Cleveland, Oh. (Navy)
DFAS - Kansas City, Ka. (Marine Corps)

- **DISA**

Megacenter(s) - to be determined by DISA

III. ACCOUNTING FUNCTIONALITY

NIFMS is one of three electronically integrated and/or interfacing standard corporate depot systems that comprise the Naval Aviation Depot Information Management System (NADIM). The other two are the NAVAIR Industrial Material Management System (NIMMS) and the Naval Aviation Depot Workload Control System (WCS). NIFMS relies on these two systems to generate most source data on job tracking, material, equipment, and labor. For deployment beyond the NADEPs, NIFMS will interface with existing feeder systems.

NIFMS currently interfaces with a variety of other systems to provide financial and managerial accounting functionality. They are:

- NIFMS Accounts Payable Module (stand-alone)
- Local travel order system
- Department of the Navy Industrial Budget Information System (DONIBIS)
- Industrial Fund Collection and Disbursement Reporting System (IFCDRS)
- Financial Reporting System (FRS)
- Defense Civilian Payroll System (DCPS)
- Standard Automated Reporting System (STARS) (both Headquarters and Field-level applications)
- Uniform Automated Data Processing System - Stock Points (UADPS-SP).

NIFMS will interface with existing systems at deployment sites where they differ from the current suite of systems employed in support of the NADEPs.

Functional and operational characteristics of NIFMS are summarized below:

A. Funds Distribution (on-line):

The NIFMS supports reimbursable customer funding with integration of funding, cost, commitment/obligation, billing and receivable data. The system provides on-line funds control and status at various levels including funding document, line of accounting, customer order number and job order number. NIFMS also supports funds status and control for capital purchases, major real property maintenance and annual operating budgets (via Unit Cost authority targets). The funds distribution system interfaces with the NADEP WCS which passes job opening and status information. This is an optional interface, as similar data may be manually entered via NIFMS screen.

Table B-1.
Data Flow: Funding Authorizations

Activity	Source/Interface	Discussion
All	Screen entry	

Table B-2
Data Flow: Funding Status Changes

Activity	Source/Interface	Discussion
All	Other NIFMS Functions	Cost, Commitments/ Obligations, Billings, Receivables

B. General Ledger (batch transactions):

The system has a fully integrated transaction driven general ledger. As transactions are processed, they simultaneously update general ledger balances, journal voucher details, and subsidiary asset, liability and/or cost records within the data base. Hard copy reports and mechanized journal vouchers are also produced as audit trails. General Ledger account balances are updated during system batch processing (frequency determined by the user, but normally weekly).

The system was initially designed around the NAVCOMPT Manual Volume 5 proprietary account structure but has been modified to include accounts equivalent to the accounts contained within the Department of Defense (DOD) Standard General Ledger. The system supports three account structures: the NIFMS accounts (which are a hybrid of DOD and DON requirements), as well as table driven crosswalks to the DOD and Department of the Navy (DON) general ledger account structures. Transactions mechanically posted into the NIFMS account structure can simultaneously be rolled and reflected into both a DOD and DON

structure. The NIFMS account structure supports both the budgetary and proprietary DOD accounts; however, the budgetary accounts are not being mechanically posted at this time. Budgetary accounts may be updated via manual journal voucher if required for up-line reporting purposes. Capability to mechanically post to budgetary accounts is targeted for completion in fiscal year 1996.

Table B-3
Data Flow: General Ledger Accounts

Activity	Source/Interface	Discussion
All	Other NIFMS Functions	

C. Fixed Assets (batch transaction/on-line:)

NIFMS provides tracking and accountability throughout the entire life of a capital asset and integrates DBOF actual cost information with capital asset values through a single entry point.

The NIFMS Fixed Asset accounting module is fully integrated with the cost and general ledger functions. It retains subsidiary line item data for each capital asset within the core financial system. The system accounts for all capital assets, land, buildings, software, management initiatives and plant and production equipment. Purchased asset values are accounted for from the initial commitment stage to the actual recordation of cost against uniquely identifiable job order numbers for procurement, installation and modification. These job order numbers are cross referenced to plant account numbers, thereby allowing the actual (not estimated) procurement, installation and modification costs to be mechanically moved into the subsidiary line item capital asset records with separate identification. The depreciation process is also fully mechanized within the core system and updates general ledger, cost and subsidiary capital asset records.

The Manage Facilities application of the WCS is mechanically interfaced with NIFMS for equipment items. It is the source of initial assignment of plant account numbers and equipment status. NIFMS can perform Fixed Asset Accounting totally independent of this system (via screen input) but other equipment management functions (such as scheduling preventive maintenance, accounting for minor property, etc.) are performed by Manage Facilities. The Manage Facilities will ultimately be replaced by the Facilities and Equipment Management System (FEMS) module of the Depot Maintenance Standard System (DMSS). Ultimately, an interface between FEMS and NIFMS will need to be developed. If NIFMS is

deployed to the Marine Corps prior to exportation of FEMS, it is likely that Manage Facilities will be used by the Marine Corps.

Data Flow: Fixed Assets

Table B-4.
Data Flow: Fixed Assets

Activity	Source/Interface	Discussion
NADEPs	Manage Facilities (WCS); or screen entry	
MCLBs	Manage Facilities (WCS); or screen entry	
NOCs	NOMIS (fixed assets): or screen entry	
NSYs	SYMIS	

D. Cost Accounting (batch transactions):

NIFMS cost accounting is centered around full recordation of actual cost against reimbursable customer funding. Direct costs are retained at the individual job order level and the organization code (shop) in which the cost is incurred. All categories of funded and unfunded cost are recorded. This includes labor hours and dollars, material, contractual, applied overhead, and other costs.

- Labor - cost information is initiated as a single point of entry in the shop floor control/time and attendance portion of the WCS. This data can be passed to NIFMS for costing purposes as often as daily but is normally done on a weekly basis. The same data is passed to payroll (DCPS) bi-weekly and is mechanically reconciled within NIFMS by individual employee using the gross payroll file.

- Material - cost information is initiated as a single point of entry via issues of material which occur in the NIMMS.

- Other - transactions other than labor and material are either internally generated within NIFMS (such as depreciation), input directly into NIFMS in the financial area (such as mechanized accruals), or are received via interface, such as payment information from the vendor payment system(currently, IFCDRS).

- Actual overhead - costs information is collected by organization, functional cost class (i.e. type of indirect function), and type of cost (labor, material, contractual services, travel, etc.).

The system can optionally retain detailed cost data by individual work operation or by Work Breakdown Structure Code within job order number

and shop. The NADEPs normally employ this option only on competitive type workload. Cost/Schedule Status Reporting (C/SSR) capabilities as well as separate tracking of over and above authorization information (for the Administering Contract Officer) is also provided in the competitive environment.

Cost data can be rolled up in various ways. For example, for billing and customer funds status purposes, it is summarized up to customer order number, line of accounting and funding document level. For tracking against operating cost targets, period cost and earned cost authority can be rolled up organizationally to track execution versus operating targets. For Depot Maintenance Cost Accounting requirements (DOD 7000.14, formerly DOD 7220.9M, Chapter 76) costs are summarized by product line identification. These capabilities include the most recent requirement to report on in-process as well as completed work.

It is expected that the exportation of NIFMS to the NAVSEA ordnance activities will require an interface with their material system (ILSMIS) and their Time and Attendance system (SLCADA). These interfaces are already being considered in the R&D business area . It is also expected that the exportation of NIFMS to the Naval Shipyards will require an interface with the Material Management (MM) module of Shipyard MIS and an interface with Supervisor's Desk (SUPDESK) for time and attendance information. In all likelihood, the Marine Corps will be implementing both NIMMS and NIFMS so no new material interface will be required. It is not known at this time what the Marine Corps intends to do for Time and Attendance.

Table B-5.
Data Flow: Labor Cost and Applied Overhead

Activity	Source/Interface	Discussion
NADEPs	WCS	
MCLBs	TBD (MC T&A or WCS)	
NOCs	SLCADA	
NSYs	SUPDESK (SYMIS)	

Table B-6.
Data Flow: Material Cost

Activity	Source/Interface	Discussion
NADEPs	NIMMS	Shares database with NIFMS
MCLBs	NIMMS	
NOCs	ILSMIS	
NSYs	MM (SYMIS)	

Table B-7.
Data Flow: Other Costs

Activity	Source/Interface	Discussion
All	1. Travel - NIFMS internal 2. Depreciation-NIFMS internal 3. Manual input overhead application rates and WCS direct labor hours 4. Outgoing service documents-NIFMS internal	1. 2. 3. Rates for mechanical application, NIFMS tracks actual overhead 4.

E. Payables (batch transaction):

NIFMS has a separate accounts payable module that is mechanically interfaced to the core NIFMS. This module supports the commercial payable process by mechanically matching contract, receipt and invoice in order to meet prompt payment requirements. It supports the Deputy Disbursing Officer function and produces a "ready to pay" file which is mechanically interfaced to the STARS-Bill Pay system for actual creation of checks. The government payable process is totally supported within the core NIFMS data base. NIFMS matches government payables to supply system billings mechanically. The core NIFMS performs all general ledger accounting and aging of accounts payable as well as materials in transit. NIFMS also accounts for payables associated with travel transportation requests.

At this time, it is not known what vendor pay system the Marine Corps will be using. The Naval Ordnance activities may temporarily use the Integrated Disbursing and Accounting (IDA) module of NOMIS and the Naval Shipyards may elect to use the Material Payables (MP) module of SYMIS since it is so highly interactive with their MM module. However, DFAS-Cleveland has already selected STARS-FL-1-Bill-Pay as the standard vendor pay and disbursing module for the Navy. Eventually, there will be a standard interface between STARS-FL-1-Bill-Pay and NIFMS which will be used for all Navy activities.

Table B-8.
Data Flow: Commercial Payables

Activity	Source/Interface	Discussion
NADEPs	NIFMS Bill Pay Module	
MCLBs	TBD	
NOCs	IDA (NOMIS)	
NSYs	MP (SYMIS)	

Note: All Navy sites will get STARS-FL-1-Bill Pay in the near future

Table B-9.
Data Flow: Government Payables

Activity	Source/Interface	Discussion
All	NIFMS internal	

F. Receivables (internal):

NIFMS performs accounting for and aging of receivables in several areas. The primary source of accounts receivable are system generated customer billings. This data is maintained by bill number as well as customer identification. The system also accounts for receivables associated with materials returned for credit as well as erroneous government material billings already paid for which a credit billing is expected. In addition, NIFMS also accounts for receivables associated with travel advances on canceled orders and unused common carrier tickets.

NIFMS does not possess a separate receivables module for the purpose of interest calculations/collections, debt follows, etc. This deficiency will be corrected.

Table B-10
Data Flow: Receivables from Billings

Activity	Source/Interface	Discussion
All	NIFMS Billing	

Table B-11
Data Flow: Other Receivables

Activity	Source/Interface	Discussion
NADEPs	1. NIMMS	1. Material credits
	2. NIFMS Travel	2. Travel advances, tickets
MCLBs	1. NIMMS	1. Material credits
	2. NIFMS Travel	2. Travel advances, tickets
NOCs	1. ILSMIS	1. Material credits
	2. NIFMS Travel	2. Travel advances, tickets
NSYs	1. MM (SYMIS)	1. Material credits
	2. NIFMS Travel	2. Travel advances, tickets

G. Billing (internal/on-line)

NIFMS has a fully mechanized billing process that supports billing of customers for work performed. The billing data and processes are fully integrated with funding, cost and receivable information in the core NIFMS data base. Billings can be generated at user defined intervals which are normally weekly, bi-weekly or monthly. The system accommodates both fixed price and cost reimbursable orders, as well as actual cost billings for Foreign Military Sales (FMS) and private parties. For stabilized billings, the system has the flexibility to bill material or contractual costs at actual or as part of the stabilized rate or unit price. The system also mechanically applies surcharges and bills FMS, Private Party and non-DOD customers for unfunded costs and surcharges directly against the other appropriations. The system has capability to progress bill work-in-process, revenue bill for completed end items, revenue bill for level of effort services, and perform incremental revenue recognition on a percentage of completion basis. NIFMS consolidates multiple orders into single billings and produces hard copy billing summary, backup and customer funds status documents. The system also generates two no-check reimbursement files; one to the STARS-HQ system for prevalidation of NAVAIR orders prior to registering and one directly to the regional finance center for non-NAVAIR orders (via STARS-Bill Pay).

Table B-12.
Data Flow: Billings Generation

Activity	Source/Interface	Discussion
All	NIFMS internal	Automatic based on type, schedule, cost

Table B-13.
Data Flow: Billings Prevalidation

Activity	Source/Interface	Discussion
All Navy MCLBs	STARS - HQ TBD	

H. Disbursing/Collections (batch transaction):

As discussed in the payables section above, the accounts payable module supports the deputy disbursing officer function for commercial payments. Voucher numbers ready to be paid are assigned and mechanically passed to STARS-FL-1-Bill Pay for actual checks to be cut. A file is then sent back to the accounts payable module with the check number information.

Collections for customer billings are mechanically passed via no check reimbursement files. Other miscellaneous payments and collections are entered directly into disbursing from hard copy source documents.

Cash is recognized based on the mechanized feed of the disbursing/ collection data from disbursing via the Financial Reporting System (FRS) and the IFCDRS.

At this time, it is not known what disbursing system the Marine Corps will be using. The Naval Ordnance activities may temporarily use the Integrated Disbursing and Accounting (IDA) module of NOMIS and the Naval Shipyards may elect to use the Material Disbursing (MD) module of SYMIS since it is so highly interactive with their MM and MP modules. However, DFAS-Cleveland has already selected STARS-FL-1-Bill-Pay as the standard vendor pay and disbursing module for the Navy. Eventually, there will be a standard interface between STARS-FL-1-Bill-Pay and NIFMS which will be used for all Navy activities.

Table B-14.
Data Flow: Disbursing

Activity	Source/Interface	Discussion
NADEPs	STARS-FL-1-Bill Pay	
MCLBs	TBD	
NOCs	IDA (NOMIS)	
NSYs	MD (SYMIS)	

Data Flow: Government Collections

Table B-15.
Data Flow: Government Collections

Activity	Source/Interface	Discussion
All	IFCDRS/FRS	

Table B-16
Data Flow: Other Payments and Collections

Activity	Source/Interface	Discussion
All	On-line entry	

I. Inventory accountability (batch transaction):

The NIMMS is the source of all depot related inventory transactions including requisitioning, receipts, issues, financial and physical inventory adjustments, capitalizations and decapitalizations and excessing actions. The NIMMS maintains line item inventory balances for materials and supplies, direct material inventory and customer furnished inventories. NIMMS is the single point of entry for all material related transactions, including direct turnover (DTO) requisitions which wash through depot inventory based upon simultaneous receipt and issue. Transactions initiated in NIMMS mechanically update NIFMS general ledger and subsidiary records, such as cost, where applicable. Requisitions entered in NIMMS that cannot be satisfied out of depot inventory are simultaneously passed to UADPS-SP, which is the Navy supply system. NIMMS uses an automated routine to replenish industrial fund inventory; this routine considers average daily usage rates, order and ship times and number of days of safety level. Mechanized replenishment actions are also mechanically passed to UADPS-SP. NIMMS and NIFMS are in an integrated data base environment. This allows transactions input in NIMMS to be subjected to the NIFMS funding and job order validations up front in an on-line mode. It also eliminates redundancy and massive reconciliations for inventory and undelivered order information. NIFMS

does all matching of material bills to receipts and accounts for payables and material in transit balances as well as generating the material bill portion of the mechanized cash disbursements register.

Some changes will be required to NIFMS to allow it to operate in a non-integrated environment (without NIMMS). These issues are already being addressed in the R&D business area as it is anticipated that only a few of those activities will elect to use NIMMS. It is expected that the exportation of NIFMS to the NAVSEA ordnance activities will require an interface with their material system (ILSMIS). This interface is already being considered in the R&D business area. It is also expected that the exportation of NIFMS to the Naval Shipyards will require a material interface with the Material Management (MM) module of Shipyard MIS. In all likelihood, the Marine Corps will be implementing both NIMMS and NIFMS so no new material interface will be required.

Table B-17.
Data Flow: Inventory Accountability

Activity	Source/Interface	Discussion
NADEPs	NIMMS	
MCLBs	NIMMS	
NOCs	ILSMIS	
NSYs	MM/MS (SYMIS)	

J. Travel (batch transaction or on-line):

NIFMS performs full accounting for travel including the initial accrual of the per diem and other, accrual of the Transportation Request, recording and aging of advance payments, and final settlement actions. Subsidiary data is retained at the individual travel order number level within the NIFMS data base. The accrual of the Per Diem is automatically done equally over the period of travel, thereby allowing only the portion of travel pertaining to a particular accounting period to be reflected in that period's cost. Order writing is done in local depot travel systems that mechanically interface with NIFMS to pass initial travel order information as well as amendments and cancellations. Payment information (advances, settlements) is fed into NIFMS via the IFCDRS interface.

Each site will interface a local travel application to NIFMS until such time as a DFAS standard travel system is developed. Sites also have the option of manually entering travel order data into NIFMS via screen, using the hard copy travel order as the source document.

Table B-18.
Data Flow: Travel

Activity	Source/Interface	Discussion
All	Local	DoD standard when available

IV. OTHER FUNCTIONALITY

A. Payroll support:

Payroll support will be provided by the Defense Civilian Payroll System (DCPS) that is the standard payroll system for the Department of Defense. Currently there is a three way interface between the NADEP WCS (Time and Attendance), DCPS, and NIFMS.

Time and attendance systems other than the NADEP WCS will be expected to interface with DCPS and NIFMS in a manner similar to the way that WCS does.

B. Personnel support:

Personnel support will be provided by the Navy Civilian Personnel Data System (NCPDS) which automatically interfaces with DCPS.

C. Other Functions:

A high degree of interfaces are involved between NIFMS and the NADEP WCS. These include passing actual cost information back to the production system as well as Customer Order and Job Order status information. These types of financial interfaces may or may not be required by interfacing applications at other sites.

V. SYSTEM FEATURES

A. Required features:

NIFMS (and NIMMS) were designed in a DMS-1100 hierarchical/network data base structure with a variety of data set relationships that allow for a multitude of on-line query and update capabilities. The data design allows for efficient retrieval, display and update of data such that average system response time is well below the five second criteria. Screens are menu driven and data is displayed on screens and reports in an easily readable format. Several ad-hoc query and report writer packages exist including Personalized Data Query (PDQ),

Infoquest and MAPPER. Data can be accessed and updated from multiple remote locations, both internal and external to the depot. Capability exists at any site to access other sites' data bases, providing proper password access has been granted by that site. Remote access capabilities are being exercised by DFAS-CL San Diego (performing the accounting functions for Naval Aviation Depots North Island, Alameda Pensacola and Jacksonville).

B. Operating environment:

Hardware:

- UNISYS 2200 Mainframe (DISA Megacenter)
- Site local mini/micro computers for data generation/query
- Dedicated lines between site and megacenter

Software:

- Each site has it's own program copy and database at megacenter
- Database - DMS-1100 Data Base Management System (DBMS)
- Language - COBOL

C. How:

Data processing for NIFMS is currently supported by the Defense Information Systems Agency (DISA). Hardware is owned by the DISA and the depot activities are charged for usage of the mainframe by DISA. Acquisition of hardware would be their responsibility and would not be a cost to the depot. Because of the migration off mainframe platforms for other applications, DISA has been able to acquire UNISYS mainframes from surplus material at little or no additional cost to the government.

There are plans to migrate NIFMS to an open architecture within the next several years which would eliminate the need to use the defense megacenters. Under that environment, the hardware would be purchased and owned by the Navy sites. In that environment the system would operate on a UNIX based operating system in a relational database environment. The technical migration to an open-systems architecture is not part of the effort to deploy NIFMS to other depots.

D. Funding responsibilities:

NIFMS maintenance is currently funded by the six Naval Aviation Depots. Recently, an interservice agreement was signed that will transfer management responsibility for the finance/accounting portions of NIFMS

to DFAS-Cleveland. In the future, Cleveland will fund 40% (estimated finance/accounting portion of the system) of NIFMS maintenance cost. As NIFMS is exported to other Navy activities, the service portion (60%) of the NIFMS maintenance cost would be spread across a wider base. Allocation among activities is currently done based on relative manhours of workload (i.e. a small activity pays less than a large one). This split may be re-evaluated as NIFMS deploys beyond the Naval Aviation Depots. All new requirements in the finance/accounting areas will be funded by DFAS.

In addition, system enhancements for financial accounting will be funded on a firm fixed price basis, with DFAS providing funding. Enhancements unique to the local business area would be funded by that business area.

For cost analysis purposes, the costs required to enhance NIFMS to meet the DFAS functionality will only be counted one time. Since the decision to export NIFMS to the R&D business area has already been made (pending final submission of the cost analysis), that analysis will contain the costs for the DFAS upgrades as well as any business area unique upgrades required by the R&D activities.

E. Reporting:

1. External: NIFMS produces up-line reports and data files to the Office of the Secretary of Defense (OSD) to comply with DOD 7000.14. NIFMS also produces up-line data unique to the Naval Air Systems Command called Production Performance Reporting (PPR) which contains end-item cost data on aircraft, engines and components. It also will be producing up-line data required by NAVAIR for Competency Alignment Organization (CAO) reporting. It will continue to interface with STARS-HQ for billing purposes which should be a standard interface for the entire Navy (but not the Marine Corps). Data files are also produced which contain some of the data needed for the Department of the Navy Industrial Budget Information System (DONIBIS) which will also be used by all Navy activities. NAVSEA and Marine Corps reporting requirements need to be identified and addressed.

2. Local: Local reporting requirements that are not pre-programmed in the standard NIFMS software are satisfied in a variety of ways. Sites may create ad-hoc reports using PDQ, Infoquest or MAPPER. Sites may also use standard NIFMS flat files as input to local unique application programs residing on mainframes or downloaded to personal computers. They may also build non-standard flat files using PDQ as input to local unique application programs or for download. Sites also have the option of writing software directly against the NIFMS data base using the NIFMS "read only" schema.

I. CONCEPT OF OPERATIONS FOR THE CURRENT AIR FORCE DMBA FINANCE AND ACCOUNTING SYSTEM

II. OVERVIEW

A. *Why? - Purpose of the system*

The purpose of the financial system is to satisfy the external financial reporting requirements of DFAS relative to the financial condition of the depot maintenance business area (DMBA), the so-called repair depot (or just depot), at Air Force Air Logistics Centers and to provide internal management information to depot management to facilitate effective and efficient execution of its maintenance workload.

B. *Where? - Facilities*

The Depot Maintenance Business Areas (DMBA) has facilities at each of the five Air Force air logistics centers (ALCs) that are being currently supported by the legacy financial system. At OO-ALC, two financial systems (H069G and G035A) have been replaced by DMMIS modules. The full suite of legacy systems is used at the other ALCs.

C. *When? - major milestones for deployment; FOC*

The various data systems involved in depot finance and accounting functions were developed over many years. All have reached full operating capability (FOC) years ago. For those systems that were to have been replaced by a full DMMIS implementation, additional development work essentially ceased about four years ago. However, DMMIS is now limited to just the component workload and all systems except the H069G and the G035A will have to be retained for the non DMMIS workloads.

D. *Who? - organizations*

Each data system has a pilot programmer assigned to the development activity and an office of primary responsibility (OPR) within the functional area.

III. ACCOUNTING FUNCTIONALITY

The depot legacy accounting systems can be characterized as a collection of batch-processed, sequentially run, technologically obsolete programs containing large data bases of redundant data. Interwoven with the formal data systems are many ad hoc, off-line procedures and checks that attempt to ameliorate numerous deficiencies that limit the accuracy, timeliness,

and usefulness of the financial management information. The details of the accounting functionality are provided in this section of the concept of operations using the format prescribed by DFAS. Figure 1 documents the flow of financial information through that system from budget formulation and funds distribution to the final reporting of the work accomplished.

We begin by discussing the funds distribution process and then discuss in order the following topics: the general ledger, fixed assets, cost accounting, payables, receivables, billing, collections/disbursements, inventory account-ability, and travel.

A. *Fund Distribution*

Budget Development. Each year the DMBA (in conjunction with its customers) prepares its budget. DMBA customers (e.g., item/equipment managers, engine managers, and weapon system managers) provide the estimated repair/overhaul requirements for the forthcoming budget year (usually two years in the future). Based on the projected repair requirements, each Air Force repair depot budgets for the resources it will need to accomplish the workloads it is assigned. The procedures and tools for preparing the so-called Operating Cost Based Budget (OCBB) are not standardized among the Air Logistics Centers. For example, WR-ALC uses VAX based computer software to develop its OCBB and OC-ALC uses PC based software to accomplish the same function. In general, the locally developed OCBB software tools estimate for each workload (e.g. MDS aircraft, TMS engine, NSN) the required labor (using the labor standards contained in E046B), materials (using the material standards contained in G005M), production overhead, and G&A costs. The OCBB, when finalized, represents a statement of the workload each ALC plans to accomplish at each resource control center (RCC) during the budget year and the total resources it will need.

The finalized OCBB is loaded into the G035A system, where further processing is accomplished within the scope of the formal legacy financial system. The G035A system can maintain multiple OCBBs - one for the current year, one for the budget year, and at least one for a planning year which is one or more years beyond the budget year.[1] G004C takes the budgeted RCC rates (direct labor, direct material, overheads) from the G035A where they are file maintained. The budgeted rates from the G004C are passed to the G072A system where end item sales prices (EISPs) are developed. Program budget decisions (PBDs) from subsequent budget deliberations may change the customer's budget, RCC

[1] After the budget is approved and is about to be executed the OCBB for the budget year is rolled over and becomes the OCBB for the "current" year.

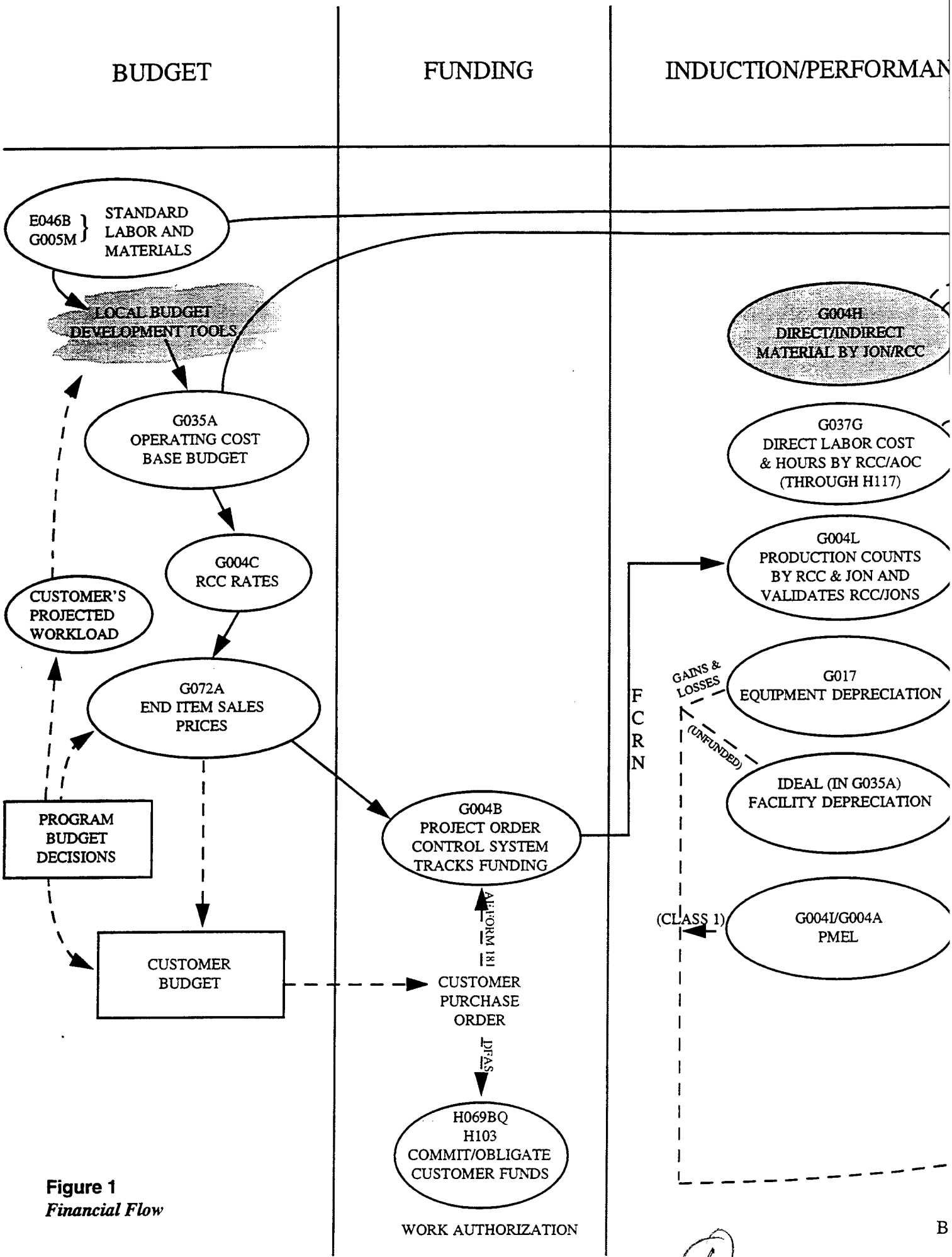
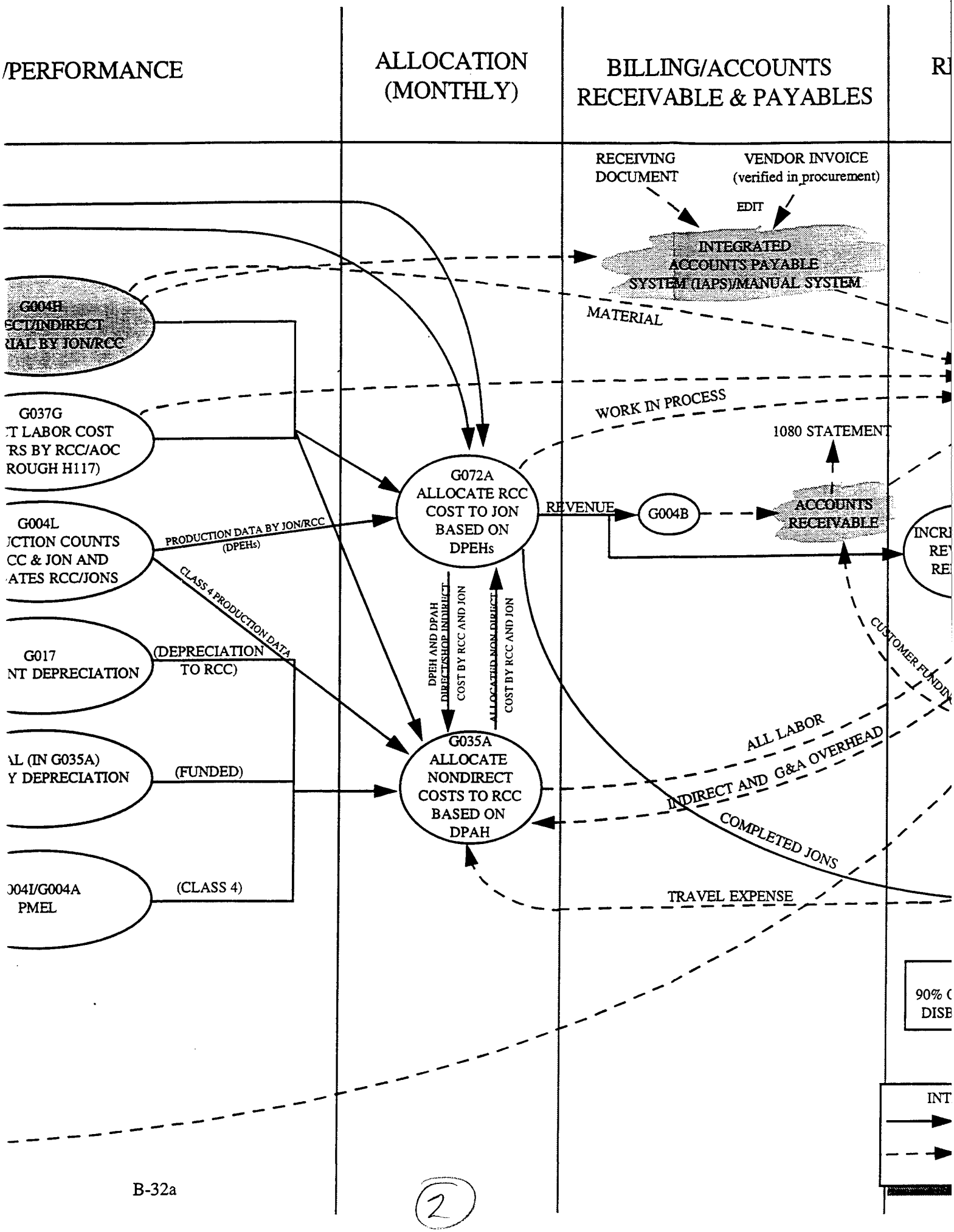


Figure 1
Financial Flow


/PERFORMANCE
ALLOCATION (MONTHLY)
BILLING/ACCOUNTS RECEIVABLE & PAYABLES
RECEIVING DOCUMENT
VENDOR INVOICE (verified in procurement)
EDIT
INTEGRATED ACCOUNTS PAYABLE SYSTEM (IAPS)/MANUAL SYSTEM
MATERIAL
WORK IN PROCESS
1080 STATEMENT
G004H SCT/INDIRECT RIAL BY JON/RCC
G037G T LABOR COST RS BY RCC/AOC ROUGH H117)
G004L JCTION COUNTS CC & JON AND ATES RCC/JONS
PRODUCTION DATA BY JON/RCC (DPEHs)
CLASS 4 PRODUCTION DATA
G017 NT DEPRECIATION
(DEPRECIATION TO RCC)
L (IN G035A) Y DEPRECIATION
(FUNDED)
004I/G004A PMEL
(CLASS 4)
G072A ALLOCATE RCC COST TO JON BASED ON DPEHs
REVENUE
G004B
ACCOUNTS RECEIVABLE
DPEH AND DPAH DIRECT/SHOP INDIRECT COST BY RCC AND JON
ALLOCATED NON-DIRECT COST BY RCC AND JON
G035A ALLOCATE NONDIRECT COSTS TO RCC BASED ON DPAH
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ALL LABOR
INDIRECT AND G&A OVERHEAD
COMPLETED JONS
TRAVEL EXPENSE
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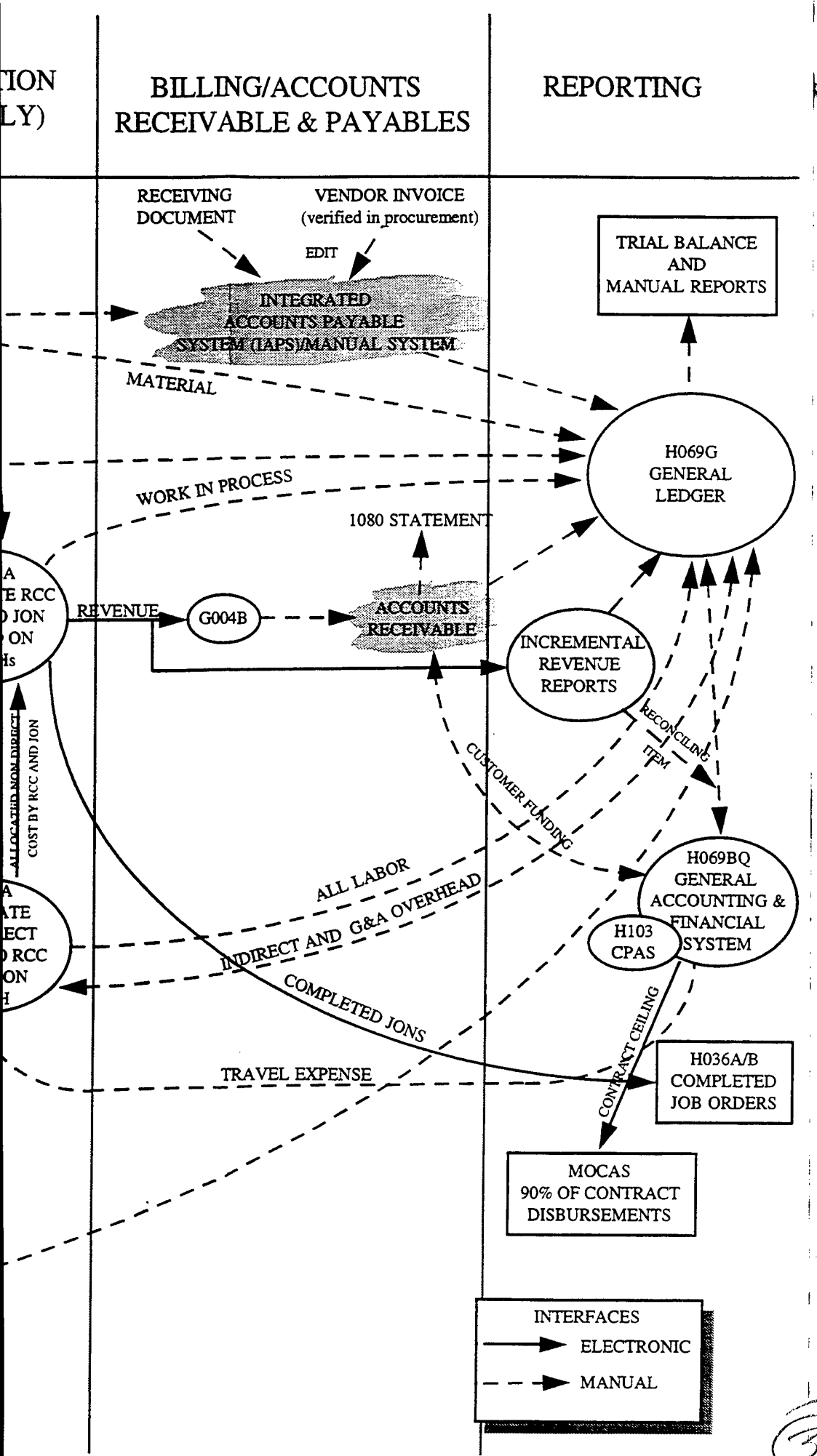
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BILLING/ACCOUNTS
RECEIVABLE & PAYABLES
REPORTING
RECEIVING
DOCUMENT
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(verified in procurement)
EDIT
INTEGRATED
ACCOUNTS PAYABLE
SYSTEM (IAPS)/MANUAL SYSTEM
TRIAL BALANCE
AND
MANUAL REPORTS
MATERIAL
H069G
GENERAL
LEDGER
WORK IN PROCESS
1080 STATEMENT
REVENUE
G004B
ACCOUNTS
RECEIVABLE
INCREMENTAL
REVENUE
REPORTS
RECONCILING
ITEM
CUSTOMER FUNDING
ALLOCATED NON-DIRECT
COST BY RCC AND JON
ALL LABOR
INDIRECT AND G&A OVERHEAD
H069BQ
GENERAL
ACCOUNTING &
FINANCIAL
SYSTEM
H103
CPAS
COMPLETED JONS
CONTRACT CEILING
TRAVEL EXPENSE
H036A/B
COMPLETED
JOB ORDERS
MOCAS
90% OF CONTRACT
DISBURSEMENTS
INTERFACES
ELECTRONIC
MANUAL

rates, EISPs, and the OCBB for the budget year (OCBBs for the planning years are not changed by PBDs).

Initiation of Work. Once customers have approved funding, they provide to DMBA a funded purchase order (PO) that specifies what work is being requested and the funding source that DMBA will cite. When the depot receives the PO, depot personnel must take several steps to initiate work: (1) production directorates assign a project order number (PON), a program control number (PCN), and a funds control reference number (FCRN) for each work item; (2) DFAS manually enters the customer's funding information into the H103 (CPAS) for Air Force funding and the H069(BQ) system for non-Air Force funding (e.g., interservice and FMS customers); and (3) Financial Management personnel manually input the AF Form 181 project order information into the G004B system. (The G004C contains PCNs and EISPs, which are fed into the G004B to link PCNs, EISPs, and FCRNs).

Officially, the depot can begin working on a specific workload when the G004L systems verifies that the PON, PCN and FCRN have been established in the G004B. Because the funds distribution process is largely a manual operation, the paperwork may take up to three weeks before the G004L system receives authorization to begin work. *There is no formal control within the legacy financial system that prevents the depot from beginning work before the paperwork is complete*; however, the depot cannot turn in or be paid for completed work until the AF Form 181 has been established in the G004B.

Frequently after work has begun, maintenance finds that the scope of repair needed for an engine (for example) is beyond the scope originally planned. There is a formal process for getting the authority for adding repair tasks to those initially begun. We were informed that the G004B is not always updated to reflect the additional funding for the work. This problem with updating the G004B causes other problems later when the work is completed and the funds to pay for the work appear to be insufficient (see the later discussions on Receivables).

B. General Ledger

The Depot General Ledger system (H069G) is a stand alone PC system that relies completely on manual interfaces (i.e., data entry).

Throughout the month, the general ledger receives information from many sources:

- The G004H provides material expense.
- The G072A provides revenue, work-in-process, and other direct costs.

- The D035K/J systems provide inventory purchases and miscellaneous material expenses.
- The G037G provides actual labor hours and accrued costs for both direct and indirect labor.
- The H069(BQ) provides travel expense, collections, and disbursements affecting DMBA.
- The G035A provides allocated overhead. (Some overhead expenses from the general ledger that are not otherwise mechanically provided to G035A are manually entered into the G035A before overhead is allocated to RCCs.)
- The G017 & IDEAL provide fixed asset information (indirect depreciation and asset values, gains and losses).
- The G072D provides cost and revenue data for contract repair work.
- The IRR provides incremental revenue.
- The G004B provides cost data for completed work.
- The Civil Engineer supplies construction in-process figures, which are then manually entered into the general ledger.

Monthly the general ledger trail balance data are provided to Headquarters and to DFAS. The H036A&B systems are used for DoD required reporting (the H036A reports the data for each ALC, the H036B consolidates the ALC data into a command-wide report). There is some reconciliation necessary between the H069G and the H036A systems as the depot reports include incremental revenue in the general ledger and the DoD reports include only revenue from completed job orders.

C. Fixed Assets

Equipment. Air Force capitalized equipment (i.e., that costing more than $50,000 and having a useful life of two or more years) is depreciated over its useful life. Non-capitalized equipment is expensed in the year it is acquired. The G017 system maintains the depreciation data (date of acquisition, accumulated and monthly depreciated expense, acquisition cost, and useful life) for each equipment item in an RCC or accounting organization code (AOC). Each month the G017 system transfers the monthly depreciation expense information to the G035A. It also categorizes equipment by purchase code: DMBA purchased equipment (purchased with DBOF funds), and other provided assets (e.g., peculiar support equipment paid for by a weapon system program).[2] The G017

[2] While depreciation expense for all DMBA equipment and facilities has been required for several years, only recently have depots started including depreciation expense as a funded expense. Previously, those depreciation expenses were treated as unfunded expense and not included in the EISPs.

also calculates gains and losses resulting from the sale or scrapping of equipment assets. Gains and losses and monthly depreciation expenses are manually posted to H069G. Depreciation of assets in AOCs above the production directorate is classed as general and administrative (G&A) overhead and allocated to the RCCs with all other overhead through the G035A system.

Facilities. The IDEAL module of the G035A provides data on facilities depreciation.

D. Cost Accounting

With the legacy financial system, depot management is provided with cost accounting information once a month from two major systems: the G072A, which provides cost and performance information on each production workload (i.e., each JON); and the G035A, which provides cost and performance information on each maintenance organization (i.e., RCCs and AOCs). We begin this section with an overview of the data used by those two systems and how JON costs are obtained with the legacy financial system. Following the overview, we discuss specific cost accounting issues pertinent to the Air Force's legacy financial system.

OVERVIEW

According to the system documentation both the G035A and G072A systems receive the following information for the end of month processing:

- Production count information is provided by the G004L. Direct product earned hours (DPEHs) by JON and RCC are provided to the G072A and production count data for cost class 4 (i.e. non-direct work done by the depot for the depot) is provided to the G035A.[3] Although the G004L system is used by both the aircraft and engine workloads, some ALCs have begun using other production systems for controlling their own workloads: the Programmed Depot Mainetnence Standard System (PDMSS) for aircraft, the Inventory Tracking System (ITS) for engines, and SMART SHOP for avionics components. At those ALCs, these unique production control systems provide the production count data to the G004L system.

- Direct material by JON and RCC and indirect material by classification of material and RCC are provided by the G004H system.

- Actual labor hours and accrued labor costs (accelerated for benefits) are provided by the G037G. Actual direct labor cost is calculated

[3] DPEH = the standard direct labors hour for each production operation x the quantity of those production operations completed during the month.

using the actual labor hours reported through the H117 (time and attendance system) and labor rate data provided through the Air Force Standard Civilian Automated Payroll System, the H002. (If there are differences between the total labor cost in the G037G and the H002, the difference is reconciled to the H002 and posted as an adjustment to G&A.) Labor hours and cost data are provided for each RCC and AOC.

- In addition to the data that both systems receive, the G035A also receives the following data:
- Equipment depreciation for each AOC and RCC from the G017 system.
- Facilities depreciation is provided from the IDEAL subsystem of the G035A.
- Precision Measurement Equipment Laboratory (PMEL) costs are provided by the G004A.[4] (Class 1 cost is a reimbursable expense and goes directly to the general ledger. The class 4 cost is treated as a non-direct cost of the DMBA and allocated to each RCC).
- Indirect and general and administrative (G&A) costs are provided by the general ledger (H069G) via a manual interface.
- The G035A and the G072A also provide each other with information. Each month the G072A provides the G035A with the following information:
- PP72-10 exchange material cost.
- Other direct costs by RCC and JON.
- DPEH and DPAH by RCC and JON.

After processing the data provided by the G072A, the G035A provides the G072A with a file containing the allocated production overhead and G&A costs (both funded and unfunded) by RCC and JON. (Although the G035A allocates production overhead and G&A costs to JONs and passes that information to the G072A, the G035A does not retain data at the JON level of detail.)

LMI noted that substantial amounts of redundant data are being passed among the data systems. For example, actual labor hours and costs are passed to both the G035A and G072A from the G037G. The G035A uses the actual labor hours to allocate shop support and G&A costs to each RCC. The G072A allocates the actual labor hours to each JON; however, after allocating those actuals to each JON, the G072A passes a file

[4] Formerly known as the G004I.

containing the actual labor hours and labor costs *for each JON and RCC* to the G035A. (However, the G035A already has the actual labor hours and costs it needs from the G037G.) The G035A appends to that file the production overhead and G&A for each JON and RCC and then returns the entire file to the G072A. We questioned the need for the seemingly unnecessary extra data transfers, and were told that they are being used as a cross-check to ensure that both systems are using the same information.

After the above data are received, the amount of the RCC's monthly costs that will be charged to a JON is determined using a two-stage allocation process. In the first stage, the indirect costs occurring outside of an RCC (or so-called shop support costs) and the G&A costs are allocated in the G035A to each RCC using the actual direct labor hours reported for each RCC.[5] If appropriate, the G035A can restrict those allocations to just those RCCs that are supported by an AOC (see the following discussion in the multiple organizational & management structures).

In the second stage, the G035A and G072A allocate the monthly cost of an RCC (excluding direct material) to those JONs that the RCC worked on during the month (the G035A allocates the shop indirect, shop support, and G&A costs, and the G072A allocates the actual direct labor hours and costs). With the exception of direct material costs from the G004H system (which are already identified by JON), *all direct and non-direct costs of the RCC (including its direct labor cost and DPAHs) are allocated to individual JONs based on the ratio of DPEHs for each JON within an RCC to the total DPEHs for that RCC.*[6]

Specific Issues

Multiple organizational & management structures. All costs are recorded at either an AOC or RCC level. RCCs are used to record the direct and the shop indirect expenses of a production shop [if an element of expense within the RCC benefits more than one JON (e.g., bench

[5] Some ALCs have implemented manual procedures that trick the G035A into using other methods of allocation (e.g., square feet, assigned personnel).

[6] The actual processing uses a more complicated system that is mathematically equivalent to using DPEHs as we describe above.

[7] DoD uses the term production overhead to refer to the non-direct costs within a production directorate. The Air Force subdivides production overhead into two categories: shop indirect (i.e., production overhead occurring within an RCC), and shop support (i.e., production overhead that must be allocated to an RCC).

stock) it is considered as a shop indirect expense]. AOCs are used to record shop support and G&A expenses of maintenance organizations that usually do not accomplish direct work functions.[7] Cost allocation tables in G035A relate AOCs to RCCs so that indirect costs collected in an AOC can be allocated to just those RCCs benefiting from that particular AOC. The RCC coding structure allows RCCs to be rolled up into higher organizational structures. Reorganizations can be accomplished, but they require significant manual effort to redefine the cost allocation tables and to establish new RCCs and they are limited by the number of RCCs that the software can establish within a production division.

Direct Labor. The Air Force legacy financial system for DMBA does not collect the actual direct labor hours and direct labor cost for each JON.[8] Instead it collects the actual direct labor hours and direct labor cost for each RCC and then allocates those hours and cost to individual JONs. Thus the actual direct labor hours and cost recorded to a JON are really *allocated actuals*. The following steps are used to determine the DPAH and direct labor cost for a JON.

- All labor hours and labor cost (both direct and indirect) are collected each month for each RCC using the G037G system, which in turn is fed by the time and attendance system (H117). The H117 system assumes that all full-time employees in an RCC contribute 40 direct product actual hours (DPAH) per week unless the shop supervisor exceptions the employee's time in an indirect category (e.g., sick leave, annual leave, training, on-loan to another shop).
- The G037G feeds directly to both the G035A and G072A.

[8] OC-ALC is modifying the PDMSS application for aircraft to track actual labor hours within each RCC by JON. For engines, the Inventory Tracking System (ITS) could be modified to track direct labor hours by JON, but OC-ALC does not plan to implement that capability.

- The G072A, uses the Direct Product Earned Hours (DPEH) by JON from the G004L system for each RCC to allocate each RCC's actual labor hours and actual monthly direct labor cost to the JONs on which it completed one or more production operations.

Uncompleted Production Operations. Repair work within the depot is scheduled and controlled as a sequence of individual operations (e.g., receipt, defuel, remove panel). We refer to one of those individual operations as a production operation. With the legacy financial system, when a production operation is completed and recorded in the G004L it is said to be production counted (i.e., the RCC earns DPEHs for that work). The RCC's cost (excluding direct material) for a month are allocated only to those JONs having production counts (i.e., completed production operations) recorded in that month. For a JON to accumulate labor and overhead cost during the month, at least one production operation for that JON has to be completed and production counted in the G004L system. If during the month, an RCC works on a production operation but does not complete it by the end of the month, the cost of any such uncompleted production operations (i.e., those that are not production counted) is allocated to those production operations that were completed by the RCC.[9] Thus with the exception of direct materials, the direct labor hours and costs (and the associated overhead) expended during the month on all uncompleted production operations could be allocated to the wrong JON. No reconciliation or correction is performed in subsequent months.

Material. The material process (see Figure 2.) commences with fund distribution and commitment/obligation information that the depot maintenance activity provides to DLA and SMBA. In effect, this assures DLA and SMBA that DMBA has sufficient funding to pay for the materials it requisitions. The amount of funding set aside for materials has been established using the depot material standards for quantity and cost, which are carried in G005M. Once an item is inducted into maintenance for repair, the material planner assesses the materials needed to fix the item and generates purchase requests and purchase orders for those materials. Various types of requests for inventory are generated (see "Inventory Accountability" for the process and affected systems).

The DMBA also tracks the cost of the materials it requisitions in the G004H. The cost of direct material (when received) is entered into G004H, the Material Cost System, at the JON level, and then into the G072A for monthly processing. The cost of some indirect material, so-

[9] If the RCC has incurred some costs during a month but has not reported any corresponding production count, those cost held in an suspense account until the problem is researched and corrected the next month. If there was no production count, the costs held in the suspense account are included in the production overhead rates for the next month.

called shop indirect material that is bought by an RCC (i.e., it is not allocated to an RCC) is recorded through G004H as well. The G004H also transfers these shop indirect materials cost information to G035A for allocation to individual JONs. Material standards for each JON in the G005M (the standard materials cost system) are updated with the actual material cost information from the G004H. The remaining indirect materials cost information (the so-called shop support materials) is recorded manually into the H069G and into the G035A (for further allocation to the RCCs and then to the JONs).

Multiple cost accounting techniques. Multiple cost accounting techniques are not supported by the formal cost accounting systems. The legacy financial system can only use DPAHs to allocate costs to individual RCCs and can only use DPEHs to allocate the non-direct material costs of an RCC to individual JONs. However, individual Air Logistics Centers have implemented manual approaches which first allocate non-direct costs using square feet, for example, and then input the already allocated costs into the G035A where they are further allocated to RCCs. (For example, at one ALC the electricity bill is first allocated manually to each production division using an agreed upon formula and then the G035A further allocates the production division's portion of the electricity bill to each of its RCCs.) Those manual allocations will be accomplished mechanically with DMMIS financials; however, DMMIS financials, like the legacy G072A system, still use DPEHs to allocate non-direct RCC costs to the JON.)

Unit costing. Unit costing is not supported with the formal legacy financial system. Currently, multiple like items can be assigned to one JON. Although all the information is available to calculate the unit cost when multiple items are processed on one JON (which is a frequent occurrence in components and engines), the formal legacy system does not compute the unit cost. While the programs could be modified to make that calculation, the resulting unit cost information would be of limited utility without a method of tracking actual direct labor hours by JON (see the discussion of performance measures for more details) and without a revised approach for allocating overheads to individual JONs.[10] Also, it might be necessary to decide on the standard units of measure for production in a diverse industrial facility like a depot that has a heterogeneous workload (a JON for an aircraft is different from a JON for an exchangeable).

Performance measures (variance analysis). Variance analysis of budgeted vs. actual work accomplish is routinely performed for RCCs and for production divisions. The capability to perform variance analysis by

[10] Some product directorates at WR-ALC have created their own PC-based spreadsheet programs for analyzing unit cost variance of JONs.

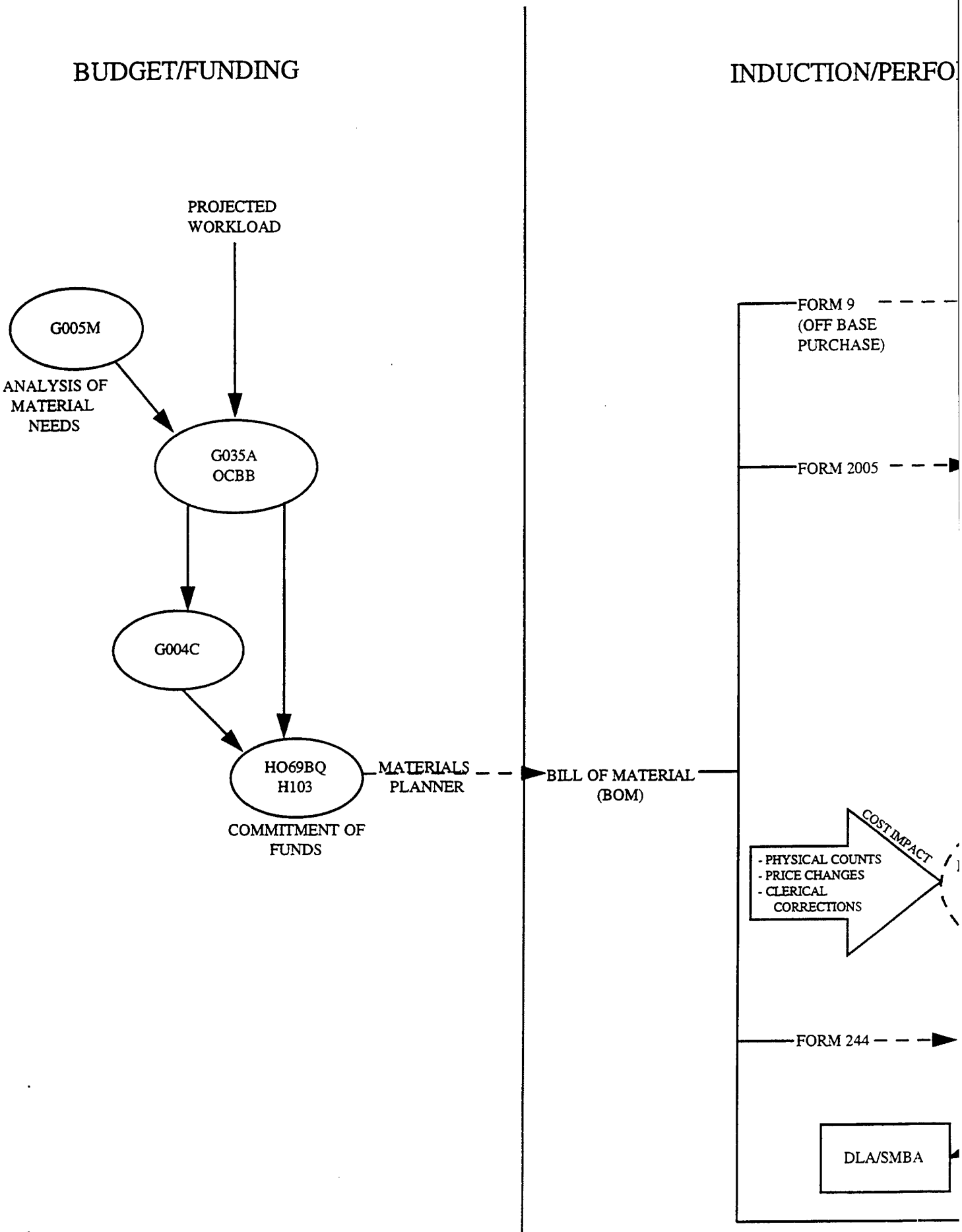
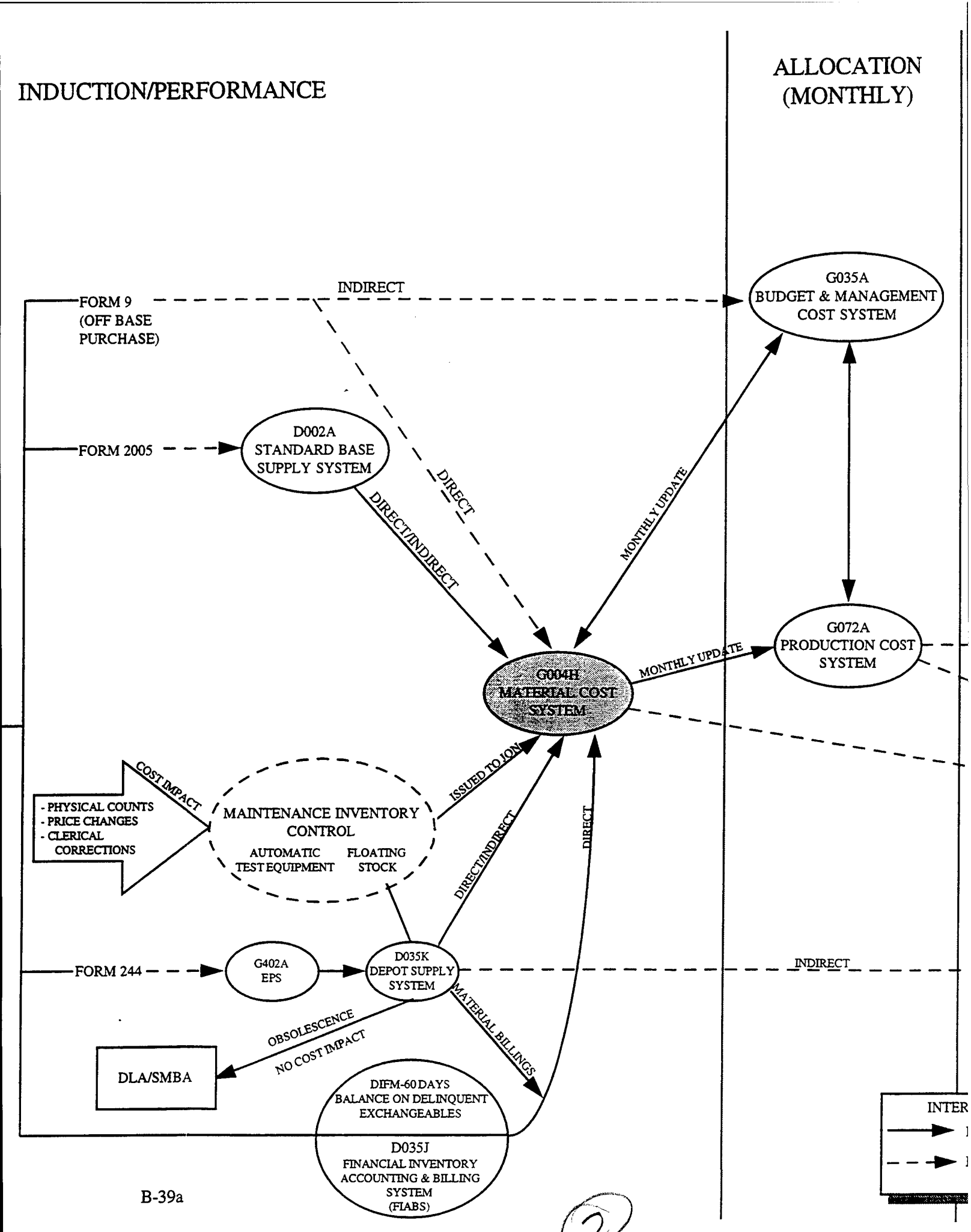
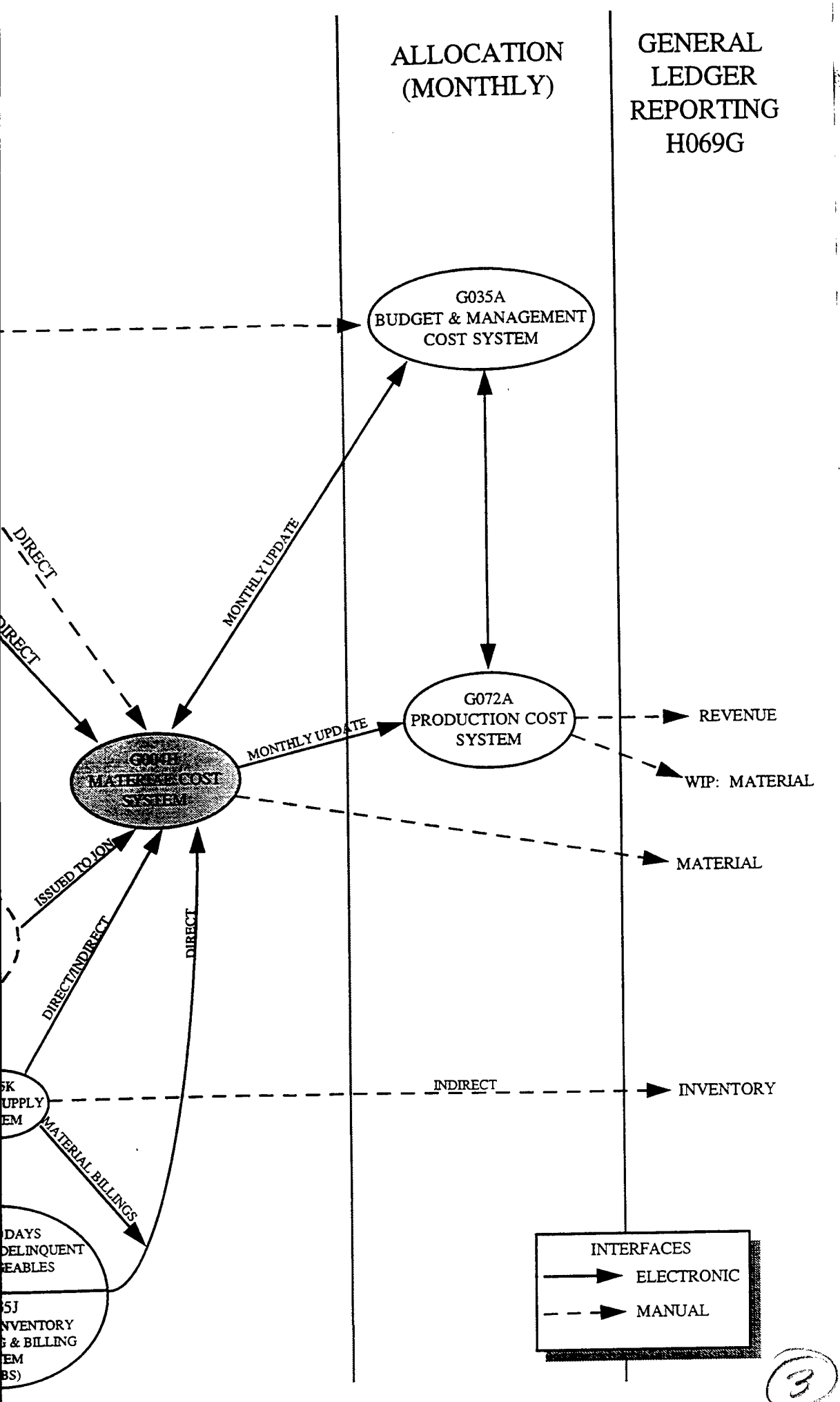


Figure 2
Material Process


INDUCTION/PERFORMANCE
ALLOCATION (MONTHLY)
FORM 9 (OFF BASE PURCHASE)
INDIRECT
G035A BUDGET & MANAGEMENT COST SYSTEM
FORM 2005
D002A STANDARD BASE SUPPLY SYSTEM
DIRECT
DIRECT/INDIRECT
MONTHLY UPDATE
G004H MATERIAL COST SYSTEM
MONTHLY UPDATE
G072A PRODUCTION COST SYSTEM
COST IMPACT
- PHYSICAL COUNTS
- PRICE CHANGES
- CLERICAL CORRECTIONS
MAINTENANCE INVENTORY CONTROL
AUTOMATIC TEST EQUIPMENT
FLOATING STOCK
ISSUED TO ION
DIRECT/INDIRECT
DIRECT
FORM 244
G402A EPS
D035K DEPOT SUPPLY SYSTEM
INDIRECT
OBSOLESCENCE
NO COST IMPACT
MATERIAL BILLINGS
DLA/SMBA
DIFM-60 DAYS
BALANCE ON DELINQUENT EXCHANGEABLES
D035J
FINANCIAL INVENTORY ACCOUNTING & BILLING SYSTEM
(FIABS)
INTER


ALLOCATION
(MONTHLY)
GENERAL
LEDGER
REPORTING
H069G
G035A
BUDGET & MANAGEMENT
COST SYSTEM
DIRECT
MONTHLY UPDATE
G072A
PRODUCTION COST
SYSTEM
REVENUE
WIP: MATERIAL
MONTHLY UPDATE
MATERIAL
ISSUED TO ION
DIRECT/INDIRECT
DIRECT
INDIRECT
INVENTORY
MATERIAL BILLINGS
INTERFACES
ELECTRONIC
MANUAL

JON is limited because the direct labor hours are not collected by JON. Using the G035A outputs, analysts can compare the allocated actual hours (DPAHs) and the DPEHs for each JON within an RCC; however, that is not done routinely as the analysis does not provide much useful or specific information that could be used to identify problem areas. The PDMSS application to aircraft at OC-ALC could be programmed to do labor variance analysis since it collects the direct labor hours actually worked on each JON and it utilizes the standard labor hour information (loaded from E046B).

Work in process. Work in process (WIP) is recorded monthly for each unfinished JON. It includes the accumulated costs and labor hours for each completed production operation on a JON until the JON is completed. The Incremental Revenue Recognition (IRR) program determines when revenue and matching expenses for WIP should be recognized in the ALCs' accounting system.

Incremental Revenue Recognition (IRR) is performed at each ALC on a stand-alone program that runs on a VAX computer. IRR is a method for accruing revenue when the expenses on a JON are incurred, rather than when the JON is completed. (IRR is similar to the percentage-of-completion method of recognizing revenue.) It applies to WIP (but not construction-in-process) with regard to expenses. Based on the unit of measure for each type of workload (aircraft - earned hours, engines - completed engines, exchangeables - each, software - labor hours) a percentage of completion is calculated to accrue revenue and expenses. G004L provides the production counts to IRR. IRR does not affect billings or cash flow. The revenue/expense figures calculated by the IRR are recorded in H069G, and they are reported in the Depot Maintenance financial statements. However, depot data being reported to DoD via the H036A/B do not include IRR, thus IRR is a reconciling item between the depot financial statements and the DoD reports.

The IRR information system takes information from the feeder systems to the G035A and G072A, recalculates the revenue, and then compares the result of that calculation with the data from the G072A and G004B. (For simplicity, Figure 1 omits the redundant data interfaces between the IRR information system and the feeder systems to the G035A and G072A.) Personnel working in the IRR office informed LMI that the purpose of collecting the data from the feeder systems was to perform a cross-check of the results from the G072A and G004B systems.

Construction in process. Construction in process is captured in H069G using manual inputs. There are two types: (1) construction for direct support of production, and (2) administrative/overhead construction. The former type gets its inputs from civil engineering. Upon completion, that work is either expensed into H069G through a reclassification or

manually recorded in IDEAL (if it meets the AF's fixed asset dollar limitation). The latter type is recorded in WIP as that work occurs. There are three categories of construction in process: (a) test equipment, (b) construction of an asset for a specific job, and (c) facility or equipment for a specific workload. Upon completion, (a) is recorded as inventory in the Maintenance Inventory Control (MIC); (b) is charged to the job; and (c) is moved to G017, where depreciation is charged to the RCC through G035A or, if it is below the dollar threshold, it is expensed to the RCC directly through G035A.

E. Payables

When a shop requisitions an item, Commercial Services (CS) sets up a customer order acceptance and a purchase order (PO). Both are entered manually into either the H069(BQ) or the H103 (CPAS), depending on the funding source. This creates a "commitment" in the system (i.e., the funds are reserved for a forthcoming obligation when the contract is signed). Amendments or modifications are made to the contract in H103, which only retains the latest contract information not a history. Once an amendment has been updated the original information on the contract is no longer available except via manual logs.

When the Accounts Payable receives the invoice from the vendor, it verifies and validates the invoice against the contract before the invoice can be entered into the system and processed for payment. Once the invoice (or group of invoices) has been entered, the system will generate an edit or audit report which will be manually compared to the actual invoices to insure accuracy. Receiving documents, indicating that the work is done or that the product or item is received, are matched to the invoice in Accounts Payable before payment can be made. A weekly open payables report is analyzed for the status of payables. (That report is saved for off-line audit records.) At that time a voucher is created for the manually processed invoices and a computer generated report from the Integrated Accounts Payable System (IAPS) is run; both of these are given to the Disbursements group for further processing. A monthly audit report is also generated. Those daily and monthly reports are maintained in a log and become the main portion of the depot's off-line "audit trail".

When IAPS is fully deployed in the Accounts Payable department at each depot, all invoices for both organic and contract workloads will be processed with IAPS. IAPS is interfaced with the disbursements processing system, though there is still some manual processing needed to establish Accounts Payable at month end. IAPS is also interfaced with the H069(BQ). Currently IAPS is fully deployed at OO-ALC and WR-ALC.

At OC-ALC, the majority of Accounts Payable related to contracts is still processed manually, as IAPS has not been fully deployed. Organic maintenance invoices are entered into the IAPS. However, the remaining

invoices for contract maintenance are manually logged and tracked by the Accounts Payable staff until they are ready for payment. Both the IAPS and the manually tracked Accounts Payable records are manually posted to the General Ledger (H069G).

Interfund billing (Service to Service) is requisitioned on a form 1348. In the current legacy system it is sometimes hard to identify who is to be paid. CS does not get a copy of the requisition. There is a great deal of manual effort, and no substantive help from automated data systems.

F. Receivables

The Accounts Receivable process is almost totally manual. The tracking of receivables and collections is not handled at the ALCs, other than for internal purposes. Otherwise it is tracked, and funds are collected at DFAS.

When a project is completed, the G004L system closes the JON and moves that information to the G072A and then to the G004B, which tracks project counts (e.g., completed production operations on a JON). The Cost Accounting office is notified through the G004B system of all completed JONs. That office does off-line tracking (on a non-legacy P.C. program) of project status, and issues a letter/memo to the Accounts Receivable office telling them to bill the client.[11]

Accounts receivable records are posted to either the H069(BQ) or the H103 (CPAS). Accounts receivable is also posted to H069G. All accounts receivable collections are posted to the H069BQ and then manually posted to the H069G. The general ledger amount is reconciled to a report generated by G004B.

G. Billing

When Cost Accounting is notified of completed JONs via the G004B system, it prepares a "request for billing" memorandum to the Accounts Receivable (A/R) office. That memo indicates who gets billed and for how much. Prior to creating the bill, or "1080" (A/R does both final billing and progress billings) A/R verifies that the customer's funds are available [contract/fund status is maintained on cards from the contract data entered on a form 181 into either H069(BQ) or H103 (CPAS)]. Transaction listings and edits are generated by the G004B and the "1080" PC system. These reports are compared for accuracy before being entered into the general ledger (H069G). Some customers are billed directly (e.g., FMS, NASA). Those transactions are recorded in H069(BQ), H103(CPAS) or FMS (for foreign clients).

[11] The internal control PC Systems used by Cost Accounting is called the Air Force Project Order System (AFPOSYS).

If it is discovered that a customer does not have adequate approved funding to pay for completed work, the ALC can only bill that customer for completed work that was specified on the purchase order and only to the extend of the funding so specified on the purchase order. The depot will try to negotiate with the customer to get this funding approved after the fact. If the additional funding in not approved, then Cost Accounting redoes the G004B report and the "1080". The loss for unbillable work is written off in the following month.

H. Disbursing/Collections

Disbursing. Prior to payment, the invoice will be tested against the contract to verify that adequate funds are available or remain to pay the invoice. The invoice will only be paid if sufficient funds are available on the contract. A report will be generated indicating those accounts having insufficient funding.

CS keeps the record of status of contracts and commitments. It tracks both dollars obligated and dollars expended through H069(BQ) and H103. Both of those systems feed information to DFAS-Columbus' MOCAS (Mechanization of Contract Administration) which is the system used to disburse funds for contract maintenance accounts payable (for which DFAS-Columbus makes about 90% of the payments). The CS office also makes some payments for both organic and contract maintenance activities. All payment transactions are recorded and saved to establish an audit trail.

Collections. Collections for organic maintenance are done at the ALC For contract maintenance, most collections are processed out of DFAS-Columbus. DFAS tracks the collections in the H069(BQ) or the H103 (CPAS). The Accounts Receivable office at the depot produces the "1080" or the billing, on a stand-alone PC system after verifying that funds are available. The "1080" is posted to the H069(BQ) or the H103 (CPAS). At posting, the funds are transferred from the customer's account to the depot's. At the end of the month a manual list is compiled of customers who have not paid their accounts.

I. Inventory Accountability

The Air Force maintenance depots do not own and therefore do not track most of the inventory they use. Because the Defense Logistics Agency (DLA) and the Supply Management Business Area (SMBA) of DMBA own the inventory, DLA and SMBA use their own information systems for tracking inventory. As a result, the maintenance depots do not have a full inventory tracking system.

Within the repair depot, material is requisitioned from a bill of material (BOM) by the material planner, during the analysis stage of inducting a workload for repair (see Figure 2). There are several inventory categories

from which material can be ordered and each has its own legacy system and form for requesting material (see "Material" for procedures followed in initiating an inventory request) and for providing status reports to maintenance. Some of those systems include:

- D002A, form 2005: predominantly indirect (or overhead type material), but does some direct, such as hazardous waste.
- Manual, off-base material purchases, form 9: both direct and indirect material, but not frequently used.
- D035K, form 244 through system G402A: most used method/type of direct and indirect material issue; also houses "temporary" depot inventory, such as: test equipment, floating stock, and MIC inventory.

The D035K system also tracks exchangeable items that have been issued to maintenance and for which maintenance must return a like item. A delinquent due in from maintenance (DIFM) report, tracks overdue items (over 60 days) that were issued to maintenance from either the D035K or the D002A. When an exchangeable is delinquent, the D035J system charges the carcass price (i.e., the difference between the acquisition and repair cost) to the material cost of the effected JON. (This is a new procedure; previously, the cost of the delinquent items was treated as an overhead item.)

Upon being issued, direct material is charged to the JON through G004H, the Material Cost System. This is a batch system which is updated daily. Material that has been issued to an open production number, but not yet put into the workload process by month-end is accounted for as WIP in the G072A. Any issued, but unused inventory remaining on the floor at the end of the month is recorded in WIP as material cost in the general ledger (H069G).

There is a small stock of inventory, located in the Maintenance Inventory Control (MIC), maintained in D035K. The two main inventory categories of the so-called MIC are Floating Stock (stock that is "temporarily" to be used in the workload process to not hold up the schedule, but is to be replaced as the original item is repaired or a new one brought in) and Automatic Test Equipment (ATE) (this equipment is not treated as a fixed asset because it is frequently produced for a specific workload and is often charged directly to that workload). Physical count adjustments, clerical error corrections, and price changes affect the costing of the MIC inventory. Items included in the MIC are recorded as inventory in the H069G.

Defective work and spoilage produced during the production/ maintenance process is charged directly to overhead. Obsolete items are returned to DLA/SMBA resulting in no cost impact to the ALCs.

J. Travel

This function will be accomplished external to the accounting system by an approved, standardized DFAS travel system. In the meantime, travel costs are captured in the H069BQ system and manually posted to the H069G and from where they are transferred to G035A and then to the G072A. Depending on the nature of the travel, the travel expense will be either direct charge to the JON or treated as shop indirect, shop support, or G&A. The accounting system will interface with the new DFAS travel program.

IV. OTHER FUNCTIONALITY

A. Payroll Support

The Defense Civilian Payroll System (DCPS) will replace the Air Force Standardized Civilian Automated Pay System (AFSCAPS - H002). When DMMIS is fully implemented at the ALCs, the Time and Attendance System, H117 will be replaced. Until full DMMIS implementation, production directorates will have to input data into both DCPS and the H117.

B. Personnel Support

This function will be accomplished external to the DMBA accounting system. The Civilian Personnel System flows all personnel actions to AFSCAPS, H002.

CONCEPT OF OPERATIONS FOR THE DMMIS FINANCIAL SYSTEM

Overview

Why? - Purpose of the system

The purpose of the DMMIS financial system is to satisfy the external financial reporting requirements of DFAS relative to the financial condition of the depot maintenance business area (DMBA) at Air Force depots[12] and to provide internal management information to depot management to facilitate effective and efficient execution of its maintenance workload.

Where? - Facilities

WHAT FACILITIES ARE CURRENTLY SUPPORTED BY THE SYSTEM?

The DMMIS financial modules support the entire DMBA workload at Ogden Air Logistics Center (OO-ALC), but the degree of support varies

- The full functionality of the DMMIS financial modules applies only to that portion of the OO-ALC workload (about three to five percent) that is managed with the DMMIS production modules.
- The budget and general ledger (BGL) portion supports all DMBA activity through interfaces with customer order management (COM), cost/cost management (CCM), and the legacy systems (The time and attendance system is integrated with BGL through CCM, except for budget formulation).Time and attendance (TAS) and CCM support only DMMIS production modules, they do not work with the legacy systems.
- COM supports all DMBA activity from a customer funding load perspective. All customer orders, whether from legacy systems or DMMIS production, are input to COM.

WHAT FACILITIES WILL BE SUPPORTED BY THE SYSTEM? LIST BY NAME.

The original plan was to deploy DMMIS to all five Air Logistics Centers (ALCs). The recommendations of the recent Base Realignment and Closure (BRAC) report include closing the ALCs at Sacramento and San Antonio. While those ALCs might not be closed (or privatized) for

[12] The Aerospace Maintenance & Regeneration Center (AMRC) is a DBOF financial reporting entity. Under current plans, DMMIS is not deployed to AMRC. The financial reporting approach for AMRC is TBD.

several years, perhaps even five or more, their eventual closure raises the question of whether they should deploy DMMIS.

For the current economic analysis of depot accounting and finance systems, the baseline hypothesis is that DMMIS will be deployed to three depots:

Ogden ALC (OO-ALC)
Oklahoma City ALC (OC-ALC)
Warner Robins ALC (WR-ALC)

and that Sacramento ALC (SM-ALC) and San Antonio ALC (SA-ALC) will be serviced by the pre-DMMIS accounting and financial systems.

WHAT FACILITY(IES) WILL PERFORM THE DATA PROCESSING?

3 megacenters: WR-ALC, OC-ALC, OO-ALC

WHAT DFAS LOCATIONS WILL PROVIDE SUPPORT?

DFAS support for general ledger analysis and reporting at the ALCs currently is provided by collocated DAOs. DFAS plans to move those personnel to DFAS operating locations (OPLOCS) in FY96. Overall support for Air Force financial reporting operations will be provided by DFAS DE/ANMC in Denver. That office will address new requirements, testing, and accounting policy issues.

Civilian pay is handled by Charleston for WR-ALC and by Denver for the other ALCs. Accounting is handled by San Bernardino for SA-ALC, OO-ALC, and SM-ALC; by Omaha for OC-ALC; and by Limestone for WR-ALC. Denver performs the roll-up for the Air Force. Denver will take over the trial balances for DoD reporting in October.

When? - Identify major milestones for deployment to the named facilities. When will FOC be attained?

The current schedule *(from JLSC/DMPD, 15 June 95)* for financial cutover is:

May 95	OO-ALC
Jan 96	WR-ALC
Jan 97	OC-ALC

Who? - Identify organization(s) responsible for development, V&V, operations, and support Services, DFAS, and others.

The Air Force was the original CDA for development and implementation of DMMIS. The Air Force chose Grumman Data Systems, which later became Northrop Grumman Data Systems (NGDS),

as the prime contractor for DMMIS design, coding, and fielding. In 1993, JLSC/DM, as part of its Depot Maintenance Standard System (DMSS) effort, assumed funding responsibilities for DMMIS development. In June 1995, JLSC/DM assumed full project office responsibilities for DMMIS. The NGDS contract will remain in force until 30 September 1995. On 1 October 1995, the JLSC/DM's prime contractor for DMSS, BDM, will assume responsibility for DMMIS design and coding. Long-term support of the DMMIS financial modules (i.e., maintenance, modifications, and enhancements) will be provided by a contractor .

ACCOUNTING FUNCTIONALITY

Fund distribution

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

DMMIS does not receive and record fund authorizations for Annual Operating Budget (AOB); Capital authority; Major Real Property, Maintenance and Repair (MRPM&R) authority; or Unit Cost Targets. The Air Force currently retains AOB, Capital authority, MRPM&R authority, and Unit Cost Targets at the Air Force Materiel Command level and does not distribute this authority to the installation (center) level. [1]

DMMIS can receive, record, and control reimbursable customer funding authority through the DMMIS Customer Order Management (COM) application. [1] DMMIS receives an input from the project order that indicates funds are available; there is no direct interface with customer fund accounts. [ref. 2] When a customer is notified that its order has been accepted, the order is obligated on the customer's books. [Ref. 3] DMMIS has the capability to distribute and track reimbursable customer funding authority at a variety of levels including the job order level. However, no capabilities exist to distribute and track AOB, Capital authority, MRPM&R authority, or Unit Cost Targets. [1]

DMMIS controls ensure that reimbursable customer funding authority is recorded prior to incurring cost and provide appropriate warnings as customer funding authority thresholds are approached. DMMIS has the capabilities to separately maintain each customer's reimbursable authority and to establish funding limits and controls as directed in the customer order. [1]

DMMIS updates all appropriate project order funding to ensure that the system maintains the current status of funds. DMMIS provides the capabilities and controls for authorized users to override funds certification

tests. DMMIS accepts and holds potential commitments to be applied against future or current year availability and automatically enters the transactions into the proper accounting period when the funds are available. The system ensures that the amounts reflected in the funds control structure agree with the general ledger account balances at the end of each update cycle. However, DMMIS does not provide absolute or warning edits or advance on line notification of commitment/obligation transaction in excess of availability. [1]

DMMIS produces daily, monthly, quarterly, and annual financial statements required by DBOF and status of reimbursable funding at customer order level, but does not have capability to support AOB, Capital authority, MRPM&R authority, or Unit Cost Targets. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Fund distribution is performed within DMMIS. Fiduciary funds control is provided outside of DMMIS by H069BQ, which does the base-level accounting general ledger system.

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

G019C, G072E-A, D087E-A

General Ledger

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

The core of the DMMIS General Ledger application is the Financial Accounting and Reporting Systems (FARS) commercial off-the-shelf (COTS) software package developed by Computer Data System Inc. (CDSI). The DMMIS General Ledger package uses the Air Force chart of accounts, as prescribed by AFMCR 170-10, and is not fully compatible with the DoD Standard General Ledger (e.g., budgetary accounts are not supported). [1]

DMMIS does not provide comparative financial statements, or the capability to identify abnormal balances. [1] DMMIS permits authorized users to make journal entries without affecting changes in the original transactions while maintaining an audit trail of the entries. [Ref. 3].

DMMIS provides for automatic month-end and year-end closings, re-establishes balances for the new year, and can generate multiple preliminary closings. [1]

DMMIS maintains historical general ledger data on-line and can post transactions to multiple periods concurrently. [1]

DMMIS has the capability to provide for automatic accruals and reversal, to process multiple debits and credits (up to 45 pairs), and to use liquidation logic for adjustment of previous commitment and obligation transactions. [1]

DMMIS maintains a history of variances and actuals at the RCC and JON levels. (JLSC/DM, 14 June 95)

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Cost Management (CCM) (DMMIS)

Inputs to BGL: Standard and variance overhead, required direct product standard and earned hours, planned indirect labor hours, standard and variance direct labor, standard & variance direct material, actual indirect labor hours & cost, DMMIS end item sales price, required material dollars.

Outputs from BGL: RCC production dollars and hours, roll-up production numbers, RCC rates (frozen and actual), pay raise factors, inflation factors, acceleration factors, other direct cost (H069).

Time and Attendance (TAS)

Inputs to BGL: current labor rates and labor mix

Customer Order Management (COM) (DMMIS)

Inputs to BGL: funding source, JON status & funding, Shipment to depot maintenance, RCC updates.

Building Depreciation

Inputs to BGL: building depreciation (manual input)

Contractual Depot Maintenance Business Area (DMBA) functionality is primarily supported through data system designators G009 (Government Furnished Material Transaction Reporting System), H075C (Industrial Fund Procurement System for GFM), and G072D (Contract Depot Maintenance Production and Cost System). However, an electronic interface does not exist to the DMMIS General Ledger. Consequently, all related updates are effected via manual journal voucher. [1]

Forecasting

Inputs to BGL: negotiated workload.

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

"199 Interface"

Inputs to BGL: Civilian payroll by RCC (H002K) (which is being replaced by DCPS - Defense Civilian Payroll System - in early FY96), direct actual material cost (G004H), Ind/DME & Material Expense (G004H), material billing (D035J), non-DMMIS DME and CC4 hours (G004I), non-DMMIS indirect labor costs (G037G), non-DMMIS direct/DME $ (G037G), earned and actual hours (G072A), Other disbursements (H069BQ) (H103), payment receipts (H069BQ), other direct cost (H069BQ), cost class IV earned hours (G004L), JON funding (G004L), temporary JON funding (G004L), equipment depreciation (G017).

Outputs from BGL: Adjusted sales and other JON attributes (to G004B), monthly labor efficiency (to G004C), cost class IV production (to G004C), frozen RCC rates (to G072A and G004C), overhead cost (G072A).

Fixed assets

This function will be accomplished external to the accounting system by the Defense Property Accounting System (DPAS) The DPAS is used for processing documentation associated with fixed asset accountability an real property accountability. The accounting system will interface with the fixed assets system .

DMMIS receives depreciation expense (for equipment only, not for real property) via electronic interface directly from the GO17 (Depot Maintenance Equipment Program) system. Other fixed asset transactions are manually entered into the DMMIS General Ledger based on data resident in the GO17 system. (ref.1,p.38)

Cost accounting

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

The DMMIS Cost Management (CCM) application is a fully integrated standard cost system. This application collects both standard and actual costs and is capable of identifying up to 14 different types of cost variances. Extensive cost segregation/aggregation capabilities exist by cost element and organization. Extensive integration exists between CCM and the DMMIS General Ledger (BGL) application. DMMIS supports a cost accounting code structure, multiple costing methods, and hierarchy of cost accumulation. However, DMMIS currently does not support roll-up cost accumulation to major end items such as aircraft. DMMIS does provide

excellent overall support for planned and operational baseline cost estimates. [1]

DMMIS supports recording of direct and indirect standard and actual costs at the job order level. The system accrues actual labor costs at the job order level on a daily basis (effecting proper accrual at month/year end) both for civilian and military labor. Actual labor costs are recorded daily and reconciled to payroll biweekly. All overhead costs are identified by category, type, general ledger account code and organization. Indirect overhead costs and stabilized billing rates can be allocated by different methods (e.g., machine hours and direct labor hours). DMMIS supports fixed/variable cost differentiation. Costs can be identified by unit of output, but no automated reports are produced for analysis of execution against Unit Cost Targets. Funded costs are distinguished from unfunded costs, but unfunded costs require manual manipulation to effect billing. [1]

DMMIS supports the reimbursable process by separately identifying direct costs and indirect costs to customers by job orders. [1]

DMMIS supports multiple cost accounting techniques, such as job order cost, process cost, standard cost and pre-determined rates. The system permits costs to be transferred between cost centers and funding entities. [1]

DMMIS supports unit costing by accumulating costs at lowest cost levels and rolling up through hierarchical organizational and job order coding structure, but does not calculate earned cost authority or track performance against Unit Cost Targets. It records and maintains some performance measures (e.g., labor/machine hours and on-time delivery schedules) and provides reports to various management levels. [1]

DMMIS supports cost and financial management requirements unique to depot maintenance requirement (e.g., those associated with production and related financial requirements). [1]

The system maintains comprehensive cost data on-line, and archives the data to an automated media that is readily accessible. Extensive on-line/real-time query applications exist and complement the batch processes effectively. [1]

DMMIS records and tracks work in process and can track percentage of completion against customer orders for review of progress on customer orders against funding limitations. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Cost accounting is performed within the DMMIS financial modules.

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

D035K, G004L

Payables

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

Much of the accounts payable functionality in DMMIS is accomplished via interface with the H103. The interface with H103 permits DMMIS General Ledger to be populated with information pertaining to depot maintenance. H103 requires user-defined authorization (three levels of authority) to modify the vendor file, accommodates multiple addresses, and edits/validates transactions submitted by external systems. However, employee data for travel is not maintained and capabilities to combine or split procurement requests to respective single or multiple obligating documents are not supported. [1]

H103 matches commitments, obligations, receiving reports, and invoices before authorizing payment. Receipt, inspection, and acceptance of goods or services data must be manually put into the system. The system does not track invoice returns/reasons for return and cannot match amendments to original contract numbers. [1]

H103 records and tracks quantity variances between the receiving report and the obligating document and provides inquiry and reporting of this information. The system does not support payments made to financial institutions under assignment of claims, track both constructive and actual acceptance, support payment by electronic funds transfer, or permit warehousing of payments. [1]

H103 provides the capability to access information through electronic mail and/or reports for those instances where there is a missing receiving report, difference in the invoice amount, no contract was issued, or a missing invoice. The system cannot match advances outstanding to amounts owed to vendors nor identify and track overpayments and credits memorandum and establish appropriate receivables or offsets on-line. [1]

Neither DMMIS nor H103 generate management reports showing performance in the accounts payable area, generate aged reports of unmatched invoices, or aged receiving reports without acceptances. [1]

H103 provides the capability to search and access the status of vendor information by vendor name, document number, or vendor ID. The system does not, however, identify payment history including interest paid,

discounts taken, acceptance and receipt dates, invoice dates or calculate penalties for interest not paid and discounts erroneously taken. [1]

DMMIS cannot capture interfund line item detail data to properly establish payables and liquidate obligations. The system does not have the capability to produce automated requests to Defense Automated Addressing System (DAAS), but can capture and read DAAS billing response. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Much of the accounts payable functionality in DMMIS is accomplished via interface with the H103. [1]

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

n/a

Receivables

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

The accounts receivable portion of the DMMIS General Ledger application was not operational during the evaluation, and related functionality evaluated was therefore very limited. The DMMIS General Ledger application contains accounts receivable functionality. DMMIS can track and age receivables, and can produce audit trail reports to support data transferred from external systems and perform edits on incoming transactions. [1]

DMMIS maintains detailed information by account and stratified by type of federal/other agency. However, the system cannot presently record complete/partial receipt against a specific bill number, apply collections in order of precedence, or permit on-line entry to write off uncollectible receivables. [1]

DMMIS produces an aged report of outstanding receivables due from the public with the aging and transaction types stratified in accordance with DoD guidance. However, the system cannot establish receivables through on-line entry for uncollected travel advances, age outstanding advances, produce information necessary to generate an IRS Form 1099, generate delinquent reports to other agencies, or permit offset of intra departmental, agency or activity receivables through interfaces or integration. [1]

DMMIS can generate reimbursement reports, aged receivable reports for all receivables, ad hoc, and preprogrammed queries. DMMIS produces transaction listings and error listings for transactions entered directly into the system. However, the system does not presently have search capability for

customer receivable information such as customer name, customer number, and document number. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Travel vouchers: H069BQ

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

n/a

Billing

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

DMMIS produces audit trail reports to support data transferred from external systems and subjects all incoming transactions to edits, validations, and error correction procedures. [1]

DMMIS identifies the origin of the reimbursable activity and the specific customer owing the debt. The system updates accounts when billing documents are generated and adjustments are made. The system generated bills are used as the basis for manually prepared bills sent to the customers. [1]

DMMIS generates billing reports through preprogrammed queries and ad hoc capabilities to support management information needs. Billing is currently effected twice monthly, but could be accomplished more or less frequently. However, the system cannot generate billing information for multiple levels of an organization. [1]

DMMIS provides customer assistance and quality control by producing transaction listings and error listings for transactions entered directly into the system and provides search capabilities for customer billing information. [1]

DMMIS supports separate pricing requirements for several classes of customers using fixed price, cost reimbursable and stabilized pricing techniques. However, the system does not support dual pricing for depot level repairables. [1]

DMMIS supports reimbursable billing requirements by tracking authority, identifying items orders and promised delivery dates and relating revenue for each reimbursable order to actual costs incurred for the order. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

D035K, G004L

Disbursing/Collections

DMMIS does not contain disbursing and collections functionality. A standard DoD migratory system is being developed for these functions. It will interface with selected DBOF interim migratory systems. [1, p.42]

DMMIS is not electronically integrated or interfaced with supporting disbursing/collection systems. [1,p.42]

Inventory accountability

SUMMARY OF FUNCTIONS PROVIDED WITHIN THIS AREA.

The Air Force does not maintain/report any inventory within the DMBA, other than Work In Process (WIP) inventory and Government Furnished Material (GFM) for contractual depot maintenance. Inventory maintenance and financial accountability are essentially supported by the Supply Management business area (e.g., through D035K and D035J systems). However, DMMIS does contain substantial functionality for the issuance, tracking and accounting of material at the lowest levels. DMMIS identifies and prevents the accumulation of excess, obsolete and slow moving parts and inventory. [1]

WHAT SYSTEM PERFORMS THE FUNCTION? E.G, IS IT PART OF THE SYSTEM OR IS IT ACCOMPLISHED BY AN EXTERNAL SYSTEM THAT THEN INTERFACES WITH THE SYSTEM.

Inventory costing in DMMIS is performed in CCM. It uses an interface with D035J.

WHAT NON-FINANCIAL SYSTEMS DOES IT INTERFACE WITH?

D035K

Travel

This function will be accomplished external to the accounting system by [*name of program, location, ...*]. The accounting system will interface with the travel program.

OTHER FUNCTIONALITY

Payroll support

This function eventually will be accomplished external to the DMBA accounting system by the Defense Civilian Payroll System (DCPS). Major testing of the interfaces between DCPS and DMMIS occurred during the summer of 1995. Until DCPS is fully implemented at the ALCs, this function will continue to use the Time and Attendance System, H117.

Personnel support

This function will be accomplished external to the DMBA accounting system by the Civilian Personnel Accounting System (CPAS), H103.

Other functions

Identify additional functions performed by the system at current locations (e.g. methods and standards). Also, note other significant interfaces not discussed elsewhere..

SYSTEM FEATURES

Required features - e.g., query, ad hoc reporting, downloading, security, data updates, on-line access, electronic or facsimile signatures, editing, backup and recovery. [1]

Operating environment - hardware, software, physical locations, etc. (may be different for different modules)

Mainframe application

Programming language

Primary - COBOL 85

Ad hoc report writers - SPECTRA and IMAGINE

Report writer in BGL (Lotus-like)

How - What platforms? Who owns them and where are they? [e.g., DISA Mega Center] Languages? Operating system?

[info requested from Program Office]

Funding responsibilities

Reporting

EXTERNAL

LOCAL/BUSINESS AREA

References

1. Report on the Comparative Evaluation of the Candidate Interim Migratory Systems for the Depot Maintenance Business Area, DFAS Headquarters, September 1994.

2. Discussions with Mark Sargent, JLSC/DMPD (DFAS-DE), 14 June 1995.

3. Discussions with Ed Olgeaty, JLSC/DMPD (Entek), 21 July 1995.

APPENDIX C

DFAS Functional Requirements

DFAS FUNCTIONAL REQUIREMENTS

Appendix C contains a complete list of the DFAS functional requirements and "grades" each of the three DFAS selected systems for the Services against the requirement (Grades are A,B,C,or F, where F means the capability is not found within the system or through automated interfaces.).

		SCORES BY SYSTEM		
1. FUND DISTRIBUTION	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Receive and record fund authorizations in Annual Operating Budget (AOB). • Method. • Document identification. • Controls. (1) Does the system have the capability to receive and record fund authorizations included in the annual DBOF operating budget? If yes, please briefly describe the capabilities. MINIMUM CRITERIA: 1. System permits the computation and entry of anticipated operating targets, actual capital authorizations, identified to the year of the authority. 2. System controls the distribution of Capital obligation authority within any constraints of the budget, and allows automated reconciliation to the Funds Distribution System, where applicable. 3. System allows for entry of unit cost dollar targets at various levels, e.g., installation, cost area. Also allows segregation of business area targets to work areas within the process, and allows workload and/or unit cost targets and reimbursable dollar controls, as applicable. 4. System permits establishment of anticipated cost authority based on estimated workload at preset unit cost goals and permits actual cost authorities to be varied based on actual workload accomplished.	1.a.1	B	F	F
(2) Does the system update the AOB fund accounts and maintain funds control throughout the life of the Operating, Capital Budget. MINIMUM CRITERIA: 1. System permits the tracking of funding by above type funding limits and years of authority, as appropriate. 2. System permits the tracking of funding by fiscal year and program year, as appropriate. 3. System allows for funds certifications and validations against appropriate authority to insure funds status and control.	1.a.2.	C	C	F
(3) Does the system establish document identification control over fund distributions? If yes, please briefly describe the capabilities. MINIMUM CRITERIA: The system captures and perpetuates the original funding document (number), and recognizes each subsequent amendment to that document, e.g. annual operating budgets and/or reimbursable customer orders.	1.a.3.	F	B	B

1. FUND DISTRIBUTION	QUESTION NO.	SCORES BY SYSTEM GRADES		
		NIFMS	DMMIS	SIFS
(4) Does the system have the capability to insure that AOB funds are received and recorded before allowing funds to be distributed? MINIMUM CRITERIA: 1. DBOF operating cost authority requires receipt of an AOB prior to distribution of operating authority to DBOF activities. 2. Funding authority for capital and MRPM&R from AOB, and cannot be distributed to lower levels prior to receipt and acknowledgement of authority from target source, e.g. MACOM, SYSCOM, MAJCOM. Funding targets may be established in anticipation of funding; however, all appropriate limits and known restrictions should apply.	1.a.4.	F	F	F
(5) Does the system have controls to establish and track the distribution of funds against limits assigned by the fund distribution document; i.e., Annual Operating Budget? If yes, please briefly describe these controls. MINIMUM CRITERIA: System can establish and track funding limits: a. Obligational authority for 1517 requirements; e.g., asset/capital budget ceilings on obligations by category of capital investment type, and year of authority. b. Operating cost authority of unit cost targets by type, i.e., A, B, C, D, or E Goals, as applicable.	1.a.5.	C	F	F
(6) Does the system have controls to prevent unauthorized individuals from changing or altering data maintained? If yes, please briefly describe these controls. MINIMUM CRITERIA: System only allows certain individuals to change data. (Optimum would include computer access, application software access, activity, organizational within activity, function by individual tasks, central systems administrator, and table or matrix-driven controls.)	1.a.6.	B	B	B
b. Distribute Funds in Annual Operating Budget. • Level of detail (line item). • Controls. (1) Does the system have the capability to record AOB funds distributed to installation and lower levels? If yes, please briefly describe the method or methods used. MINIMUM CRITERIA: System can record funds received through on-line update for all portions of the Annual Operating Budget including operating cost authority, and Capital obligation authority.	1.b.1	C	F	F
(2) Does the system have the capability to distribute and/or subdivide Capital funding by level of detail; e.g., project) using job order or a similar control mechanism? MINIMUM CRITERIA: 1. System can distribute or assign funds at the 1517 level or appropriate level to lower level cost centers (capital budget project by program year, unit cost target.) 2. System uses job order or a similar mechanism to track distributions at detailed levels. 3. System controls preclude withdrawal of funds and/or authority that have already been utilized.	1.b.2.	F	F	F

		SCORES BY SYSTEM		
1. FUND DISTRIBUTION	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
System capabilities are in place to permit override of fund controls and a clear audit trail is established.				
(3) Does the system include the capability to redistribute funds that have already been distributed? If yes, please briefly describe the capabilities. MINIMUM CRITERIA: The system allows funds to be withdrawn and redistributed from one funding entity to another. Controls would include unit cost targets, capital authority, customer order, job order, element of expense, etc.	1.b.3.	F	F	F
(4) Does the system have the capability to track, control, and report AOB funds authorized at various funding levels? If yes, please briefly describe the capabilities. Also, if yes, please identify and briefly explain any terminology involved for the levels of detail (e.g., operating targets, object class, element of resource, etc.) MINIMUM CRITERIA: System allows tracking of fund status at installation, and/or authority level and funding received through the accounting classifications to 1517 level and/or the appropriate controlling authority (capital budget project by program year.)	1.b.4.	B	F	F
(5) Does the system have the capability to retroactively change the funding limitations to reflect adjustments to the approved authority or order? MINIMUM CRITERIA: The system permits on-line withdrawal of temporary fund distributions and on-line redistribution retroactively.	1.b.5.	C	B	C
(6) Does the system have the capability to establish and track the use of AOB funds against limitations assigned including unit cost targets? MINIMUM CRITERIA: 1. System must allow commitments to reduce Capital authority available. 2. System allows only actual cost to adjust operating cost authority available. 3. System allows both batch and on-line update of obligations and expenses. 4. System has fund status available on-line.	1.b.6.	C	F	F
(7) Does the system have the capability to track commitments, obligations and costs at all levels? MINIMUM CRITERIA: 1. System allows commitments to be entered on line. 2. System allows fund control to be integrated with commitment, obligation, and cost processes to insure transaction is within limits of unit cost authority and/or reimbursable authority. 3. System allows commitments to be tracked from request to completion of final execution by the commitment request number.	1.b.7.	C	C	C
c. Receive and control customer's funding. • Methods. • Controls.				

1. FUND DISTRIBUTION	QUESTION NO.	SCORES BY SYSTEM GRADES		
		NIFMS	DMMIS	SIFS
(1) Does the system maintain funds control throughout the life of customer funding? MINIMUM CRITERIA: 1. System permits the tracking of a customer's funding from receipt through acceptance in accordance with 10 USC 2208. 2. System ensures that required cash advances from the public are in place before permitting execution for reimbursable work. 3. System identifies orders received as economy act or project orders. 4. System permits multiple lines of funding per customer order. 5. System records quantity ordered, unit price, and extended price. 6. System tracks and controls the source of reimbursable funding. 7. System allows for and controls the combination of funding from multiple customers into a single work effort. 8. System allows for establishment of emergency work orders from appropriate authority in anticipation of funds, and has appropriate controls to ensure receipt of funding. 9. System allows for edits to insure a complete line of accounting as required by each component is included in accepted orders.	1.c.1.	F	F	F
(2) Does the system have the capability to separately maintain each customer's reimbursable authority? MINIMUM CRITERIA: 1. The system separately identifies, tracks, and controls reimbursable authorities. 2. The system provides a funding structure to account for separate items within the order, and consolidates data at multiple levels within that structure.	1.c.2.	B	B	B
(3) Does the system have the capabilities to establish funding limits and controls as directed in the customer's order? MINIMUM CRITERIA: 1. System allows funding authority for anticipated reimbursable orders to be established based on verbal orders of the commander, where applicable. 2. System does not allow the distribution of authority generated by verbal orders from the commander in advance of receipt of the verbal order or letter of intent, where applicable. 3. System records customer orders at level of detail as negotiated in order to provide cost center and/or cost element (object class) control as required. 4. System requires resource requests be single source input in a standard formate for all customer orders. 5. System requires execution of reimbursable funding be shown against specific funding limitations including job orders and customer orders, where appropriate. 6. System restricts use of reimbursable funds at various levels as directed within funding document; e.g., amount, type of charges, expiration date, etc.	1.c.3.	B	B	C
d. Execution.				

1. FUND DISTRIBUTION	QUESTION NO.	SCORES BY SYSTEM GRADES		
		NIFMS	DMMIS	SIFS
• Commitments. • Obligations. • Cost. • Outlays. • Controls (1) Does the system update all appropriate accounts to ensure that the system always maintains the current status of funds? Also, if yes, please briefly describe these capabilities. MINIMUM CRITERIA: 1. System allows general ledger control of accepted orders and unfilled customer orders. 2. System updates the fund accounts throughout the life of the customer's funding.	1.d.1.	F	C	C
(2) Does the system provide flexibility to define the level of funds control using elements of the classification structure (examples: organizational levels, type of cost, program lines, etc.)? MINIMUM CRITERIA: 1. The system tracks execution data back to the level of the funding document(s) received and to additional organizational levels below the funds recipient. 2. The system requires execution data to controlled to the operating, Capital Budget level, as appropriate.	1.d.2.	C	F	F
(3) Does the system provide for administrative funds control (both absolute and warning) by transaction? If yes, describe the control. MINIMUM CRITERIA: 1. Funds control on commitments against capital budget authority should be absolute without override capabilities upon edit or validation. 2. Warnings should apply to obligations and costs. 3. Absolute rejects and warnings should occur at the same level as funds are distributed and controlled (as a minimum, at the 1517 level and one cost center level below the authority recipient). 4. System should provide warnings but not preclude posting if appropriate (e.g., obligations incurred should be posted even if the obligation results in a violation). Edits should provide screen and/or report messages for all occurrences. 5. System should permit automatic certification of funds at time of commitment based on availability, contain the capability to automatically forward electronic record to certifying official, and permit electronic signature. 6. System permits automatic adjustment of commitment amounts when the obligation is finalized, and should permit manual write down of the commitment, as appropriate.	1.d.3.	F	F	F
(4) Does the system provide the capabilities and controls for authorized users to override funds certification tests? MINIMUM CRITERIA: System permits controlled override authority, with a specific higher level manager designated as the approving authority.	1.d.4.	C	C	F

1. FUND DISTRIBUTION	QUESTION NO.	SCORES BY SYSTEM GRADES		
		NIFMS	DMMIS	SIFS
(5) Does the system provide advance notice on-line to detect and prevent incurrence of commitments, obligations, and costs in excess of funds availability at the funding levels? MINIMUM CRITERIA: 1. System reflects on-line fund status at least at the level of violation and multiple cost center levels below the fund authority recipient. 2. System reflects the status of execution against specific job orders and customer orders, where appropriate. 3. System provides positive control of transactions. a. System rejects commitments in excess of available funds for Capital Budget. b. System provides warnings and/or suspends obligations and requests for payment in excess of available funds. 4. System provides warnings on apparent over-obligations at the defined level of violation, based on obligations from external systems, and provide necessary information to take corrective action. 5. System allows obligation amounts to be manually adjusted once the final amount is known, including cancellation if appropriate. 6. System allows obligation amounts to be automatically adjusted once the final amount is known, based on original source of data, if automatic adjustment is desired for that type of final transaction. 7. System distinguishes deobligations from obligations for reporting purposes.	1.d.5.	F	F	F
(6) Does the system accept and hold potential commitments to be applied against future or current year availability and automatically enter the transactions into the proper accounting period when the funds are available? MINIMUM CRITERIA: System allows the placement of a commitment in the system against a future period, awaiting funds, and can release the commitment when funds become available in that period, via on-line entry or can continue to hold the commitment for available funds.	1.d 6.	F	C	F
(7) Does the system have the capability to accept and hold future year potential obligations (transactions) for subsequent recording through funds control? MINIMUM CRITERIA: 1. System allows for placement of a obligation transaction in the system against a future period. 2. System permits release on-line when funds are available in that accounting period (prior commitment not required). 3. If funds are not available, system continues to hold the transaction for future release unless the obligation has been incurred.	1.d.7.	F	F	F
(8) Does the system have the capability to provide control features that ensure that amounts reflected in the funds control structure agree with the general ledger account balances at the end of each update cycle? MINIMUM CRITERIA: 1. System must be based on a transaction-driven General Ledger with a separate product(s) that can be compared back to general ledger balances.	1.d.8.	F	C	C

		SCORES BY SYSTEM		
1. FUND DISTRIBUTION	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
2. System must have detailed supporting data for job order or other control structures, where appropriate, to support funds control general ledger account balances.				
(9) Does the system have the capability to support a planning module, for comparisons at the operating plan level or other summarized levels of control? MINIMUM CRITERIA: System provides details to compare DBOF budget authority vs. actual execution. This would include unit cost operating authority for the budget year, and obligations and outlays against DBOF capital authority by year of authority.	1.d.9.	C	F	F
e. Reports/Inquiries. • Levels of summarization. • Internal. • External. (1) Does the system have the capability to maintain and summarize data required to prepare fund status reports required by higher level management and installation level management? If so, please describe the method used and any limitations or restrictions involved. MINIMUM CRITERIA: 1. System maintains and provides data to: a. Produce unit cost reports at the level of details required to meet internal and external reporting requirements, e.g., daily, weekly. monthly, FYTD, as applicable. b. Produce daily, monthly, quarterly and annual financial statements required by the DBOF. c. Produce status of reimbursable funding at customer order level. d. Produce reports in electronic media, broken down by the stages of accounting and, at a minimum, at the level designated for a 1517 violation. 2. System provides for reporting fund status to multiple entities, e.g. field units, where funding is shared, for reconciliation purposes. 3. System provides status reports, aged as required, on data required for external reporting and internal control; e.g., unobligated commitments, unliquidated obligations.	1.e.1.	F	F	F
A24-30 To what extent does the system have Electronic Data Interchange (EDI) customer order entry capability? (for instance, receive customer orders, funding documentation, and make acknowledgment/promise dates electronically) (LMI)	A24-30	P	F	F
A24-38 Does the system porvide capability for one end item to be simultaneously worked and cost tracked against multiple funding documents? (NAVAIR)	A24-38			
MISC-26 Can the system simultaneously track reimbursable and direct cite funds on the same incoming funding document (NC-2276A)? (NAVAIR)	MISC-26	P	P	F

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Accounts. · Chart of accounts. · Account structure. · Subsidiary accounts.				

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
· Control accounts. (1) Does the system maintain a Chart of Accounts? (a) Uses the DoD Standard General Ledger Chart of Accounts? Provide a copy of the general ledger structure used. (b) Uses a Chart of Accounts equivalent to the DoD Standard General Ledger Chart of Accounts? Provide a copy of the general ledger structure used? MINIMUM CRITERIA: System maintains data for DoD General Ledger Accounts appropriate to the DBOF.	2.a.1.	C	F	B
(2) Does the system maintain data to support automatic posting to a general ledger chart of accounts? If no, please identify accounts for which data is not maintained. (a) Using the DoD Standard General Ledger Chart of Accounts? Provide a copy of the general ledger structure used. (b) Using a Chart of Accounts equivalent to the DoD Standard General Ledger Chart of Accounts? Provide a copy of the general ledger structure used? MINIMUM CRITERIA: 1. The system has a transaction driven general ledger for all financial entries to any system module. 2. Account structure includes: . Budgetary accounts . Proprietary accounts .. Assets ... Work in process ... Construction in progress .. Liabilities .. Equity . Revenue accounts . Expense accounts . Gain accounts . Loss accounts . Memorandum accounts . Be table driven to establish sub-accounts 3. The system summarizes general ledger activity at the basic symbol, fiscal year, program year, subhead and accounting entity. 4. System provides table controlled pro forma posting that is accessed for both on-line entry and batch interface. 5. System allows individual transactions to be traced to the specific general ledger account and the general ledger account value to be traced to individual transactions. OPTIMUM WOULD INLCUDE:	2.a.2.	F	F	B
b. Reporting. · Trial balances. · Comparative financial statements. · Control account analyses reports (1) Does the system provide a trial balance? (a) Using the DoD Standard General Ledger Chart of	2.b.1.	C	F	B

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
Accounts? Provide a copy of the trial balance structure used. (b) Using a Chart of Accounts equivalent to the DoD Standard General Ledger Chart of Accounts? Provide a copy of the trial balance structure used? MINIMUM CRITERIA: System produces a trial balance to support the DBOF reporting requirements.				
(2) Does the system have the capability to generate comparative financial statements from the general ledger? If yes, please identify and briefly describe each such statement. MINIMUM CRITERIA: System produces comparative financial statements from the general ledger. These statements compare balance sheets, income statements, and cash flow reports between fiscal years for analysis purposes.	2.b.2.	F	F	F
(3) Does the system produce general ledger control and subsidiary account analysis reports? If yes, please identify and briefly describe. MINIMUM CRITERIA: System provides a product that compares the sum of detailed amounts in other modules of the core financial system with related subsidiary and control accounts in the general ledger and annotates those accounts which are out of balance.	2.b.3.	C	F	F
(4) Does the system allow an authorized user to change the general ledger without affecting changes in detail transactions? MINIMUM CRITERIA: System allows an authorized user(s) to update the general ledger, under tightly controlled circumstances, in a balanced debit/credit relationship and provides the results in a clear, fully documented audit trail, displaying the entire transaction, the reason for the adjustment, and the user identification of the individual making input.	2.b.4.	B	B	B
(5) Does the system provide the capability to identify abnormal balances by type? MINIMUM CRITERIA: System identifies abnormal balances, e.g. credit balances on debit balance accounts, excessively large individual transaction by account.	2.b.5.	C	F	C
c. Closing.				

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
· Automatic month-end closings. · Automatic year-end closings. · Rollover of account balances. · Multiple preliminary closings. (1) Does the system provide for automatic month-end and year-end closings? MINIMUM CRITERIA: System automatically produces the month end closing of the general ledger, as well as pre-closing amounts and closing entries at year-end for revolving funds.	2.c.1.	B	C	C
(2) Does the system roll over account balances to the next year? MINIMUM CRITERIA: System automatically summarizes asset, liability, and equity accounts and re-establish balances for the new year.	2.c.2.	C	C	C
(3) Does the system have the capability to generate multiple preliminary closings? MINIMUM CRITERIA: System produces multiple preliminary post-closing trial balances allowing the user to see closing results before running the final closings.	2.c.3.	C	B	C
d. Processing Features. · Maintains historical and summary data. · Post multiple periods concurrently. (1) Does the system have the capability to maintain historical data? MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is readily accessible. 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability exist to archive data in accordance with DoD directives.	2.d.1.	C	C	C
(2) Does the system have the capability to concurrently post transactions to multiple accounting/reporting periods? MINIMUM CRITERIA: System has the capability to post transactions to multiple accounting/reporting periods. As a minimum, posting should be available for 2 months concurrently during month-end close and 2 years concurrently during year-end close.	2.d.2.	F	B	F

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
e. Transaction Capabilities. · Optionally eliminate consolidation transactions. · Provide for automatic recurring accruals and reversals. · Automatic generation of transactions as required. · Update multiple debits and credits. · Ability to define liquidation logic for commitment and obligation transactions. (1) Does the system have the capability to provide for automatic accruals and reversals? MINIMUM CRITERIA: System has the capability to record accruals and reversals at the transaction level; e.g., month-end payroll, revenue, and expenses.	2.e.1.	C	C	C
(2) Does the system have the capability to process both multiple debits and multiple credits for a transaction? If yes, please identify any limits to the number of debits and/or credits it can process. MINIMUM CRITERIA: System has the capability to post multiple pairs of debits and credits, with a minimum of four pairs of debits and credits per transaction.	2.e.2.	B	A	B
(3) Does the system provide liquidation logic for commitment and obligation transactions? MINIMUM CRITERIA: System uses a partial/final indicator at the disbursing stage of the accounting cycle to trigger action with respect to adjustment of remaining committed and obligated balances.	2.e.3.	C	C	C
(4) Does the system provide for the aging of unliquidated balances? MINIMUM CRITERIA: System provides an aged report of all open unliquidated balances segregated between undelivered orders (outstanding obligations) and accounts payable.	2.e.4.	F	F	B
MISC-13 Does the system account for assets and liabilities associated with travel such as Travel Advances, Accrued Travel, Accrued Transportation Requests, Accounts Receivable (for both unused common carrier tickets as well as unfiled claims) at the individual Travel Order Number level? (NAVAIR)	MISC-13	P	F	F
MISC 14 Does the system mechancially accrue Travel Orders over the period of travel and does it update subsidiary records when advances and	MISC-14	P	F	F

2. GENERAL LEDGER	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
settlements are processed through the cash disbursements process? Are cost records mechanically updated as part of the accrual process? do over or under liquidations occurring on settlements mechanically update the cost records? (NAVAIR)				
MISC-15 Does the system mechanically account for and accrue outgoing work requests, project orders and requests for contractual services? Does the system provoide for flexibility to incur contractual/other cost based on straight line accruals, accruals based on contractor progress and cash (actual payment) methods? (NAVAIR)	MISC-15	P	F	P

3. FIXED ASSETS	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Does the system capture, classify, summarize, and report current year and cumulative data for capital acquisitions, disposals, and assets on hand? MINIMUM CRITERIA: System records the value of capital investments (items meeting capitalization criteria) in the general ledger.	3.a.	A	F	F
b. Does the system account for depreciation expense and accumulated depreciation? MINIMUM CRITERIA: 1. System has an integrated property module or interface with a property system that computes depreciation and amortization expense on an asset-by-asset basis, accumulates the depreciation/amortization, and records the expense and accumulated values in the core system general ledger. 2. System reconciles accumulated depreciation/amortization by capital asset line item in subsidiary ledgers with the corresponding value in the general ledger.	3.b.	B	C	B
c. Does the system identify capital purchases? MINIMUM CRITERIA: System is capable of distinguishing capital purchases within financial records so the appropriate general ledger accounts can be posted; e.g., work in process vs expenses.	3.c.	A	F	F
d. Does the system reflect the financial status of each item of property throughout the item's life cycle? MINIMUM CRITERIA: 1. The system has an integrated property module or interfaces with a property book system that provides general ledger updates to show the status of the asset; e.g., awaiting capitalization, in service, in transit, awaiting disposal, fully depreciated items still in use, etc. 2. An integrated module or interfacing system provides the subsidiary ledger by line item for the total value in the general ledger account.	3.d.	A	F	F
e. Does the core financial system maintain subsidiary records for work-in-process and construction-in-progress? MINIMUM CRITERIA: System displays the values in the work-in-process and construction-in-progress general ledger accounts by subsidiary line item.	3.e.	A	F	F
f. Does the system allow the useful life and salvage value of capital items to be adjusted at any point in the life cycle? MINIMUM CRITERIA: 1. System contains an integrated property module or interfaces with a property system that permits adjustment to the revised useful life and salvage value of capital assets. 2. An integrated or interfacing property system uses the changed useful life and/or salvage value to compute the depreciation expense for the months following the change. 3. An integrated or interfacing property system maintains a history of all changes made with	3.f.	F	F	B

3. FIXED ASSETS	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
respect to useful life and salvage value.				
g. Is the core financial system able to interface with external property book systems? MINIMUM CRITERIA: 1. Core financial system has a interfacing process with external systems providing data such that the system ensures all data sent by the provider system is received, edited, and processed. 2. Core financial system has an automated reconciliation program with the property system to ensure that the general ledger balances associated with capital assets are fully supported by the subsidiary property book. Where differences occur, the reconciliation program provides warnings.	3.g.	F	F	F
h. Does the core financial system maintain the historical cost of each capital asset or is it interfaced with a property system that maintains the historical cost of each capital asset? MINIMUM CRITERIA: The core financial system or interfacing property system maintains historical data for each capital asset showing the asset's initial cost, installation costs, de-installation costs, transportation costs, and additions/ betterments made to the item.	3.h.	F	F	F
i. Does the system have the capability to record the value of gains and losses on assets that have been sold or traded? MINIMUM CRITERIA: Using the integrated or interfacing property module, a user can determine the gain or loss on assets sold or traded and record the results in the appropriate general ledger account.	3.i.	C	F	F
j. Does the system have edits to ensure that transactions designated capital items meet appropriate dollar and useful life thresholds? MINIMUM CRITERIA: 1. An integrated property module or interfacing property system contains edits to ensure that dollar value and time thresholds are met before capitalizing a line item. 2. The system has the ability to adjust thresholds through table update.	3.j.	B	F	F
l. Does the system permit recording of Government Furnished Equipment (GFE) value financial data in the general ledger? Briefly describe how the data is obtained to update the general ledger accounts. MINIMUM CRITERIA: System has an integrated module or interfaces with a property module or system to provide the value of Government Furnished Equipment (GFE) to the general ledger for recording by line item and contract.	3.l.	C	F	F
A24-15 Does the system provide for transfers of capital assets including but not limited to equipment, software between activities? (NAVAIR)	A24-15	P?	F	F

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. <u>Supports multiple coding, organization, and management structures</u>. · Cost accounting classification code and structure. · Customer accounting classification structure. · Other Cost Breakdown reporting structures. · Operational baseline cost estimates. · Supports multiple business area structures. · Supports multiple organizational structures. (1) Is the cost accounting module functionally integrated with other system modules and/or support systems in accordance with Circular A-127? MINIMUM CRITERIA: The cost accounting module is functionally integrated or interfaced (allowing one time capture of data) with other system modules, including general ledger, and other supporting systems, e.g. funds control, payroll, disbursing, contracts, small purchases, supply, travel,	4.a.1.	B	B	B
(2) Does the system support a cost accounting code structure? Please list and briefly describe each element of the structure. MINIMUM CRITERIA: The cost accounting code structure identifies costs to the functions and tasks being performed.	4.a.2.	B	B	B
(3) Does the system support multiple methods of cost accumulation? Please list and describe briefly. MINIMUM CRITERIA: 1. System contains cost information at multiple lines, e.g. organization, object class, element of expense, cost center, etc. 2. System is adaptable to change for adding elements.	4.a.3.	B	A	B
(4) Does the system support a hierarchy of cost accumulation? If yes, please show each structure and list and briefly describe each element of each customer structure. MINIMUM CRITERIA: 1. System supports multiple levels of cost accumulation. 2. System supports multiple missions and functions of a business area. 3. System has flexible coding structures to allow variations in the structure used for cost accumulation, to support internal and external needs,e.g. competition requirements, special reporting needs, customer's information needs as negotiated in orders accepted. 4. System provides table driven cost collectors. 5. System captures costs at one level and rolls costs to other levels.	4.a.4.	B	B	B

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(6) Does the system provide for planned or operational baseline cost estimates; e.g., estimates of the cost to run the user organization and its components? If yes, please describe the method(s) used and identify and briefly describe any limitations or restrictions for each method. MINIMUM CRITERIA: System provides cost estimates capability, e.g. by overhead type, expense element, organization - benefitting and performing, time phasing, etc.	4.a.6.	C	A	B
(8) Does the system support multiple organizational structures within business area? If yes, please describe how, and list all organizational structures supported. Also, if yes, please identify and briefly describe any coding implications involved. MINIMUM CRITERIA: 1. System supports multiple organization structures. 2. System has summarization capabilities at each organizational level.	4.a.8.	B	A	B
(9) Can the system data values be changed without programmer coding changes? If yes, please describe how such changes could be made. MINIMUM CRITERIA: 1. System can be changed via user table update. 2. System has multiple length organization records that are hierarchial.	4.a.9.	C	A	B
(10) Does the system have the capability to maintain and summarize data necessary to prepare required unit cost reports? MINIMUM CRITERIA: System can maintain and summarize data and produce unit cost reports at the level of detail required to meet internal and external requirements; either daily, weekly, monthly, or year to date.	4.a.10.	B	C	C
b. Supports recordation of resource allocation. · Total Cost budgets. · Identifies and records direct, indirect, and other overhead costs. · Allows multi-level allocation/reallocation of indirect and overhead costs. · Allows distribution of overhead cost. · Applies overhead rates. · Adjusts estimated costs to actual.				

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(1) Does the system support total cost budget for the using organization e.g., a cost-based budget? MINIMUM CRITERIA: 1. System supports a cost-based budget; e.g., total cost including fixed costs plus a variable cost based on anticipated output volumes. 2. System provides visibility of fixed and variable costs. 3. System identifies costs by specific object class, limits and organization/level (activity, major command, component, cost center, etc.).	4.b.1.	F	A	F
(2) If no to the question on total cost or cost-based budget, please identify and briefly describe what kinds of using organization cost controls or budgets the system does support? Also, identify and briefly discuss restrictions or limitations involved. MINIMUM CRITERIA: For information only.	4.b.2.	-	-	-
(3) Does the system identify and record total costs to the final cost objective; e.g., a job order or a process? MINIMUM CRITERIA: System: a. Identifies and relates total accrued costs and expenses to final cost objective of the Annual Operating Budget and/or reimbursable customer funding. b. Identifies costs by unit of output and distinguishes costs by department, cost center, end item, etc. c. Distinguishes funded versus unfunded costs, if applicable, provides statistical cost accounting, and bills unfunded costs, where appropriate, e.g. FMS customers. d. Identifies goods manufactured or services performed for internal use. e. Provides automatic adjustment of unliquidated accruals based on final settlement; e.g., travel.	4.b.3.	B	F	F
(4) Please identify the direct cost categories the system captures and records; e.g., civilian labor, material, packaging, military reimbursable cost, etc. (a) Does the system capture and reconcile civilian labor costs to "paid labor"? MINIMUM CRITERIA: 1. Civilian labor costs are recorded in the accounting system based on a daily, weekly or bi-weekly input and reconciled to actual labor based on data feed from the payroll system. 2. Civilian labor costs of the period and any adjustments are included in the interface with payroll.	4.b.4a.	A	B	C

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(4) Please identify the direct cost categories the system captures and records; e.g., civilian labor, material, packaging, military reimbursable cost, etc. (b) Can civilian labor costs be captured on multiple bases; e.g., daily, weekly, monthly? MINIMUM CRITERIA: 1. Labor costs can be recorded in the system more frequently than bi-weekly. 2. Labor costs are recorded by individual by job, or by individual by cost objective. 3. Labor costs are recorded by performing and benefitting cost center, and identified to loaned or borrowed cost center.	4.b.4b.	B	B	C
(4) Please identify the direct cost categories the system captures and records; e.g., civilian labor, material, packaging, military reimbursable cost, etc. (c) Can unpaid civilian and military reimbursable costs be accrued at the job order level at month and/or year end and civilian labor combined with subsequent period data for payroll reconciliation purposes? MINIMUM CRITERIA: System automatically posts accruals at the job order level at month end and year end for civilian labor costs and military reimbursable costs.	4.b.4c.	B	C	C
(4) Please identify the direct cost categories the system captures and records; e.g., civilian labor, material, packaging, military reimbursable cost, etc. (d) Can overhead rates and stabilized rates be applied in a variety of methods such as direct labor hours, direct labor salaries, occupational series, etc.? MINIMUM CRITERIA: 1. Overhead/stabilized rates can be applied by multiple methods. 2. System can accelerate labor using different methods; e.g., percentage and dollar per direct labor hour. 3. Multiple labor cost acceleration rates can be applied at a given installation. 4. The applied leave and fringe benefit rates are recorded as a liability that is liquidated when leave is actually used or benefit liabilities paid.	4.b.4d.	F	F	F
(4) Please identify the direct cost categories the system captures and records; e.g., civilian labor, material, packaging, military reimbursable cost, etc. (e) Is labor cost broken out at a detailed level to allow accurate costing?	4.b.4e.	B	B	C

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA: 1. Both civilian labor costs and military reimbursable costs are identified to multiple final cost objectives at cost center level. 2. Labor costs are recorded to maintain the integrity and identity of the cost resources being consumed at all organization and final cost objective levels.				
(5) Please identify all indirect costs and general and administrative expenses the system captures and records; e.g., general shop supplies, supervisory and administrative labor, etc. Please list and briefly describe the method(s) used including any restrictions or limitations on each method. MINIMUM CRITERIA: 1. All categories of overhead costs are identified and recorded at the cost element level. 2. Overhead costs are identified as indirect and/or general and administrative. 3. Cost are identified to multiple overhead cost centers.	4.b.5.	B	B	B
(6) Does the system have multiple methods of allocating/reallocating overhead and support service costs? If yes, please identify and briefly describe the method(s) used including any restrictions or limitations for each method. MINIMUM CRITERIA: 1. System has multiple methods of allocating support service costs; e.g., actual/predetermined rates, percentage, etc. 2. System can automatically transfer costs from a performing cost center to a benefiting cost center. 3. System can identify and distribute/redistribute the various overhead costs to all levels of the cost objective, all the way to the final cost objective.	4.b.6.	B	A	C
(7) Does the system apply overhead rates to a final cost objective? If yes, please identify and briefly describe the method(s) used including any restrictions or limitations for each method. MINIMUM CRITERIA: 1. System can identify and apply predetermined overhead rates at all levels of the cost objective. 2. System can apply multiple overhead rates based on performing unit and/or type of customer. 3. System can exempt select direct hours and costs from overhead application. 4. System provides for varying overhead rates within the same organization; i.e., cost center, general and administrative-internal and headquarters. 5. System can perform variance analysis with respect to applied	4.b.7.	C	A	C

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
rates versus actual costs incurred. OPTIMUM WOULD INCLUDE				
(8) Does the system account for non-labor costs at the job and/or cost objective level? MINIMUM CRITERIA: 1. System accounts for commitments, obligations and accrued costs for non-labor charges by document against a job order, overhead account, memorandum account, etc. 2. System allows automatic adjustments based on final disbursement for non-labor costs.	4.b.8.	B	C	C
(9) Does the system control issues by quantity and price for material inventory maintained for in house use? MINIMUM CRITERIA: 1. System simultaneously tracks quantity and costs for each inventory item issued for in house use. 2. System accounts for issues against applicable job order or overhead account.	4.b.9.	B	B	B
(10) Does the system provide for accounting and analyzing variances by comparing actual and standard work unit value(s) and establishing variance(s) by quantity(s) and amount(s)? MINIMUM CRITERIA: 1. System can compute and analyze the following types of variances: a. Actual cost to sales price, b. Applied to actual costs, and c. Stabilized rate to actual cost. 2. Variances can be computed by customer and/or cost center as applicable. Elements of the variance would include planned versus actual by job and/or cost objective: a. Labor rate. b. Labor time. c. Material price. d. Material quantity. e. Overhead spending. f. Overhead volume g. Contract estimate. 3. System can record deviations or variance gains and losses in the general ledger.	4.b.10.	C	A	F

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(11) Does the system allow for projected and actual costs to be recorded separately for each final cost objective? If yes, please identify and briefly describe the method(s) used including any restrictions or limitations for each method. MINIMUM CRITERIA: 1. System develops estimated costs for month/year based on actual cost and projected volume for each cost objective; i.e., unit cost target, job, customer order. 2. System computes the monetary value of resources consumed to produce a specific unit. 3. System allows for comparison of actual and projected costs.	4.b.11.	C	B	C
(12) Does the system compare estimated costs, where projections were utilized, to those costs actually incurred for each cost objective? If yes, please identify and briefly describe the method(s) used including any restrictions or limitations for each method. If yes, please list the frequency such adjustments can be made. MINIMUM CRITERIA: 1. System records actual costs incurred to each final cost objective. 2. System can apply estimated costs to an objective and accomplish variance analysis between estimated and actual costs.	4.b.12.	C	B	F
c. Support of the reimbursable process. (1) Once the system has accepted an order, does the system establish a job order control to track direct costs against the customer's order? MINIMUM CRITERIA: 1. System can accrue expenses to a job order. 2. System interacts with other processes or modules within the system to receive labor and non-labor charges identified to job order and/or cost objective.	4.c.1.	B	B	B
(2) Does the system have the capability to separately identify overhead, direct costs, and any other indirect costs to customers and funding on reimbursable orders? If yes, please identify and briefly describe any restrictions or limitations involved. MINIMUM CRITERIA: 1. System can separately identify direct costs, general and administrative overhead, and other indirect costs associated with reimbursable orders. 2. Costs can be identified to department, function, task, cost center, and cost objective in order to determine unit cost.	4.c.2.	B	B	B

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
d. <u>Support of multiple cost accounting techniques</u>. · Job order cost procedures. · Process cost procedures. · Piece work procedures. · Standard costs. · Actual costs. · Pre-determined rate costs. (1) Does the system support job order procedures? If yes, please briefly describe how this is accomplished. MINIMUM CRITERIA: 1. System has a job order capability and edits charges against the job order to insure funds availability and to insure meeting any restrictions and/or limitations; e.g., only labor, no material costs. 2. System can identify direct costs that are directly associated with the end product or process that the job order represents and distributes overhead expense to that objective.	4.d.1.	C	B	C
(2) Does the system support process cost procedures? If yes, please briefly describe how this is accomplished. MINIMUM CRITERIA: 1. System has a process cost capability where process is one or more steps. 2. For multiple steps within the process, costs can be accumulated by each step or task within the process. 3. System can identify movement of work-in-process units between processes.	4.d.2.	C	C	C
(4) Does the system provide for standard costs? If yes, please briefly describe how this is accomplished and indicate any restrictions or limitations involved. MINIMUM CRITERIA: System can accumulate costs using standard cost procedures, e.g. a process used to minimize volatile cost fluctuations.	4.d.4.	F	B	C
(6) Does the system permit costs to be transferred from one cost center to others and provide for cost adjustments? MINIMUM CRITERIA: 1. System permits costs to be transferred between cost centers in a strictly controlled environment. 2. Cost transfers result in adjustments to appropriate general ledger accounts, where applicable. 3. System provides for distribution of service center, general, and other applicable costs by rate or pro-rata share. 4. System provides adjustments of costs where the condition is documented and a correction is authorized.	4.d.6.	C	B	C

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
e. Support of unit costing. · Separately identifies units projected and actual. · Develops total cost per unit. · Calculates earned and actual cost authority.(1) Does the system separately identify both estimated workload and actual workload for unit cost reporting purposes? MINIMUM CRITERIA: 1. System identifies both projected and actual workload units. 2. System records other hours such as those for contractor efforts, e.g. contracted programmer hours for system development efforts. 3. System records work counts from external sources. 4. System maintains and records unit cost workload counts.	4.e.1.	B	B	F
(2) Does the system record and report total cost per unit; e.g., includes items like military reimbursable costs, depreciation, etc. for comparison to estimates? If yes, please describe the method(s) used and any special characteristics of each method. MINIMUM CRITERIA: 1. System records a total cost per unit of output including depreciation, military reimbursable costs, and any other cost for full cost recognition. 2. System identifies unit cost by department, function, task, cost center, end item, etc.	4.e.2.	B	B	C
(3) Does the system calculate the earned cost authority against the target A, B, C, D and E unit cost goals for management oversight and control under unit costing? MINIMUM CRITERIA: 1. System calculates the earned cost authority on a daily, weekly, monthly, and year to date basis. 2. System applies the number of specific units of work produced in the period and year to date to the actual resources consumed in the applicable period to determine actual unit costs. 3. System compares the results of the unit cost calculation to the unit cost target or goal for management oversight and control.	4.e.3.	C	F	F
f. Support of Performance Measures. (1) Does the system record and maintain performance measures in support of the CFO Act and GPRA for an organization using the system? If yes, please list and briefly describe the productivity measures and identify any restrictions or limitations for each. MINIMUM CRITERIA:	4.f.1.	C	C	C

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
1. System maintains performance measures. 2. System measures actual cost to actual performance against an established standard or goal.				
(2) Does the system have an option(s) to provide performance measures for the component elements of the organization that uses the system? If yes, please list and briefly describe the productivity measures and identify any restrictions or limitations for each. MINIMUM CRITERIA: System can provide performance measure outputs to various management levels.	4.f.2.	B	B	C
(3) Does the system have the capability to link performance measures; e.g., quality, timeliness, customer satisfaction, with financial measures, to include unit cost. MINIMUM CRITERIA: 1. System records, maintains, and displays performance data with financial data at various levels of aggregation. 2. The system compares actual performance to annual performance goals.	4.f.3.	-	-	-
g. Support of business area specific functional requirements. · Research, development, test, and evaluation. · Medical services. · Transportation services. · Manufacturing. · Maintenance. · Logistics. · Acquisition. · Information services. · Other projects.				
(2) Does the system provide support for requirements that are business area specific? If yes, please list both the functions supported and the requirements that are specific to each. Also, if yes, please briefly describe. MINIMUM CRITERIA: System supports multiple requirements that are specific to a business area.	4.g.2.	C	C	C
(3) For all business area specific requirements, please list and briefly discuss each DoD and/or component directive or regulation that contains the requirement. MINIMUM CRITERIA: For information only.	4.g.3.	-	-	-

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(4) If specific business area requirements exist that are not driven by DoD or component directives or regulations, please list and briefly discuss the source of each requirement. MINIMUM CRITERIA: For information only.	4.g.4.	C	C	C
h. Other capabilities. · Historical data. · Unique interfaces. · Other special characteristics. · Provisions for reports and query responses. · Interface/integration with other systems. (1) Does the system retain any historical data on line? If yes, please describe the data and time periods retained (separately if different for different data). Also, if yes, please identify and briefly describe any restrictions or limitations involved. MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is readily accessible. 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability to archive data is in accordance with DoD directives.	4.h.1.	B	B	B
(2) Please list all manual or automated interfaces the system supports. Please briefly describe each interface; e.g., manual or automated, characteristics, etc. MINIMUM CRITERIA: 1. Interfaces are in a controlled environment that ensures that all expected data is received and all data is edited. 2. Where data expected is not received, system provides appropriate notification, and suspends or rejects interfacing file.	4.h.2.	B	F	F
(3) Is the system integrated with any other systems; e.g., production control, payroll, etc.? If yes, please identify and briefly describe such integration. Also, if yes, please identify and briefly describe any restrictions or limitations involved. MINIMUM CRITERIA: System is integrated or interfaced with other systems.	4.h.3.	C	C	C
(4) Does the system have any characteristics or features not asked about specifically in earlier questions? If yes, please list and briefly describe each such characteristic or feature. Also, if yes, please identify and briefly describe any	4.h.4.	-	-	-

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
restrictions or limitations involved. MINIMUM CRITERIA: For information only.				
(5) Please describe the system's capability to provide access to data in the following manners: (a) Please provide a listing and brief description of reports used for external, internal and specific cost accounting needs produced by the system. Provide the data elements contained in each. MINIMUM CRITERIA: For information only.	4.h.5a.	-	-	-
(5) Please describe the system's capability to provide access to data in the following manners: (b) Does the system have any inquiry capability? If yes, please describe the method(s) used. Also, if yes, please identify and briefly describe any restrictions or limitations involved. Identify the data elements that are available. MINIMUM CRITERIA: System has on-line query capability for all fields which contain multiple records.	4.h.5b.	-	-	-
(5) Please describe the system's capability to provide access to data in the following manners: (c) Does the system have the capability to provide user-developed, free-form reports? If yes, please describe the method(s) used. Also, if yes, please identify and briefly describe any restrictions or limitations involved. Also, if yes, please identify the data elements available. MINIMUM CRITERIA: 1. System has ad hoc report capability. 2. System can produce electronic files for data transfer and upload/download.	4.h.5c.	-	-	-
i. <u>Support for Work in Process and Construction in Progress</u>. · Work in Process. · Construction in Progress. (1) Can the system calculate and display work in process based on direct charges to customer orders? MINIMUM CRITERIA: 1. System tracks and records work in process, and maintains subsidiary records by line of funding; i.e. customer order, job order. 2. System can identify unbillable work and cost overruns.	4.i.1.	F	F	F

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
3. System can identify and record work in process at contractor plant or other government facility and reclassify general ledger postings when subsequent transaction changes status. 4. System allows direct charges and applied overhead for incomplete or unbilled work to be recorded for work in process. 5. System identifies number of units completed in each process for work in process. 6. Sufficient detail is available to analyze costs accumulated for work in process; e.g., billable vs unbillable, funded vs unfunded, etc. 7. System can produce progress billings, if appropriate, for work in process.				
(2) Can the system calculate and record construction in progress based on direct charges to items under construction? MINIMUM CRITERIA: 1. System tracks and records construction in process, and maintains subsidiary records by line of funding; i.e. customer order, job order. 2. System can identify unbillable work and cost overruns. 3. System can identify and record construction in process at contractor plant or other government facility and reclassify general ledger postings when subsequent transaction changes status. 4. System allows direct charges and applied overhead for incomplete or unbilled work to be recorded for construction in process. 5. System identifies number of units completed in each process for construction in process. 6. Sufficient detail is available to analyze costs accumulated for construction in process; e.g., billable vs unbillable, funded vs unfunded, etc. 7. System can produce progress billings, if appropriate, for construction in progress.	4.i.2.	F	F	F
(3) Can the system perform automated financial analysis; e.g.,percent of revenue/expenses, etc.? MINIMUM CRITERIA: 1. System has capability to accomplish automated financial analysis. 2. System can track percentage of completion against total order for review of progress on customer order against funding limitations; e.g., review at 75% completion.	4.i.3.	C	C	B
A24-1 To what extent is the system capable of meeting Cost Accounting Standards, DoD, Chapters 73 & 76 reporting requirements and	A24-1 ____	P	P	-

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
public/private competition requirements? (LMI)				
A24-14 To what extent does the application have the capability to provide cost data by detailed category of cost? (For instance, cost for material transportation of things, rent, utilities, various services, various employee benefits, various employee labor costs, etc.) (LMI)	A24-14 ____	P P	P	P
A24-18 To what extent does the application account for productive labor, non-productive labor, and leave to enable effectiveness to be measured? (LMI)	A24-18 ____	P	P	-
A24-21 To what extent does the system maintain identity of regular hours, special category hours, and borrowed/loaned hours? (LMI)	A24-21 ____	P	P	P
A24-22 To what extent does the application have the ability to account for both funded and unfunded direct and indirect material and supply costs? (LMI)	A24-22 ____	P	P	P
A24-34 To what extent does the system track rework, scrap, etc.? (JLSC)	A24-34 ____	P	P	-
A24-35 Does the system provide capability of collecting cost by Work Breakdown Structure Code? (NAVAIR)	A24-35 ____	P	F	-
A24-36 Does the system provide capability to generate Cost/Schedule Status Report (C/SSR) information in both hours and dollars by Work Breakdown Structure Code? Does the system mechanically compute and compare Budgeted Cost of Work Scheduled (BCWS), Budgeted Cost of Work Performed (BCWP) and Actual Cost of Work Performed (ACWP)? Does the system utilize multiple methods of computing BCWS (including non-linear BCWS) and BCWP and are these methods generally accepted methods? does the system mechanically compute schedule variances, cost variances and estimated cost at completion? (NAVAIR)	A24-36 ____	P	F	-
MISC-19 Are inventory adjustment transactions mechancially posted to cost records? Does capability exist to post inventory adjustment transactions to inventory allowance accounts instead of cost? Does capability exist to process and post capitlaizations, decapitalizations, and material transferred/received to/from other activities without reimbursement? (NAVAIR)	MISC-19 ____	P	F	P
A21-1 To what extent is the system capable of developing budgets in the following manner: operating (one year), multi-year, by project or product line, by cost center? (LMI)	A21-1 ____	F	P	P, Org F, Prod
A21-2 To what extent does the system have the capability to generate an overall budget for the depot inclusive of all projects and depot allocated costs? (LMI)	A21-2 ____	F	P	P
A21-3 To what extent does the system have the capability to accumulate planned data at appropriated levels to facilitate industrial fund budget preparation? (LMI)	A21-3 ____	P	P	P
A21-4 To what extent does the system have the ability to automatically produce industrial fund budget schedules? (LMI)	A21-4 ____	NONE	P	NONE

4. COST	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
A21-5 To what extent does the system maintain historical cost center/work center information on past labor, material, and overhead costs for use in rate and price generation? (JLSC)	A21-5 ____	P	P	P
A21-6 To what extent does the systme allow input of workload requirements for use in establishment of cost center/work center rates? (JLSC)	A21-6 ____	F	P	P
A21-7 To what extent does the system facilitate allocation of base operating costs to benefiting cost center/work center? (JLSC)	A21-7 ____	F	P	P
A21-9 To what extent does the system facilitate determination of cost/resource/work center direct labor rates utilizing historical cost data, projected wage increases, and project overtime requirements? (JLSC)	A21-9 ____	F	P	P
A21-10 To what extent does the system facilitate generation of indirect labor and material requiremtns for use in determining cost/resource/work center total overheaed rates? (JLSC)	A21-10 ____	F	P	P
A21-11 To what extent does the system calculate cost/resource/work center stabilized rates? (JLSC)	A21-11 ____	F	P	?
A21-12 To what extent does the system facilitate calculation of product/direct labor rates utilizing project direct labor hours by cost/resource/work center and related cost/resource/work center labor rates? (JLSC)	A21-12 ____	F	P	P
A21-13 To what extent does the system facilitate calculation of project/project overhead rates utilizing projected direct labor hours by cost/resource/work center and realted cost/resource/owrk center direct material rates? (JLSC)	A21-13 ____	F	P	P
A21-14 To what extent does the system facilitate calculation of product/project direct material rates (when applicable) utilizing projected direct labor hours by cost/resource/work center and related cost/resource/work center direct material rates? (JLSC)	A21-14 ____	F	P	F
A21-15 To what extent does the system provide for automated calculation of labor acceleration rates? (JLSC)	A21-15 ____	F	F	P
A21-16 To what extent does the systme facilitate automated generation of budgets and associated exhibits? (JLSC)	A21-16 ____	F	P	F

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Establish an audit trail and support internal control. · Audit trail for accounts payable payments to individuals. · Audit trail for accounts payable payments to				

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
vendors/other payments. · Internal control and file access control. · Establish and maintain vendor files. (1) Is the payables process integrated with accounting, payable and disbursing processes? MINIMUM CRITERIA: Payables module is integrated with accounting, payable and disbursing modules.	5.a.1.	C	F	-
(2) Does the system maintain data related to employee payments which have been made through the financial system; e.g., travel payments? MINIMUM CRITERIA: System maintains employee data related to travel.	5.a.2.	C	F	
(6) Does the system allow for an obligation document to be entered into the financial system on-line? MINIMUM CRITERIA: System allows obligation information needed in payables process to be populated by on-line update from multiple locations.	5.a.6.	B	-	B
(7) Does the system allow multiple requisitions to be combined into one obligating document and one requisition to be split between multiple obligating documents? MINIMUM CRITERIA: System allows for several requisitions to be combined into a single obligating document and one requisition to be split into several obligating documents.	5.a.7.	B	-	B
(8) Does the system permit a single line item on a requisition to be split to multiple obligation documents in the event that a single vendor cannot satisfy the requirement? MINIMUM CRITERIA: System allows requisition to be modified to show multiple line items for multiple obligating documents.	5.a.8.	B	-	B
(9) Does the system maintain an on-line history file of closed out documents in machine-readable form for a user-defined period of time? MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is	5.a.9.	C	-	C

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
readily accessible. 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability exist to archive data in accordance with DoD directives.				
(10) Does the system record distribution of individual obligation line items to multiple accounting classification structures? MINIMUM CRITERIA: System records data at contract line (CLIN) and subcontract line item (SLIN) level, and each CLIN and SLIN can carry a different accounting classification within a single document number.	5.a.10.	F	C	C
(11) Does the system close obligating documents either by the system automatically upon complete performance/delivery or by the users with appropriate authorization? MINIMUM CRITERIA: 1. System should use a partial/final indicator at the disbursing stage of the accounting cycle to trigger action on liquidations. 2. System should allow the capability for identification of when automatic versus manual close out procedures are appropriate.	5.a.11.	F	-	F
(12) Does the system record various inter and intra governmental acquisition types such as GSA personal property center, FEDSTRIP, reimbursable work agreements (RWA), and printing from GPO? MINIMUM CRITERIA: System can record several inter- and intra-governmental acquisition types and capture payment terms.	5.a.12.	C	-	F
(13) Does the system generate status and payment history for documents such as multi-task contracts, grants, and BPAs? If yes, does the system maintain payment history of every payment by authorizing document number, receiving date, payment schedule number, check or electronic fund transfer number, payment date, invoice number, vendor number, appropriation charged, and appropriation date? MINIMUM CRITERIA: System provides each of the above named data elements on-line and/or through other retrievable media.	5.a.13.	F	-	F
(14) Does the system record delivery orders and records of call on contracts? MINIMUM CRITERIA:	5.a.14.	C	-	C

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
1. System records and presents data on delivery orders and call orders. 2. Contract can support multiple delivery orders over extended time periods (up to 5 years).				
(15) Does the system subject all transactions to edits, validations, and error correction procedures including the verification of extensions and computations? MINIMUM CRITERIA: Payables application subjects all transactions to edits and error correction including verification of extensions and computations. Edits applied are the same for both on-line and interfaced transactions.	5.a.15.	C	-	F
(16) Does the system produce audit trail reports to support data transferred from external systems including an error listing? MINIMUM CRITERIA: System produces an audit trail to support data transferred from external systems and provides an error listing or file for those transactions failing edits.	5.a.16.	C	B	C
(17) Does the system permit a single contract to have multiple receiving activities with multiple remit to addresses? MINIMUM CRITERIA: System permits a single contract to have multiple receiving activities and multiple remit to addresses.	5.a.17.	C	F	F
(18) Does the system process supplemental payments using the document number of the original payment and validating to ensure that the payment does not exceed amounts received and accepted? MINIMUM CRITERIA: System can process supplemental payments against an original document number ensuring that the total paid does not exceed the value of goods/services received and accepted.	5.a.18.	B	-	F
b. <u>Track receivinng, inspection, acceptance, and matching.</u> • Meet Prompt Payment Act requirements for the tracking of receipt, inspection, and acceptance. • Track invoices. (2) Can the system record receipt, inspection, and acceptance of goods or services on line and/or receive this information from other systems? MINIMUM CRITERIA:	5.b.2.	F	F	F

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
1. System records receiving/acceptance reports in the finance and accounting office based upon receipt of authorized documents. 2. System permits multiple points of entry for receipt and acceptance data in terms of on-line capability. 3. System records receipt and acceptance as separate transactions and identifies each transaction to the user identification of the employee responsible. 4. System allows establishment of contract-defined tolerance for quantity variance. 5. System permits receiving reports to be batch interfaced from external systems operated at the receiving activity.				
(3) Does the system maintain the following information related to each obligation document including amendments: · obligating document number? · line item/line number? · stock number? · classification structure? · requisition number? · description? · quantity? · unit price? · total price? · estimated freight charges (if applicable)? · expected receipt date? · vendor number? MINIMUM CRITERIA: 1. System maintains critical data elements to include obligating document number, line item, requisition number, classification structure, quantity, unit price, estimated freight, expected receipt date, and vendor number. (Values are based on business area requirements.)	5.b.3.	C	-	C
(4) Does the system provide information through electronic mail and/or reports those instances where: (a) a receiving report or acceptance is missing for an invoice? (b) there is a missing contract or contract amendment in the paying office, but an invoice or receiving report is in hand? (c) the invoice amount is different from contract amount? (d) no contract was issued? (e) there is a missing invoice, but the receipt/acceptance is recorded? MINIMUM CRITERIA: 1. Produces an output through ad hoc or pre-programmed query that can be used by clerks to inquire about missing documents. 2. Receiving report can be matched to proper contract line item. 3. Maintain on-line history of actions taken with respect to obtaining missing documents; e.g., contacts made, date, point of contact, etc.	5.b.4.	C	F	F

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(5) Does the system process purchase returns and generate appropriate transactions; e.g., reduction of accounts payable/accrued expenditures and increase to undelivered orders, establishment of receivable, etc., including rejection of part of a shipment? If so, please list and briefly describe all generated transactions. MINIMUM CRITERIA: System generates transactions and feeds appropriate data to other modules, as appropriate, when purchase returns are made and/or shipments rejected.	5.b.5.	C	F	C
(11) Does the system allow obligation records to be reopened by authorized staff after final payment has been made? MINIMUM CRITERIA: System allows closed obligation records to be re-established.	5.b.11.	C	-	C
(13) Does the system match amendments and modifications to the original contract? MINIMUM CRITERIA: System can identify amendments and modifications to the original contract document number.	5.b.13.	C	-	C
(14) Does the system allow transactions to be entered directly for those events that will result in payment but are not part of the commitment, obligation, and matching process? If so, please list and briefly describe all such actions. MINIMUM CRITERIA: System permits entry of a payable transaction to be paid for another DoD activity; e.g., the commitment and obligation reside in the funded activity's data base, but payment is made by another disbursing office.	5.b.14.	C	F	F
(17) Does the system display open obligation documents and show for each line item on the obligating document the amount obligated, the amount accrued, the amount accepted, and the amount disbursed? MINIMUM CRITERIA: System maintains disbursement, receipt, and acceptance information by obligation line item and allows ad hoc or pre-programmed query of data.	5.b.17.	F	-	F
(18) Does the system provide the capability to archive	5.b.18.	C	-	C

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
closed documents after user-defined accounting cycle is completed? MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is readily accessible. 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability exist to archive data in accordance with DoD directives.				
(19) Does the system track receipt at contractor site under direct vendor delivery situations? MINIMUM CRITERIA: 1. System allows displays of an FOB code indicating where and when the item was received and accepted. If the item was received and accepted at a remote location but the receiving report has not been recorded, system can provide a report of missing receiving documents. 2. System will allow remote entry of a receiving report from the contractor site with proper permissions.	5.b.19.	F	F	F
c. <u>Support cash management and accurately make payments</u>. · Meet Prompt Payment Act requirements. · Meet other requirements for scheduling payments. · Take discounts where economically feasible. · Support making Electronic Fund Transfer payments. · Make payments to assignees.				
d. <u>Interface with other systems</u>. · Ability to interface with other DoD systems. · Ability to interface with non DoD systems. (1) Does the system provide for interfacing of data with other systems? If so, please briefly describe what is involved and how it is done. MINIMUM CRITERIA: Interfaces are in a controlled environment that ensures that all expected data is received and all data is edited. Where data expected is not received, system provides appropriate notification and suspends or rejects the interfacing file.	5.d.1.	F	B	F
(2) Does the system have the capability to liquidate receivables for all advances and establish payables when claims are filed? MINIMUM CRITERIA: <u>System matches advances outstanding to amounts owed to</u>	5.d.2.	F	F	F

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
vendor or employee and adjusts accounting records accordingly to establish a payable or receivable, as applicable.				
e. Reporting and Management Support. · Meet prompt payment reporting requirements. · Meet management information needs. (1) Does the system generate management reports and measure performance? If so, please specify and briefly describe each report and each method to measure performance. MINIMUM CRITERIA: System generates management reports showing performance in accounts payable area.	5.e.1.	F	-	F
(5) Does the system generate aged receiving reports without acceptances? If so, does the system automatically generate or prompt appropriate follow-up to the receiving activity? MINIMUM CRITERIA: System generates aged receiving reports without acceptances via ad hoc or pre-programmed query and prompts appropriate follow-up.	5.e.5.	F	F	F
(10) Does the system record and maintain contracts and grants so that fiscal year-to-date and inception-to-date information can be presented? MINIMUM CRITERIA: System can display contract and grant data showing accumulated fiscal year-to-date and cumulative from inception execution through ad hoc or pre-programmed query.	5.e.10.	F	-	F
f. Provide customer assistance and quality control. · Ability to trace transactions for customer assistance. · Support statistical sampling.				
g. Provide interfund billings/payable support. · Process MILSTRIP and MILSCAP transactions. · Process automated incoming billing actions. · Include automated controls and procedures for: -- Aging and monitoring accounts payable. -- Adjustment of overage accounts payable. -- Reversal of previously adjusted transactions. (1) Does the system have the capability to translate the data on a Military Standard Requisition/Issue Procedures (MILSTRIP) receipt document, MILSTRAP and Military Standard Contract Accounting Procedures document into financial transactions and establish related accounts payable? If yes, describe the	5.g.1.	B	F	B

5. PAYABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
capability. MINIMUM CRITERIA: System captures interfund line item detail and properly establishes payable and liquidates obligation.				
(2) Does the system have the capability to produce automated requests to the Defense Automated Addressing System (DAAS) for billing status and capture response when received? If yes, describe the capability. MINIMUM CRITERIA: 1. System produces automated requests to DAAS. 2. System captures and reads DAAS billing response.	5.g.2.	C	F	C
(3) Does the system have the capability to maintain controls and status related to outgoing inquiries? MINIMUM CRITERIA: System identifies inquiries requiring follow-up action.	5.g.3.	C	F	C
MISC-8 Does the system provide for an integrated, mechanized and transactio driven cash receipts and disbursements register to ensure appropriate cost and asset/liability subsidiary records are matched and updated?	MISC-8 ____	P	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Establish an audit trail and support internal controls. • Establish and maintain debtor files. • Internal control and file access control. • Update account with all relevant transactions. (1) Is the receivable module fully integrated with other modules of the accounting system. MINIMUM CRITERIA: The receivable module is fully integrated with the billing, payables, cost, and general ledger modules.	6.a.1.	B	F	B
(2) Do you control and identify all collections, including lock box, credit card, electronic funds transfer, and update accounts? MINIMUM CRITERIA: System brings all collections under control and identifies method of collection; e.g., cash, check, lock box, credit card, and updates accounts accordingly.	6.a.2.	F	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA WOULD INCLUDE:				
(3) Does the system record both complete and partial receipts, applying partial receipts in order of precedence? MINIMUM CRITERIA: System can record either a complete or partial receipt against a specific bill and allow collections to be applied in order of precedence; i.e., interest, penalties, administrative fees, principal, etc.	6.a.3.	F	F	F
(4) Does the system match each collection to a specific customer account and bill number? MINIMUM CRITERIA: 1. System matches receipts to account number or bill number. 2. Receipts that cannot be properly matched are placed in a suspense or deposit fund account until research can be completed and the receipt matched to the proper bill.	6.a.4.	F	F	C
(5) Does the system provide the ability to apply a single collection to more than one outstanding bill if multiple bills have been satisfied with a single payment instrument? MINIMUM CRITERIA: System allows a single collection amount to be stratified to multiple outstanding bills.	6.a.5.	F	F	F
(6) Does the system update accounts receivable balances on a document-by-document basis? If not, what basis do you use? MINIMUM CRITERIA: 1. System updates accounts receivable on a document basis based on accruals. 2. System can compute earnings on cost incurred, unit produced, and percentage of completion basis.	6.a.6.	F	F	F
(7) Does the system track and age receivables? MINIMUM CRITERIA: System tracks and ages accounts receivable in accordance with DoD guidelines.	6.a.7.	B	B	C
(8) Does the system identify and report selected accounts which meet predetermined criteria for bad debt provisions or write-off? If yes, please identify and briefly describe the controls involved. MINIMUM CRITERIA: System has a product that can be reviewed to select accounts meeting bad debt criteria.	6.a.8.	F	F	F
(9) Does the system record the write-off of delinquent or uncollectible receivables and maintain data to monitor closed accounts? MINIMUM CRITERIA:	6.a.9.	C	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
On-line entry can be used to write-off uncollectible receivables, but system retains data in a closed status for future retrieval should collection be made.				
(10) Does the system produce audit trail reports to support data transferred from external systems to the financial system including error listings? MINIMUM CRITERIA: System provides an audit trail to support data transferred from external systems and produces an error file or listing showing rejected transactions.	6.a.10.	C	C	B
(11) Does the system subject all incoming transactions to edits, validations, and error correction procedures regardless of their source? MINIMUM CRITERIA: System performs edits on incoming transactions and provides a mechanism to correct the errors. Edits applied are the same for internal as well as interfacing transactions.	6.a.11.	C	C	B
b. Promptly identify monies and support cash management. • Identify monies owed no matter what source. • Correctly apply administrative and other charges. • Maximize use of offsets. (1) Does the system maintain detailed information by account such as individual, employee, private sector organization, state or local government, or other Federal agency? MINIMUM CRITERIA: System has a reimbursement source code identifying the origin of reimbursable activity and identifies the specific individual or private organization owing the specific debt.	6.b.1.	C	C	C
(2) Does the system maintain identity as to the source of reimbursable orders, stratified as within Component, other DoD Components, non-DoD Federal, and other (e.g., non-Government)? MINIMUM CRITERIA: System has a reimbursement source code identifying the source of reimbursable activity to type of federal/other organization.	6.b.2.	C	C	C
(3) What is the process to open new accounts? MINIMUM CRITERIA: System process to open new accounts is under security control via system and task access.	6.b.3.	C	C	C
(4) Does the system have a process to handle offset requests from another agency? If so, briefly describe the procedures. MINIMUM CRITERIA: System has capability to enter offsets from other agencies on-line and apply offset to money owed to vendor or individual.	6.b.4.	F	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(5) What is the process to update account files when collections are received on your own accounts? MINIMUM CRITERIA: System records collections made for self against a specific bill number.	6.b.5.	F	F	F
(7) What are the systems processes to record collections received on your accounts by another agency? MINIMUM CRITERIA: 1. System can record, through on-line update, collections made by others against a specific bill number based on receipt of hard-copy documentation. 2. System can accept an electronic file from the entity making the collection and record the collection action against the bill.	6.b.7.	F	F	F
(8) When accounts are not paid promptly, can the system automatically generate follow-up documents on overdue accounts? MINIMUM CRITERIA: Debt follow-up letters are produced automatically by the system based upon non-receipt of collection, when due.	6.b.8.	F	F	F
(9) Does the system record claim assignments so that when a vendor has executed assignment of claim and the assignee expects payment but payment is not made, the system can be researched to determine the transaction history? MINIMUM CRITERIA: System maintains a history of transactions scheduled to be paid to assignees.	6.b.9.	F	F	F
(10) Does the system provide for the calculation and automatic assessment of interest, administrative charges, and penalty charges on overdue receivables? If so, does it allow for the waiver of these charges with appropriate authority? Also, does it update accounts? MINIMUM CRITERIA: System automatically calculates and assesses interest, penalties, and administrative fees on overdue accounts, where appropriate, and allows waiver of each by appropriate authority.	6.b.10.	F	F	F
(11) Are interest charges computed using simple interest calculations? MINIMUM CRITERIA: Interest charges are computed by using simple interest.	6.b.11.	F	F	F
(12) Does the system tabilize interest rates so that the interest rate used by the system is the rate as determined by the U.S. Department of the Treasury? If so, please briefly describe the procedures used to make this determination.	6.b.12.	F	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA: Interest rates assigned by Treasury are tabilized in the system application and are appropriately assigned.				
(14) Does the system provide for automatic reversal of NSF checks and then update accounts? If so, do NSF checks automatically generate the assessment of administrative charges? MINIMUM CRITERIA: System provides for reversal of NSF checks and assesses administrative charges as appropriate.	6.b.14.	F	F	F
(15) Does the system provide for processing of credit card sales for goods and services where applicable? Also, does the system provide for processing of cash sales for goods and services where applicable? MINIMUM CRITERIA: System provides for processing of cash and credit card sales as appropriate.	6.b.15.	F	F	F
(17) Does the system track debit vouchers related to deposits and reconcile them to confirmation reports provided by Treasury? MINIMUM CRITERIA: System tracks debit vouchers related to deposits and allows reconciliation to Treasury reports.	6.b.17.	F	F	F
(18) Does the system support the "Fast Pay" process when an invoice has been paid but the material not received to create a receivable? MINIMUM CRITERIA: System tracks "Fast Pay" process and allows on-line creation of a receivable when an invoice has been paid but material not received.	6.b.18.	F	F	F
(19) Does the system have the capability to establish receivables for all travel advances? If so, does it have the capability to age outstanding travel advances? Also, does it have the capability to flag traveler's individual records for payments owed to the government? Also, does it have the capability to offset prior payments owed against advance and/or settlement amounts due the traveler? MINIMUM CRITERIA: System has the capability to establish receivables through on-line entry for uncollected travel advances and age outstanding advances.	6.b.19.	C	F	F
c. Implement regulations concerning receivables. • Implement statute and regulations concerning receivables. • Inform debtors of rights where appropriate. (5) Does the system produce dunning (collection) letters for overdue receivables in accordance with Treasury requirements and existing legislation? If so, does it provide the user the ability to customize the dunning process parameters and dunning letter text?	6.c.5.	F	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA: System produces dunning letters, as appropriate, using existing DoD guidance.				
(6) Does the system maintain and record information on collections, receivables, and write-offs needed to meet the requirements of existing legislation, OMB circulars, Treasury reporting requirements, and agency management needs? MINIMUM CRITERIA: System produces an aged report of outstanding receivables due from the public with the aging and transaction types stratified in accordance with DoD guidance.	6.c.6.	C	C	F
(8) Does the system maintain data for contract debt including all of the following: name and address of the contractor, contract number, description of debt, amount of debt and the appropriation to be credited, date the debt was determined, date(s) of demands for payment, amounts and dates of collection as they occur, and dates of any appeals? If no, please indicate all such data which is secured via interfaces with other systems and identify each interface. MINIMUM CRITERIA: System maintains data necessary to establish a receivable for contractor debt and track its status.	6.c.8.	F	F	F
d. Interface with other systems. • Ability to interface with other DoD systems. • Ability to interface with non-DoD government systems. • Ability to interface with non government systems. • Ability to interface with components. (1) Can the system accept transactions from other accounting/finance systems external to the agency in an acceptable format for entry into the accounting system; e.g., collections made by State Department for DoD accounts? MINIMUM CRITERIA: System accepts data from another agency's system in standard format and uses the same edits whether processing internal or interfacing transactions.	6.d.1.	F	F	F
(3) Does the system update all other applicable functions in other systems? If yes, please identify all such functions and systems. MINIMUM CRITERIA: The receivables module must be capable of providing information to the payroll system to initiate collection actions, since there will be occasions when debts owed by DoD employees will be collected through salary offset.	6.d.3.	F	F	F
(4) Are there other systems that you interface with to obtain data for the receivables module? If yes, please identify all systems you interface with and briefly describe each of the interfaces. MINIMUM CRITERIA: Interfaces are in a controlled environment that ensures that all expected data is received and all data is edited. Where data expected is not received, system provides appropriate notification and suspends or rejects the interfacing file.	6.d.4.	F	F	F

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
e. Reporting and Management Support. • Support management information needs. • Produce reports to higher authority. • Age debt and analyze accounts. (1) Does the system generate reports and information to satisfy both internal management and external reporting requirements? MINIMUM CRITERIA: System can generate status of reimbursement reports, aged receivable reports, ad hoc, and preprogrammed queries to satisfy internal management requests for information and external reporting requirements.	6.e.1.	C	C	C
(2) Does the system provide information for multiple levels of agency management? If yes, please identify all levels. MINIMUM CRITERIA: System can generate receivable information for multiple levels of management. Specifically, ad hoc receivable reports or preprogrammed reports can be generated showing receivables by age, customer, reimbursement source code, etc., at the installation, directorate, division, branch, and office levels.	6.e.2.	F	F	F
(3) Does the system provide information at various intervals such as daily, weekly, monthly, quarterly, and annual? If yes, please identify all such intervals. MINIMUM CRITERIA: System can generate receivable information no less frequently than monthly showing the value of outstanding receivables by customer, age, and reimbursement source code.	6.e.3.	C	B	C
(4) Does the system provide one-time management reports? If yes, please briefly describe the process and any limitations that may apply. MINIMUM CRITERIA: System has ad hoc report query capability.	6.e.4.	C	B	C
(5) Does the system provide on-line inquiry capability into the accounts receivable file by selection criteria? If yes, please describe the criteria and any limitations that may apply. MINIMUM CRITERIA: System has on-line query capability for receivables.	6.e.5.	C	C	C
(6) Does the system produce aging reports for all accounts receivable regardless of reimbursement source code? MINIMUM CRITERIA: System provides aging reports for all receivables; i.e., government, public, etc.	6.e.6.	C	C	C

6. RECEIVABLES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(7) Does your management reporting measure performance? If so, please briefly describe how. MINIMUM CRITERIA: System measures receivable area performance.	6.e.7.	F	F	F
f. Provide customer assistance and quality control. • Ability to trace transactions for customer assistance. • Support statistical sampling for quality control. (1) Does the system produce transaction listings and error listings for transactions entered directly into the system? MINIMUM CRITERIA: System produces audit trail and hard copy error listings for data coming from interfacing systems and on-screen identification of errors for all transactions entered on-line.	6.f.1.	C	C	C
(2) Does the system provide search capability and access for customer receivable information? If so, do such capabilities include on-line access? Also, if so, can user-defined criteria include customer name, customer short name, document number, and customer number? MINIMUM CRITERIA: System provides search capabilities for customer receivable information for each data element stated above.	6.f.2.	F	F	F
(3) Does the system use accepted standards for statistical sampling of collections, or other user-defined criteria for audit, to provide assurance of compliance with regulations? If so, please identify the standards and the authority that has accepted them. MINIMUM CRITERIA: System applies statistical sampling standards for selecting items for audit.	6.f.3.	F	F	F

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Establish an audit trail and support internal controls. • Establish and maintain debtor files. • Internal control and file access control. • Update account with all relevant transactions. (1) Is the billing module fully integrated with other modules of the accounting system? MINIMUM CRITERIA: The billing module is fully integrated with the receivable, payable and cost modules, as a minimum.	7.a.1.	B	B	B

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(2) Does the system contain a transaction history of all billings created and dispatched and the collections made against the billings? If so, does the information include customer identification, amount billed, date billed, and amount/date collected? MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is readily accessible. 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability exists to archive data in accordance with DoD directives.	7.a.2.	F	F	F
(3) Does the system produce audit trail reports to support data transferred from external systems to the financial system including error listings? MINIMUM CRITERIA: System provides an audit trail to support data transferred from external systems and produces an error file or listing showing rejected transactions.	7.a.3.	B	C	B
(4) Does the system subject all incoming transactions to edits, validations, and error correction procedures regardless of their source? MINIMUM CRITERIA: 1. System performs edits on incoming transactions and provides a mechanism to correct the errors. 2. Edits applied are the same for internal as well as interfacing transactions. 3. Uncorrected transactions are suspended until corrected.	7.a.4.	C	C	B
b. Promptly identify monies owed to support reimbursable process. • Prompt and accurate billing. • Correct billing process for each class of debt. (1) Do you maintain data for each account such as identification and address, balances, billing cycles, aging information, and account history data? MINIMUM CRITERIA: 1. Missing no identified data elements and utilizes an account number. 2. Consolidates earnings from multiple cost accounting/earnings techniques into a single billing for a customer; e.g., actual cost, direct cost plus applied indirect, standard costs, fixed price, percentage of completion. 3. Consolidates earnings from multiple orders for the same customer into a single billing.	7.b.1.	C	F	F
(2) Do you maintain detailed information by type of account such as individual, employee, private sector organization, state or local government, or other Federal agency? MINIMUM CRITERIA: System has a reimbursement source code identifying the origin of the reimbursable activity	7.b.2.	B	B	B

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
and identifies the specific individual or private organization owing the debt.				
(3) Does the system update accounts both when billing documents are generated and when adjustments are made? MINIMUM CRITERIA: System posts appropriate records indicating amounts earned and billed and reflects any adjustments made to bills.	7.b.3.	B	C	C
(4) Does the system have a capability to add, change, or modify non-financial account data by authorized personnel; e.g., address or name changes? MINIMUM CRITERIA: 1. Non-financial information, such as address, may be changed by authorized personnel. 2. The ability to change non-financial data is under system security control.	7.b.4.	C	C	C
(5) Does the system produce bills based upon both events and/or time periods as appropriate? If so, are both partial and final billings produced? MINIMUM CRITERIA: 1. System can produce bills based on a fixed time period such as monthly. 2. System can produce bills based on a specific event such as accumulating costs at 75% of the total order value. 3. System-generated billings display a unit rate, the number of units delivered, and the extended charges for each line item on the customer order. 4. If applicable, system-produced bills display all applicable surcharges. 5. System controls in effect limit billing amounts to the smaller of amounts earned less amounts collected or total order value less amounts collected.	7.b.5.	F	F	F
(6) Does the system print bills using different methods; e.g., standard forms, such as SF 1080 or 1081, and turnaround documents to be used as a remittance advice? If yes, please identify and briefly describe each method. MINIMUM CRITERIA: 1. System provides multiple types of billing document. 2. System contains options for detailed supporting data. 3. System provides detailed transaction support for the billed amount identified by the types of costs incurred e.g., labor, materials, other, etc.	7.b.6.	B	F	B
(7) Does the system allow the user to supply the billing date or does the system allow lead time on system generated billing dates? MINIMUM CRITERIA: System dates bills allowing sufficient lead time for mailing.	7.b.7.	C	C	C

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(8) Does the system print both statements and bills? If no, please identify what is printed. MINIMUM CRITERIA: System produces both bills and statements, if required.	7.b.8.	B	F	B
(9) Does the system permit the generation of advance billings to private parties with appropriate recording in the liability (unearned revenue) account when cash is received? If so, is the liability account adjusted accordingly when reimbursements are earned? MINIMUM CRITERIA: 1. System permits generation of an advanced billing for private parties and properly records the unearned revenue when cash is received. 2. Unearned revenue is automatically reduced as earnings are generated.	7.b.9.	F	F	F
c. Interface with other systems. • Ability to interface with other DoD systems. • Ability to interface with non-DoD government systems. • Ability to interface with non government systems. • Ability to interface with components. (1) Do you process data from various sources within your Component, including cost accumulation, to prepare bills? MINIMUM CRITERIA: Interfaces from other systems and modules within the core system should be under control to ensure that all expected data was received and processed.	7.c.1.	B	B	C
(2) Can the system accept transactions from other external management information systems to the agency in a standard format for entry into the accounting system; e.g., workload data for bill generation? MINIMUM CRITERIA: System accepts data from another agency's system in standard format and uses the same edits whether processing internal or interfacing transactions.	7.c.2.	F	F	F
(3) Does the system accept billings produced by other systems, such as the On-line Payment and Collection System (OPAC), the Simplified Intra-Governmental Billing and Collection System (SIBAC), and interfund, and preclude the accounting system from generating duplicate bills for these transactions? MINIMUM CRITERIA: 1. System can accept OPAC, interfund, and SIBAC billings. 2. System's controls ensure that duplicate bills will not be produced for these transactions.	7.c.3.	F	F	F
(4) Does the system allow transactions related to manually prepared bills to be entered directly? If so, please identify and briefly describe the controls involved. MINIMUM CRITERIA:	7.c.4.	C	C	C

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
There are times that billings will be prepared outside the automated system due to system downtime or other unforeseen circumstances. The result of the manually-prepared bills must update automated records.				
d. Reporting and Management Support. • Support management information needs. • Produce reports to higher authority. (1) Does the system generate reports and information to satisfy both internal management and external reporting requirements for billing information? MINIMUM CRITERIA: System can generate preprogrammed queries to satisfy internal management and external agencies with respect to billing information.	7.d.1.	B	C	C
(2) Does the system provide information for multiple levels of agency management? If yes, please identify all levels. MINIMUM CRITERIA: System can generate billing information for multiple levels of the organization. Specifically, ad hoc billing results or preprogrammed queries showing billing data can be displayed by customer and reimbursement source code at the installation, directorate, division, branch, and office levels.	7.d.2.	F	F	F
(3) Does the system provide information at various intervals such as daily, weekly, monthly, quarterly, and annual? If yes, please identify all such intervals. MINIMUM CRITERIA: System can generate billing information no less frequently then monthly by customer and reimbursement source.	7.d.3.	A	A	A
(4) Does the system provide one-time management reports? If yes, please briefly describe the process and any limitations that may apply. MINIMUM CRITERIA: System has ad hoc report query capability.	7.d.4.	C	B	C
(5) Does the system provide on-line inquiry capability into the billing file by selection criteria? If yes, please describe the criteria and any limitations that may apply. MINIMUM CRITERIA: System has on-line query capability for billing results.	7.d.5.	C	C	C
(6) Does your management reporting measure productivity? If so, please briefly describe how. MINIMUM CRITERIA: System measures billing area productivity.	7.d.6.	F	F	F

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
e. Provide customer assistance and quality control. • Ability to trace transactions for customer assistance. • Support statistical sampling for quality control. (1) Does the system produce transaction listings and error listings for transactions entered directly into the system? MINIMUM CRITERIA: System produces audit trail and hard copy error listings for data coming from interfacing systems and on-screen identification of errors for all transactions entered on-line.	7.e.1.	B	C	B
(2) Does the system provide search capability and access for customer billing information? If so, do such capabilities include on-line access? Also, if so, can user-defined criteria include customer name, customer short name, document number, and customer number? MINIMUM CRITERIA: System provides search capabilities for customer billing information.	7.e.2.	C	C	C
f. Support of pricing requirements. • Price estimates. • Stabilized rates. • Multiple unique customer pricing needs. (1) Does the system support pricing requirements for the following: (For each yes, please briefly describe how.) (a) Inter-component? (b) Intra-component? (c) Foreign Military Sales? (d) Other Government agencies? (e) Non-Government activities? MINIMUM CRITERIA: System supports separate pricing requirements for several classes of customers.	7.f.1.	B	C	B
(2) Does the system have the capability to capture and retain pricing ingredients for base price (standard or actual), add-ons, and surcharges for customers? If yes, please briefly describe how. MINIMUM CRITERIA: 1. System can capture, retain, and separately identify the base price, add-ons, and surcharges for each product or service provided and for each reimbursement source code. 2. System can record surcharges in an accounting classification code other than the basic customer order, if so required. For example, surcharges for asset use charges may be deposited to a miscellaneous receipt account while asset rental charges may be deposited to the performing appropriation or revolving fund.	7.f.2.	C	F	F

7. BILLING	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(3) Does the system have the capability to support fixed price and stabilized pricing techniques? Please indicate yes or no for each. For each yes, please briefly describe how this is accomplished. MINIMUM CRITERIA: System supports fixed price, cost reimbursable, and stabilized pricing techniques, and is capable of supporting combinations of various techniques, when applicable.	7.f.3.	B	B	C
g. Support of reimbursable billing. • Supports accounts receivable and billing requirements. (1) Please list and briefly describe the controls within the system that are designed to insure that reimbursable orders are filled on time, within customer specifications, and within customer cost parameters? Also, please identify and briefly describe any restrictions or limitations involved. MINIMUM CRITERIA: 1. System tracks authority provided by specific reimbursable orders to control costs. 2. System identifies item(s) ordered and promised delivery date.	7.g.1.	B	B	C
(2) Does the system match all related costs for each order to the revenues derived from billings for each order? If yes, are your customers made aware of these capabilities and given an option to exercise them? Also, if yes, please identify and briefly describe any restrictions or limitations involved. MINIMUM CRITERIA: System can relate revenue from each reimbursable order to actual costs incurred for the order.	7.g.2.	B	C	C
A23-1.1 Does the system provide automatic generation of a no-check reimbursement tape/file to allow for mechanzied registering of billing collections/disbursements? (NAVAIR)	A23-1.1 ____	P	F	P
A23-4 Does the DBOF system mechanically interface with the sponsors appropriate fund systems to ensure accounting records for collections in the DBOF system match expenditures in the fund system by individual document and line of accounting? (NAVAIR)	A23-4 ____	P	F	F
A24-29 To what extent does the system have the capability to calculate and perform advance, progress, and completion billings to customer job orders? (LMI)	A24-29 ____	P	P	P

9. INVENTORY	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a. Inventory Accountability (7) Control of Inventory in Transit. • Visibility of line item in transit values by category. • Visibility of line item in transit values by **** (d) Does the system have the capability to analyze MILSTRIP/MILSTRAP receipt transactions and distinguish between consignees on in transit transactions. If yes, briefly describe the capability.	9.a.7.d.	B	C	B

9. INVENTORY	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA: System has the ability to accept and process MILSTRIP/MILSTRAP transactions and match receipt transactions to in transit transactions.				
(e) Does the system permit write-off of prepaid in-transit materials and supplies? (1 point) MINIMUM CRITERIA: System provides audit trail of items deleted from in-transit subsidiary file and accurately reflects disposition as well as supporting journal voucher.	9.a.7.e.	B	F	F
b. Inventory Related Billing Actions. (1) Material receipt and related incoming billings. • Processing billings for material receipts. • Monitoring for duplicate or erroneous billings. • Adjustments for erroneous billings. (a) Does the system have the capability to process both incoming MILSTRIP transaction-based and non-MILSTRIP transaction-based material billings and distribute charges to appropriate financial records? MINIMUM CRITERIA: 1. System can translate MILSBILLS action to required system format and post to accounting records to liquidate obligation. 2. System can process other (non-MILSBILLS) supply system transactions and liquidate obligations.	9.b.1.a.	B	F	C
(b) Does the system have the capability to reconcile MILSTRIP and non-MILSTRIP receipt transactions to related expenditure transactions? If yes, briefly describe both capabilities. MINIMUM CRITERIA: System properly controls and posts material receipts/accruals to include matching quantity orders to quantity received.	9.b.1.b.	C	C	C
(c) Does the system have the capability to recognize duplicate MILSTRIP or non-MILSTRIP billings, or other erroneous billings, and produce appropriate adjustment requests? If yes, briefly describe all capabilities. MINIMUM CRITERIA: System identifies and takes corrective actions with respect to receipt of duplicate billings.	9.b.1.c.	C	F	C
(d) Does the system have the capability to monitor interfund billings due from others and ensure that all billings due are received and processed? If yes, briefly describe the capability. MINIMUM CRITERIA: System monitors/ages unliquidated obligations and can produce appropriate follow-up notices including requests for interfund billing status when applicable.	9.b.1.d.	C	F	C

9. INVENTORY	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
c. Inventory Gains and Losses. (1) Inventory gains transactions. (a) Does the system have the capability to separately account for physical inventory gains according to the following categories: 1 As the result of physical inventory counts? 2 As the result of incoming shipment overages? 3 As the result of material returns by users without credit? MINIMUM CRITERIA: System can record inventory physical gains and reflects the reasons for each.	9.c.1.a.	B	B	B
(b) Does the system have the capability to separately account for financial inventory gains according to the following categories: 1 As the result of accounting adjustments? 2 As the result of the assembly or disassembly of items for inventory? 3 As the result of price adjustments? 4 As a result of the inability to reconcile material received to a related charge document? 5 For returns from reutilization and marketing activities? MINIMUM CRITERIA: System can process and record financial inventory gains and identify the reasons for each.	9.c.1.b.	B	B	B
(2) Inventory Loss Transactions. • Record physical inventory losses by type. • Record financial inventory losses by type. (a) Does the system have the capability to separately account for physical inventory losses according to the following categories: 1 As the result of physical inventory counts? 2 As the result of incoming shipment shortages? 3 As the result of shrinkage, fire, theft, or miscellaneous losses? 4 As the result of major disaster losses? MINIMUM CRITERIA: System can record physical inventory losses and reflect the reason for each.	9.c.2.a.	B	B	B

9. INVENTORY	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
(b) Does the system have the capability to separately account for financial inventory losses according to the following categories: 1 As the result of accounting adjustments? 2 As the result of the assembly or disassembly of items for inventory? 3 As the result of price adjustments? 4 As a result of the inability to reconcile the receipt of a charge document to the related material receipt? 5 For transfer of material to reutilization and marketing activities? MINIMUM CRITERIA: System can process and record financial inventory losses and identify the reasons for each.	9.c.2.b.	B	B	B
d. Business Areas Specific Data Requirements. (1) Provide business area specific data support to customers. • Customer business area specific reports. • Customer business area specific data maintained. (a) Does the system provide any specific management reports to customers for their use in the physical or financial inventory management process other than those required for formal reporting purposes? If yes, provide the following for each such report: 1 The title and a brief description of each report including its content. 2 The identified purpose of preparing the report and the basic utilization it provides. 3 The method used to generate the report; e.g., is the report a part of the standard system outputs? If not, identify any special efforts required to produce the report. 4 The size, frequency, and, if practical, an estimated cost for each such report. MINIMUM CRITERIA: System provides batch, on-line query, and ad hoc report capability.	9.d.1.a.	A	A	B
(b) Does the system maintain any specific inventory related financial (or other) data files as historical files for research or other functions of physical or financial inventory management which may or may not be the basis for a formal report? If yes, provide the following for each such file: 1 The title, if applicable, and a brief description of the content of each file. 2 The identified purpose of maintaining the file and the basic requirement it satisfies. 3 The method used to accumulate the file; e.g., is it a part of the standard system				

9. INVENTORY	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
process? If not, identify any special efforts required to produce the file. 4 The size of each file, the frequency that each file is created or updated, and, if practical, an estimated cost to maintain the file. 5 The retention period of each such file. MINIMUM CRITERIA: 1. System maintains data on-line for a specified period of time depending upon the type of transaction at the detailed execution level and then archives the data to an automated media that is readily accessible.				
MINIMUM CRITERIA (cont'd): 2. System provides user access and availability to on-line and archived data to meet the business area's needs. 3. Ability exist to archive data in accordance with DoD directives.	9.d.1.b.	B	A	B
(c) Does the system have the ability to accumulate and report financial data for use in determining the standard price of items of supply? If yes, briefly describe the capability. MINIMUM CRITERIA: System can accumulate and produce cost data for determining standard price.	9.d.1.c.	C	C	C
MISC-23 Are cash transactions for material bills (both MILSTRIP and commercial) automatically matched and posted to subsidiary records by requisition number for the purpose of relieving accounts payable, accounts receivable or posting to material-in-transit or unmatched-material-in-transit accounts? Does this independent of any bill processing? (NAVAIR)	MISC-23 ____	P	P	P
MISC-24 Does the system provide capability to write-off individual requisition balances for material-in-transit, unmatched material-in-transit, accounts payable and accounts receivable? Are write-off transactions identifiable and traceable on reports and designated as write-offs? Do write-off transactions mechancially update cost, general ledger and subsidiary asset/liability records? Does the system provide capability for mass batched write-offs of these accounts based upon dollar thresholds and date range criteria? (NAVAIR)	MISC-24 ____	P	F	P

11. GENERAL SYSTEM FEATURES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
a Does the system permit on-line access from multiple remote locations? MINIMUM CRITERIA: 1. Systems permits on-line query, edit, and update for all modules and all accounting transactions. 2. System has multiple users accessing the same data base simultaneously.	11.a. ____	A	A	A
b. Does the system permit both on-line and batch update? MINIMUM CRITERIA:	11.b. ____	B	B	B

11. GENERAL SYSTEM FEATURES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
1. System permits both on-line and batch update. 2. On-line and batch transactions are subject to the same edits. 3. Audit trail is provided for all batch updates. 4. Records updated on-line can be retrieved to show time and user ID of last employee to update record.				
c. Does the system cater to both novice and expert users? MINIMUM CRITERIA: 1. System permits expert users to "fast path" through screens. 2. Novice users are given on-line help and/or prompts. 3. System provides menu driven screen prompts.	11.c. ____	B	A	A
d. Are all system modules integrated to include funds distribution and control, general ledger, cost allocation, payables, receivables, disbursing/collection, fixed assets, travel, and pay? MINIMUM CRITERIA: Data is captured at the source, data is standardized through all interfaces with standard data element definitions, and the same data residing in each system/module is identical, eliminating need for massive reconciliations.	11.d.	F	F	F
e. Does the system have the ability to create, update, and store documents? MINIMUM CRITERIA: 1. System prints a variety of standard documents: i.e., commitment document, disbursing voucher, collection voucher, travel orders, etc. 2. The standard documents created can be updated by a user with the proper systems security. 3. Documetns are stored in a media where they can be retrived on-loine and printed in hard copy, if required.	11.e. ____	B	C	C
f. Does the system use electronic signature to authenticate transactions? MINIMUM CRITERIA: System has electronic signature capability for approval/certification of appropriate transactions.	11.f. ____	C	A	B
h. Does the system require formal commitment accounting/fund reservation for all funds? MINIMUM CRITERIA: System requires formal commitment accounting for all funds.	11.h. ____	F	B	B
I. Does the system interface or is it integrated with other subsystems or external sytems that may not be part of the finance and accounting discipline like civilian personnel, procurement, and logistics? MINIMUM CRITERIA: 1. Interfacing files are brought under proper control to ensure that all data sent by the interfacing system has been received, edited, and processed. 2. Modules not part of the integrated data base are interfaced to the extent that data is captured once at the source, standardized throughout the interface process, and like data residing in each system is identical eliminating the need for massive reconciliations.	11.I. ____	B	A	B
j. Does the system have data correction capabilities for edit errors? MINIMUM CRITERIA: 1. Data can be corrected on-line and/or via batch update.	11.j. ____	B	B	B

11. GENERAL SYSTEM FEATURES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
2. Tables are accessible by system's functional administrator for immediate update. 3. Debit and credit entries cannot be ou-of-balance (double entry update.) 4. Transactions are held in suspense file until corrected.				
k. Does the system have security features? If the answer is yes, briefly explain the features. MINIMUM CRITERIA: 1. system controls access by authorized user. 2. System controls authority by type, e.g. task, function, organization, individual, module, terminal, type of transaction, range of data values. 3. System requires periodic password changes for entry, and warnings when password is about to expire. 4. System has warning for attempts to record an event outside of normal sequencing.	11.k. _____	B	A	B
l. Does the system permit approval and/or certification before allowing selected transactions to update the general ledger? MINIMUM CRITERIA: 1. System must have approval and/or certification before allowing certain transactions to enter data base. 2. Actions pending approval/certiciation are visible. 3. Status of fund display reflects all transactions whether requested, approved, or certified.	11.l. _____	C	A	C
m. Does the system allow table driven edit criteria? MINIMUM CRITERIA: 1. System allows user to change valid edit universe through table update (add, delete, modify). 2. All editable fields are validated and errors detected in a single record pass. 3. Edits are accomplished both inividually for each field and relationally between fields. 4. Edits identify key fields that cannot be left blank. 5. Edits prevent illogical processes (e.g., can cancel and obligation transaction where receipt has already been posted).	11.m. _____	C	A	B
n. Does the system have backup and recovery capabilities? MINIMUM CRITERIA: System has backup and recovery procedures.	11.n. _____	C	B	A
o. Does the system have adequate response time for on-line entry and update? Please briefly describe the capabilities . MINIMUM CRITERIA: Response time from the execution of the entry key to acknowledgment that the record was accepted should be 5 seconds or less to the user.	11.o. _____	A	A	A
p. Does the system have the capability for routine on-line and ad hoc queries? If so, please describe the method used and any limitations or restrictions. MINIMUM CRITERIA: 1. Systme allows authorized users to generate user-defined reports without programmer intervention. 2. System supports multiple sort keys. 3. System provides standard interactive preprogrammed queries of the status of documents or transactions.	11.p. _____	B	A	B
q. Does the system record dollar amounts adequate to business area?	11.q.	F	F	F

11. GENERAL SYSTEM FEATURES	QUESTION NO.	GRADES		
		NIFMS	DMMIS	SIFS
MINIMUM CRITERIA: System can handle dollar amounts adequate for business area.				
r. Does the system have a normalized data base for all data elements? MINIMUM CRITERIA: System has normalized the data base for all data elements.	11.r.	B	B	C
s. Does the system have a current User's Manual? MINIMUM CRITERIA: 1. System user's manual is complete and current. 2. User's Manual is kept current with system fielded in accordance with requirements defined in LCM instruction 7935A.	11.s.	C	A	B

THE FOLLOWING QUESTIONS ARE FOR INFORMATIONAL PURPOSES ONLY.

t. What executive software/operating environment is required to support the system (e.g., UNIX, UNISYS, MVS)?

u. What programming language(s), in order of predominance, are used in the system (e.g., Ada, COBOL, C, ORACLE, FOCUS)?

v. (a) What hardware platform(s) does the system operate on (e.g., mainframe, minicomputer, microcomputer, PC/LAN, client-server, PC/stand alone, etc.)?

(b) Type: (e.g., IBM3090, AMDAHL 5800, IBM4300, UNISYS 2200, IBM 486, etc.).

w. What date was the system originally deployed?

x. If applicable, what date was the system last technically refreshed (approximately 25% change for technology enhancement)?

y. What is the approximate number of functional users supported by the system?

z. What number of user locations are served by the system?

aa. If applicable,

(1) list the data base management system used to support the system,

(2) list the query language used.

APPENDIX D

Army Supporting Detail

SIFS DESCRIPTION

The Integrated Logistics System (ILGS), formerly the Standard Depot System (SDS), was initially designed in the late 1960s and implemented at all CONUS Army depots during 1973-1974. Selected applications of this standard system were implemented in the Army ammunition plants during 1977.

The ILGS consists of four basic functional areas as shown at Figure D-1, Maintenance, Supply, Installation Support, and Resources Management. Resources Management includes the Standard Industrial Fund System (SIFS), the Automated Time, Attendance and Production System (ATAAPS), the AMC Automated Manpower Management Information System (AAMMIS), the Automated Financial Entitlements System (AFES), and the Retail Army Stock Fund Financial Inventory Accounting Reporting System (RASFIARS). SIFS and ATAAPS and are the key modules within Resources Management that affect the DBOF accounting functions. Within SIFS reside five separate modules that are totally integrated to function with common data that is entered only once in the system..

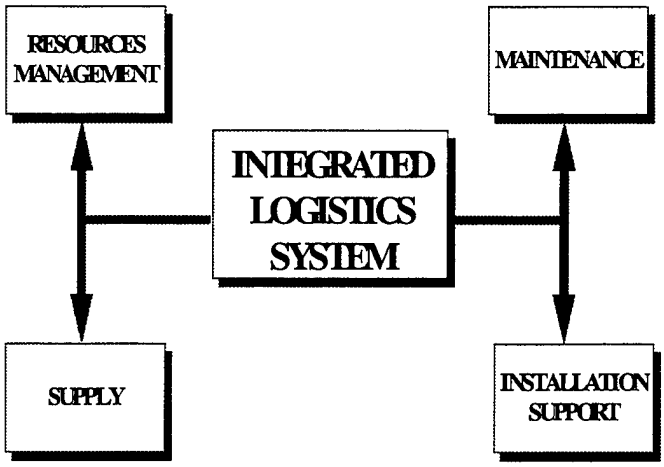


Figure D-1.
Elements of ILGS

The last major modernization of SIFS was completed in October, 1992, when enhancements were made to improve the input and output processes of the system. Input enhancements included those to accommodate state-of-the-art mainframe computers, updated technical software (Multiple Virtual Storage/Extended Architecture (MVS/XA) and Virtual Memory (VM)), and teleprocessing monitors. Other input improvements resulted in the elimination of card input images via video terminal screen input and up-front input validation in lieu of back-end validation. Help text for all input screens was also added. "Output enhancements included the Output Reports Management System that

gives users the option of viewing (via a video terminal) or printing all or selected parts of reports." A data base management system (DATACOM DB) that allows user access to key data in order to develop queries/reports that meet management needs also was added. SIFS was modified in 1993 to support DBOF management principles.

Functional and operational characteristics of SIFS are as follows:

- Funds Distribution: The Headquarters Application System (HAS) and the Industrial Operations Command Centralized Workloading System electronically receive all work requests and pass them on-line to the depots. The Maintenance Production Planning and Control (PPC) module of the Integrated Logistics System (ILGS) processes all orders, including Procurement Requisition Order Numbers (PRONs) and orders received from the HAS by the performing activity. Each order received is established in the active order file after an automatic computation of estimated resource requirements for material and man-hours is performed. All orders received are processed against a historical cost estimating file referred to as the End Item Master Data Record (PCM001) and against the Work Center Rate Standards File (AIM002). These files contain the estimated material and labor costs, and the man-hour requirements by work center. Production controllers then review the cost estimate to ensure that it is accurate. Action must then be initiated to either accept, mark-up, or reject the job order. If accepted, a Job Order/Program Control Number (JO/PCN) is assigned and passed automatically to the Cost Accounting (CA) application for providing order status and cost collection.

  An Automated Internal Operating Budget (AIOB) application is also available in the SIFS. The internal operating budget is a comprehensive financial plan for a budget year, by cost center or group of cost centers, designed to implement the program and related financial guidance by an activity. It can be established at directorate, division, or branch lever; however, the IOC requires that it be prepared at branch level. Current budgets are developed based on manpower versus historical workload data. The AIOB provides, in monetary terms, operating requirements for personnel, materials, supplies, travel, depreciation, labor hours, and man-years to accomplish a programmed workload. It is based on the estimated cost of operations (direct and indirect) of each organizational element or cost center engaged in accomplishing the activity work program.

- General Ledger: The General Fund/Financial Inventory Accounting Module is designed to collect, validate, record, maintain, and report financial data applicable to DBOF Depot Maintenance and other business areas, appropriated funds (Operation and Maintenance, Army - OMA), miscellaneous receipts, unapplied disbursing officer deposits, and other financial areas. It maintains the various financial ledgers and general ledger account structures; produces the internal management reports regarding status

of funds, cash, accounts receivable, and accounts payable for use by the Finance and Accounting Officer; automatically produces the Installation Command Accounting Reports (ICAR), the Data Element Management Accounting Reports (DELMAR); produces other financial statements/reports required for submission to higher headquarters; and provides for monthly and year-end closeout of general ledger accounts. SIFS uses the DoD Standard General Ledger and is transaction driven.

- Cost: The SIFS Cost Application (CA) is a standard, job-order cost accounting application and uses the accrual basis of accounting to accumulate DBOF costs at JO/PCN level. ATAAPS is the primary source of input for labor and production count transactions for cost accounting. Material transactions are input to AMCISS and passed to the CA application. A Methods and Standards (M&S) application also provides for the collection, evaluation, and application of operational and managerial data relating to man-hours and units of work. It is designed to provide labor and production (L&P) accounting and reporting daily by individual and work center, and weekly by center.

- Fixed Assets: IEMS is used for processing documentation associated with fixed asset accountability (other than real property). Depreciation expense is automatically passed to CA and to the general ledger, but capitalized values are posted via manual update.

- Payables: Most commercial accounts payable functions will be supported by the Commercial Accounts module of AFES, which includes entitlement computation, determination of discounts, payment scheduling, an automated bills register, and provides a suspense file of open contracts.

- Receivables: The receivable portion of SIFS is designed to process transactions that establish, update, and revise accounts receivable records. Accounts receivable transactions are generated through the cost summary cycle during month-end processing. SIFS updates the general ledger accounts during this cycle and produces audit trail reports that depict the aged receivable balances (based on date of last transaction). As collections are received they are processed to liquidate the receivables. Receivables are also updated automatically for sale of material inventory to non-DBOF customers.

- Billing: Billing in the SIFS system is accomplished two ways. Centralized billing is accomplished for the bulk of the work accomplished within SIFS. Centralized billing is accomplished using the IOC HAS system, which allows all installation bills to be combined for one customer. This billing is normally accomplished on a bi-weekly basis, except that weekly billings are run in September of each year at the end of the fiscal year.

SIFS also has a local billing option within the cost accounting module. Billing for local programs, tenant bills and the ammunition plants are directly billed by SIFS.

- Disbursement/Collections: The Disbursing module of AFES provides for cash blotter maintenance, check generation, and savings bond and check accountability (cash blotter maintenance is a system to keep track of cash).
- Inventory: AMCISS is designed to perform in an installation-level supply environment and is retail oriented. It processes and accounts for all issues, requisitions, receipts, turn-ins, and excess; performs material requirements studies; identifies material for automatic return and reporting; reserves material under special accounts using a stratification concept; and tracks material issues to unique cost centers and programs that are supportive to work management and cost control requirements.
- Travel: Travel payments originate in AFES. This system automates certain functions (travel, disbursing and commercial accounts) of installation finance and accounting offices. An interface with the SAACONS allows the passing of procurement data to the commercial accounts module of AFES and the passing of disbursing data for selected items back to SAACONS. The travel module of AFES provides for advance determination, travel voucher settlement, an automated travel history, the generation of management reports, and generation of workload statistics.

DEFICIENCIES

Appendix C lists all of the DFAS functional requirements and rates each Service against the individual requirements. Exhibit D-1 lists the identification numbers used in Appendix B for the deficiencies identified for SIFS and that require an upgrade to meet the DFAS functional requirements. The next section will address the cost estimating methodology and supporting documentation for the upgrade of SIFS.

Exhibit D-1
Deficiences of SIFS

Funds Distribution	Fixed	Payables	6.b.14.
1.c.1.	Assets	5.a.11.	6.b.15.
1.d.2.	3.a.	5.a.12.	6.b.17.
1.d.3.	3.c.	5.a.13.	6.b.18.
1.d.4.	3.d.	5.a.15.	6.b.19.
1.d.5.	3.e.	5.a.17.	6.c.5.
1.d.6.	3.g.	5.a.18.	6.c.6.
1.d.7.	3.h.	5.b.2.	6.c.8.
1.d.9.	3.I.	5.b.4.	6.d.1.
1.e.1.	3.j.	5.b.14.	6.d.3.
A24-38*	3.k.	5.b.17.	6.d.4.
Misc-26*	3.l.	5.b.19.	6.e.2.
	A24-15*	5.d.1.	6.e.7.
General		5.d.2.	6.f.2.
Ledger	Costs	5.e.1.	6.f.3.
2.b.2.	4.b.1.	5.e.5.	Billings
2.b.3.	4.b.3.	5.e.10.	7.a.2.
2.d.2.	4.b.4.	Misc-8*	7.b.1.
Misc-13*	4.b.10.		7.b.5.
Misc-14*	4.b.12.	Receivables	7.b.9.
	4.e.1	6.a.2.	7.c.2.
	4.e.3.	6.a.3.	7.c.3.
	4.h.2.	6.a.5.	7.d.2.
	4.I.1.	6.a.6	7.d.6.
	4.I.2.	6.a.8	7.f.2.
	A21-1*	6.a.9	A23-4*
	A21-4*	6.b.4.	
	A21-14*	6.b.5.	Inventory
	A21-16*	6.b.7.	9.a.7.e.
		6.b.8.	
		6.b.9.	Gen System
		6.b.10.	Features
		6.b.11.	11.d.
		6.b.12.	

Note: *Refers to items identified in DFAS "declarative statements (Reference 6 in the report) and in the "supplemental questions" (Reference 7 in the report).

Upgrade of SIFS

LMI's estimate of the extent to which SIFS must be upgraded to meet the DFAS functional requirements is based largely on the lines of code estimated to correct the identified deficiencies. The following chart crosswalks the roughly 3.1 million lines of computer code that currently exist within SIFS to its component systems. The lines of code are divided between CICS/on-line and batch categories.

Table D-1.
Statistics - Financial Systems (Source Lines of Code)

System	CICS/On-Line	Batch	Total
Cost	375,000	310,000	685,000
GF/FIA	650,000	225,000	875,000
M&S	100,000	150,000	250,000
RASFIARS	110,000	145,000	255,000
ATAAPS	250,000	100,000	350,000
AIOB	169,099	25,464	194,563
AAMMIS	216,524	-	216,524
AFES	209,983	1,802	211,785
Manpower	-	38,958	38,958
TOTAL SLOC	2,080,606	996,224	3,076,830

Source: ILSC

The estimating process used by the ILSC to determine the lines of code needed to correct the deficiencies is based on knowledge of experienced programmers within the ILSC, and the use of the Software Lifecycle Management (SLIM) extimating tool for forecasting programming resource requirements. The flow of the methodology is portrayed by the following diagram.

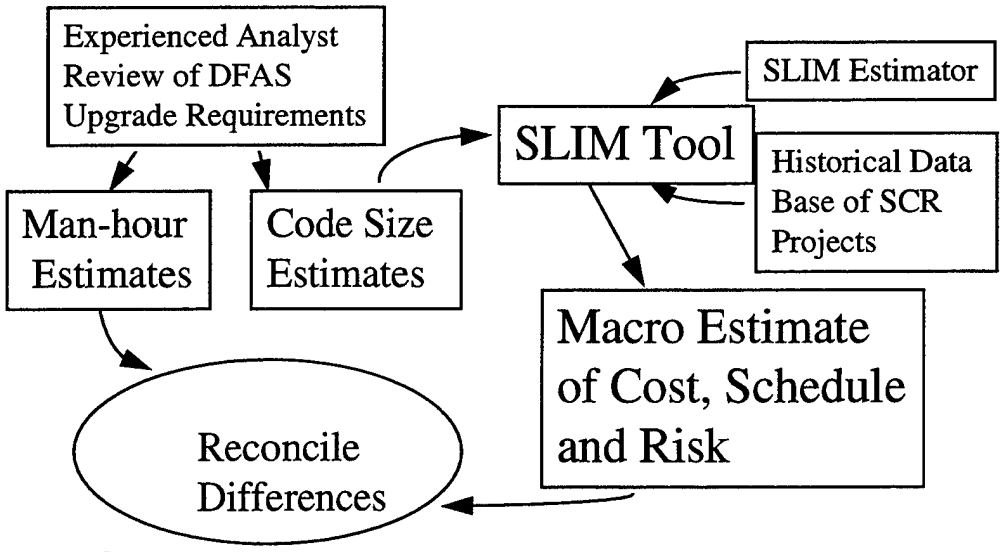


Figure D-2.
Methodology for Forecasting Programming Resource Requirements

The estimates of lines of code that ILSC provided are based on actual, historical experiences of program changes, upgrades and modifications to SIFS and to other resource-related COBOL programs written by ILSC personnel.

DEPLOYING SIFS TO ARSENALS

Estimates of ILSC costs for upgrading SIFS are included on the following tables. Detailed costs were not available for Watervliet Arsenal, but an aggregated estimate of $900,000 was provided by the ILSC based on estimates for the Rock Island Arsenal. These address only those costs that are to be expended by the ILSC, and do not include costs expected to be incurred at the sites.

The actual cost incurred by the CDA (ILSC) to deploy SIFS to Rock Island was $900,000, which is within 10 percent of ILSC's original estimate. By comparing the expected scope of work at Rock Island with Pine Bluff and Watervliet, and taking into consideration the lessons learned from the Rock Island deployment, the estimates for Pine Bluff and Rock Island appear reasonable.

Table D-2.
Rock Island Arsenal Funding Requirements

Actions Required	Estimated Hours	Estimated Funding
Develop Bridges to RIA / IOC Systems	1038	$63,000
Test Bridges and Code Changes	850	$51,600
Add Manufacturing AMS Codes / Interfaces	735	$44,620
Test AMS Code Changes	140	$8,500
Create Simplified Cost Transfer	200	$12,150
Test Cost Transfer Routines	60	$3,650
Research Material & Supply Order Problems	150	$9,100
Research RIA Cost Adjustment Process	150	$9,100
Research / Fix System Interface Problems	1000	$60,710
Finalize Conversion Specs	280	$16,800
Develop Training Packages	304	$18,450
Create SIFS / ATAAPS Training Region	375	$22,770
Conduct Functional Training	296	$17,970
Conduct IPR of Conversion Specs	200	$12,150
Support RIA Reconciliation	240	$14,570
Technical Support to RIA During Conversion Process	1312	$79,650
Perform Mock Conversion	820	$49,780
Support Test with Daily, Weekly & Monthly Cycles	184	$11,170
Perform 2nd Mock Conversion	384	$23,310
Support On-site SIFS Training at RIA	344	$20,880
Support RIA Test Run (Sep)	184	$11,170
Support RIA Live Conversion to SIFS	1004	$60,950
General Project Management	2105	$128,000
Subtotal Labor Hours Required/Funding	12,405	$750,050
Total Projected TDY Expenses		$81,000
Total Project Cost		**$831,050**

Source: ILSC

Table D-3.
Pine Bluff Arsenal Funding Requirements

Actions Required	Estimated Hours	Estimated Funding
Development of bridging specifications	500	$30,355
Research/resolve system interface/business practice issues	1300	$78,923
Develop/finalize conversion specifications and methodologies	1000	$60,710
Implementation/conversion to SIFS methods and standards	500	$30,355
Provide hands on training (2 sessions)	1000	$60,710
Conduct IPR on conversion and reconciliation specifications	200	$12,142
Support PBA depot reconcilation effort	500	$30,355
Support creation of PBA environment at the DMC	1300	$78,923
Test conversion specifications and methodologies	750	$45,533
Execute mock conversion of PBA DBOF to SIFS production and test all cycles	1350	$81,959
Support PBA on site training, system familiarization	750	$45,533
Support live PBA conv and provide Mar/Apr month-end support	1000	$60,710
Project management, supervision, clerical, edit and tech support	2100	$127,491
Subtotal labor hours required/funding	12,250	$743,699
Total projected TDY expenses		$81,000
Total Project Cost		**$824,699**

OPERATING AND SUPPORT COSTS

The units of work (work count) for which DFAS billing rates are developed are based on a series of outputs. The following definitions are used by DFAS to determine scope of work to be included within each output category. DFAS uses work counts other than those listed below, but these are the elements used for billing accounting services within the DMBA.

- **Civilian Pay Accounts Maintained:** The number of civilian employees in an active pay status serviced by DFAS. The count will be taken as of the last pay period of each month.
- **Travel Vouchers Paid:** All documents that result in a payment to an individual for actual or anticipated expenses while the person is on approved local or TDY travel, or for PCS entitlements to include advances and settlements.
- **Commercial Invoices Paid:** A commercial invoice is defined as a document that results in a payment (check) to a commercial entity for goods or services rendered, including local payments for the transportation of things and persons, and credit card invoices paid.
- **Monthly Trial Balances Maintained:** Maintain one or more trial balances for each activity that receives accounting services. Different departments,

fiscal years, appropriations, subheads, allotments, and sub-allotments count as separate trial balances for purposes of DFAS billings.

Table D-4.
DFAS Rates for DBOF Activities

Activity	FY94 ($)	FY95 ($)	FY96 ($)	FY97 ($)
Civilian Pay	12.87	14.64	10.20	8.40
Travel Pay	13.80	16.94	15.18	15.90
Commerical Invoices	16.11	29.53	23.30	26.55
Trial Balances	929.83	1,278.50	1,482.16	1,527.70

Source: DFAS-Indianapolis.

The following tables reflect the billing to Army installations by DFAS for DBOF accounting services during FY94. The parenthetical notation following each column heading is the FY94 rate DFAS charged customers for each accounting function (Reference Table D-4). The $8.4 million total cost for DBOF customers (shown in Table D-5, below) represents the total burdened cost for accounting services performed by the DAOs, computer support provided by the DISA megacenters and system design and maintenance provided by the ILSC.

Table D-5.
FY94 DFAS Charges to Army DBOF Installations

		Commercial Invoices Paid ($16.41)		Trial Balances Maintained ($929.83)	
Installation	**Total Cost**	**Units**	**Cost**	**Units**	**Cost**
Anniston Army Depot	$ 1,009,210.00	12,429	$ 203,960.00	85	$ 79,036.00
Blue Grass Depot Activity	$ 429,946.00				
Other Tenants	$ 1,166.00				
Net Anniston	$ 578,098.00				
Corpus Christi Army Depot	$ 892,499.00	19,669	$ 322,768.00	81	$ 75,316.00
Letterkenny Army Depot	$ 886,220.00	9,978	$ 163,739.00	238	$ 221,300.00
Hq DESCOM	$ 317,899.00				
Savanna Depot Activity	$ 75,612.00				
MACE-AVCRAD	$ 12,719.00				
Other Tenants	$ 130,397.00				
Net Letterkenny	$ 349,593.00				
Red River Army Depot	$ 792,518.00	15,481	$ 254,043.00	81	$ 75,316.00
Sacramento Army Depot	$ 254,878.00	5,598	$ 91,863.00	24	$ 23,316.00
Sierra Army Depot	$ 183,436.00	4,057	$ 66,575.00	16	$ 14,877.00
Tooele Army Depot	$ 1,337,070.00	44,391	$ 728,456.00	157	$ 145,983.00
Pueblo Depot Activity	$ 36,700.00				
Umatilla Depot Activity	$ 15,100.00				
Other Tenants	$ 336,400.00				
Net Tooele	$ 948,870.00				
Tobyhanna Army Depot	$ 1,021,399.00	16,743	$ 274,753.00	76	$ 70,667.00
Seneca Army Depot	$ 112,354.00				
Net Tobyhanna	$ 909,045.00				
Crane Army Ammunition Plant	$ 138,883.00	3,030	$ 49,722.00	14	$ 13,018.00
McCalester Army Ammunition Plant	$ 35,334.00			38	$ 35,334.00
Pine Bluff Arsenal	$ 33,474.00			36	$ 33,474.00
Rock Island Arsenal	$ 1,263,129.00	21,305	$ 349,615.00	410	$ 381,230.00
Watervliet Arsenal	$ 529,102.00	14,068	$ 231,151.00	37	$ 34,404.00
TOTAL	$ 8,377,152.00	166,749	$ 2,736,645.00	1,293	$ 1,203,271.00

Source: US Army Materiel Command
Note: Total Cost Column is identical in both parts of Table D-5.

Table D-5 (continued)
FY94 DFAS Charges to Army DBOF Installations

		Civilian Pay Accounts Maintained ($12.87)		Travel Vouchers Paid ($13.80)	
Installation	**Total Cost**	**Units**	**Cost**	**Units**	**Cost**
Anniston Army Depot	$ 1,009,210.00	49,276	$ 634,182.00	6,669	$ 92,032.00
Blue Grass Depot Activity	$ 429,946.00				
Other Tenants	$ 1,166.00				
Net Anniston	$ 578,098.00				
Corpus Christi Army Depot	$ 892,499.00	34,231	$ 440,553.00	3,903	$ 53,861.00
Letterkenny Army Depot	$ 886,220.00	34,255	$ 440,862.00	4,371	$ 60,320.00
Hq DESCOM	$ 317,899.00				
Savanna Depot Activity	$ 75,612.00				
MACE-AVCRAD	$ 12,719.00				
Other Tenants	$ 130,397.00				
Net Letterkenny	$ 349,593.00				
Red River Army Depot	$ 792,518.00	31,945	$ 411,132.15	3,770	$ 52,026.00
Sacramento Army Depot	$ 254,878.00	9,741	$ 125,367.00	1,111	$ 15,332.00
Sierra Army Depot	$ 183,436.00	7,062	$ 90,888.00	804	$ 11,095.00
Tooele Army Depot	$ 1,337,070.00	30,183	$ 388,455.00	5,375	$ 74,175.00
Pueblo Depot Activity	$ 36,700.00				
Umatilla Depot Activity	$ 15,100.00				
Other Tenants	$ 336,400.00				
Net Tooele	$ 948,870.00				
Tobyhanna Army Depot	$ 1,021,399.00	41,251	$ 530,900.00	10,513	$ 145,079.00
Seneca Army Depot	$ 112,354.00				
Net Tobyhanna	$ 909,045.00				
Crane Army Ammunition Plant	$ 138,883.00	5,273	$ 67,864.00	600	$ 8,280.00
McCalester Army Ammunition Plant	$ 35,334.00				
Pine Bluff Arsenal	$ 33,474.00				
Rock Island Arsenal	$ 1,263,129.00	34,941	$ 449,691.00	5,985	$ 82,593.00
Watervliet Arsenal	$ 529,102.00	18,253	$ 233,629.00	2,168	$ 29,918.00
TOTAL	$ 8,377,152.00	296,411	$ 3,813,523.15	45,269	$ 624,711.00

Source: US Army Materiel Command
Note: Total Cost Column is identical in both parts of Table D-5.

Shown in Table D-5 are actual DFAS charges to individual DBOF installations for accounting services; however, there may be little or no direct relationship between these billing charges and the actual costs of performing the specific accounting function at a specific DBOF installation. The most apparent discrepancy is in the billing rate for trial balances maintained. Billing rates are based on the total cost, and are averaged to reflect a standard rate across all Services, installations, and organizations. This means that a large DBOF depot maintenance installation will be charged the same rate for each monthly trial

balance performed as will a small single-mission organization funded by another appropriation, even though the level of effort and actual cost of performing the two trial balances is significantly different. Also, all costs that do not fit into specific categories of accounting functions performed are rolled into the trial balance category. The total charges for accounting support may be reasonable, but the distribution of charges is not commensurate with the level of effort required to perform a particular function. All accounting costs, including the system design activity efforts to maintain and upgrade the system, and the computer support cost incurred by DISA, are rolled into the DFAS rates.

OSD (PA&E) COST ELEMENTS

The following chart shows the investment costs to upgrade and deploy SIFS to the Army arsenals, and the annual operating and support costs to maintain SIFS. The costs shown under "upgrade and deployment" are the total costs for full operation of the upgraded SIFS for the total Army DBOF. Costs shown under "baseline" are the costs for the present alternative with SIFS operating within the Army depots and ammunition plants.

Table D-6.
OSD (PA&E) Cost Elements

Cost Element	Upgrade & Deployment	Baseline
1.0 INVESTMENT		
1.1 Program Management	Included in 1.3 and 1.6	
1.2 Concept Exploration	N/A	
1.3 System Development (SIFS Upgrade)	$1,500,000 - $2,100,000	
1.4 System Procurement	N/A	
1.5 Megacenter Investment	N/A	
1.6 Sys Init, Installation & Fielding		
1.6.1 Initial Training (Includes Trainees)	$180,000	
1.6.2 System Integration, Site Test/ Acceptance (Site Cost Only)	$720,000	
1.6.4 Site Activation & Fac Prep	N/A	
1.6.9 Data Upload & Transition (CDA Cost)	$2,500,000	
1.7 Upgrade/P3I	N/A	
1.8 Disposal/Reuse	N/A	
2.0 SYSTEM OPS AND SPT		
2.1 System/Material/Item Management	$1,330,000	$1,330,000
2.2 Annual Operations Investment	N/A	
2.3 Hardware Maintenance	Included in 2.5	
2.4 Software Maintenance	$1,320,000	$1,320,000
2.5 Megacenter Ops and Maint Spt	No Change	
2.6 Data Maintenance	Included in 2.4	
2.7 Unit/Site Operations	No Change	
2.8 Env & Haz Mat	N/A	
2.9 Contract Leasing	N/A	

Source: LMI.

APPENDIX E

Navy Supporting Detail

APPENDIX E-1

NIFMS Historical Performance

The NIFMS CDA has an extensive database on the cost and effort of past system maintenance and upgrades. Cost estimating at the CDA is accomplished by comparing new requirements with the cost of similar projects in the past. No formal cost estimating tool is used by the CDA.

To achieve independent estimates of changes to NIFMS, we used a sampling of the historical data to calibrate the SLIM software cost estimating model and produce estimates on the number of lines of code generated to change or create programs of various sorts (see Table E-1.1). We then used CDA estimates of the scope of changes (number of new or modified programs required to add or modify capabilities) as inputs to SLIM. SLIM predicted the number of lines of code required and the costs of making those changes, based on past NIFMS CDA and contractor costs of making those changes, based on past NIFMS CDA and contractor performance. Because the model was calibrated with historical data, we were able to produce statistical estimates at the 50 percent and 90 percent confidence levels. The results of the SLIM calibration are shown in Figure E-1.1.

Table E-1.1.
NIFMS Historical Projects

NIFMS Program Type	Progam Identification Number MS...	Total Size (Pre-compiled Source Lines of Code)	Changed Code (Pre-compiled Source Lines of Code)	Change% of New	Elapsed Calendar Time (Months)	Total Hours of Effort (Person Hours)
Batch Program #1 (New)	MS604P	5203	Not Applicable		6.5	1040
Batch Program #2 (New)	MS608P	2989	Not Applicable		7.5	804
Batch Program #3 (New)	MS493P	990	Not Applicable		11	296
Batch Program #4 (New)	MS626P	1593	Not Applicable		3.5	264
Batch Program #5 (New)	MS625P	1333	Not Applicable		11	469
Batch Program #1 (Modified)	MS234P	8895	772	8.68	5.5	280
Batch Program #2 (Modified)	MS278P	1208	116	9.60	2.5	167
Batch Program #3 (Modified)	MS273P	8891	560	6.30	4.5	263
Batch Program #4 (Modified)	MS360P	4116	84	2.04	1	83
Batch Program #5 (Modified)	MS379P	7170	104	1.45	2	106
Screen Program #1 (New)	MS708P	2645	Not Applicable		7.5	494
Screen Program #2 (New)	MS701P	1126	Not Applicable		2	180
Screen Program #3 (New)	MS075P	6013	Not Applicable		7	529
Screen Program #4 (New)	MS076P	1224	Not Applicable		2.5	225
Screen Program #5 (New)	MS721P	1276	Not Applicable		3	215
Screen Program #1 (Modified)	MS112P	5201	635	12.21	6	159
Screen Program #1 (Modified)	MS143P	2351	328	13.95	3	167
Screen Program #1 (Modified)	MS252P	4809	52	1.08	1.5	69
Screen Program #1 (Modified)	MS034P	1013	214	21.13	3	137
Screen Program #1 (Modified)	MS154P	2930	91	3.11	4.5	145

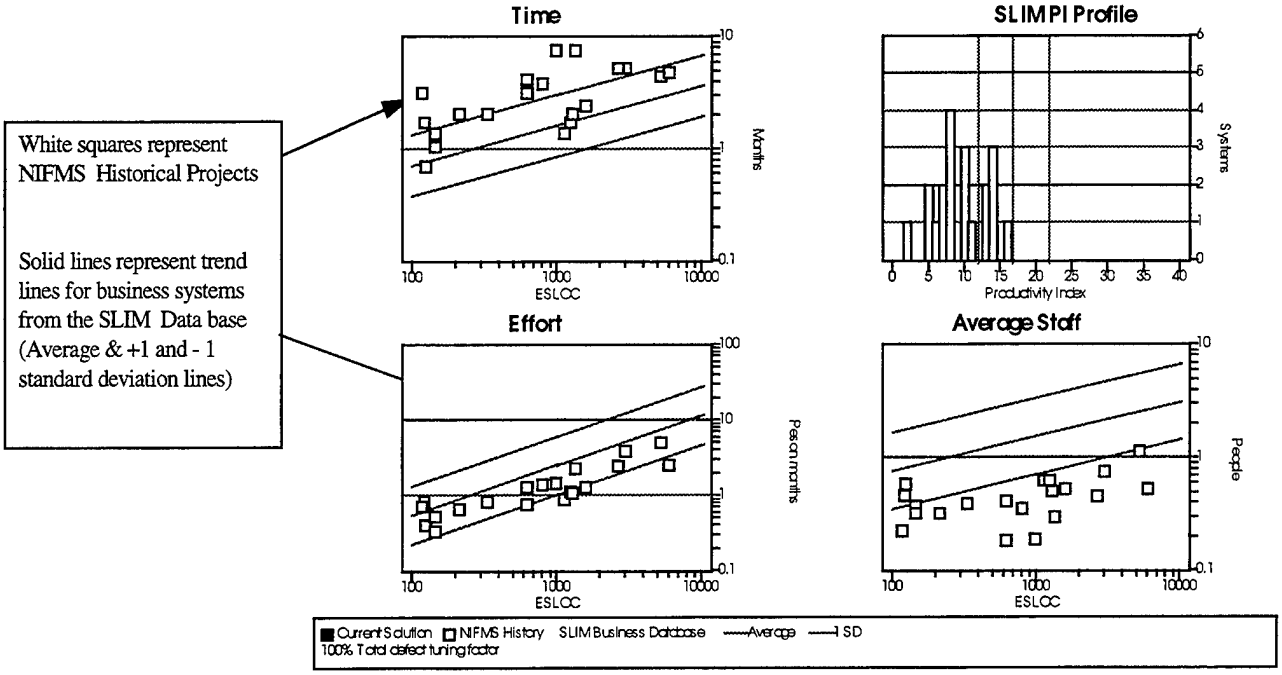


Figure E-1.1.
SLIM NIFMS Historical Data

APPENDIX E-2

Notional Deployment Costs Per Site

Site deployment costs for NIFMS are fairly predictable. There are two primary groups involved in deployment to each site - the site (including its DFAS support) and the NIFMS CDA. Site costs vary with the size of the transition program management team and the number of people to be trained. The NIFMS CDA will establish a team for each site. The costs of the CDA team will vary little from site to site.

SITE COSTS

Local site costs are composed primarily of program management and trainee labor. These costs vary with the size of the program management team (either four or eight people) and the number and pay grades of trainees.

Site Program Management Costs

The cost estimates for site program management teams were based on the following assumptions:

- 4- or 8-person teams (one GS12/13 lead person; others at the GS-11 grade)
- Functional and technical people would be included
- Half-time for each team for six months starting one year prior to deployment
- Full-time for each team for last six months plus one month after deployment
- Includes site support for data conversion, local interfaces, testing, and training

We based our program management costs estimates on discussions with multiple sites. There seemed to be consistency in approach (teams) and number of personnel. Smaller depots (NOCs) thought that 4-person teams would be required and larger sites (NSYs) thought that 8-person teams would be required. The NIFMS CDA confirmed that this approach had worked during initial NIFMS deployments. These teams would be responsible for *all* site functions for preparation for and support of the NIFMS deployment.

The estimated costs of these teams are shown in Table E-2.1.

Table E-2.1.
Site Program Management Team Costs

Estimated Cost	4-Person Team	8-person Team
Labor	$230,000	$470,000
Travel	$20,000	$ 40,000
Total	$250,000	$510,000

Local Trainee Costs

The NIFMS CDA has used three types of training in the past, and plan to use this approach in the depot deployments. The CDA will provide the trainers for the following courses:

- Manager course - One-half day course on the capabilities of the new system and any changed reports or screen usage.
- Accounting personnel course - Two-week course addressing each of the major functions of NIFMS. Not all accounting personnel would need to attend the full course. We estimate that those who would not attend the full course would attend three days of it.
- Incidental users course - One-half day course for limited or infrequent users of the system (such as production personnel who resolve bad charges).

Local trainee costs were calculated by computing time spent in training for personnel in various pay grades. Sites identified the number and grade of trainees for training in each of four categories: managers, accounting (full training), accounting (partial training), and incidental users. These were used along with course lengths to calculate trainee costs. There was a great deal of consistency in the number and grades of trainees in each category as a percentage of the total depot work force. These percentages were used to estimate trainee costs for sites that did not provide input on number of trainees.

CDA Costs

CDA deployment costs are expected to be standard across most sites at under $1 million per site. These costs fall into three categories:

- Data conversion - a data-conversion team provides all technical preparation for the site-deployment including building local interfaces, writing data conversion programs and tests. Starting one year prior to deployment, the team begins to determine detailed requirements. The bulk of the development effort occurs in the six months prior to deployment. Costs for this team are shown in Table E-2.2.

Table E-2.2.
CDA Data Conversion Team Costs

Team Composition	One year before deployment to six months before deployment 2 Gov't + 2 contractor (all half-time)	Six months before deployment to two weeks after deployment 2 Gov't + 6 contractor (all full-time)	Total
Labor	$100,000	$490,000	$590,000
Travel	$15,000	$ 55,000	$ 70,000
Total	$115,000	$545,000	$660,000

- Adaptation of training - A small effort is required to tailor existing training courses to each site. Actual training will be accomplished by on-site support personnel (see below). Estimated cost of this effort is $20,000 per site.
- Technical support -Technical support is provided by two teams: start-up and on-site support. The start-up team is composed of technical personnel who load NIFMS, convert data, and resolve any initial problems. It will be on site for two weeks. A functional team provides training, answers functional questions, and serves as liaison to CDA technical personnel. It will be on site for the first three months following deployment. Table E-2.3 summarizes the costs of technical support.

Table E-2.3.
CDA Technical Support Team Costs

Team Composition	Start-up Team 6 Gov't + 6 contractor full time for two weeks	On-site Support Team 5 Gov't full time for three months	Total
Labor	$60,000	$95,000	$155,000
Travel	$25,000	$80,000	$105,000
Total	$85,000	$170,000	$260,000

DEPLOYMENT COST SUMMARY

Deployment costs per site are summarized in Table E.2.4. In general, a small depot using a four-person site program management team and the CDA team will have deployment costs of about $1.2M plus the cost of trainee labor. A larger site with an eight person site-program management team will have deployment costs of about $1.5M plus the cost of trainee labor.

Table E-2.4.
Notional Deployment Costs Per Site

Cost category	Small Site (4-person site program management team)	Large Site (8-person site program management team)
Site Costs		
Site Program Management	$250,000	$510,000
Trainee Labor	Computed for each site	Computed for each site
CDA Costs		
Data Conversion	$660,000	$660,000
Adaptation of Training	$20,000	$20,000
Technical Support	$260,000	$260,000
Subtotal CDA Costs	$940,000	$940,000
Total	$1,190,000 plus trainee labor	$1,450,000 plus trainee labor

APPENDIX E-3

DFAS Upgrades

DFAS identified a number of areas where NIFMS did not provide the desired level of functionality. Table E-3.1 lists these and the estimated cost of adding those capabilities. Additionally, several new requirements were identified that were applicable to the depot maintenance business area. Only one of these requires modifications to NIFMS; the others will be met with new capabilities required by DFAS or are already satisfied by NIFMS.

Table E-3.1.
DFAS Upgrade Cost Estimates

Requirement	SLOC	($000s) 50% confidence	($000s) 90% confidence
1.a.3	3287	38	51
1.a.4	457	22	29
1.b.2			
1.d.6			
1.d.7	7251	86	114
1.b.3	17050	114	151
1.c.1	5716	52	69
1.d.1			
1.d.3 (1)	10317	243	321
1.d.3 (2)	1000	17	23
1.d.5	2858	35	46
1.d.8			
1.e.1	4238	44	58
2.a.2	14587	580	767
2.b.2	4238	44	58
2.d.2	7096	61	81
2.e.4	339	17	23
3.f	878	25	33
3.g	339	22	30
3.h	3112	54	71
4.a.5			
4.a.7			
4.b.1	229	13	17
4.b.4d	5941	86	114
4.d.3			
4.d.4	8476	63	83
4.d.7	7096	57	75
4.i.1	796	15	20
4.i.2	678	22	30
5.a.10	2221	48	63
5.a.11	678	40	52
5.a.13	339	23	31
5.b.2	1143	34	44
5.b.17			
5.b.19	2858	52	69
5.d.1	4238	76	100
5.d.2	678	22	30

Table E-3.1.
DFAS Upgrade Cost Estimates

Requirement	SLOC	($000s) 50% confidence	($000s) 90% confidence
5.e.5	4238	60	80
5.e.10	1143	31	41
6.a.2	4238	122	161
6.a.3			
6.a.4	339	14	19
6.a.5	678	26	35
6.a.6	678	23	30
6.a.8			
6.a.4			
6.b.5			
6.b.8			
6.b.9	339	30	39
6.b.10			
6.b.11			
6.b.12			
6.b.14			
6.b.15			
6.b.17			
6.b.18			
6.c.5			
6.c.8			
6.d.1			
6.d.3			
6.d.4			
6.e.2			
6.e.7			
6.f.2			
6.f.3			
7.a.2	768	23	31
7.b.5	4577	45	59
7.b.9	568	35	46
7.c.2	4238	60	80
7.c.3	16952	219	290
7.d.2	2712	89	118
7.d.6	4916	80	106
7.f.4			
11.d	4000	89	118
11.g			
11.h			
A24-15	1474	56	74
DFAS Upgrade Total		3009	3979

APPENDIX E-4

NIFMS to MCLBs

This Appendix provides supporting data on computer interface and trainee costs to deploy NIFMS to the MCLBs. Table E-4.1 lists the number of various interactions between NIFMS and other MCLB systems. Those function counts were used to estimated lines of code and the costs of establishing interfaces using function point analysis and SLIM (see Table E-4.2).

Table E-4.1.
NIFMS to MCLBs Interface System Function Counts

System	Input Files	Output Files
SABRS	4	1
PC Applications		
Travel	3	2
Budget	2	1
Facilities	2	1
Equipment	2	1
ERPS		5
MCERRS	2	7
DMMS	4	4

Table E-4.2.
NIFMS to MCLBs Interface Costs

	NSY Side			NIFMS Side			Total	
		50% confidence	90% confidence		50% confidence	90% confidence	50% confidence	90% confidence
System	SLOC	($000s)	($000s)	SLOC	($000s)	($000s)	($000s)	($000s)
SABRS	2337	40	58	1695	31	44	71	102
PC Applications							0	0
Travel	2449	41	59	1695	31	44	72	103
Budget	1447	27	38	1017	21	28	48	66
Facilities	1447	27	38	1017	21	28	48	66
Equipment	1447	27	38	1017	21	28	48	66
ERPS	2783	46	66	1695	31	44	77	110
MCERRS	4786	70	101	3051	49	69	119	170
DMMS	4007	61	88	2712	45	64	106	152
Totals		**339**	**486**		**250**	**349**	**589**	**835**

Table E-4.3 lists the number of trainees the MCLBs anticipate training in each of the four training categories and associated costs. Because the MCLBs anticipate combining much of the training for both Albany and Barstow at one site (Albany), an allowance for travel is included

Table E-4.3.
NIFMS to MCLBs Trainees

Course	Number of Trainees	Cost
Manager (1/2 day)	25	$4,000
Accounting (2 weeks)	19	$37,000
Accounting (3 days)	16	$10,000
Incidental user	40	$4,000
Travel		$53,000
Total	100	$108,000

Note: Most training for MCLB Barstow training will occur at MCLB Albany

APPENDIX E-5

NIFMS to NOCs

This Appendix provides supporting data on enhancement, computer interface, and trainee costs to deploy NIFMS to the NOCs.

Table E-5.1 lists the enhancements to NIFMS required by the NOCs to meet their business practices. Table E-5.2 provides costs estimates for those enhancements.

Table E-5.1.
NIFMS Enhancements Required by NOCs

Enhancement Number	Description
NOC 1	Stabilized billing by cost center
NOC 2	Service cost center/cost distribution accounts
NOC 3	MRTFB funding
NOC 4	Multi-funded customer orders
NOC 5	Special funding elements
NOC 6	Special deposits (NIFMS already does)
NOC 7	Direct cite funding
NOC 8	Funds availability checks for feeders
NOC 9	FMS & private party surcharge exclusion
NOC 10	Advance billing
NOC 11	Service order contracts (NIFMS already does)
NOC 12	Multiple contract/subcontract line item (covered by DFAS upgrades)
NOC 13	Aging commitments and obligations (covered by DFAS upgrades)
NOC 14	Job order restructure
NOC 15	Military labor reporting
NOC 16	Validate ranges in history files
NOC 17	Move contract items between accrual and accounts payable
NOC 18	Inventory accounts
NOC 19	Requisition number restructure
NOC 20*	Fire fighter labor accounting
NOC 21	Public works accounting

*Only requirement not also required by one or more R&D sites.

Table E-5.2.
NIFMS Enhancement for NOCs Cost Estimates

Enhancement Number	SLOC	50% confidence ($000s)	90% confidence ($000s)
NOC 1	9226	140	184
NOC 2	12337	155	204
NOC 3	4967	41	55
NOC 4	7925	74	98
NOC 5	457	9	12
NOC 6			
NOC 7	3993	43	56
NOC 8	4238	45	59
NOC 9	3197	36	47
NOC 10	5573	84	111
NOC 11			
NOC 12			
NOC 13			
NOC 14	63728	1087	1437
NOC 15	4214	68	89
NOC 16			
NOC 17	1924	37	48
NOC 18	3238	37	49
NOC 19	13685	98	129
NOC 20	5095	47	62
NOC 21	17430	204	270
NOC Total		2205	2910

Note: Enhancements without numerical estimates are covered by DFAS upgrades or the capability already exists in NIFMS.

Table E-5.3 lists the number of various interactions between NIFMS and other NOC systems. Those function counts were used to estimated lines of code and the costs of establishing interfaces using function point analysis and SLIM (see Table E-5.4).

Table E-5.3.
NIFMS to NOC Interface System Function Counts

System	Input Files	Output Files	Boundary Files
SLDCADA		12	3
CNAS	2	1	1
ILSMIS	7	7	
CRISS	2	2	
IDA	2	7	
ABS	1	1	
Travel	3	2	
NAVHOMES*	1	1	

*Only interface not also required by one or more R&D sites.

Table E-5.4.
NIFMS to NOCs: Estimates of SLOC and Costs of Interface

	NOC Side			NIFMS Side			Total	
		50% confidence	90% confidence		50% confidence	90% confidence	50% confidence	90% confidence
System	SLOC	($000s)	($000s)	SLOC	($000s)	($000s)	($000s)	($000s)
SLDCADA	9616	118	219	5086	75	108	193	327
CNAS	2226	38	68	1356	25	36	63	104
ILSMIS	8014	105	196	4747	51	74	156	270
CRISS	2003	36	65	1356	25	37	61	102
IDA	4786	68	125	3051	48	69	116	194
ABS	1005	21	37	678	17	24	38	61
Travel	2449	41	74	1695	31	44	72	118
NAVHOMES	1005	21	37	678	17	24	38	61
Totals		448	821		289	416	737	1237

Table E-5.5 lists the number of trainees the NOCs anticipate training in each of the four training categories and associated costs.

Table E-5.5.
NOC Trainee Cost Estimates

	NOC Atlantic		NOC Pacific		Total	
Course	Number of Trainees	Cost	Number of Trainees	Cost	Number of Trainees	Cost
Manager (1/2 day)	15	$ 2,400	15	$ 2,400	30	$ 4,800
Accounting (2 week)	26	$ 65,700	26	$ 65,700	52	$131,400
Accounting (3 day)	41	$ 29,100	41	$ 29,100	82	$ 58,200
Incidental user	45	$ 4,400	45	$ 4,400	90	$ 8,800
Total	127	$101,600	127	$101,600	254	$203,200

Note: NAVSEA response said to use NOC Atlantic estimates as representative of both NOC Atlantic and NOC Pacific

APPENDIX E-6

NIFMS to the NSYs

This Appendix provides supporting data on enhancement, computer interface, and trainee costs to deploy NIFMS to the NSYs.

Table E-6.1 lists the enhancements to NIFMS required by the NSYs to meet their business practices. Table E-5.2 provides costs estimates for those enhancements.

Table E-6.1.
NIFMS Enhancements Required by NSYs

Enhancement Number	Title	Description
SY 1	Validation of incoming data	Edits and validation of incoming transactions against tables appropriate to that transaction type (e.g., labor hours - Job Order/Key operation (JO/KO), shop/trade skill authorized for that work).
SY 2	WOJO	Work Oriented Job Orders and Industrial/Financial Control Numbers. Work is charged to Industrial Control Numbers (ICNs) which are work-oriented (task being done). ICNs are then mapped (and pro-rated) to one or more Financial Control Numbers (FCNs) associated with the customer who is paying for the work (all or part).
SY 3	Shipyard Cost/Status Database Fields	Changes to NIFMS database to accommodate shipyard requirements.
SY 3.1	Job Order	Increase field size /add key-op field
SY 3.2	Trade skill designator	Used to identify specific skills within a shop. Used for control/validation of labor costs.
SY 3.3	Job progress codes	Self-explanatory. Used to allow labor transactions to update job status and close certain JO/KO/Shop/Trade Skill combinations to further labor charges.
SY 3.4	Job closure codes	One type of progress code. Only pre-designated shops authorized to use.
SY 3.5	Supervisor codes	Used to associated history of what with particular supervisor.
SY 3.6	Departure reporting	Add field to match JO/KO with SWLIN (Ship Work Line Item Number) for reporting purposes.
SY 4	Prepricing	Used to pre-price/pre-bill small percentage of work at the end of an availability to close the books on that availability (benefits both shipyard and customer).
SY 5	Refinancing	Automated reuse of existing job orders for new work.

Table E-6.1.

NIFMS Enhancements Required by NSYs

Enhancement Number	Title	Description
SY 6	Non-shipyard labor	Treat non-shipyard labor like a contract for cost purposes, but like labor for billing.
SY 7	Acceleration and applied overhead	Multiple overhead rates for some shops. Used to change overhead charged for labor when working off-yard.
SY 8	Process shops	Used to collect and then distribute cost for processes such as gas manufacturing, dosimetry, and hazardous waste.
SY 9	Proration of process shop overhead	Overhead rates vary by job.
SY 10	Proration of base operating and support costs	Pass costs through to O&M funded tenants.
SY 11	Direct reimbursements	Pass through costs accumulated on overhead based on pre-established rates for customer usage of items such a photography, utilities, motor vehicles, etc. Overhead reduced by the amount charged.
SY 12	Unallocated costs	Automated process to (1) resubmit rejected transactions (common cause of rejection is JO/key op opened late), and (2)transfer unallocated costs to pre-determined overhead job orders after a given period of time.
SY 13	Multi-funded customer orders	Self-explanatory.
SY 14	Public works accounting	Self-explanatory.
SY 15	Simultaneous costing	Two years running at once at year end
SY 16	General ledger adjustments*	One-sided year-end postings (corrections). VERY CONTROLLED ACCESS.
SY 17	Military labor	Correct accounting for cost and labor hours of military labor.
SY 18	Receipt inspection costing	Receive new transaction from material system to add the cost of receipt inspection to items.

Table E-6.2.
NSY Enhancement Costs

Enhancement Number	SLOC	50% confidence ($000s)	90% confidence ($000s)
SY 1	104,125	1,769	2,536
SY 2	30,000	535	767
SY 3			
SY 3.1			
SY 3.2	8,492	108	155
SY 3.3			
SY 3.4			
SY 3.5			
SY 3.6	8,791	113	162
SY 4	20,488	262	376
SY 5	11,334	139	199
SY 6	8,815	114	163
SY 7	339	7	10
SY 8			
SY 9	11,673	140	201
SY 10	1,135	22	32
SY 11			
SY 12	8,815	114	163
SY 13			
SY 14			
SY 15	22,850	326	467
SY 16			
SY 17			
SY 18	1,017	20	29
SY Total		**3,669**	**5,260**

Note: Enhancements without estimates can make use of capabilities that do currently or would exist in NIFMS due to DFAS Upgrades, R&D, or NOC enhancements by the time NIFMS deployed to the NSYs.

Table E-6.3 lists the number of various interactions between NIFMS and other NSY systems. Those function counts were used to estimated lines of code and the costs of establishing interfaces using function point analysis and SLIM (see Table E.6.4).

Table E-6.3.
NIFMS to NSY Interface System Function Counts

System	Input Files	Output Files	Boundary Files
LABOR			
SupDesk	1	1	
Automated Time & Attendance (ATAMS)		2	
Pre/Post Payroll	3	6	2
PRODUCTION STATUS			
Baseline Advanced Industrial Mgmt (BAIM)	4	1	
Fundamental Accounting and Scheduling System (FASS)	3		
Production Control (PC)	3	6	
Machine Shop Tracking System (MSTS)	2		
Unallocated Costs (LVU)	1	1	
Performance Management Control (PMC)		4	
MATERIAL			
Management (MM)	4	4	
Shop Stores (MS)	4	1	
Supply Systems (SS)	1		
Accounts Payable (MP)	7		
FIXED ASSETS/EQUIPMENT			
Plant Property Mgmt System (PPMS)	1		
VENDOR PAYMENTS			
Material Disbursement (MD)	1		
REPORTING			
NAVSEA	1	6	
Comptroller (Shipyards)	6	8	
Shipyard Managers	1	2	
Ship Alterations and Repairs (SARP)	2	2	
BUDGET			
Standard Automated Budget Reporting System (SABRS)		4	
TRAVEL	1	1	
OTHER			
Base Engineering Systems, Technical (BEST)		4	

Table E-6.4.

NIFMS to NSYs Interface Cost Estimates

System	NSY Side			NIFMS Side			Total	
		50% confidence	90% confidence		50% confidence	90% confidence	50% confidence	90% confidence
	SLOC	($000s)	($000s)	SLOC	($000s)	($000s)	($000s)	($000s)
LABOR								
SupDesk	1002	20	29	678	14	20	34	49
Automated Time & Attendance (ATAMS)	1113	22	32	678	14	20	36	52
Pre/Post Payroll	6233	91	130	3729	59	85	150	215
PRODUCTION/STATUS								
Baseline Advanced Industrial Mgmt (BAIM)	2337	21	30	1695	31	44	52	74
Fundamental Accounting & Scheduling System (FASS)	1336	25	36	1017	21	30	46	66
Production Control (PC)	4675	70	101	3051	49	70	119	171
Machine Shop Tracking System (MSTS)	890	18	26	678	14	20	32	46
Unallocated Costs (LVU)	1002	20	29	678	14	20	34	49
Performance Management Control (PMC)	2226	37	53	1356	26	38	63	91
MATERIAL								
Management (MM)	4007	61	88	2712	44	64	105	152
Shop Stores (MS)	2337	21	30	1695	31	44	52	74
Supply Systems (SS)	445	9	13	339	7	10	16	23
Accounts Payable (MP)	3116	50	72	2373	41	59	91	131
FIXED ASSETS/EQUIPMENT								
Plant Property Mgmt. System (PPMS)	445	9	13	339	7	10	16	23
VENDOR PAYMENTS								
Material Disbursement (MD)	445	9	13	339	7	10	16	23
REPORTING								
NAVSEA	3784	59	84	2373	41	59	100	143
Comptroller (Shipyards)	7123	95	136	4747	69	100	164	236
Shipyard Managers	1559	31	45	1017	21	30	52	75
Ship Alterations and Repairs (SARP)	2003	35	50	1356	26	38	61	88
BUDGET								
Standard Automated Budget Reporting System (SABRS)	2226	38	54	1356	26	38	64	92
TRAVEL	1002	20	29	678	14	20	34	49
OTHER								
Base Engineering Systems, Technical (BEST)	2226	38	54	1356	26	38	64	92
Totals		799	1147		602	867	1401	2014

Table E-6.5 lists the number of trainees the NSYs anticipate training in each of the four training categories and associated costs.

Table E-6.5.
NSY Trainee Cost Estimates

Course	NSY Puget Sound		NSY Portsmouth		NSY Pearl Harbor		NSY Norfolk		Total	
	Number of Trainees	Cost	Number of Trainees	Cost	Number of Trainees	Cost	Number of Trainees	Cost	Number of Trainees	Cost
Manager (1/2 day)	77	$ 16,600	55	$ 11,600	27	$ 6,300	56	$ 12,100	215	$ 46,600
Accounting (2 weeks)	63	$121,700	18	$ 44,000	14	$ 40,700	56	$119,500	151	$325,900
Accounting (3 days)	300	$190,400	54	$ 37,600	32	$ 23,600	112	$ 71,100	498	$322,700
Incidental user	204	$ 22,600	64	$ 6,800	112	$ 10,100	150	$ 15,900	530	$ 55,400
Total	644	$351,300	191	$100,000	185	$ 80,700	374	$218,600	1394	$750,600

Note: NSY Norfolk based on average number/grade of trainees at other sites.

APPENDIX E-7

Open Systems Environment Excursion

This Appendix provides supporting data on the anticipated cost reduction potential if required system changes (DFAS upgrades, enhancements, and interfaces) were accomplished under an open systems environment (OSE) instead of the mainframe, COBOL version of NIFMS as currently planned. This has the could impact some DFAS upgrades (Table E-7.1), and enhancements and interfaces for both the NOCs and the NSYs (Tables E-7.2 through E-7.5). The MCLB deployments will occur using the current version of NIFMS and are therefore excluded from this analysis. Deployment costs would not change under OSE.

Table E-7.1.
Estimated DFAS Upgrade Costs under OSE for DFAS Requirements

DFAS Requirement	SLOC	50% confidence ($000s)	90% confidence ($000s)
1.a.3	2498	29	41
1.a.4	348	16	23
1.b.2			
1.d.6			
1.d.7	5511	65	92
1.b.3	12958	86	122
1.c.1	4344	39	55
1.d.1			
1.d.3 (1)	7841	182	259
1.d.3 (2)	760	13	18
1.d.5	2172	26	37
1.d.8			
1.e.1	3221	33	47
2.a.2	11086	435	618
2.b.2	3221	33	46
2.d.2	5393	46	65
2.e.4	258	13	19
3.f	667	19	26
3.g	258	17	24
3.h	2365	40	57
4.a.5			
4.a.7			
4.b.1	174	9	13
4.b.4d	4515	64	92
4.d.3			
4.d.4	6442	47	67
4.d.7	5393	43	60
4.i.1	605	12	16
4.i.2	515	17	24
5.a.10	1688	36	51

Table E-7.1.

Estimated DFAS Upgrade Costs under OSE for DFAS Requirements

DFAS Requirement	SLOC	50% confidence ($000s)	90% confidence ($000s)
5.a.11	515	30	42
5.a.13	258	17	25
5.b.2	869	25	36
5.b.17			
5.b.19	2172	39	56
5.d.1	3221	57	81
5.d.2	515	17	24
5.e.5	3221	45	64
5.e.10	869	24	33
6.a.2	3221	91	130
6.a.3			
6.a.4	258	11	15
6.a.5	515	20	28
6.a.6	515	17	24
6.a.8			
6.b.5			
6.b.8			
6.b.9	258	22	31
6.b.10			
6.b.11			
6.b.12			
6.b.14			
6.b.15			
6.b.17			
6.b.18			
6.c.5			
6.c.8			
6.d.1			
6.d.3			
6.d.4			
6.e.2			
6.e.7			
6.f.2			
6.f.3		0	0
7.a.2	583	18	25
7.b.5	3479	34	48
7.b.9	431	26	37
7.c.2	3221	45	64
7.c.3	12884	165	234
7.d.2	2061	67	95
7.d.6	3736	60	85
7.f.4			
11.d.	3040	67	95
11.g			
11.h			
A24-15	1121	42	60
DFAS Upgrade Totals		2258	3206

Table E-7.2.

Estimated NOC Enhancement Costs under OSE

Enhancement Number	SLOC	50% confidence ($000s)	90% confidence ($000s)
NOC 1	7,012	105	149
NOC 2	9,376	116	165
NOC 3	3,775	31	44
NOC 4	6,023	56	79
NOC 5	348	7	9
NOC 6			
NOC 7	3,035	32	46
NOC 8	3,221	34	48
NOC 9	2,430	27	38
NOC 10	4,236	63	89
NOC 11			
NOC 12			
NOC 13			
NOC 14	48,433	815	1158
NOC 15	3,203	51	72
NOC 16			
NOC 17	1,462	27	39
NOC 18	2,461	28	39
NOC 19	10,401	73	104
NOC 20	3,872	35	50
NOC 21	13,247	153	218
NOC Total		**1652**	**2346**

Note: Enhancements without numerical estimates are covered by DFAS upgrades or the capability already exists in NIFMS.

Table E-7.3.
Estimated NOC Interface Costs under OSE

	NOC Side			NIFMS Side			Total	
		50%	90%		50%	90%	50%	90%
		confidence			confidence		confidence	
System Category	SLOC	($000s)	($000s)	SLOC	($000s)	($000s)	($000s)	($000s)
SLDCADA	6893	62	112	3865	34	62	96	174
CNAS	1596	20	36	1031	12	22	32	58
ILSMIS	5746	54	97	3607	32	59	86	156
CRISS	1436	18	32	1031	12	22	30	54
IDA	3429	36	64	2319	22	40	58	104
ABS	1003	13	24	515	8	13	21	37
Travel	1756	20	36	1288	14	25	34	61
NAVHOMES	1003	13	24	515	8	13	21	37
Totals		**236**	**425**		**142**	**256**	**378**	**681**

Table E-7.4.
Estimated NSY Enhancement Costs under OSE

Enhancement Number	SLOC	50% confidence ($000s)	90% confidence ($000s)
SY 1	79135	806	1463
SY 2	22800	187	340
SY 3			
SY 3.1			
SY 3.2	6454	50	90
SY 3.3			
SY 3.4			
SY 3.5			
SY 3.6	6681	52	94
SY 4	15571	101	183
SY 5	8614	64	116
SY 6	6699	52	95
SY 7	258	3	5
SY 8			
SY 9	8872	64	117
SY 10	863	10	17
SY 11			
SY 12	6699	52	95
SY 13			
SY 14			
SY 15	17366	109	198
SY 16			
SY 17			
SY 18	773	9	16
Total		**1559**	**2829**

Table E-7.5.
NIFMS to NSY Interface Costs under OSE

	NSY Side			NIFMS Side			Total	
		50%	90%		50%	90%	50%	90%
		confidence			confidence		confidence	
System Category	SLOC	($000s)	($000s)	SLOC	($000s)	($000s)	($000s)	($000s)
LABOR								
SupDesk	718	13	23	515	9	15	22	38
Automated Time & Attendance (ATAMS)	798	7	13	515	9	15	16	28
Pre/Post Payroll	4469	47	84	2835	28	52	75	136
PRODUCTION STATUS								
Baseline Advanced Industrial Mgmt (BAIM)	1676	13	23	1288	14	26	27	49
Fundamental Accounting and Scheduling Sys (FASS)	958	6	10	773	13	23	19	33
Production Control (PC)	3352	20	36	2319	22	41	42	77
Machine Shop Tracking System (MSTS)	638	8	14	515	9	15	17	29
Unallocated Costs (LVU)	718	13	23	515	9	15	22	38
Performance Management Control (PMC)	1596	19	35	1031	17	31	36	66
MATERIAL								
Management (MM)	2873	24	44	2061	20	37	44	81
Shop Stores (MS)	1676	13	23	1288	14	26	27	49
Supply Systems (SS)	319	6	10	258	4	8	10	18
Accounts Payable (MP)	2234	6	10	1804	19	34	25	44
FIXED ASSETS /EQUIPMENT								
Plant Property Management System (PPMS)	319	6	10	258	4	8	10	18
VENDOR PAYMENTS								
Material Disbursement (MD)	319	6	10	258	4	8	10	18
REPORTING								
NAVSEA	2713	15	27	1804			15	27
Comptroller (Shipyards)	5107	13	23	3607	32	58	45	81
Shipyard Managers	1117	20	36	773	13	23	33	59
Ship Alterations and Repairs (SARP)	1436	13	23	1031	17	31	30	54
BUDGET								
Standard Automated Budget Reporting System (SABRS)	1596	7	13	1031	17	31	24	44
TRAVEL	718	13	23	515	9	15	22	38
OTHER								
Base Engineering Systems, Technical (BEST)	1596	7	13	1031	17	31	24	44
Totals		**295**	**526**		**300**	**543**	**595**	**1069**

APPENDIX E-8

OSD (PA&E) Cost Element Support Tables

This table breaks down investment and operating and support costs into the categories identified by OSD (PA&E).

Table E-8.1.
NIFMS Baseline & Upgrades for DFAS Requirements

1.0 INVESTMENT	
1.1 Program Management	Included in 1.3, 1.6.2, and 1.6.4
1.2 Concept Exploration	N/A
1.3 System Development (DFAS Upgrades)	$3,000,000
1.4 System Procurement	N/A
1.5 Megacenter Investment	DISA handles independently, reflected in annual O&S costs
1.6 Sys Init, Implementation and Fielding	
1.6.1 Initial Training	N/A
1.6.2 System Integration, Site Test/Acceptance and transition)	N/A
1.6.4 Site Activation and Facilities Prep	N/A
1.6.9 Data Upload and Transition	N/A
1.7 Upgrade/P3I	N/A
1.8 Disposal/Reuse	N/A
2.0 SYSTEMS OPS AND SPT	
2.1 System/Material/Item Management	Included in 2.4
2.2 Annual Operations Investment	N/A
2.3 Hardware Maintenance	Included in 2.5
2.4 Software Maintenance	$5,000,000
2.5 Megacenter Ops and Maint Spt	$2,200,000
2.6 Data Maintenance	Included in 2.4
2.7 Unit/Site Operations	No change
2.8 Env & Haz Mat	N/A
2.9 Contract Leasing	N/A

Table E-8.2.
NIFMS to MCLBs

	Under NIFMS	Baseline
1.0 INVESTMENT		
1.1 Program Management	Included in 1.3, 1.6.2, and 1.6.4	
1.2 Concept Exploration	N/A	
1.3 System Development (interfaces)	$600,000	$0
1.4 System Procurement	N/A	
1.5 Megacenter Investment	DISA handles independently, reflected in annual O&S costs	
1.6 Sys Init, Implementation and Fielding		
1.6.1 Initial Training	$100,000	$0
1.6.2 System Integration, Site Test/Acceptance and transition)	$600,000	$0
1.6.4 Site Activation and Facilities Prep	Included in 1.6.9	
1.6.9 Data Upload and Transition	$1,600,000	$0
1.7 Upgrade/P3I		
1.8 Disposal/Reuse	N/A	
2.0 SYSTEMS OPS AND SPT	Included in 2.4	
2.1 System/Material/Item Management	N/A	
2.2 Annual Operations Investment	Included in 2.5	
2.3 Hardware Maintenance	$5,000,000	
2.4 Software Maintenance	$2,200,000	
2.5 Megacenter Ops and Maint Spt	Included in 2.4	
2.6 Data Maintenance	No change	
2.7 Unit/Site Operations	N/A	
2.8 Env & Haz Mat	N/A	
2.9 Contract Leasing		

Table E-8.3.
NIFMS to NOCs

	Under NIFMS	Baseline
1.0 INVESTMENT		
1.1 Program Management	Included in 1.3, 1.6.2, and 1.6.4	
1.2 Concept Exploration	N/A	
1.3 System Development (enhancements plus interfaces)	$2,900,000	0
1.4 System Procurement	N/A	
1.5 Megacenter Investment	DISA handles independently, reflected in annual O&S costs	
1.6 Sys Init, Implementation and Fielding		
1.6.1 Initial Training	$200,000	0
1.6.2 System Integration, Site Test/Acceptance (Site costs only, CDA Costs in data upload and transition)	$500,000	0
1.6.4 Site Activation and Facilities Prep	Included in 1.6.9	
1.6.9 Data Upload and Transition	$2,000,000	0
1.7 Upgrade/P3I		
1.8 Disposal/Reuse	N/A	
2.0 SYSTEMS OPS AND SPT		
2.1 System/Material/Item Management	Included in 2.4	
2.2 Annual Operations Investment	N/A	
2.3 Hardware Maintenance	Included in 2.5	
2.4 Software Maintenance	$300,000	$400,000
2.5 Megacenter Ops and Maint Spt	$600,000	$100,000
2.6 Data Maintenance	Included in 2.4	
2.7 Unit/Site Operations	No change	
2.8 Env & Haz Mat	N/A	
2.9 Contract Leasing	N/A	

Table E-8.4.
NIFMS to NSYs

	Under NIFMS	Baseline
1.0 INVESTMENT		
1.1 Program Management	Included in 1.3, 1.6.2, and 1.6.4	
1.2 Concept Exploration	N/A	
1.3 System Development (interfaces)	$5,100,000	$0
1.4 System Procurement	N/A	
1.5 Megacenter Investment	DISA handles independently, reflected in annual O&S costs	
1.6 Sys Init, Implementation and Fielding		
1.6.1 Initial Training	$800,000	$0
1.6.2 System Integration, Site Test/Acceptance and transition)	$2,000,000	$0
1.6.4 Site Activation and Facilities Prep	Included in 1.6.9	
1.6.9 Data Upload and Transition	$3,800,000	$0
1.7 Upgrade/P3I		
1.8 Disposal/Reuse	N/A	
2.0 SYSTEMS OPS AND SPT		
2.1 System/Material/Item Management	Included in 2.4	
2.2 Annual Operations Investment	N/A	
2.3 Hardware Maintenance	Included in 2.5	
2.4 Software Maintenance	$1,000,000	$1,400,000
2.5 Megacenter Ops and Maint Spt	$5,600,000	$400,000
2.6 Data Maintenance	Included in 2.4	
2.7 Unit/Site Operations	No change	
2.8 Env & Haz Mat	N/A	
2.9 Contract Leasing	N/A	

APPENDIX F

Air Force Supporting Detail

DMMIS-FINANCIALS

Deficiencies

The following lists those numbers corresponding to the deficiencies identified for the Air Force DMMIS-Financials (DMMIS-F). The deficiencies require upgrades to meet the DFAS functional requirements. The next section will address the cost estimating methodology and supporting documentation for the upgrade of DMMIS-Financials.

Exhibit F-1. Deficiencies of DMMIS

Funds Distribution	3.d.	5.e.1.	6.d.4.
1.a.1.	3.e.	5.e.5.	6.e.2.
1.a.4.	3.f.	5.e.10.	6.e.7.
1.a.5.	3.g.	5.g.1.	6.f.2.
1.b.1	3.h.	5.g.2.	6.f.3.
1.b.2.	3.i.	5.g.3.	
1.b.3.	3.j.	Misc-8*	Billings
1.b.4.	3.k.		7.a.2.
1.b.6.	3.l.	Receivables	7.b.1.
1.c.1.	A24-15*	6.a.1.	7.b.5
1.d.2.		6.a.2.	7.b.6.
1.d.3.	Costs	6.a.3.	7.b.8.
1.d.5.	4.b.3.	6.a.4.	7.b.9
1.d.7.	4.b.4.d.	6.a.5.	7.c.2.
1.d.9.	4.e.3.	6.a.6.	7.c.3.
1.e.1.	4.h.2.	6.a.8.	7.d.2.
A24-30*	4.i.1.	6.a.9.	7.d.6.
A24-38*	4.i.2.	6.b.4.	7.f.2.
	A24-35*	6.b.5	A23-1.1*
General Ledger	A24-36*	6.b.7.	A23-4*
2.a.1.	A21-15*	6.b.8.	
2.a.2.	Misc-19*	6.b.9.	Inventory
2.b.1.		6.b.10.	9.a.7.e.
2.b.2.	Payables	6.b.11.	9.b.1.a.
2.b.3.	5.a.1.	6.b.12.	9.b.1.c.
2.b.5.	5.a.2.	6.b.14.	9.b.1.d.
2.e.4.	5.a.17.	6.b.15.	Misc-24
Misc-13*	5.b.2.	6.b.17.	
Misc-14*	5.b.4.	6.b.18.	Gen System Features
Misc-15*	5.b.5.	6.b.19.	11.d.
	5.b.13.	6.c.5.	11.q.
Fixed Assets	5.b.14.	6.c.8.	
3.a.	5.b.19.	6.d.1.	
3.c.	5.d.2.	6.d.3.	

* Denotes Supplemental Requirements

COST TO UPGRADE DMMIS-F

We used the Software Life-cycle Management (SLIM) methodology to estimate the cost to upgrade DMMIS-F to satisfy the deficiencies identified in the graded functional requirements document. SLIM is described in Appendix F.

Application of SLIM requires three basic inputs: the size of the application, the productivity of the development activity, and management parameters. We describe the treatment of each input and then summarize the results obtained from SLIM.

Size of the DMMIS Upgrade

Only one estimate of the size of the DMMIS upgrade was available. That was an AFMC estimate of the number of new programs required to upgrade DMMIS (Ref. E-1). We used that estimate to generate a range of estimates for the number of lines of code (LOC) needed to upgrade DMMIS-F.

The AFMC estimate was developed by a financial analyst in AFMC's DMMIS program office. First, he organized the deficiencies into functional groups. Some deficiencies were omitted because AFMC disagreed with DFAS on the validity of the underlying requirements. Several others were omitted because they were covered by funded engineering change orders. Next, he used his knowledge of the DMMIS architecture and current functions to estimate the numbers of new or modified programs and interfaces with existing data systems that would be needed for each group. He estimated that 29 programs and 12 interfaces were required for the upgrade, where an interface required about twice the amount of code as a program.

The size of a program in DMMIS is not fixed. Discussions with software engineering personnel in the program office indicated that the number of lines of executable source code varied significantly. However, we were not provided with estimates of the lines of code. Obviously, programs and interfaces (which are a special type of program) may be of different sizes. Based on our experience and discussions with programmers in all the Services, we estimate that the programs could have about 1000 LOC each. If the upgrade required 29 programs at 1000 LOC each, or the interfaces required about the same amount of code, then about 58,000 LOC would be required. We used that number as the lower bound. Given the complexity of the DMMIS code and the history of the program, we estimate that two to four times that amount of code could be required. We used three different values for the number of LOC: 58,000; 87,000; and 120,000.

Productivity for the DMMIS Upgrade

Productivity depends on the tools and methods used, the technical complexity of the problem, and the skills and experience of the personnel. Ideally, historical data

from the development program would be used to estimate the productivity index needed to apply the SLIM methodology. Unfortunately, the DMMIS program office was able to provide only limited historical data on the resources needed to develop DMMIS code. Next, we summarize the available data and the resulting productivity estimate.

The program office identified three DMMIS engineering change proposals (ECPs) that contained identifiable work on the financials. For each ECP, the program office listed the expenditure in dollars and its estimate of the lines of executable source code (LOC) that were developed. Table F-1 summarizes those historical data.

Table F-1.
Development Cost History for Three DMMIS-F Tasks

Engineering Change Proposal	Lines of Source Code	Development Cost
ECP-29	95,413	$6,134,000
ECP 55 - Ver 1.2	28,178	$1,096,040
Ver 1.3.1	21,916	$ 855,730

Note:
1. Includes design, code, test, training, documentation, and overhead.
2. Does not include comments in code.
3. Does not include license fees for commercial software.

We used the historical data to calibrate SLIM. In addition to the LOC and expenditure data, SLIM needs data on the schedule and staffing profiles to determine the productivity index. That index is a composite measure of efficiency. In SLIM, it ranges from 1 to 40, with higher values corresponding to greater productivity. No historical data were available for the schedule and staffing profiles. We assumed that the schedule allowed sufficient time to perform the work without constraints on either the total number of staff or the staff loading profile. The SLIM productivity index for the three ECPs is 12.1.

The estimated productivity index is very low compared to the SLIM data base of over 2500 projects on development of business software. Support for the value is provided by a Mitre report on DMMIS software quality (Ref. F-2). and our discussions with DMMIS-F users. The Mitre report noted a number of problems with DMMIS that can have significant effects on productivity. They include:

- Inconsistent methods are used for naming parts of code, functions, and variables;
- Hierarchy of the design is not discernible;
- The code makes non-linear jumps;
- Input/output (I/O) handling is not standardized;
- Documentation of processing methods is inconsistent;
- Documentation of modules is not standardized and appears incomplete.

During our field visits to OO-ALC and WR-ALC, we were told of numerous software problems with DMMIS-F. They include: errors that reoccur, fixes that introduce new errors, configuration control problems, and lack of adequate documentation.

Management Parameters

Management parameters express factors that constrain development and affect costs. Examples include the desired schedule and staffing levels. To develop a "best case" estimate for the DMMIS upgrade cost, we assumed non-constraining staffing profiles and used uncompressed development schedules. We placed no constraints on budget level, software reliability, or skill mix.

SLIM Estimates of DMMIS-F Upgrades

We employed SLIM for a variety of input data combinations. Table F-2 shows representative results. All of those figures are predicated on the assumption that the basic features of DMMIS are working as intended. The costs to fix DMMIS problems is not included in the upgrade cost estimates.

Table F-2.
SLIM Results for DMMIS-F Upgrade Costs

SLOC	Staff	Schedule (months)	Staff (person-months)	Cost (FY95$, millions)
58,000	25	20.0 -- 25.0	351 -- 624	3.8 -- 6.8
58,000	35	18.8 -- 23.5	459 -- 817	5.0 -- 8.9
87,000	25	25.8 -- 32.2	457 -- 803	4.9 -- 8.8
87,000	40	23.5 -- 29.3	657 -- 1170	7.1 -- 12.8
120,000	35	29.2 -- 36.5	717 -- 1286	7.8 -- 14.0
120,000	45	27.8 -- 34.7	876 -- 1572	9.5 -- 17.1

Note: SLOC = source lines of code

The possible range of DMMIS-F upgrade costs is quite broad. Application of the SLIM model shows that the DMMIS-F upgrade cost is expected to be in the range of $4 million to $17 million. Eliminating the extreme values, because we have the least confidence in them, yields a range of $5 million to $15 million. Uncertainty arises from the lack of historical data on DMMIS development and modification costs and deficiencies in documentation. The cost could increase because of potential budget reductions at the program office that may limit the availability of experienced personnel to work on the upgrades.

COST OF SUPPLEMENTAL SYSTEMS

As stated in Chapter 5, supplemental data systems will be needed to provide certain information not now available in the legacy financial systems. This section describes the methodology for costing the development and deployment of a supplemental system to collect and report direct labor hours by job at the shop floor for non-DMMIS workload. We first provide a description of what modifications were made at OC-ALC and the cost of those modifications. Then we describe how LMI extrapolated from those costs to estimate the cost of enhancing the remaining PDMSS systems and the ITS system.

What Was Done At OC-ALC

OC-ALC is in the final stage of enhancing the PDMSS system to include a bar code system for collecting, at the shop floor level, the airframe workload direct labor hours by JON. This enhancement includes installing a radio frequency (RF) bar coding system that tracks the task being worked, the times the technician begins and ends that task (i.e., production operation), and the technician(s) who worked on it. According to OC-ALC personnel, the following components were required:

- Software upgrades (2 person weeks @$50/hr) $4,000
- Site RF survey ($3,425 OC-ALC $15,000 WR-ALC) $15,000
- Antenna/Server (includes all software/cables/installation) (3 locations @ $16,300 per location) $48,900
- Hand-held data entry terminals (100 @ $4,000 each) $400,000

Overall, these expenditures plus an allowance for miscellaneous installation costs (e.g., civil engineering work orders) are approximately $500,000.

The next step was to extrapolate the costs of the supplemental system at OC-ALC to the other ALCs.

Extrapolation Methodology

To obtain a rough, order-of-magnitude estimate of the cost of adding supplemental systems for the other workloads not covered by DMMIS-P, we extrapolated the cost of the OC-ALC modification based on the Air Force's projected FY98 direct labor hours for each non-DMMIS-P workload at each of the three ALCs expected to be

open in FY98 (i.e., WR-ALC, OC-ALC, and OO-ALC).[1] The resulting non-recurring investment (excluding the cost of PDMSS at OC-ALC) is approximately $2 million. Annual recurring costs, estimated at 15 percent of the total non-recurring investment, are approximately $390,000.

Feed Supplemental Data into the DMMIS General Ledger

We estimate the effort to modify the DMMIS general ledger to accept the data on direct labor hour from the supplemental system to be approximately $30,000 (6 man months at $60,000 per year) to accomplish the following functions:

- replace the allocated actual direct labor hours with the actual direct labor hours by JON and RCC that have been collected by the supplemental system;
- recalculate the actual direct labor cost for each JON;[2] and
- redistribute the difference between the legacy system's direct labor cost for an RCC and the supplemental system's actual direct labor cost as an adjustment to the RCC's indirect labor rate.[3]

Data Collection Systems Plus Feeder System Software

In summary, the non-recurring and recurring annual cost of developing, deploying, and supporting a supplemental information system to collect and report direct labor hour and cost for non-DMMIS-F workloads is likely to be about $2 million with a recurring annual support cost of about $0.4 million. Depending on the assumptions regarding how much workload from SA-ALC and SM-ALC will migrate to the remaining organic repair depots, the total cost to develop and deploy the supplemental systems to all three DMMIS-F sites could approach $3 million.

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[1] BRAC 95 closed SA-ALC and SM-ALC. The Air Force is studying whether to contract, privatize, or redistribute the workload of those ALCs. We do not include any of that workload in our estimate. If 50 percent of that workload were redistributed to the other ALCs, we estimate the non-recurring cost of the supplemental systems would increase by approximately $3 million.

[2] The legacy system already captures the cost and actual direct labor hours (DLH)s for each RCC and calculates a $/DLH rate. At a minimum, that RCC DLH rate could be used to determine the direct labor hour cost of each DLH from the supplemental system.

[3] The legacy systems G035A and G072A already have fields for actual direct labor hours and actual direct labor costs; however, the data for individual JONs in those fields are populated by allocating the actual direct labor hours and costs of an RCC to each JON on which an RCC works. The G035A system calculates the RCC rates and distributes the RCC costs to individual JONs and then provides that information to the G072A system. Because the G035A system is being replaced by DMMIS-F, the DLH rate adjustment for non-DMMIS-P workloads might be accomplished entirely within the DMMIS-F software.

OSD (PA&E) COST ELEMENTS

The following chart shows the investment costs to upgrade and deploy DMMIS-F to three ALCs, and the annual operating and support costs to maintain it.

Table F-3
OSD (PA&E) Cost Elements

Cost Element	Upgrade & Deployment
1.0 INVESTMENT	
1.1 Program Management	Included in 1.3
1.2 Concept Exploration	Included in 1.3
1.3 System Development	$7 million to 20 million +fix DMMIS +fix legacies
1.4 System Procurement	Included in 1.3
1.5 Megacenter Investment	Unknown
1.6 Sys Init, Installation & Fielding	$1.5 million
1.7 Upgrade/P3I	N/A
1.8 Disposal/Reuse	N/A
2.0 SYSTEM OPS AND SPT	
2.1 System/Material/Item Management	Included in 2.4
2.2 Annual Operations Investment	N/A
2.3 Hardware Maintenance	Included in 2.5
2.4 Software Maintenance	$2.4 million/year + legacy O&S
2.5 Megacenter Ops and Maint Spt	Unknown
2.6 Data Maintenance	Included in 2.4
2.7 Unit/Site Operations	No Change
2.8 Env & Haz Mat	N/A
2.9 Contract Leasing	N/A

Source: LMI.

(F-1) Memorandum for Defense Finance and Accounting Service (DFAS-HQ/AC) from MSC/SQ, *Estimated Effort for Making Selected System Changes for DMMIS*, 25 July 1994.

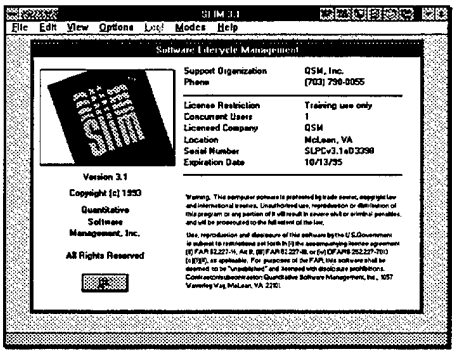
(F-2) Mitre, *Software Quality Assessment Exercise Report*, 3 May 1995.

APPENDIX G

SLIM Software Estimation Tool

Appendix G

SLIM Software Estimation Tool



SLIM Software Estimation Tool

This appendix provides general information about SLIM (Software Life-cycle Management). First, the SLIM methodology is described. Then, the appendix provides specific information about things such as how the model is used, its sensitivity to changes in parameters, and interpreting model results. Finally, the appendix discusses SLIM outputs and ways to present them.

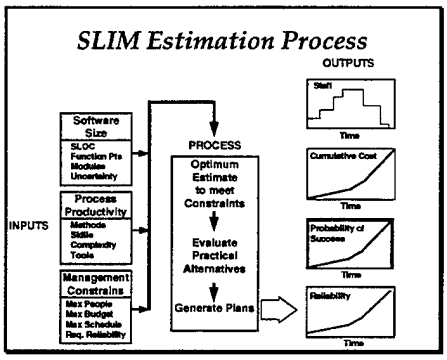


Figure 1. SLIM Methodology

The SLIM Methodology

The SLIM methodology was initially formulated into a commercial product offering by Lawrence H. Putnam in 1978 after 10 years of pioneering research into software production. The methodology has been continuously refined and enhanced to ensure that it is current and capable of supporting the ways that organizations are building software products today.

The basic methodology is shown in Figure 1. The methodology is an input-process-output flow.

INPUTS: SLIM requires 3 primary inputs. The first input is the proposed size of the application. SLIM is flexible enough so that any of the popular sizing metrics can be used. These are a few of the sizing metrics that could be used.

- Source Lines of Code
- Function Points
- Objects
- Windows
- Screens
- Diagrams

Within SLIM we use a range estimating approach on the inputs for size. We know that this is one of the most difficult areas to quantify (no four decimal places of accuracy). In order to cope with the inherent uncertainties early in a project when we know the littlest about the size we input 99% ranges around our best guess for the expected size. SLIM uses this information to determine the probability of success (more on this when we discuss dynamic risk assessment).

The second major input section is productivity and complexity. There are three levels of detailed information that can be entered into SLIM. The level of detail depends on how much one knows about the development team, types of tools & methods to be used and the application complexity. Users can input their known productivity based on historic project calibrations or they can have SLIM determine an appropriate productivity level based on answers to the detailed questions (more on this in project assumptions).

The final input area is one that is often left out of other tools. They are the management constraints. These include the following:

- The desired schedule
- The desired budget limit
- The desired reliability (Acceptable Mean Time To Defect) at delivery
- The minimum staffing required to have the skill mix to get the job done
- The maximum practical staffing possible

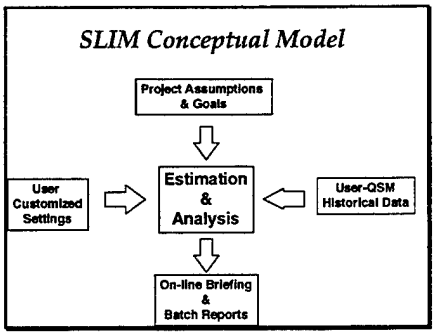


Figure 2. Conceptual Model of the SLIM Estimation tool

PROCESS: SLIM uses this input information to determine an "optimum" estimate. The "optimum" estimate is a solution that gives you the highest probability of developing the system within the management constraints that you have specified. If the constraints are too tight then the "optimum" estimate will exceed one or a number of your goals. If this is the case one must evaluate other practical alternatives. These might include scenarios for reduced function products, increased staffing or improved efficiency. Variations of the basic estimate can be logged so that one can compare the merits of each alternative and make a decision about which estimate is the best.

OUTPUTS: There is 181 different reports and graphs that are available in SLIM. The outputs are grouped into the following major categories:

- Project Description
- Estimation Analysis Views

- Schedule Section
- Risk Analysis Section
- Staffing & Skill Breakout Section
- Effort and Cost Section
- Reliability Estimate Section
- Documentation Section

An outline editor allows one to create and store the sequences of briefing charts so the estimator can quickly and efficiently communicate the results of their estimates to the key decision makers (internal or customers).

SLIM for Windows Architecture

SLIM has 3 major modes of operation. They are:

- History Mode
- Estimation Mode
- Reports Presentation

In history mode the user inputs historical data and determines some key parameters. The calibrated projects are used to customize the SLIM tool their development environment. In estimation mode the historical data can be used to validate the new estimate.

The estimation mode provides the user with several estimation views. Each view is designed to let the user easily analyze a particular situation in order to arrive at a good solution in the most efficient manner possible.

The reports and presentation mode provide the user with an effective capability to create and deliver on-line briefings and reports.

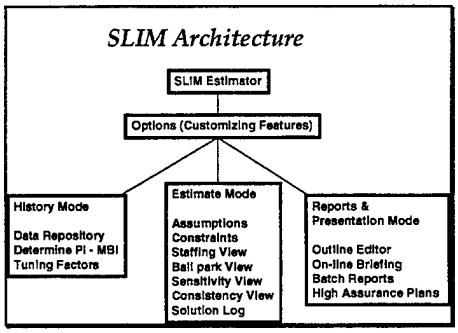


Figure 3. SLIM for Windows Architecture

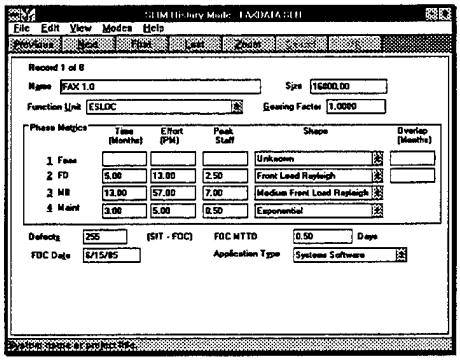


Figure 4. Inputs for Historically Completed Projects

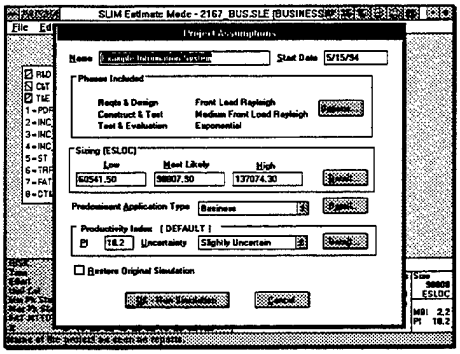


Figure 5. Minimum Inputs required to run an estimate with SLIM

SLIM History Mode -- Calibrating the tool to the way you do business

The purpose of the history mode is to provide the user with a way to capture historical data. SLIM only requires the core metrics recommended by the Software Engineering Institute (Size, time, effort and defects). The tool will then run the data back through its estimation equations to calculate each projects "Productivity Index" (a macro measure of efficiency that ranges from 1-40. A higher number indicates a more productive process) along with some other fine tuning parameters.

Estimation Mode -- The Heart of the System

The estimation mode is where the user will spend most of their time. It contains the project estimation assumptions, project constraints and all of the analytical views.

Assumptions: There are 3 levels of detail that a user can choose from as inputs for the estimate. At the top level SLIM will only require 1 screen of information. These are shown in Figure 5. The top level input is most appropriate for the users that have sufficient historical data and can select a reasonable value for the Productivity Index. Another reason may simply be that the user has a preference toward estimating from a high level perspective.

For those users that prefer a lower level of detail or would like SLIM to determine a Productivity Index for them, SLIM offers a second level of detail. This is shown in Figure 6. At the second level, the user inputs a value from 0 to 10 for 3 major productivity influencing categories. The three categories are:

- Tools & Methods Capability
- Technical Complexity

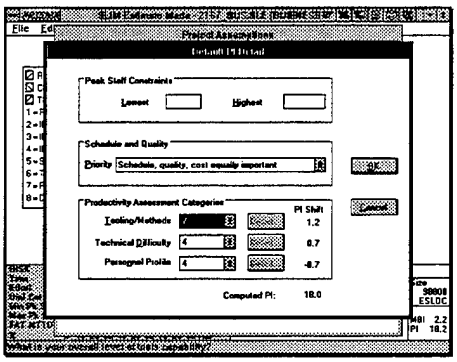


Figure 6. Level 2 Detail inputs for Productivity Index determination

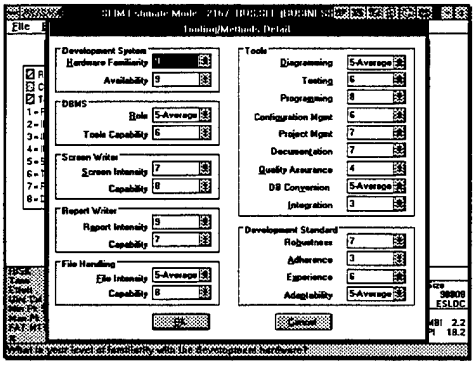


Figure 7. Detail inputs for tools and methods capability

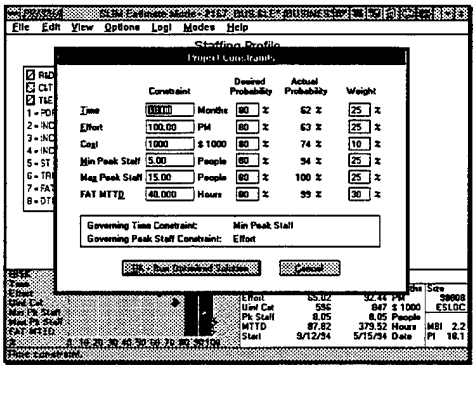


Figure 8. Project constraints and the users desired probability of not exceeding the constraint

- Personnel Profile

With this information SLIM goes into its historic data base of 3,300 projects. It finds a subset of projects with the same size and application complexity. The tool determines the average productivity profile. Finally, it makes adjustments to the average value based on the users input to the productivity influencing categories.

A third level of detail is available for the users that have a very good understanding of their development environment, or simply prefer a more detailed approach to estimation. Each of the 3 productivity categories has a detailed series of questions. Figure 7 shows the detailed screen for the tools and method's category. The user can fill in as many of the inputs as they like and SLIM will use these inputs to determine the Productivity Index.

The user can determine which level of detail they prefer. In fact, they can even use a combination. For example, the estimator might have a very good understanding of the tools and method's category and choose to enter information at the detailed level. However, they might not know who will be assigned to this project so they might answer this category at the second level of detail. For a list of the questions in each of the three productivity categories refer to Appendix 1.

Management Constraints

The final set of inputs are the management constraints. Some people think or these as the project goals. They are really the boundaries that this project must live within for it to be considered successful at its completion.

SLIM asks the estimator to identify any of six potential management constraints. These include the following, shown in Figure 8.

- The desired schedule
- The desired budget limit
- The desired reliability (Acceptable Mean Time To Defect) at delivery
- The minimum staffing required to have the skill mix to get the job done
- The maximum practical staffing possible

Additionally, SLIM would like to know the desired probability of not exceeding the goal and which goal is most important, second most important, etc. If there are no constraints then it is not necessary to fill in this dialog box.

Optimum Estimate: Once this information is in the system SLIM will do an analysis to determine the "optimum" estimate. It does this by examining a number of potential solutions from the shortest possible schedule estimate to the longest. For each possible estimate SLIM calculates a joint probability of success. It determines which solution has the highest probability of success and it posts that estimate to the Staffing View.

Staffing View & Dynamic Risk Analysis

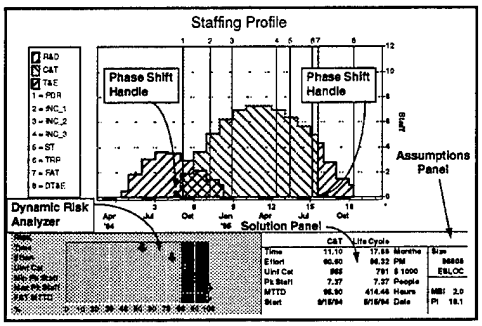


Figure 9. SLIM Staffing View

The Staffing View is one of five Estimation views. The purpose of the this view is to allow the user to:

- Estimate directly with a resource profile.
- Evaluate alternative plans by shifting phases, changing the peak staffing and changing staff loading profiles.
- Dynamically see the probability of an estimate meeting the project constraints.
- Evaluate alternatives by changing size and productivity assumptions.

Figure 9 contains most of the relevant features of this view. In the middle of the screen one see the staffing plan for different phases of the project. There are two handles that are associated with each phase. Handles are used to graphically manipulate the estimate on the screen. The right most handle is the staffing-schedule handle. It allows the estimator to compress or elongate the schedule by adding or decreasing staff. The user simply moves the mouse over the handle then he clicks and drags the handle to a new position. To compress the schedule move the handle to the right. When the user drops the handle the new staffing plan is painted on the screen and the new estimate numbers are updated in the solution panel.

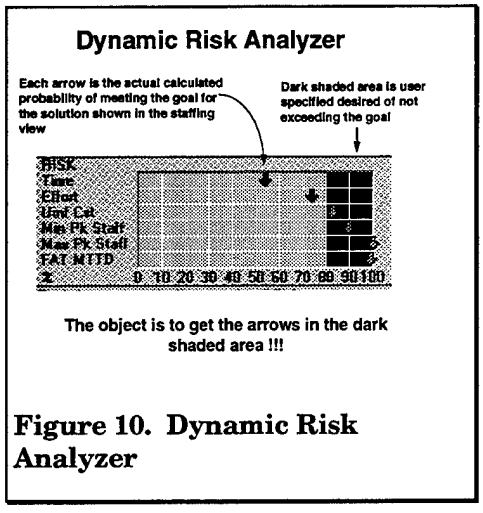


Figure 10. Dynamic Risk Analyzer

While the schedule manipulation is happening the dynamic risk analyzer is being updated. The arrows are moving and show the new probability of being able to achieve each of the six project goals. Figure 10 shows the key features of the dynamic risk analyzer. We find that managers love this view because they can clearly and rapidly see the relationships between cost, schedule reliability and risk as they play what-if games.

Ballpark View -- Validating Estimates With History

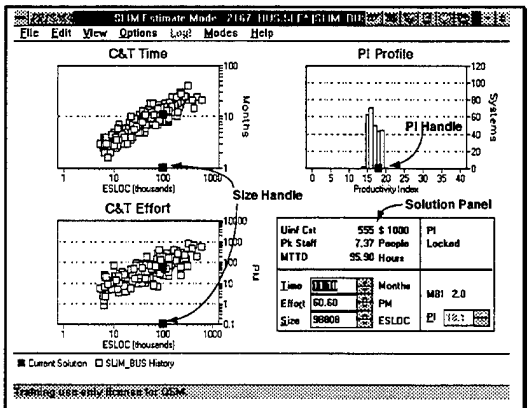


Figure 11. Ballpark View. This shows an estimate consistent with history

Ballpark view allows you to graphically compare your estimate to your historic data. This is most useful if:

- A customer is asking you to do the impossible
- You need a independent validity check
- You want to graphically do sensitivity analysis

Figure 11 shows key features of the Ballpark View. Each of the hollow squares is a historical project. The solid square is the current estimate. One wants to make sure that the estimate is reasonably consistent with what has been accomplished in the past. The estimates can be graphically manipulated similar to the Staffing View by click and drag actions on any of the handles. These include size, schedule, effort or Productivity Index. To see the staffing implications of a change you simply switch back the staffing view. This is a highly interactive tool.

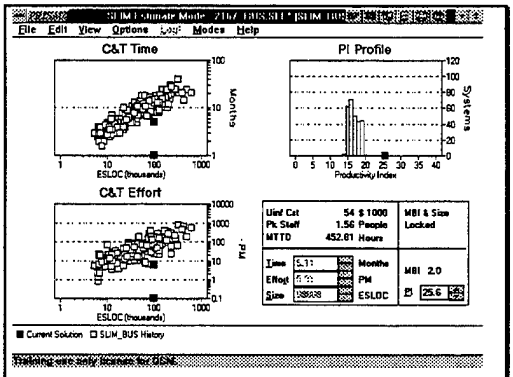


Figure 12. Unrealistic estimate compared to historical data

Figure 12 shows an estimate that conforms to a customer desired schedule and budget. Note that it is below what has ever occurred historically for both schedule and effort. There is a very low probability that the system could be built to meet this set of conditions.

The Ballpark view adds a measure of credibility to your estimates. We find that a factual portrayal of the estimate and history will help you avoid emotional arguments with customers. You can then focus on practical alternatives (like a two release schedule, etc).

Remember what Fred Brooks said *"It is very difficult to make a vigorous, plausible and job risking defense of an estimate that is derived by no quantitative method, supported by little data and certified chiefly by the hunches of managers."*

Sensitivity View -- What happens when the rules of the game change

The Sensitivity View allows the estimator to quickly play out a number of scenarios for changes in:

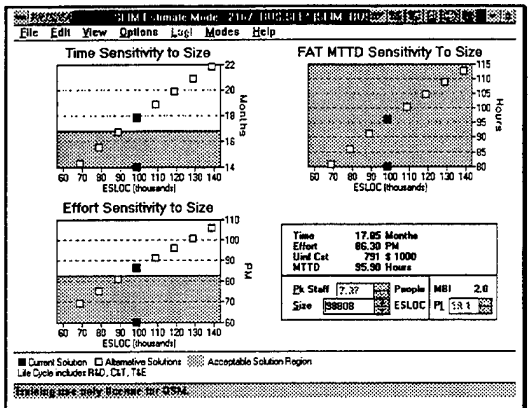


Figure 13. Sensitivity View - Size Sensitivity View (one of 3 possible)

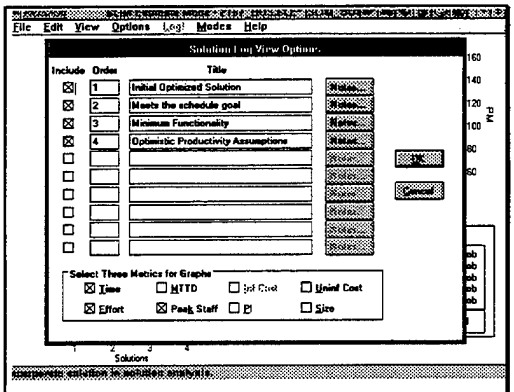


Figure 14. Dialog showing the solutions currently in the log

- The estimated size
- The estimated productivity
- The possible peak staffing level

Figure 13 shows the size sensitivity analysis. The action handles are positioned on the current estimate. To examine the impact of increasing or decreasing the size simply click and drag the action handle to the appropriate position. The dark shaded area is determined by your management constraints. If the estimate is in the shaded area then your estimate will meet the goals. This makes it easy to identify when you start to push the edge of the envelope. To see the staffing implications of a change you simply switch back the staffing view. If you want to compare this estimate to the historical data you switch to the Ball Park View.

Solution Log View -- Comparing the Practical Alternatives

The solution log is a repository of potential estimates. Up to 10 estimates can be placed in the log. The estimates can be compared and the decision makers can choose the best alternative among many choices.

Each time you log a solution you give the solution a title and have the option of typing in some descriptive text about this estimate. Figure 14 shows 4 estimates that are stored in the solution log. On the bottom of the dialog the user has the choice of selecting 3 comparison graphs.

Figure 15 shows the 4 solutions compared side by side. The solution panel in the lower right of the screen provides a summary of the major input assumptions, the resulting estimates and the probability that this solution will not exceed the project constraints. To view the numbers for each solution grab the handle and move it to the next bar. The shaded area represents the project constraint zone. Any bar that falls in the shaded region meets or exceeds the project goals that you specified. Want to reload a subsequent estimate, simply move the handle to the estimate that you want and make it the current. It's that simple.

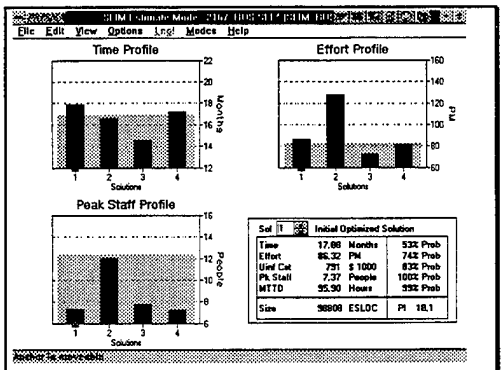


Figure 15. Solution Log View

Managers love this because most people only give them one number with no choices. With this view they can make an informed decision and look at all the trade-off's with an understanding of the risk that are involved with each one.

Presenting the Results of Your Analysis

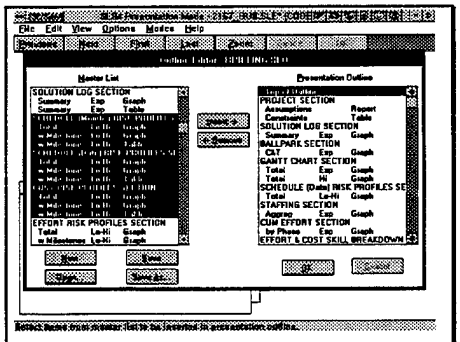


Figure 16. Presentation outline editor

The reports and presentation mode was designed to enable you to communicate the results of your estimate in an effective and persuasive way. There are over 181 different outputs (graphs and reports) that SLIM can generate. They fall into the following categories:

- Project Description
- Estimation Analysis Views
- Schedule Section
- Risk Analysis Section
- Staffing & Skill Breakout Section
- Effort and Cost Section
- Reliability Estimate Section
- Documentation Section

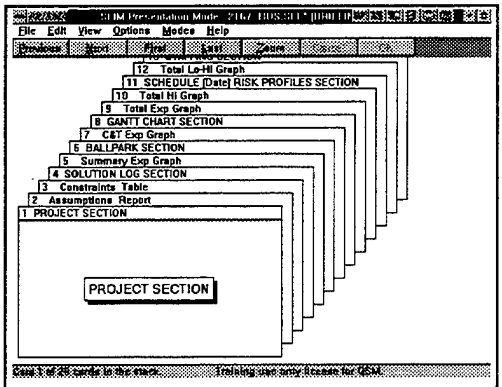


Figure 17. Sequence of briefing charts

The point is that you do not need all of these for every occasion. You need just the right ones to tell your story. With this end in mind we have created an outline editor that allows you to pick and choose just the information in the sequence that you think is best. Once the outline is built you store it. It can then be used by any future estimate that requires this type of briefing. Make and store as many briefings as you like or simply use the ones that we have found to be most effective (we ship these with the product).

SLIM will present you with a card deck representation of your briefing. At this point you can either batch print the outputs or you can zoom up and give a totally automated briefing. When you use SLIM on a portable laptop with a projection plate you have a very effective way to present your solution. Moreover, if the decision makers give you the old "but what about this", you simply switch back to estimation mode, load up their assumptions and play out the scenario. When you are all done you simply switch back to the presentation mode with you new solution loaded.

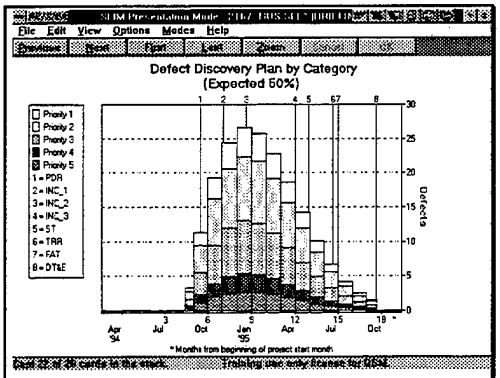


Figure 18. Full screen view of defect estimate

Customizing SLIM to Your development Environment

SLIM was designed to be flexible enough that it can be customized to any type of software development process. It is easy to do because what we are modeling is the way that people solve iterative design problems. We have found that software development fits this category whether you are using the waterfall, Prototyping, RAD or object oriented methods. However, there are some significant differences.

By collecting history on the new development paradigm SLIM can easily be tuned to the new process. Phase and milestones can be customized along with staffing profiles and sizing metrics. We have done this for so many customers that we include all of the most popular templates that we have encountered.

Results

SLIM is a mature technology. We have many users that have used SLIM to do and estimate and build a plan. Then they worked the plan almost to perfection.

Keep in mind that SLIM is a thinking man's tool. It can present you with a wealth of information, but it requires people to provide it with sensible inputs and to make wise choices from the alternatives that are offered.

APPENDIX H

Acronyms

Acronyms

AAMMIS	AMC Automated Manpower Management Information System
ACPERS	Army Civilian Personnel Reporting System
AF	Air Force
AFES	Automated Financial Entitlements System
AFMC	Air Force Material Command
AIOB	Automated Internal Operating Budget
ALC	air logistics center
AMC	Army Materiel Command
AMCISS	Army Materiel Command Installation Supply System
AMSCO	Army Management Structure Code
ANAD	Anniston Army Depot
ATAAPS	Automated Time, Attendance and Production System
BAIM	Baseline Advanced Industrial Management
BGAD	Blue Grass Army Depot
BGL	Budget and General Ledger
BOM	Bill of Material
BRAC	Base Realignment and Closure
CAACF2	Computer Associates Access Control Facility Security System
CAAA	Crane Army Ammunition Activity
CARD	Cost Analysis Requirements Description
CAT	Category
CCAD	Corpus Christi Army Depot
CCM	Cost/Cost Management
CCS	Common Corporate Subsystem
CDA	central design activity
CFO	Chief Financial Officer
CIM	corporate information management

CISC	Customer Information Control System
CMF	Consolidated Maintenance Facility
COBOL	common business-oriented language
COM	Customer Order Management
COTS	commercial off-the-shelf
CPU	central processing unit
DAO	Defense Accounting Office
DBOF	Defense Business Operations Fund
DCPS	Defense Civilian Payroll System
DDRE	Defense Distribution Region East
DESCOM	Depot Systems Command
DFAS	Defense Finance and Accounting Service
DFAS-DE	Defense Finance and Accounting Service—Denver
DFAS-I	Defense Finance and Accounting Service–Indianapolis
DISA	Defense Information Systems Agency
DMBA	Depot Maintenance Business Area
DMC	Defense MegaCenter
DMMIS	Depot Maintenance Management Information System
DMMIS-F	DMMIS financial subsystems
DMMS	Depot Maintenance Management System
DMSS	Depot Maintenance Standard System
DoD	Department of Defense
DONIBIS	Department of the Navy Industrial Budget Information System
DPAS	Defense Property Accounting System
DR	deficiency report
ECP	engineering change proposals
EFT	Electronic Fund Transfer
EOR	Element of Resource
FARS	Financial and Accounting Reporting System

FEMS	Facility Engineers Management System
FIA	Financial Inventory Accounting
FMFIA	Federal Managers' Financial Integrity Act
FOC	full operational capability
FY	fiscal year
GAO	General Accounting Office
GLA	General Ledger Account
GUI	Graphical User Interface
HAAD	Hawthorne Army Ammunition Depot
HAS	Headquarters Application System
IBM	International Business Machines
ICAR	Installation Command Accounting Report
IEMS	Installation Equipment Management System
IFCDRS	Industrial Fund Collection and Disbursing Reporting System
IFS-M	Integrated Facilities System–(Mini/Micro)
ILGS	Integrated Logistics System
ILSC	Integrated Logistics Systems Center
IMIS	Installation Management Information System
IMMIS	Integrated Modernization Management Information System
IOC	Industrial Operations Command
ISS	Interface Subsystem
ITS	Item Tracking System
JLSC	Joint Logistics Systems Center
JON	job order number
L&P	Labor and Production
LEAD	Letterkenny Army Depot
LMI	Logistics Management Institute
MAAP	McAlester Army Ammunition Plant
MCERRS	Marine Corps Expenditure and Reimbursement Reporting System

MCIF	Marine Corps Industrial Fund
MCLB	Marine Corps logistics base
MRP	Maintenance Resources Planning
MTMC	Military Traffic Management Command
NADEP	naval aviation depot
NADIM	Naval Aviation Depot Information Management
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NIFMS	NAVAIR Industrial Fund Management Systems
NIMMS	NAVAIR Industrial Material Management System
NOC	naval ordnance center
NOMIS	Naval Ordnance Management Information System
NSY	naval shipyard
O&S	operating and support
OO-ALC	Ogden Air Logistics Center
OC-ALC	Oklahoma City Air Logistics Center
OMA	Operation and Maintenance, Army
OMEI	other major end items
OPLOC	operating location
OPR	office of primary responsibility
OSD	Office of the Secretary of Defense
OSE	open-system environment
PBA	Pine Bluff Arsenal
PDMSS	Programmed Depot Maintenance Scheduling System
PI	productivity index
PLA	planned labor application
PPC	Production Planning and Control
PRON	Purchase Request Order Number
PUDA	Pueblo Army Depot Activity

R&D	research and development
RASFIARS	Retail Army Stock Fund Financial Inventory Accounting Reporting System
RCC	resource control center
RFP	request for proposal
RIA	Rock Island Arsenal
RRAD	Red River Army Depot
SA-ALC	San Antonio Air Logistics Center
SAACONS	Standard Army Automated Contracting System
SABRS	Standard Automated Budget Reporting System
SCR	system change request
SDS	Standard Depot System
SEDA	Seneca Army Depot Activity
SIAD	Sierra Army Depot
SIFS	Standard Industrial Fund Accounting System
SIMA	Systems Integration and Management Activity
SIMA-E	Systems Integration and Management Activity–East (Chambersburg)
SLIM	Software Life-Cycle Management
SM-ALC	Sacremento Air Logistics Center
SOMARDS	Standard Operations and Maintenance, Army/Research & Development System
SQL	Standard Query Language
SRD-1	STANFINS Redesign 1
STANFINS	Standard Financial System
STARCIPS	Standard Army Civilian Payroll System
STARS	Standard Automated Reporting System
SVDA	Savanna Depot Activity
SYMIS	Shipyard Management Information System
T&A	Time and Attendance

TAS	Time and Attendance.System
TEAD	Tooele Army Depot
TMR	Transfer of Management Responsibility
TOAD	Tobyhanna Army Depot
USASAC	US Army Security Assistance Center
USD(C)	Under Secretary of Defense (Comptroller)
WCS	Workload Control System
WR-ALC	Warner-Robins Air Logistics Center
WVA	Watervliet Arsenal

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13. ABSTRACT ***(Maximum 200 words)***

An economic analysis examines accounting systems used in the Depot Maintenance Business Area (DMBA) of the Defense Business Operations Fund (DBOF). Two options were considered: to increase the capability of accounting systems in the DMBA and decrease their number. Option One is a separate system for each of the three Military Departments; Option Two is a single system for all DoD DMBA activities. The Under Secretary of Defense, Comptroller directed that an economic analysis be performed so that the DBOF Corporate Board would have the cost information needed to make an informed decision on the preferable option. Option One is found to be preferable to Option Two at this time because the second option was predicated on a single set of production systems that has not come about. Consequently, multiple interfaces would have to be developed for any accounting system chosen as the single system. That interface problem, combined with unique business practices and additional deployments, increase the investment costs of Option Two relative to Option One. Potential operating and support cost savings are very limited. Costs for Option One are provided. Issues are raised about deploying the Navy standard system to the shipyards and the Air Force standard system to the Air Logistics Centers.

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