



COMPTROLLER OF THE DEPARTMENT OF DEFENSE

WASHINGTON DC 20301-1100

MAR 1 1993

Honorable Sam Nunn
Chairman
Committee on Armed Services
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The National Defense Authorization Act for Fiscal Year 1993 directed the Department to submit a report concerning the implementation status of the Defense Business Operations Fund. The report is to address the achievement of specific milestone objectives associated with the second implementation phase of the Defense Business Operations Fund as prescribed by the Act. The attached report is submitted in response to this requirement.

The report addresses the three requirements of Milestone II: the development of performance measures and goals for Fund business areas, the status of interim systems supporting the Fund, and the benefits resulting from the operation of the Fund. Much has been accomplished since the Fund was created in FY 1992, but as the enclosed report will stipulate there is much yet to be done.

This initiative is an essential mechanism for the achievement of significant savings in the Defense support establishment. The continued support of the Congress for this initiative is greatly appreciated, the success of the Fund depends upon it. A copy of this report has also been provided to the General Accounting Office.

Sincerely,

A handwritten signature in cursive script that reads "Donald B. Shycoff".

Donald B. Shycoff
Acting Comptroller

Enclosure

CC:
Honorable Strom Thurmond
Ranking Republican

DEFENSE BUSINESS OPERATIONS FUND

MILESTONE II

IMPLEMENTATION REPORT

MARCH 1, 1993

PREFACE

The National Defense Authorization Act for Fiscal Year 1993 (Public Law 102-484) directed the Department of Defense (DoD) to report on the implementation of the Defense Business Operations Fund against three separate milestone events. The first of these reports, Milestone I, was submitted to the Congress on February 2, 1993, it addressed progress made in policy development and in the identification of interim system requirements. It also provided an evaluation of the skills and resources devoted to the Fund's implementation. This report provides a status on Milestone II requirements and addresses the specific provisions on performance measures, systems efforts, and benefits resulting from the operation of the Fund.

This report outlines the actions taken to develop performance measures and goals within each business area of the Fund, provides a status on the systems efforts undertaken to improve the accuracy and management of information for the Fund's activities, and describes benefits and efficiencies associated with operation of the Fund. Perhaps the most significant development over the last year since the Fund's inception has been the recognition that the problems with the systems and information available to management were so significant. The creation of a single revolving fund to replace the many distinct revolving funds that existed previously has highlighted a number of long-standing problems. These problems were previously so decentralized and dispersed that they were difficult to detect. Even if they had been detected, solutions would have been difficult to devise given the significant differences in operating procedures.

The Department remains committed to the successful implementation of the Fund. The Fund is considered to be one of the most effective tools available to encourage fundamental changes in how our managers view their support services and the resources required to maintain them. The Fund provides the mechanism for establishing a businesslike corporate approach that is improving, and will continue to improve, management of vital support activities for our operating forces.

TABLE OF CONTENTS

	<u>PAGE</u>	
I.	INTRODUCTION	1
II.	PERFORMANCE MEASUREMENT	
	A. Overview	3
	B. Business Area Assessments	
	1. Base Support	7
	2. Clothing Factory	10
	3. Commissary Operations	11
	4. Commissary Resale Stock	12
	5. Depot Maintenance	13
	6. Distribution Depots	15
	7. Financial Operations	16
	8. Industrial Plant Equipment	19
	9. Information Services	20
	10. Printing and Publication	22
	11. Research and Development	24
	12. Reutilization and Marketing Service	26
	13. Supply Management	27
	14. Technical Information Services	28
	15. Transportation	30
III.	INFORMATION SYSTEMS	
	A. Overview	34
	B. Standard System Selection	34
	C. Status of Systems Improvement Efforts	57
	D. Transition Plan	58
IV.	BENEFITS	
	A. Overview	60
	B. Achievements to Date	60

I. INTRODUCTION

Much will be said in the following pages about business practices that are being used today in the Department of Defense (DoD). The Department has embraced business concepts in the operation of its support activities for many years. Revolving fund support activities provide support services to the operational forces much like any large business in the private sector. The Navy had a revolving fund as early as 1878! The Department has had extensive experience with managing supplies, maintenance, transportation, and even research and development activities on a businesslike basis. While these business areas do not earn a profit, they do track their revenue and expenses on a break-even basis. They have customers that purchase their services. Business areas are provided funding based on the demand for their services; they must earn their funds from their customers. The Defense Business Operations Fund, within which these activities operate, capitalizes on this experience by improving the customer/provider relationships of these activities and enhancing the tools that provide cost visibility that is essential for better decision making.

It should be emphasized that the business practices now required of federal agencies by the Chief Financial Officers (CFO) Act of 1990 are not new to the Department. The CFO Act and the FY 1993 DoD Authorization Act require a focus on the work output of government services. The operating efficiency and effectiveness of government organizations must be reported in the financial statements for many support activities. While this may be new to some federal agencies, Fund business area activities have been required to account for their efficiency and effectiveness for many years. Any enterprise, be it government or private sector, that depends upon a customer for its continued existence, cannot ignore the cost or the effectiveness of the work provided to the customer. These business areas must be responsive and efficient for the customer. These congressional initiatives are entirely consistent with the past practices and current initiatives of the Department in terms of operating support functions on a businesslike basis.

Other recent developments further bolster the benefits of the businesslike management of government services. The recent economic summit conducted by the new administration highlighted the public's consensus that the cost of government must come down. Scarce national resources must be redirected toward the national economy. The Fund is the mechanism the Department uses to facilitate the reduction of costs of Defense through better business practices. Only the sort of cost accountability required by the Fund can make the dramatic reductions that are needed. Smarter decisions by managers and employees are the things that reduce costs and produce realistic and long-term savings for an organization.

The idea of fundamentally reinventing government is gaining widespread support. Making government services more competitive, results-oriented, customer-oriented and market-oriented is no longer an academic argument. These concepts must be put into practice by government organizations in order to ensure responsiveness to the public's needs. The coincidence of these national trends with the Defense Business Operations Fund initiative certainly seems to reinforce our efforts. The Fund is striving to help the Department's work force concentrate on the costs of operations, the customer's needs, and on what comes out of service activities rather than what goes into them.

Though the Department has had many years of experience with the businesslike methods, now gaining so much popularity and congressional support, experience has not solved all the problems. During the course of implementing the Fund beginning in FY 1992, problems were discovered concerning the condition of the many revolving funds scattered throughout the Department including: revolving fund policies were not followed consistently; financial reporting did not provide all of the necessary information in a timely manner to decision makers; general and cost accounting systems have not been integrated; and, there were inconsistencies in costing practices. Single Fund policies and oversight will provide the means to remedy these inconsistencies and ensure that future improvements are implemented uniformly throughout the Department.

This report is presented in three major sections which address the requirements of Milestone II in the FY 1993 Defense Authorization Act: performance measures for Fund business areas; the status of systems supporting the Fund, and the benefits derived from the Fund. The first section is divided into two parts. The first part provides an overview of the major policies and procedures that have been developed to govern the performance measurement of the Fund's business areas. This first section also provides specific performance measures and goals for each business area where they have been developed. Those still under development are so indicated. These measures have been designed to complement those financial measures that are currently used by all business areas. Some of these measures alter those program measures used previously in CFO financial statements. Improvements will continuously be sought to performance measures as experience shows that changes are required. Where changes have been made, this has been noted in the "CFO Program Measures" section for each business area. The second section reports the status of interim systems. This section provides an overview and assessment of systems requirements and information accuracy. The final section concludes the report with examples of the many benefits gained by employing Fund practices in the everyday management of these business areas. This concluding section will, hopefully, demonstrate that the Department is on the right track, not because of a statutory requirement, but because the Defense Business Operations Fund is a logical way to proceed.

II. PERFORMANCE MEASUREMENT

A. OVERVIEW

The FY 1993 DoD Authorization Act requires that the Department develop performance measures and corresponding performance goals for each area of the Defense Business Operations Fund. In addition, the Office of Management and Budget, in its implementation of the Chief Financial Officers (CFO) Act, has mandated that organizational efficiency and effectiveness indicators be incorporated into annual financial statements. These mandates support and complement the output-oriented management focus that DoD has been pursuing through operation of the Fund.

Fund activities have used a wide range of measures to evaluate the efficiency and effectiveness of their operations. These have ranged from local work process measures such as statistical process control to summary measures of output or outcomes used to assess programs at the Department level. At varying organizational levels, the measures capture information about work process efficiency and organizational output characteristics. The Fund focuses on the relationship of resources to output and the performance of those outputs in meeting customer requirements such as quality, timeliness, and customer satisfaction.

1. Purpose. The current initiative for refining performance measures is designed to:

a. ensure that managers have clearly defined performance level goals at a given cost per output and a method for evaluating whether these goals are met;

b. focus work process improvement tools and strategies on meeting performance goals within cost targets; and,

c. provide consistent and integrated direction.

To achieve these objectives, the Department established criteria for developing effectiveness performance measures. A process was also established for applying those criteria to evaluate existing performance indicators used in the business activities in order to define appropriate performance measures and goals.

2. Criteria for Developing Performance Measures.

Performance indicators measure efficiency and effectiveness that are directly tied to program results. Program results are, in turn, directly justified by the business activities mission. In Fund activities, the mission is to produce products and services known as outputs to satisfy requirements generated and paid for by the customer. The efficiency measures used for Fund activities are the cost per output measures. These have been

established for activities in the Fund and are evaluated in terms of unit cost.

Effectiveness measures gauge the output characteristics' conformance to specified customer requirements -- sometimes referred to as "doing the right thing." The Department used broad criteria for identifying effectiveness performance measures. These criteria focused on final product or service output as it is received by the customer as opposed to the processes used to achieve the output or intermediate products. General categories of output effectiveness measures include quantity, timeliness, quality, and customer satisfaction as defined below:

- **Quantity** -- Number of outputs produced/level of or access to services. Sometimes, effectiveness measures associated with quantity are expressed as the ratio of actual versus planned work load.
- **Timeliness** -- Outputs meet scheduled completion dates and products/services are provided within objective time standards (e.g., rate of on-time receipt of requisitioned items, customer wait time).
- **Quality** -- Outputs conform to objective use requirements for the output. (For instance, in supply operations the item shipped met customer requirements in terms of being the right part received on time.) Other measures of quality are the number of defects in the product received by the customer, number of complaints received, or cost of rework.
- **Customer Satisfaction** -- A measure of conformance to customer expectations. Typical direct measures may be customer satisfaction surveys and complaint rates. Indirect measures can be error rates and returns.

3. Characteristics of the Measures. The characteristics used in identifying performance effectiveness measures are:

a. Measures should identify critical characteristics of the output that meet customer requirements. They should provide information on final product or service output as it is received by the customer as opposed to the processes used to achieve the output or in terms of intermediate products.

b. Measures should be direct indicators of the final product or service as observed by the customer, e.g., product delivered on schedule.

c. Effectiveness measures should be discrete indicators and be independently measurable. Measures should not be a roll up into a generic measure where changes in subordinate measures may be offsetting and performance changes are unclear.

d. Measures should describe output characteristics that are important to outcome objectives.

e. Measures should include those processes that managers of the activity control. They should exclude measures over which the activity has no control.

f. Measures should be distinguishable from measures of work process even though work process measures contribute to improving the performance of output efficiency or effectiveness.

g. Measures should be supported by accountability and monitoring systems that are automated to the greatest extent possible.

4. Process. The Department, using DoD Comptroller task forces with representatives of the OSD functional offices and the Services and Agencies, undertook a process to:

a. Review current effectiveness indicators to ensure that they characterize output from the customer's perspective rather than the work process to achieve output or intermediate products.

b. Select effectiveness performance measures for quantity, quality, timeliness, and customer satisfaction that meet the criteria using existing measures if possible. Where existing measures are not appropriate, identify what new measures or modifications to existing measures are needed to fully meet the criteria.

c. Ensure that effectiveness indicators are discrete and measurable.

d. Ensure the effectiveness performance measures comply with the CFO Act requirements, support and complement key business objectives, and measure output characteristics from the customer perspective. As an objective, this process will refine or modify performance measures currently used for CFO reporting to ensure that CFO performance measures are consistent with measures used in annual operating budgets.

5. Future Plans. Beginning in FY 1994, the Department plans to include business performance goals identifying effectiveness as well as unit cost per output goals on annual operating budgets for activities within the Fund. This approach will require efficiency and effectiveness performance measure definition and tracking to ensure that unit cost reductions are not achieved at the expense of customer support. Effectiveness measures will be developed by the functional, line, and customer communities in coordination with the financial management community. Effectiveness indicators will be integrated into the financial management and budgeting system to ensure that effectiveness goals are properly stated and priced. Finally, this approach provides an opportunity to stimulate the rate of

work process improvement through organizationwide gain sharing initiatives that use unit cost per output and effectiveness performance measures as a framework for measuring improvement and calculating gain sharing payout.

6. Business Area Measures The performance effectiveness measures contained in this report represent the Department's initial effort to specifically focus on effectiveness performance measures from the customer's perspective. The reported measures were developed using the criteria outlined in this section and were drawn from many existing measures used in current program or management information systems. We expect to refine, modify, or substitute measures based on experience. Development of performance measures that face the customer should be iterative and foster process improvement and increased customer satisfaction.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

1. Base Support Business Area

SCOPE OF BUSINESS AREA: This business area consists of Navy Public Work Centers, the Naval Academy laundry, and five Air Force laundries (two CONUS and three OCONUS). The twelve Navy Public Work Centers (PWCs) provide Navy, other DoD, and non-DoD activities in the immediate vicinity (generally considered to be within one and one half hours driving distance) of each PWC with public works services. Public works services include utilities services, facilities maintenance, family housing services, transportation support, engineering services, and shore facilities planning support. The Naval Academy laundry's primary customer is the Brigade of Midshipmen with service also being offered to departments of the Naval Academy and individuals. The Air Force laundries offer a variety of services to organizations and individuals.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

Public Work Centers

Each PWC uses performance measures to assess the multitude of services provided. The services have been aggregated into five categories and effectiveness measures have been developed for each category. The categories and measurement criteria follow:

1. **Utilities:** Products/Services include electricity, potable waste, salt water, heating, steam, clean steam, sewage, natural gas, and compressed air.

a. **Quantity:** Quantities will be provided by subcategory in standard industrial units.

b. **Quality:** Service remains in compliance with government agency regulations, (federal, state, or local), where applicable.

c. **Timeliness:** Time required to restore interrupted service.

d. **Customer Satisfaction:** Corporate customer satisfaction rating will be not less than 3.9 on a five point scale. The initial goal is to increase customer satisfaction by .1 on the scale each year.

2. **Sanitation:** Products/Services include refuse collection, pest control, hazardous waste I and II, environmental engineering, and industrial waste.

a. **Quantity:** Quantities will be provided by subcategory in standard industrial units.

b. **Quality:** Service remains in compliance with government agency regulations, (federal, state, or local), where applicable.

c. **Timeliness:** Meet schedule for 95% of service delivery.

d. **Customer Satisfaction:** Corporate customer satisfaction rating will be not less than 3.9 on a five point scale. The initial goal is to increase customer satisfaction by .1 on the scale each year.

3. **Maintenance and Repair:** Comprised of emergency work, service work, minor jobs, specific projects, and recurring work. Will be aggregated into one category for the unit cost outputs.

a. **Quantity:** Quantities will be provided by subcategory.

b. **Quality:** Less than 2% rework.

c. **Timeliness:** Average corporate response to begin job (actual work subsequent to engineering, plans, material receipt, scheduling) at site will be not more than: (1) 2.3 days for emergency work; (2) 9.5 days for service work; (3) 55 days for minor work; and (4) 280 days for specific work.

d. **Customer Satisfaction:** Corporate customer satisfaction rating will be not less than 3.7 on a five point scale. The initial goal is to increase customer satisfaction by .1 on the scale each year.

4. **Transportation:** Vehicles and equipment rentals.

a. **Quantity:** Percent of fleet hours used versus total available hours.

b. **Quality:** Annual downtime average not less than 5% for corporate fleet.

c. **Timeliness:** Meet 95% of vehicle and operations commitments within schedule.

d. **Customer Satisfaction:** Corporate customer satisfaction rating will be not less than 3.9 on a five point scale. The initial goal is to increase customer satisfaction by .1 on the scale each year.

5. All Other Services: Work ranges from planning and design for customers to inspecting contractor work to leasing of pagers/beepers. Corporate customer satisfaction rating will be not less than 3.9 on a five point scale. The initial goal is to increase customer satisfaction by .1 on the scale each year.

Laundries

The laundries will begin to use the efficiency measure of cost per pound of laundry. Customer satisfaction will be ascertained through the development of customer surveys.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

2. Clothing Factory Business Area

SCOPE OF BUSINESS AREA: The Defense Clothing Factory is located in Philadelphia, Pennsylvania. It is a field operating activity under the Defense Logistics Agency. Its purpose is to manufacture clothing and textile items for all Military Departments. It serves as a mobilization base to provide for rapid and effective supply of clothing and equipage items during emergency periods and to retain a skilled work force to accomplish this mission. Items typically manufactured are those which may be required on short notice or with special measurement, or under other conditions which make procurement from commercial sources infeasible.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

1. **On-Time Delivery of Clothing Requisitions:** A standard time is established for completing the two major types of requisitions, special measurement items and unique items. The actual time to deliver a requisition compared to the standard time.

Goal: To have all requisitions completed within the standard times.

a. Special measurement items - 21 days

b. Unique items, e.g., ROTC items - 38 days

2. **Quality Control Acceptance Rates:** Percentage is based on the lots received and the amount returned for rework.

Goal: To have less than 4 percent returned for rework.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

3. Commissary Operations Business Area

SCOPE OF BUSINESS AREA: Commissary operations are financed by direct appropriation for support of commissary resale stores, central distribution centers, troop issue subsistence functions, and staff management and support functions of the commissary system, including supervision, administration, and consolidated/centralized support activities of the headquarters, regions, districts, and service centers. The Defense Commissary Agency (DeCA) operates Department of Defense commissaries worldwide, provides troop issue subsistence for the Air Force and the Army at selected locations, and programs the replacement of War Reserve Materiel (WRM) rotation rations for the Air Force. Commissaries provide products at the lowest practical price (consistent with quality) to members of the Military Services, their families, and other authorized patrons, while maintaining high standards for quality, facilities, products, and services.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

1. **In-Stock Rate:** Selected as a measure of quality. In-Stock Rate is the percentage of line items on stores' shelves for resale versus the total number of line items allocated shelf space. Stocking policies are primarily based on customer feedback, trends in product movement, and industry marketing initiatives. In-Stock Rate indicates whether the commissary has what the customer wants, when the customer wants it, and where the customer wants it. The In-Stock Rate also represents a measure of timeliness and customer satisfaction, in addition to quality.

Goal: 94% In-Stock Rate.

2. **Wait-time in check out line:** Selected as a measure of timeliness. Data on wait-time is not currently collected, however, a system for collecting the data is under development.

Goal: A goal will be established during FY 1994 when more information is available.

3. **The Customer Service Evaluation System (CSES):** Selected as a measure of customer satisfaction. The CSES uses customer feedback through surveys and actual store data. Six subjective variables and six objective variables are combined into a weighted composite to produce a numerical indicator that represents the level of customer service at each store. CSES has been tested, and is scheduled for DeCA-wide implementation by the end of FY 1993.

Goal: A goal will be established during FY 1994 when more information is available.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

4. Commissary Resale Stock Business Area

SCOPE OF BUSINESS AREA: The Commissary Resale Stock business area finances the inventory of commissary goods sold to commissary customers through revolving fund operations under the Defense Business Operations Fund. This business area procures commissary inventory to sell to authorized commissary patrons (for example: active duty military, retired military, reservists who perform active duty, and some diplomatic service personnel and their families). Income from the sale of inventory is reinvested in inventory to support the commissary sales. Commissaries, by law, sell goods at their cost.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

1. **In-Stock Rate:** In-Stock Rate is the percentage of line-items on the store's shelves for resale versus the total number of line items allocated shelf space. Stocking policies are primarily based on customer feedback, trends in product movement and industry marketing initiatives. In-Stock Rate indicates if this business area is providing the commissary stores with what the customer wants, when the customer wants it, and where the customer wants it. Consequently, the In-Stock Rate represents a measure of quality, timeliness, and customer satisfaction.

Goal: 94% In-Stock Rate.

2. **Inventory Turns:** Inventory Turns are the number of times the average on-hand inventory is sold annually (value of sales divided by value of inventory). Store inventories (not on shelf) have been reduced through increased use of just-in-time inventories. The number of turns should increase as even more just-in-time direct vendor deliveries drive inventories further down. High inventory turns indicate Defense Commissary Agency is buying the right items (what the customer wants) in the right amounts.

Goal: 14 Inventory Turns annually.

3. **Inventory Accuracy:** A performance measure based on inventory accuracy will also be developed for this business area.

Goal: A goal will be established when more information is available.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

5. Depot Maintenance Business Area

SCOPE OF BUSINESS AREA: This business area consists of three divisions, one each managed by the Army, Navy and Air Force. The Navy financial statements include two Marine Corps maintenance depots for display purposes. A wide range of functions are performed within the Depot Maintenance business area. The Army provides vehicle, missile, and aircraft maintenance services as well as manufacturing activities such as the fabrication of large gun tubes. Navy Depot Maintenance consists of aviation depots, ordnance activities, shipyards and the Marine Corps depots. The Air Force performs manufacturing, development and test work in addition to aviation maintenance and repair.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

The Department of Defense has established a Defense Depot Maintenance Council (DDMC) which has the responsibility of advising the Assistant Secretary of Defense (Production and Logistics) on the Services' plans to streamline the provision of depot maintenance while maintaining the required level of performance. Part of this responsibility has been exercised through establishment of the DoD Depot Maintenance Performance Measurement System (DMPMS). DMPMS generates quarterly data that assesses some aspects of depot maintenance performance effectiveness. Additional measures, not reported by DMPMS, have been included to reflect customer satisfaction and inventory performance.

1. **Schedule Conformance:** This measure expresses the percentage of units completed on schedule compared to the number of units scheduled. Units completed are defined as major end items plus reparable.

Goal: Complete 95% of scheduled work on time.

2. **Quality Deficiency Reports (QDRs):** This measures discrepancies as reported by customers. The measure will be displayed as a percentage representing the number of QDRs compared to total work completed. Work completed will be defined in the same manner as above.

Goal: A goal is not yet available, but will be developed pending validation of Service data.

3. Inventory turnover ratio: This measure reflects activities' success in converting inventories of supplies and materials into sales. The measure is defined by dividing the Cost of Goods Sold into the annual average balance of supplies and materials (defined in dollars).

Goal: A goal will be established for this measure based on establishment of a consistent definition of inventory across this business area.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

6. Distribution Depots Business Area

SCOPE OF BUSINESS AREA: The principal business of distribution depots is to receive, store, and issue supplies and equipment used by the Military Services. As of March 16, 1992, the Defense Logistics Agency (DLA) became the single manager for all of the Department's Continental United States distribution depots. Prior to that date, each Service managed its own distribution depots.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: The specific measures included on the CFO statements for FY 1992 were On-Time Shipments and Inventory Accuracy. These measures were endorsed by the Distribution Depot task force and are discussed below.

MILESTONE II PERFORMANCE MEASURES:

1. **On-Time Shipments:** The average number of days for shipments processed by depots based on time standards contained in the Uniform Materiel Movement and Issue Priority System (UMMIPS). Shipments are monitored and measured from the receipt of the order by the depots to the time it is shipped. DLA has taken steps to revise their system to extend the measure to capture the time materiel is received by the customer.

Goal: Established by Issue Priority Group (IPG):
Priority (IPG I/II) - average 4 days or less
Routine (IPG III) - average 21 days or less

2. **Inventory Accuracy:** Measured in terms of Materiel Denials and Locator Accuracy.

a. **Materiel Denials:** The ratio of the number of denials to the number of issues for a given period.

Goal: Less than or equal to .1%.

b. **Locator Accuracy:** The percentage of errors detected to the total number of locations surveyed.

Goal: Greater than or equal to 97%.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

7. Financial Operations Business Area

SCOPE OF BUSINESS AREA: The Defense Finance and Accounting Service (DFAS), which comprises the financial operations business area, is the central organization responsible for DoD finance and accounting operations and procedures. DFAS provides a wide variety of services to its customers, such as paying DoD military and civilian employees, paying commercial and contractor invoices, and preparing departmental level accounting reports. Established in January 1991, through the consolidation of the finance and accounting centers of the Military Departments and Defense Agencies, DFAS is comprised of five primary finance centers and a headquarters located in Washington, DC.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: Two performance effectiveness measures for DFAS, both related to the retired military pay function, are required for inclusion in the FY 1992 CFO financial statements. They are:

1. On-time delivery of initial payments to retired military and annuitants (timeliness/customer satisfaction) (measure #4 below): This continues to be a valid effectiveness measure. No change to the measure is required.

2. Percent of inquiries to total pay accounts maintained (customer satisfaction): This is not a solid indicator for performance effectiveness. This measure reflects the number of inquiries received by a finance center. It does not assess whether or not: a) the inquiry was answered; b) the customer was satisfied; or, c) the inquiry was a complaint or a question. Measures that focus on timeliness and accuracy in a pay area, as listed below, also assess customer satisfaction at the same time. Simply put, if a customer is paid timely and accurately, that customer is generally satisfied. As a result, this measure will not be used.

MILESTONE II PERFORMANCE MEASURES:

1. Special payments made (quality): This measure applies to the civilian pay function and measures the volume of special payments (off-line, supplemental, and retroactive payments) made to civilian employees either by check or electronic funds transfer (EFT). This measure is designed to reduce the number of special payments and ensure all payments to civilian employees are made timely, accurately and from the standard automated systems. Performance is measured as a percentage of special payments made compared to the total number of civilian pay accounts maintained.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

2. Pay-affecting adjustments (timeliness/customer satisfaction): This measure applies to the civilian, active and retired military pay functions and ensures that adjustments to an individual's pay account are posted in a timely manner. This is also a measure of customer satisfaction because it is assumed that when DFAS posts required adjustments timely, customers are likely to be satisfied with the service received.

a. Pay-affecting adjustments for civilian pay: include, but are not limited to, promotions, within-grade increases, and pay raises. Performance effectiveness is based on the percentage of pay-affecting adjustments made within one pay period after date of receipt at the finance center.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

b. Pay-affecting adjustments for active military: include, but are not limited to, variable housing allowances, cost of living adjustments and basic allowance for quarters. Performance is measured as a percentage of adjustments posted to a pay account within 30 days of the effective date.

Goal: 95% of pay-affecting adjustments posted within 30 days of effective date.

c. Adjustments to pay accounts for retired military: include, but are not limited to changes in allotments, address, tax and survivor benefit plan. Performance effectiveness is based on the percent of adjustments posted within 30 days of date of receipt.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

3. On-time delivery of pay instruments (timeliness/customer satisfaction): This measure focuses on the function of delivering various pay instruments to DoD active, retired and reserve military personnel. Pay instruments include checks, EFTs, bonds, special pays, and allotments. As one of DFAS' primary missions, it is essential that DFAS assess if they are paying military service personnel in a timely manner. Performance is measured as a percentage of pay instruments delivered to the customer on the first attempt on the designated payday.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

4. On-time delivery of initial payments (timeliness/customer satisfaction): This measure focuses on the timeliness of the initial payments to retired military members and annuitants. Measure is to ensure that newly retired members and annuitants do not miss a payment. Performance is measured by the percentage of initial retired payments made within the first 30 days of retirement and annuitant payments made within 30 days of receipt of executable claim.

Goal: 98% of payments made within 30 days of retirement and 30 days of receipt of executable claim for annuitants.

5. Interest payments (timeliness): Timely processing of commercial and contractor (stock fund) invoices is a major objective for DFAS. When invoices are not paid timely, the DoD is obligated to pay interest. This measure ensures that considerable attention is given to the volume of interest payments being made to contractors as a result of untimely payments by DFAS. Performance is measured as the percentage of invoices paid with interest on a monthly basis.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

6. On-time payment of Defense Contract Administration invoices (timeliness): This measure assesses the timeliness in which contractors receive payment. Performance effectiveness is based on the number of contract invoices on-hand within contract payment terms (non-overaged) compared to the number of contract invoices on-hand.

Goal: 95% of invoices paid within contract payment terms.

7. Undistributed disbursements (accuracy): This measure focuses on the departmental level accounting and reporting function DFAS performs for its customers. This measure ensures that accounting is accurate and that all reports are consistent in terms of disbursement information. Performance is measured as the number and dollar value of undistributed disbursements over 120 days old at the end of each month.

Goal: This has not yet been established. DFAS will begin to report this information and develop a historical baseline which will serve as the basis of the goal.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

8. Industrial Plant Equipment Business Area

SCOPE OF BUSINESS AREA: The Industrial Plant and Equipment business area is responsible for the maintenance and refurbishment of industrial plant equipment currently in use at DoD industrial activities, and for the repairs and overhaul of equipment in the General Reserve prior to issuance to DoD activity. They accomplish this mission by providing on-site repair and rebuild of IPE and the refurbishment of IPE from the General Reserve. The General Reserve was established by the Industrial Reserve Act to provide a reserve of industrial machine tools for military readiness. This work is performed by the Defense Industrial Plant Equipment Center (DIPEC), a field activity of the Defense Logistics Agency.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

1. **Quality Deficiency Reports (QDRs):** This measures discrepancies as reported by customers whose equipment is under warranty. The measure will be displayed as a percentage representing the number of QDRs received compared to the number of warranties outstanding.

Goal: A goal is not yet available, but will be developed pending validation of Defense Logistics Agency data.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

9. Information Services Business Area

SCOPE OF BUSINESS AREA: The Information Services (IS) business area consists of the Defense Information Services Agency (DISA) and the Naval Computer and Telecommunications Command (NAVCOMTELCOM). DISA provides communication services to DoD and other federal agencies, and operates a DoD utility that provides time-shared data processing services; software design, development and maintenance of information systems; and, technical support services. NAVCOMTELCOM provides time-shared data processing services, technical support services and design, development and maintenance of Navy sponsored automated systems.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

Information Processing Centers:

1. **System Availability:** This measures the amount of time the system is operational and available to process information. This is net of scheduled downtime for routine maintenance. System availability will be automatically monitored continuously within the host computer.

Goal: 98% system availability - calculated by dividing the amount of downtime for the month (net of scheduled downtime maintenance and expressed in wall clock hours) by the total amount of time available for the month (also net of scheduled downtime maintenance and expressed in wall clock hours). The result will be the system availability measure expressed as a percent.

2. **Response Time:** This measures the response time for the host and is defined as the internal measure beginning from the time an instruction enters the front end processor (FEP), goes into the host, and the host responds by sending an acknowledgement that it has received the instruction and is ready to proceed with the next one. When the capability is fully developed, this measure will be expanded to include end-to-end response time which is a combination of host and network response time. Network response time is defined as the time it takes an instruction to go from a user terminal to the FEP. Response time for the host will be automatically monitored and tracked by the host computer.

Goal: Response time of 3 seconds/95% of the time - established as the baseline against which the computer automatically measures and reports results.

3. **Batch Turnaround:** This measures whether a batch job successfully ran and is available for a customer at the time scheduled. This will be automatically monitored within the host computer.

Goal: 98% of batch job runs are successful - calculated by dividing the number of jobs that failed by the number of total jobs run.

Central Design Activity (CDA):

1. **Timeliness:** This measures the current status of project completion, from a developmental standpoint, and compares the planned project completion date against the new estimated completion date. The delta will provide information as to whether the development is completed ahead of or behind schedule.

Goal: Goals are not yet developed. There is a CDA task group that is in the process of refining the measure and collecting supporting data. Goals are expected to be established by June 1993.

2. **Customer Satisfaction:** This measures customer satisfaction based on system life cycle review (system requirements reviews, systems design reviews, systems readiness reviews, test reviews, and a final implementation review). Reviews involve the customer and supplier meeting either face to face or via video teleconferencing and are designed to ensure that the customer and supplier agree at every phase of the life cycle that what is being developed is what the customer requested or required.

Goal: Goals are not yet developed. There is a CDA task group that is in the process of refining the measure and collecting supporting data. Goals are expected to be established by June 1993.

3. **Quality:** This measures, from an operational standpoint, the number of times a major or minor software service disruption/outage has occurred over time, and the number of assistance calls received or tracked. "Operational" refers to after deployment or implementation phase of the life cycle.

Goal: Goals are not yet developed. There is a CDA task group that is in the process of refining the measure and collecting supporting data. Goals are expected to be established by June 1993.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

10. Printing and Publication Business Area

SCOPE OF BUSINESS AREA: The Printing and Publication business area is managed by the Defense Printing Service (DPS). The DPS consists of a headquarters element located in the Washington Navy Yard, Washington, DC, which manages worldwide printing and duplicating operations at 126 major printing, production and procurement facilities and 248 smaller reprographics facilities through eight geographical areas.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

Production: Production volume will be broken down into three parts as follows:

- Traditional in-house production
- High technology production
- GPO procurement

Goal: Goals will be developed.

These performance measures are currently in use and will continue to be used:

1. **Production Efficiency (management effectiveness):**

Production standards are established for each revenue/production process stated in terms of units produced per hour. Units produced are converted into standard hours earned. Employee time is captured by the cost center as hours available. The hours available are divided into the hours earned to produce the production efficiency factor shown as a percentage.

Goal: To produce 100% efficiency.

2. **Quantity:** The number of jobs performed by each type of service.

Goal: This will be consistent with overall unit cost measure goal of 7,200 million units.

3. **Quality:** Spoiled and damaged work as a total cost will be reported and expressed as a percentage of earnings for each type of production. Spoiled work includes customer returns which did not achieve customer quality requirements. Customer perception of quality will be captured through customer surveys.

Goal: A goal is not yet available, but will be developed pending validation of data.

4. On-time delivery: This will be expressed as a percentage of total work load.

Goal: Complete 95% of scheduled work on time.

5. Customer Satisfaction: Reported as measured by the current Inspection Team. Customer surveys will be introduced to be more timely and totally measure customer satisfaction. When available, this will also be reported.

Goal: A goal will be established for this measure based on establishment of a consistent definition of customer satisfaction within this business area.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

11. Research and Development Business Area

SCOPE OF BUSINESS AREA: The Research and Development (R&D) business area is now limited to Navy research, development, test and evaluation (RDT&E) activities. Navy RDT&E functions were the only industrially funded research activities within the Department when the Fund was established. The major activities within this business area are: Naval Surface Warfare Center; Naval Air Warfare Center; Naval Undersea Warfare Center; Naval Command, Control and Ocean Surveillance Center; Naval Research Lab; Naval Civil Engineering Lab; and the test ranges associated with the warfare centers. These activities provide full spectrum research, development, engineering, fleet support, test and evaluation services that ultimately support weapons systems acquisition. This support is purchased from these activities by customers such as the program managers responsible for weapon systems development and acquisition.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: Currently, the CFO measures for this business area are narrative descriptions of major research accomplishments that address the effectiveness of research. These measures do not provide an adequate means of evaluating the operational effectiveness of these centers and laboratories.

MILESTONE II PERFORMANCE MEASURES:

Much work remains to be done before the Department can implement a standard, quantifiable set of effective performance measures throughout the Navy RDT&E business area. Many of the traditional measures such as quality and timeliness that are typically applied to various aspects of the R&D program do not directly measure the output of research which is new knowledge. The search for an effective measure of research and development performance continues in the private sector as well as in the government.

At this time, definitive measures and measurement procedures have not been developed for this business area. However, an approach has been developed that will soon move this activity toward effective performance measurement. The approach consists of focusing upon two important aspects of evaluating R&D support:

1. **Customer evaluation:** A customer evaluation process will be developed that provides an authoritative assessment of the quality of business area output. The customer will then control the funding for the services provided by the centers and labs, and will also play a substantive role in the evaluation of

II PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

13. Supply Management Business Area

SCOPE OF BUSINESS AREA: This business area currently consists of four separate inventory control functions, one each managed by the Army, Navy, Air Force, and Defense Logistics Agency (DLA). The Marine Corps will become the fifth inventory control operation in FY 1994. The Supply Management business area oversees the inventory management of approximately five million consumable and reparable secondary items at nineteen wholesale-level Military Service and DLA Inventory Control Points (ICPs).

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: Two measures are included in the CFO statements for FY 1992. They reflect operational effectiveness, and consist of the measures for Fill Rate and Stock Turn. One of these measures, Fill Rate, is currently in use in all the Services and DLA. Stock Turn is not included in this report because it is not a uniformly applied measure in the Services or DLA. The variables associated with its use are too broad to permit meaningful comparison or consistent analysis of business area performance.

MILESTONE II PROGRAM MEASURES:

1. **Fill Rate:** This measures the percentage of demands processed by the supply systems without interruption. It is a measure of timeliness, quantity, and customer satisfaction.

Goal: Fill 85% of requisitions without interruption.

2. **Quality Deficiency Reports (QDRs):** This measures the percentage of discrepancies in customer receipts in comparison to total item issuances by the ICP (in response to customer requisitions). It is a measure of customer satisfaction.

Goal: A standard goal will be developed pending validation of Service and DLA data.

3. **QDR Processing Time:** This measures the time interval from ICP receipt of QDR to the issuance of corrective action. It is a measure of timeliness and customer satisfaction.

Goal: A standard goal will be developed pending validation of Service and DLA data.

business area performance. The close association of performance and funding will ensure a proper emphasis. It is the constant interaction between the center and the customer throughout development of the customer's project that ensures the effort is progressing as intended. Since there is no absolute standard for good research and other types of technical support or a consistent measure of output, we must rely upon the many discrete evaluations by the customers of each technical support effort. Enhancing the strength of the customer in this relationship will go a long way toward managing the cost and quality of the products of the centers and labs.

Goal: Goals will be established as the measurement process develops.

2. Relevance to Defense Science and Technology Strategy: A process will be developed that assesses the extent to which a particular research program or group of programs supports the goals of the Defense Science and Technology Strategy. This strategy sets forth, in very broad terms, the major corporate goals of the DoD research program, which are to address the most pressing military and operational requirements of the Services. It is important to ensure that research efforts are directed toward these goals. It also is important to assess how the research furthers the achievement of these goals.

Goal: Goals will be established as the measurement process develops.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

14. Technical Information Services Business Area

SCOPE OF BUSINESS AREA: The Technical Information Services business area includes the Defense Technical Information Center (DTIC) which is a field operating activity under the Under Secretary of Defense (Acquisition). This business area also includes 14 DTIC managed and administered Information Analysis Centers (IACs). DTIC functions as the central collection and dissemination point for DoD technology base information interchange, and contributes to the management and conduct of DoD research and development efforts by providing access to and transfer of scientific and technical information. Customers are the managers, scientists, DoD engineers and DoD contractors.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

1. **Number of days required to process a document into the DTIC collection:** This measure is applied to DTIC's two primary databases, the Technical Reports database and the Work Unit Information System database.

Goal: Goal of 35 workdays to process Technical reports, but no goal for Work Units.

2. **The number of days to respond to user requests for material:** This measure assesses DTIC's responsiveness to user demands for documents issued from the Technical Reports database.

Goal: Goals of 5 workdays to respond to a user request for a hard copy report and a goal of 2.5 workdays for a microfiche report.

3. **The response time on DTIC's on-line system:** This measure expresses the response time in seconds of DTIC's RDT&E On-line System (DROLS).

Goal: Establishment of goal in process; but for 92% of system queries, the response time is 15 seconds or less, and for 57% of system queries, the response time is 5 seconds or less.

4. **System availability:** This measure assesses whether the DROLS is available as scheduled. The measure is expressed as a percentage of scheduled time that is available for DTIC users.

Goal: Establishment of goal in process; but actual performance typically exceeds 95%.

5. The number of customer complaints on "demand reports": This measure determines the percentage of customer complaints compared to the total number of customer requests for DTIC Technical Reports. User complaints are based on illegible pages, missing pages, shipping errors, and status requests for reports.

Goal: Complaints occur in no more than 1% of total customer request for DTIC technical reports.

II. PERFORMANCE MEASUREMENT

B. BUSINESS AREA ASSESSMENT

15. Transportation Business Area

SCOPE OF BUSINESS AREA: The transportation business area includes three Transportation Component Commands (TCCs), the Military Traffic Management Command (MTMC), the Military Sealift Command (MSC), and the Air Mobility Command (AMC). Based on Presidential approval of the Unified Command Plan the US Transportation Command (USTRANSCOM) was assigned combatant command over the TCCs in time of peace and war. The USTRANSCOM also has responsibility as the Department of Defense (DoD) single manager for transportation thereby consolidating responsibilities formerly distributed to each Service. The Service secretaries are responsible for organizing, training and equipping the TCCs for assignment to USTRANSCOM. The only functions performed by the TCCs, but not assigned to USTRANSCOM, are service-unique or theater assigned transportation functions. These responsibilities are outlined below.

MTMC has responsibility for traffic management, intermodal transportation, common-user ocean terminals, and intermodal container management. The MTMC manages freight movement in the Continental United States (CONUS), all passenger traffic in CONUS and Army traffic worldwide, as well as the DoD worldwide personal property shipment and storage program. The MTMC also operates common-user water terminals throughout the world. No service-unique or theater assigned transportation functions have been identified for MTMC.

MSC provides sealift support for the DoD. Military support services are provided through the Naval Fleet Auxiliary Force, which uses civilian-manned noncombatant ships for material support of the U.S. Navy, Special Mission Ships which provide unique seagoing platforms for the Military Services and other government agencies, and the Afloat Prepositioning Force (APF)/Fast Sealift Ships (FSS) which are sealift platforms used for forward deployment and early on-site availability. Of these functions, Special Mission Ships, and the Maritime Prepositioning Ships (part of the APF program used in support of the US Marine Corps) have been identified as service-unique.

AMC maintains a worldwide airlift system in a constant state of readiness. AMC's peacetime flying hour program trains and exercises aircrews and the airlift support system to ensure the Command's war readiness. Therefore, AMC's costs primarily are driven by the requirement to keep its flight crews ready for contingencies, much like any other aviation warfighting organization. As a by-product of the mobility mission, AMC has the capability of providing airlift services to DoD Components during peacetime. To the extent that demand for cargo movement

takes place within the bounds of the flying hour program (which is set to ensure that crews retain their qualifications), cargo can be moved for little or no additional cost to the government. In addition to DoD organic airlift, AMC maintains a partnership with civil air carriers through the Civil Reserve Air Fleet (CRAF) which provides additional airlift capability during wars or other emergencies. In peacetime, CRAF members satisfy airlift requirements that cannot be met effectively by the AMC military flying hour program (primarily passenger movement). The CRAF also carries some peacetime commercial cargo to train personnel for their potential wartime mission of augmenting military air transportation operations. In addition to these functions, AMC provides Operational Support Airlift (OSA) to senior Executive Branch, congressional, and DoD officials, and a portion of the Air Force's air refueling tanker service. OSA and air refueling tankers are service-unique functions.

CFO PROGRAM MEASURES REQUIRED FOR FY 1992: None

MILESTONE II PERFORMANCE MEASURES:

Military Traffic Management Command (MTMC):

1. **On-time performance:** This measure applies to movement of cargo as part of the overall DoD requisition and issue process. Performance is measured as a percentage of shipments that meet the applicable portion of the Uniform Military Movement and Issue Priority System (UMMIPS), or alternative predetermined agreed upon delivery schedules.

Goal: Meet UMMIPS standards or alternative predetermined agreed upon delivery schedules.

2. **Containers Lifted within objective time standards:** This measure focuses on movement of cargo by land inside the MTMC cargo system. Performance is measured by the percentage of containers "lifted" (placed on ship) by specified date by ocean carriers based on published MTMC booking schedules in accordance with Military Standard Transportation and Movement Procedures (MILSTAMP) timeframes.

Goal: 97% of containers are lifted on the date specified in published MTMC booking schedules.

3. **Shipment units on Basic (Initial) Cargo Manifest:** This measure assesses the accuracy of initial manifests. It measures the number of shipment units on the original manifest, and is relevant to minimize supplemental manifests.

Goal: 95% of all cargo lifted appear on the initial basic manifest.

4. **Responsiveness to Customer Movement Requirements:** This measure applies to the turn-around time in responding to DoD

shippers' requests for negotiated transportation/travel services. Performance is based on the amount of time from receipt of a customer's movement requirement until the customer is advised of the result of negotiation/solicitation efforts.

Goal: Freight -- 95% of movement requirements are processed, solicitations released, bids evaluated, and awards made within 150 days of receipt of the movement requirement from the customer. Passenger: -- 95% of passenger movement requirements are processed, solicitations released, bids evaluated, and awards made within 30 days of receipt of the movement requirement from the customer.

Military Sealift Command (MSC):

1. On-time Performance: This reflects movement of cargo by sea as part of the overall DoD distribution system (including petroleum) as required to meet the DoD mission. Performance is based on the percentage of shipments that meet required lift dates or delivery dates based on predetermined agreed upon lift and delivery requirements established by the DoD customer.

Goal: Meet predetermined agreed upon lift or delivery dates established by the DoD customer.

2. Ship Availability: This measures the number of days that ships are available to perform the function for which they were contracted against the planned number of days.

Goal: Meet the number of planned days.

Air Mobility Command (AMC):

1. AMC Aircrew Readiness Status: This measures the extent to which AMC Aircrews are trained and certified ready to accomplish the operational requirements of AMC. Crews are deemed to be qualified if they have successfully met all requirements in AMC-maintained regulatory guidance.

Goal: 90% of authorized flight crews are qualified.

2. On-time Performance: This measure reflects movement of Air cargo as part of the overall DoD requisition and issue process. Performance effectiveness is based on the percentage of shipments that meet the applicable portion of Uniform Military Movement and Issue Priority System (UMMIPS), or alternative predetermined agreed upon delivery schedule.

Goal: Meet UMMIPS standards or alternative predetermined agreed upon delivery schedules for 90% of shipments.

3. Passenger arrival times: This measure assesses the percentage of passengers that meet required arrival times based on AMC published arrival schedules. The percentage indicates

the level at which AMC passenger required arrival times are met under AMC controllable conditions. Late arrivals due to inclement weather, circumstances caused by wartime contingencies, and other uncontrollable circumstances are not counted in this measure; they are accounted for separately.

Goal: 94% of passengers arrive within 2 hours of the published arrival time.

4. Cargo Aircraft Utilization Rate: This measures utilization of available pallet positions as a percentage of pallets carried based on capacity of AMC Aircraft.

Goal: 92% of pallet capacity filled with pallets overall.

III. INFORMATION SYSTEMS

A. OVERVIEW

The Authorization Act requires the Department to provide information in this report that:

- specifies whether the Department of Defense has selected a standard cost accounting system, and prepared an implementation plan (for installing the system at the Fund's activities; and
- specifies the status of interim systems efforts including efforts to improve the accuracy of information in the Fund systems.

This portion of the milestone report is in three parts. The first provides a summary of the analysis which led to the selection of the Automated Payroll, Cost and Personnel System (APCAPS), which will be the baseline for the DoD standard cost accounting system, as the migratory system for the Fund and unit cost businesses. The second addresses the current status of efforts to improve the migratory system, which has been renamed the Defense Business Management System (DBMS), to provide enhanced information management support to department business functions. The third provides the current plans for transitioning business activities to the DBMS system.

B. STANDARD SYSTEM SELECTION

In October 1989, the Deputy Secretary of Defense announced the Corporate Information Management (CIM) Initiative in response to the Defense Management Report (DMR) of July 1989. The Executive Level Group Plan, November 1990, outlined the perspective of defining business policies, procedures and measurements in light of downsizing in a post Cold War era; managing information as a means for improving the DoD's business methods and operations; and utilizing information technology as a facilitator for achievement of business process improvements and DMR savings.

Functional groups were established in areas such as Civilian Personnel, Civilian Payroll, and Financial Operations. The emphasis was to be an examination of the future to determine the needs and way to do business in each area. What followed was the selection of interim systems based upon how the department had performed its business in the past and the designation of Executive Agents for stand alone functions within the individual business areas. Under concurrent development were the DMR decisions for the standardization and consolidation of DoD business functions and organizational structures to

support the mission need and attain required budget reductions. In October 1991, the Department expanded the use of financial management practices through the establishment of the Defense Business Operations Fund.

As demonstrated in the analysis that follows, the selection of an integrated system as the migratory system provides significant advantages in time, cost, and risk. In addition, the CFO Act requires that financial systems be transaction based and integrated, and the Executive Level Group that provided recommendations to the Deputy Secretary of Defense on CIM included the requirement for integrated systems as one of its recommendations.

In October 1992, the Automated Payroll, Cost and Personnel System (APCAPS) was designated as the migratory system for the Fund and unit cost businesses as a result of DoD business policy decisions and redefined mission requirements. APCAPS was selected because it was the only operational integrated system available. In December 1992, the system was renamed the Defense Business Management System (DBMS) and designated as the DoD-wide standard business/financial management system in support of the changing business policies and procedures of the Department, as was initially visioned under the CIM concept.

The pages that follow provide the rationale for selection of an existing integrated system, into which additional functionality and technical upgrades can be applied, as the best approach to achieving the standardized and improved DoD business policies, practices and the support infrastructure. The technical system automation alternatives (Integrated vs. Interfaced vs. Black-boxed systems) will be addressed and compared in terms of cost, timeliness and levels of risk for meeting the future business needs of the Department.

Designation of a Defense Business Management System was not a technical decision for the sole purpose of standardizing data automation operations. Business policies and decisions have been made throughout the Department since the initial inception of CIM in 1989. Managing information has been documented as a fundamental principle for improving the Department's business methods and operations. The visionary Defense Business Management System has been determined to best meet those needs as the information technology vehicle which can best facilitate the Department's business process improvements and DMR savings.

I. DoD's Visionary Business Management System. The visionary Business Management system of the DoD will provide to each management level the necessary information to make decisions appropriate to ensure the most effective use of resources available to meet the organization's mission. These resources include the following: human, real property, capital asset, and financial. Business decisions will be based upon the costs and benefits to the overall support structure and ultimate

internal DoD customer--the uniform forces. This requires the Department's overhead/support structure to operate at the least cost to meet the customer's needs, which will allow the maximum amount of the Department's resources to be made available to the uniformed forces.

The fully functioning Business Management System, including all of the Department's management requirements, does not exist in DoD at this time and must be developed. Through the CIM efforts, various stovepiped applications have been held up as the "best" for their individual functionally supported area; however, no CIM-type attempt had been made to select the best approach to moving towards a Business Management System.

2. Development Approaches. Development approaches that were analyzed to create the visionary Business Management system include:

a. Interfaced. Selecting a series of existing stovepiped systems designed to meet specific needs and interfacing them. The systems that have been identified would also require functional and technical upgrades to meet the business requirements of the visionary system.

b. Black-boxed. Selecting a series of stovepiped systems designed to meet specific needs and interfacing them through a technically developed black-box. The existing systems that have been identified would also require functional and technical upgrades to meet the functional requirements of the visionary system.

c. Integrated. Selecting an existing integrated system and adding functional and technical upgrades required for the visionary system requirements.

The technical process of determining the best approach for developing the Department's integrated Business Management system has been hampered by the lack of a specific set of integrated standard functional requirements (Enterprise Models, IDEF models, standard data elements -- including a functioning Departmentwide Data Standards program), which defines the visionary Business Management system. This "stovepiping" of requirements continues in most areas of the Department. The technical community, like the functional community, has not yet developed an available suite of technical tools, a standard development methodology supported by a Computer Aided System Engineering (CASE) environment, nor a suite of contract vehicles providing a migratory path to open systems architecture. These failings by both communities have resulted in a critical situation, further complicated by the Department's urgent timelines for budget reduction and massive improvements in efficiency while striving to maintain its overall mission.

Despite the lack of integrated, standard functional requirements to clearly define the visionary system, an analysis of the three development approaches can be completed based on the application of distinct criteria, together with the consideration of specific Central Design Activity (CDA) business practices and technical infrastructure requirements.

3. Criteria For Determining Best Development Approach For The Visionary Defense Business Management System. The criteria established by the functional community through various CIM and CIM-related initiatives fall into the following major categories that drive the technical approach/solution:

a. Cost. The least cost method of providing the highest value Defense Business Management system to the Department's managers is critical.

b. Timeliness. The need to reduce/realign the Department requires a robust approach to provide the Business Management system and tools to all levels of DoD management. Considering the current base closure and realignment efforts, the restructuring of the support organizations, and the implementation of revised funding policies, the need for rapid delivery (well within two years) of a standard Business Management system to all DoD managers is vital.

c. Risk. The areas of risk to be considered include:

(1) Designing effective, integrated business policies and practices that represent the DoD standard.

(2) Having these business policies and practices reflected in and supported by an integrated systems infrastructure.

(3) Gaining overall acceptance and support by all of the Department's components.

(4) Considering the deployability and maintainability of the standard policies, business practices and systems infrastructure.

4. Points Of Reference For Technical Evaluation Of Best Development Approach For The Visionary System. Given the three approaches to developing the Department's Defense Business Management system (Interfaced, Black-boxed, Integrated) and the three criteria categories (Timeframe, Cost, Risk), what follows is a range and depth analysis/model of the considerations provided to the technical community. Each point of reference will be addressed separately, but must be considered as a whole to reach a balanced conclusion. The points of reference for technical evaluation are:

a. DoD Automated Information System Life Cycle Management Manual, DoD 7920.2.M, March 90. This manual differs somewhat from DoDD 8120.2, Automated Information System (AIS) Life Cycle Management (LCM) Process, Review and Milestone Approval Procedures, January 1993, but was in effect at the time the standard DoD Business Management System decision was made and therefore is more appropriate for consideration in support of the decision process.

The LCM Phases identified in the manual are: 0 Need Justification; 1 Concept Development; 2 Design; 3 Development; 4 Deployment; 5 Operations. Phases 0 and 1 will not be discussed since they occur predominately in the functional user community prior to the hand off to the technical community for development. The majority of Phase 0 and Phase I documentation is produced in support of the Defense Management Report (DMR), Defense Business Operations Fund, Unit Cost, Chief Financial Officer (CFO) Act, Office of Management and Budget (OMB), General Accounting Office (GAO) and CIM documentation and legal requirements. The full cost, business case and economic analysis of these programs and statutory requirements provide the basis for moving forward to a standard DoD Business Management System. In addition, they provide requirements upon which technical alternatives related to Cost, Timeliness, and Risk can be analyzed during subsequent LCM phases.

The LCM phases of Design, Development, Deployment and Operation of the DoD Business Management system have largely come under the mission functions of the Defense Information Services Agency (DISA)/Defense Information Technology Services Organization (DITSO) and are summarized below:

- In the Design Phase, the overall technical approach to meeting the needs stated in the functional description is determined with a refinement to the life cycle costs. The selection of the design and development technologies are made, and a configuration management discipline is applied.
- In the Development Phase, physical program units, data structures and system controls are produced along with documentation and system support for planning deployment
- In the Deployment Phase, conversion of software and data from the existing information system occurs.
- In the Operation Phase, post deployment assessments are performed and continual evaluation and maintenance of the AIS takes place.

b. Technical Infrastructure Operation And Support Requirements. This point of reference deals with the broader requirements associated with the operation and support required of the Department's Business Management system from the DoD

perspective. Technical infrastructure requirements include central design and information processing considerations, technical support, telecommunications support, the Technical Reference Model and migration to an Open Systems environment.

c. The Business Model. This model depicts participants in the development of the Standard DoD Business Management System in their roles and relationships; and again addresses their roles and responsibilities in developing, deploying, and sustaining the overall business policies, practices, requirements, development life cycle and support of the system end users/consumers. This analysis is presented in the context of roles and responsibilities of the organizations developing and using the visionary system and addresses the criteria of Cost, Timeliness, and Risk.

What follows is an evaluation of the three approaches (Interfaced, Black-boxed, and Integrated) against the criteria (Cost, Timeliness, Risk) in narrative form. In support of the narrative summary, attached charts are referenced.

5. Analysis Of LCM Perspective.

a. Design Phase

(1) Cost--Integration Approach. In the Design Phase the critical factor is being able to trace the technical specifications to the mission needs and prioritized functional requirements. In an integrated system the prioritization process covers all aspects of the system. Functional requirements, and mission needs statements are required to be integrated prior to completion of design. In the current DBMS, this takes place through the Functional Priority List (FPL), Project Development Plan (PDP) Process and full Configuration Management (CM) for all mandatory changes and situations where customer proponents have set the requirements and mission needs.

(2) Cost--Interface Approach. In the interfaced mission approach, individual customer groups dealing with the stovepiped systems may or may not integrate and prioritize their mission needs and functional requirements across the spectrum of interfaced systems that comprise the functionality required for the Business Management System. This results in life cycle costs associated with the design of applications which may or may not integrate at the functional level across the stovepiped systems' boundaries to be considered in other interfaced applications. Determining priorities and Configuration Management between stovepipe systems and different functional communities, is a difficult task, which up to now has not been successfully accomplished within the military department, where an interfacing approach has been the modus operandi. It has been claimed that problems and issues not resolved in the design stage of the LCM process can cost up to 50 times more in the post delivery phase to correct. While the 50 times estimate may

be arguable, the fact that post delivery correction is more costly, is not subject to debate.

Significant duplication of documentation results in stovepiped design efforts with overlapping data and process requirements and the necessary reconciliation thereof. In order to assure that consistency of requirements, design concepts, technical solutions and prioritization/Configuration Management takes place above the development group, a large organizational superstructure would need to be implemented.

A current example of the interfaced approach to support a Business Management need is demonstrated by the Defense Commissary Agency's (DeCA) selection of a suite of interfaced systems to support both their Business Management and more traditional mission management systems needs. The "wiring" diagram of design and cross system interfacing has led to a search for new systems to support the mission needs, including the direction to remove the interface between the DoD Standard Civilian Personnel System (DCPDSC) and DBMS systems.

The overall cost to the Department for this attempted interface is being measured in terms of both dollar outlay and great frustration with and by the DeCA management, employee and contractor serviced customers/consumers. If an interfaced approach is taken for an overall Defense Business Management system, satisfactory management of the superstructure over the design efforts would prove to be expensive and affect the time frames and risk of delivery. The significant lesson of the Commissary systems selection is that none of the interfaced systems were designed with the others in mind and the cost to "fix" the resulting problems far exceed the initial cost to implement the systems as designed.

(3) Cost--Black-Box Approach. In the black-box approach, the same issues and concerns apply to the Design Phase as with interfaced systems. Multiple stovepiped design processes with no focus on priorities and cross stovepiped Configuration Management will increase the Design Phase cost. The black-box concept offers no benefit in the Design Phase over the interfaced approach, although it does presume a data standardization across the interfaced systems that, unfortunately, does not exist today. If the Department waits for a fully functioning data management program and those standards to be applied to all candidate interfaced systems, the cost and timeliness for delivery would be dramatically increased.

(4) Timeliness--Integrated Approach. In the Design Phase, the integrated system approach focuses design from a potential broad requirement across the entire application range of the Defense Business Management System. The ability to utilize an integrated design approach ensures that timing of AIS enhancements are always in synchronization.

The best example of the comprehensiveness of an integrated design approach is the recent implementation of the requirements of the Federal Employees Pay Compensation Act (FEPCA). This public law required changes in Civilian Personnel, Payroll, Cost and General Fund/DBOF accounting areas of the DBMS. All required changes across the spectrum of the DBMS were made on time using directed data standards. The stovepiped systems' efforts are still dealing with interface issues for proper handling of the FEPCA requirements. In most cases the costing and accounting systems of the Department have not addressed the specific requirement of FEPCA. The integrated approach is critical in reducing overall time frames. The single, integrated focus of the AIS design group on the needs of the functional/user/policy communities ensures issues are resolved simultaneously for all aspects of the system.

(5) Timeliness--Interfaced Approach. The issues raised above in connection with cost for interfaced systems also apply to a discussion of timeliness issues in relation to an interfaced approach. The coordination effort required to ensure designs revolving around the Department's data and process models associated with the business practices and rules that are applied ensure a slower overall process for the development and maintenance efforts. Given the higher level of resources required in interfaced design efforts (due to the reconciliation of requirements, business practices and systems controls required to support these added needs) any lengthening of the time frames drives up the costs geometrically.

(6) Timeliness--Black-Box Approach. The issues raised above in connection with cost for black-boxed systems also apply to a discussion of timeliness issues in relation to the black-box approach. The coordination effort required to ensure designs revolving around the Department's data and process models (associated with the business practices and rules that are applied) require a slower overall process for the development and maintenance efforts.

(7) Risk. Risk evaluation in the design phase concerns the potential to improperly address the technical specification to the mission need and prioritized functional requirement. The expansion of responsibilities to multiple stovepiped systems and functional proponents ensures an increased level of risk in meeting the Department's goal of a standard visionary system.

These parallel and competing efforts increase the risk level of developing a DoD standard visionary system in the time frames required. The same is true of a black-boxed system, which still allows multiple stovepiped design efforts that do not support user buy-in to the standard visionary system, raising the risk of the overall design not meeting the needs of all the Department's users.

b. Development Phase. During the development phase the same issues and concerns exist as those identified above for the non-integrated systems approaches. Complexity resulting in increased cost, delays and risk occur especially during the testing phases. Problems identified at this phase cost significantly more to correct.

An example of this can be shown by the testing processes that have taken place in the recent past on the Personnel Interface from the three services' personnel systems to the DBMS. Scheduling of testing, scheduling of releases, data issues, problem identification and organizational ownership of problems becomes extremely complex and costly. Overall prioritization of the interface requirements changes were driven by entirely different organizations. Data standards, processing standards, methods of data transport, protocol converters, etc., all became issues that every level (from the design activities through the Assistant Secretary of Defense) had to become involved with to resolve. The timeline, cost and risk level for the development effort were and are in constant flux. Test plans, releases, and deployments of stovepiped systems become extremely complicated and troublesome endeavors.

The FEPCA example is cited as an example of how mandatory changes must be addressed across stovepiped systems. Controlled processes to ensure synchronized development against Department standards do not exist. Development by the different communities occurs in a fashion clearly requiring a degree of coordination not generally achieved in the Military Departments, which helps explain the existing problems of information accuracy.

c. Deployment Phase. In the deployment phase, conversion of software and data from the existing information systems occurs. At this point the number of interfaces with the Standard Defense Business Management System expands. Every organization converted has a series of management support systems that fit its unique needs. The implementation of a standard integrated systems solution requires those interfaces be developed between a single standard as opposed to stovepiped interfaced systems, which can drive up the interfaces required dramatically.

For example, all cost accounting applications require labor data/information concerning organization, personnel and payroll. If these applications are deployed following an interfaced approach, three interfaces/conversions would be required:

(1) Conversion of each type of data (presuming there was agreed upon ownership of data by system) with some required redundancy of data between the three interfaced systems.

(2) Upon completion of conversion of data, the interfaces from organization to personnel organization management to payroll and payroll to organization management would be required.

(3) At that point, additional interfaces would be required to other systems operating at the converted location, such as project management systems.

Essentially, the deployment efforts are forced to be expanded to ensure all interface reconciliation and internal controls are in place. The user community is confronted with a maze for identifying system problems and the system support interface to the end user is non-standard across the interfaced systems.

The black box method offers no improvement over the interfaced approach in deployment, especially considering deployments required in the next two years.

d. Operations Phase. During this phase, reports of operational Test and Evaluation and post deployment assessment reports summarizing effectiveness and suitability are drafted. The evaluation of the AIS responsiveness to evolving user requirements, hardware and software capability obsolescence, technology insertion based on cost benefits justification, existing AIS maintenance and system supportability, strategies for short term modernization and hardware and software maintenance occur.

With this definition of "Operations" it is clear that the support of a single integrated system is significantly lower in cost, can be addressed in shorter time frames and ensures lower overall risk. Not that there are not problems with the operations of the existing DBMS systems. Integration does not guarantee that there will not be problems, only that they will be less severe and less costly to resolve. More will be discussed in the Infrastructure section about reduced costs involved in moving forward from a single hardware, software, supportware platform than from multiple stovepiped platforms.

The LCM summary chart, Figure 1, provides a graphic summary of the narrative discussed above.

6. Analysis Of Infrastructure Perspective. The LCM perspective focuses at a very general level on the development and fielding of systems within the Department. Another way to evaluate the overall cost, timeliness for delivery and risk is from the perspective of the infrastructure required in the Department to support the standard Defense Business Management system. Figure 2 summarizes the following analysis. The following factors associated with infrastructure will be examined:

- Central Design Activity
- Information Processing Centers
- Technology
- Telecommunications
- The ability to be Compared to the Technical Reference Model
- The ability to Migrate to an Open Systems Environment

a. Central Design Activity. In an integrated systems environment a significant amount of overhead can be reduced above the lead Central Design Activity (CDA). The development and reconciliation of the Department's data and process models, data elements, business methodologies and standards can occur and be focused in one lead location. This is occurring with the current Defense Business Management System. A single, integrated data model has been developed and is being expanded as additional modules (entities, attributes, and relationships) are identified to address. Process models are being developed for critical areas and being offered for the developing repository environment. The model of a Central Design Activity serving as the integration agent with multiple developmental activities is being proven currently. Projects for DBMS are being supplemented and franchised to other Defense Information Technical Support Office (DITSO) developmental groups with great success. Personnel from various design and development offices, are being utilized to integrate solutions and develop modules.

In the case of interfaced or black-box approaches, a superstructure above the CDAs, but below the customer/policy community, must provide the above listed functions. Because of this broadened hierarchy, further removed from the customer, the requirements are promulgated downward and subject to misinterpretation, misapplication and misimplementation within the design and development world. The development of a standard business methodology, and the expected CASE world to support that methodology, requires multiple stovepiped CDA and system conversions; implementation within the CDA of standard business methods and practices (currently nonexistent), to have all stovepiped systems reach the same level of understanding of the directives of this intermediary superstructure.

In the case of the interfaced approach, CDAs have historically dealt with their major customer whose responsibility it was to integrate business requirements. In the case of the black-box approach, a new organization will be required to be formed to serve as the requirements, data, process integrator across the business areas served by the

desired integrated visionary system. This overhead is additive to any in the Department today and would dramatically slow efforts to get to a standard integrated system, in addition to increasing risk, cost, timeline and creating organizations that would resist disbanding upon the integration of the applications previously stovepiped.

b. Information Processing Centers. An aggressive goal of moving to Mega Center Information Processing Centers (IPC) is underway within DITSO. The movement to standard integrated solutions and the hardware and software architectures that support them will result in a more rapid movement into the Mega Center environment. The continuing support of interfaced and black-box system solutions requires the maintenance of multiple development platforms that must be tied together at IPCs. This requirement results in increased operations costs for non-standard hardware environments, software licensing and additional personnel to assist in the control of data moving from system to system.

Non-integrated approaches have shown their increased costs to the IPCs within DITSO; both the Commissary interfaced business solution and the interfaces between DCPDSC and DBMS have increased operating costs within the IPCs supporting these operational systems. Similarly, the black-box approach does not lessen the complexity of operations. In the case of the DCPDSC interface to DBMS under a Mega Center operating scenario, Burroughs, Unisys, and IBM compatible mainframes could be sitting next to each other sending standard data through protocol converters (black boxes) to each other, requiring extra coding within the applications, extra control for operations, restore considerations, increased licensing, redundant data on Direct Access Storage Devices (DASD) sitting side by side -- all leading to higher and higher risk of failure in meeting customer needs.

c. Technology. Technology ties directly to the above IPC discussion and some that will follow under technical reference model and migration strategies. The support of multiple platforms within the DISA/DITSO world continues to thwart movement toward a Departmentwide set of standards. The thrust of the technology community under an integrated systems approach is toward improving customer support, reducing costs, migrating to better platforms and open systems environments. With an interfaced or black-box approach, significant resources will be spent to ensure systems talk to each other and to support the reconciliation of systems, reducing valuable and limited resources from working toward the future. Each non-integrated application residing on a platform that is permitted to move forward to greater functionality, that does not have a direct migratory path consistent with the rest of the Department, results in a user community more and more unwilling to move forward; and ensures interfaces and black-boxes will survive beyond their usefulness.

d. Telecommunications. An integrated systems approach provides the ability to move to central operational support, and as the tools become available for large distributed environments, to strategically place data where the most effective use of it can be made. Considering these distributed data base tools are not available to the DISA/DITSO system architects at this time, the interfaced and black-box approaches require a significant investment in telecommunications to move redundant data throughout the Department's non-standard networks. This is clearly being demonstrated by the DCPS/DCPDSC interface, the DBMS/DCPDSC interface and multiple other interfaces.

Instead of a single point of entry to an integrated system, multiple movements of files occur nightly in interfaced and black-box systems, each supported by telecommunications lines far bigger than required if the single point of transactional entry were against an integrated database. With integration, the number of transactions updating the database are not reduced, nor is the information flowing from that database reduced; however, the amount of data moving across the Department's networks is greatly reduced. For example, in the DCPDSC interface to DBMS, telecommunications costs are dramatically increased just moving data/information around for control purposes:

(1) Personnel transactions are entered into DCPDSC daily and nightly sent via batch files extracted to a central processing site from over 90 locations.

(2) These files generate more files for review and passage through the DBMS front end. If transactions can't be accepted, phone calls are made to personnel offices and multiple faxes of paper occur.

(3) On a regular basis files are returned to the Services' non-standard versions of DCPDSC for updating data required from the Payroll application. These are reconciled and corrected, if necessary.

(4) On a regular basis files must be sent from DBMS to the services' personnel system for reconciliation to ensure synchronization.

In the integrated DBMS, the initial entry of data would be made and validated on-line and further movement of data/information over the telecommunications network for control purposes is not required.

e. Technical Reference Model/Migration. These areas of the Technical Reference Model and migration will be discussed together, since the model sets the standards for AISs and their supporting technical infrastructure to migrate toward.

The integrated DBMS is on a migration path to a full open systems environment. This plan has been presented for over four years and actions have been executed from this plan since its inception. The focus of the Technical Reference Model is to serve as the guideline for migratory systems to follow. The movement of a single integrated system along a migration path with the Technical Reference Model is significantly less costly, shorter in time frame, and less risky than the migration of multiple stovepiped systems all residing on different architectural suites.

Each stovepiped system will require a unique migration plan, conversion process and acquisition strategy to support its movement forward. Given the urgency to correct the current information accuracy problems, and the need to meet the requirements of the various business areas, it is essential that an integrated standard system be deployed over the next two years. The increased cost and complexity of migrating multiple architectural platforms forward is geometrical when compared to an integrated approach, if in fact, it could be accomplished at all in the required time frame. The black-box theory addresses only one phase of the Technical Reference Model and migration strategies, which is data standardization. It presumes the data standards, which do not exist, to be in place and presumes stovepiped systems process against an integrated database.

Each stovepipe system would be required to make massive coding changes to incorporate the data standards and cross level system differences that result from sets of business practices driven by historically separate customer requirements. The cost of moving to an integrated Defense Business Management System from an interfaced, stovepipe approach or a black-box approach would undoubtedly result in dramatically increased cost, expanded time frames and increased risk in the next two years.

7. Analysis Of Business Model Perspective. The Business Model perspective looks at the three development approaches for moving the Department forward to an integrated Business Management system from the perspective of the roles and responsibilities of the various organizations that interact throughout the life cycle of a automated information system. How can these organizations most effectively organize themselves to reduce cost, time frames, and risk surrounding the standard Defense Business Management System goal?

A wide group of policy organizations both within and external to the Department levy requirements and establish standard business practices through successively lower organizational elements. This flow results in data standards and functional requirements that flow to the CDAs for design, development, deployment and maintenance. Deployment and supportware is usually a joint effort between the technical and functional communities to provide the ultimate end users/consumers the

products and tools needed to perform their mission function. These end users/consumers have varying degrees of input to the overall Business Model, but in many cases they are the very same policy organizations that initiated the original set of requirements. Figures 3 and 4 are representations of the Business Model perspective.

8. Policy Organizations/Business Practice Organizations. These two groups of organizational responsibilities are often one in the same, or responsibilities are blurred. In the case of external mandatory requirements, organizational responsibilities become less than critical to determining basic AIS requirements, except as they may relate to business practices. The "system" decisions made to date by the functional proponents have in fact been heavily oriented towards stovepiped perspectives of special interest groups within policy level organizations. No CIM effort had been established to review business management systems. The CIM efforts, in effect, were aimed at picking the best tires, the best carburetors, the best taillights--not picking the best overall vehicle. The stated goals of CIM and the policy groups, however, was to reach integration within and across various business functional lines. This in essence was a recognition that the Department had a critical need for a business management approach to doing business, but the Department hadn't clearly verbalized this requirement. The selection of stovepiped systems reflects the recognition that the Department had not grasped the criticality of integrating its requirements to flow through to the technical community. The creation of the Joint Logistics Systems Center and the DBMS Program Management Office is an indication that the situation is changing.

Interfaces and black-boxes cannot replace the need for standard business policies, practices and data standards in the Department, nor can they get the Department to a standard integrated Business Management system faster. These limited development approaches can only mask the symptoms, giving false credibility to a disjointed business approach. Not forcing the functional communities to address the major corporate issues that result in an approach to corporate business management will only delay the development of a corporate systems approach.

The selection of a integrated systems platform for the Defense Business Management System is in fact not a technical decision made by any one of the Policy Organizations, but a recognition that the integrated systems platform will serve as the focal point for the discipline required by the policy and business practice organizations to move forward in an integrated fashion. This is, in fact, the basis for many organizations' lack of support for the integrated approach since it supports standardization and reduces uniqueness. A clear path to the significant improvement required in Departmental efficiency.

9. Data Standards/Functional Requirements/Data Integrity.

The need for a data standards program is well recognized throughout the Department and is perhaps finding the least success in moving forward. The Defense Business Management System of the future must be a data driven system, based upon a very robust data standards program. The integrated platform for developing data standards across the Department will ensure standards can be applied to one system and subapplications quickly and easily.

Interfaced and black-box systems will require maintenance of significant non-standard data and processes because of the process and transaction driven nature of systems up to this point. To continue to support multiple stovepiped systems and move redundant control data from one to another will continue to support transaction driven, batch oriented systems. The technology to support dual commit, triple commit, etc. updates to technically non-standard, non-standardized data to distributed databases does not exist.

The integration of requirements from disparate functional/policy communities has effectively been accomplished on the Department's integrated platform, DBMS (formerly APCAPS). Organizational Management, Civilian Personnel, Manpower, Cost Accounting, Performance Accounting, General Fund Accounting, Business Operations Fund Accounting, Management Information -- no other group of stovepiped systems can match the data standardization and integration of functional requirements across the spectrum of functionality required. The ability to integrate additional modules in rapid fashion is being proven on various modules.

Property accounting, personnel action tracking, and other such applications can rapidly be integrated due to the data driven approach of the integrated system. Perpetuation of stovepiped systems ensures longer timelines, higher costs, and greater risk for the Department to reach its stated objectives of an integrated standard Defense Business Management System. Figure 5 represents a view of the data integration in the DBMS.

An integrated system provides for the required data integrity since it is based upon a single point of data entry and update to a corporate business data repository, has the security in place to ensure only authorized owners of the data have write privileges, provides a single corporate repository serving as the sole source information for all business processes dependent upon the data, alleviating the need to reconcile data across multiple systems.

In the absence of data standardization, (data element names, data types, lengths, and edit criteria) standard values differ across stovepiped systems across the DoD. In an interfaced mode, data transactions are passed to another automated system after the update to the originating system has

already occurred. This same data can subsequently reject due to discrepancies and validation rules based within the receiving system. At any point in time, the information stored within each of the systems will not be in agreement. Delays in correcting the rejected data transactions have a domino effect on subsequent business processes dependent upon the data being received or results in inaccurate processing as a result of not having the most current information. Rejected transactions may or may not be corrected and resubmitted to the receiving system, resulting in manual reconciliation processes/out of balance conditions. Accurate information is not available on a timely basis upon which to base business management decisions.

Changes to business practices and policies must be incorporated to the multiple business applications and implemented concurrently, increasing costs and risk.

Until such a time that a distributed database environment is available (two way commit between multiple physical copies of data/systems), even with data standardization there would still be a time delay between data updates to the separate systems. Physical constraint realities, such as timing of system availability and recoveries when problems occur, further complicate the requirement to keep the two repositories in synchronization and perform manual or automated reconciliations between the two.

Under the black-box approach, a single subject area database is accessed between multiple diverse applications within the DoD. Data is not replicated in disparate application systems. The concept is dependent upon data standardization across the Department to ensure consistency and correct handling of data within the multiple business applications and functions requiring access to the data. All applications which update corporate control data shared among business areas would have to be interactive to insure that validation of a transaction at the time of entry would not be subsequently rejected as a result of additional on-line updates executed throughout the business day. This is further complicated by the reality of disparate time zones and synchronization requirements.

10. Central Design Activity. Under the DITSO organization, integrated modules of the Defense Business Management System are currently under development or maintenance at four of the five CDAs. The fifth activity will soon receive a number of modules under a franchise agreement. This coordinated effort is the direct result of a data standardization program, and integration of functional policies, business practices and priorities into a business methodology/model that supports an integrated effort of all development resources. Central resources working on the various modules of DBMS are not required to be colocated in a single location. The integration of the functional communities' policies, business practices, and data standards by the DBMS core group ensure consistency in developmental approach and

delivered systems. This cannot be assured in stovepiped CDAs who must interact to and reconcile policy, requirements, business practices, and data standards. Again, time, cost and risk are all increased with the non-integrated approach.

11. Deployment/Supportware. Deployment of stovepiped or black-box applications and the supportware for the end users becomes extremely complex. For example, let's assume an Army base that has been chosen to implement the standardized DCPDSC, DCPS, Manpower system X, MIS system Y, CEFMS, Organization Management System Z, versus another Army base who is tasked to implement the Integrated DBMS. Assume away the technical considerations of standard workstations, local and wide area communications, diverse computer operations, diverse functional support operations, and only view the Base Commander's perspective of seven independent deployment teams talking to seven different functional communities on his base. Picture the need for the procedures to reconcile the system impacts on the base's operations, the relations to be established for training, problem resolution, technical support, etc. What is the base Commander's single point of entry to the technical community for one stop shopping and customer service?

12. End Users/Consumers. The visionary standard Defense Business Management System must present to the end users/consumers a single, focused graphical user interface including standard training and other supportware, and a support community that can quickly resolve local problems. Stovepiped and black-box systems do not in any way lend themselves to a single, low cost, low risk face. Information required for management level decision making would reside in multiple systems and whole applications would need to be developed to draw data and information together for managers' and consumers' needs. Stovepiped systems and a black-box solution are obstacles to movement toward an integrated solution, leaving the consumers stranded without the basic tools they need in a time of drastically reduced budget/resource availability.

LCM Perspective

SUMMARY SLIDE

LCM PHASES	COST	TIMELINE	RISK
DESIGN	Integrated - Least Cost Interfaced - High Cost Black Box - Highest Cost	Integrated - Shortest Interfaced - Long Black Box - Longest	Integrated - Lowest Interfaced - High Black Box - High
DEVELOPMENT	Integrated - Lowest Interfaced - High Black Box - Medium	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Medium
DEPLOYMENT	Integrated - Lowest Interfaced - Highest Black Box - Medium	Integrated - Shortest Interfaced - Long Black Box - Long	Integrated - Lowest Interfaced - Highest Black Box - Medium
OPERATIONS	Integrated - Lowest Interfaced - Highest Black Box - High	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - High

INFRASTRUCTURE PERSPECTIVE SUMMARY SLIDE

SUPPORT	COST	TIMELINE	RISK
CENTRAL DESIGN	Integrated - Lowest Cost + Value Interfaced - High Cost Black Box - Highest Cost -Value	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Medium
IPC	Integrated - Lowest Cost Interfaced - Highest Cost Black Box - High Cost	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Medium
TECHNOLOGY	Integrated - Lowest Cost Interfaced - Highest Cost Black Box - High Cost	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Medium
TELECOM	Integrated - Lowest Cost Interfaced - High Cost Black Box - Highest Cost	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Highest
TECH REF MODEL	Integrated - Lowest Cost Interfaced - Highest Cost Black Box - High Cost	Integrated - Shortest Interfaced - Medium Black Box - Longest	Integrated - Lowest Interfaced - Highest Black Box - Highest
MIGRATE	Integrated - Lowest Cost Interfaced - Highest Cost Black Box - High Cost	Integrated - Shortest Interfaced - Longest Black Box - Medium	Integrated - Lowest Interfaced - Highest Black Box - High

23

Platform

BUSINESS MODEL PERSPECTIVE SUMMARY SLIDE

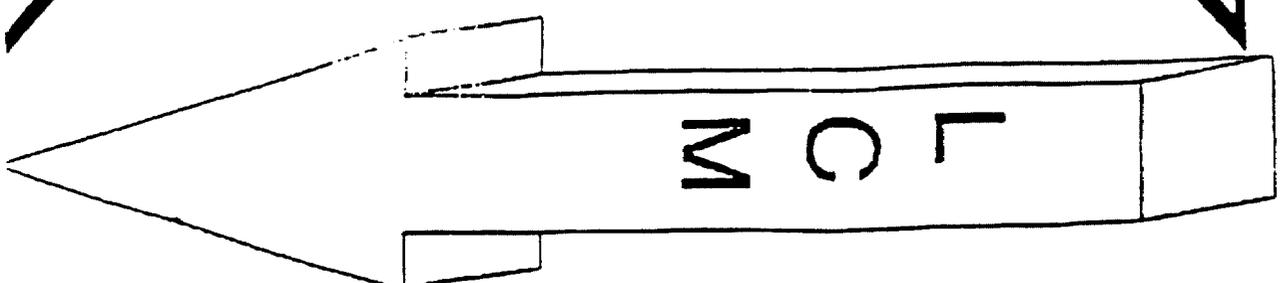
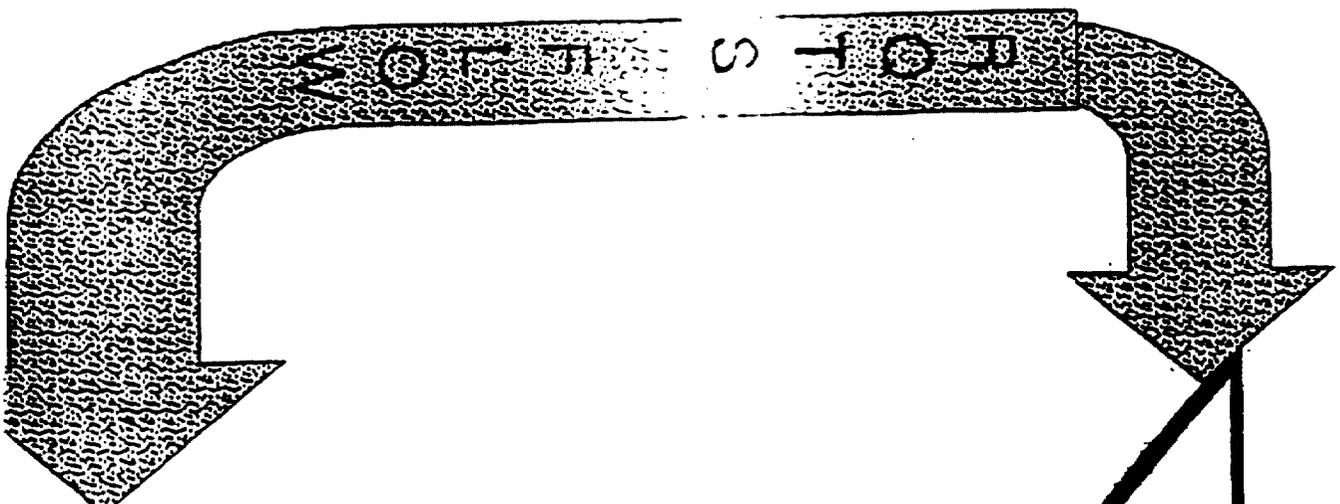
SUPPORT	COST	TIMELINE	RISK
POLICY	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
BUSINESS PRACTICES	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
DATA STDS	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
FUNC RQTS	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
CENTRAL DESIGN	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
APPLICATION DVL	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
DEPLOYMENT	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest
SUPPORTWRE	Integrated Lowest	Integrated - Shortest	Integrated - Lowest
END USER	Integrated - Lowest	Integrated - Shortest	Integrated - Lowest

BUSINESS MODEL

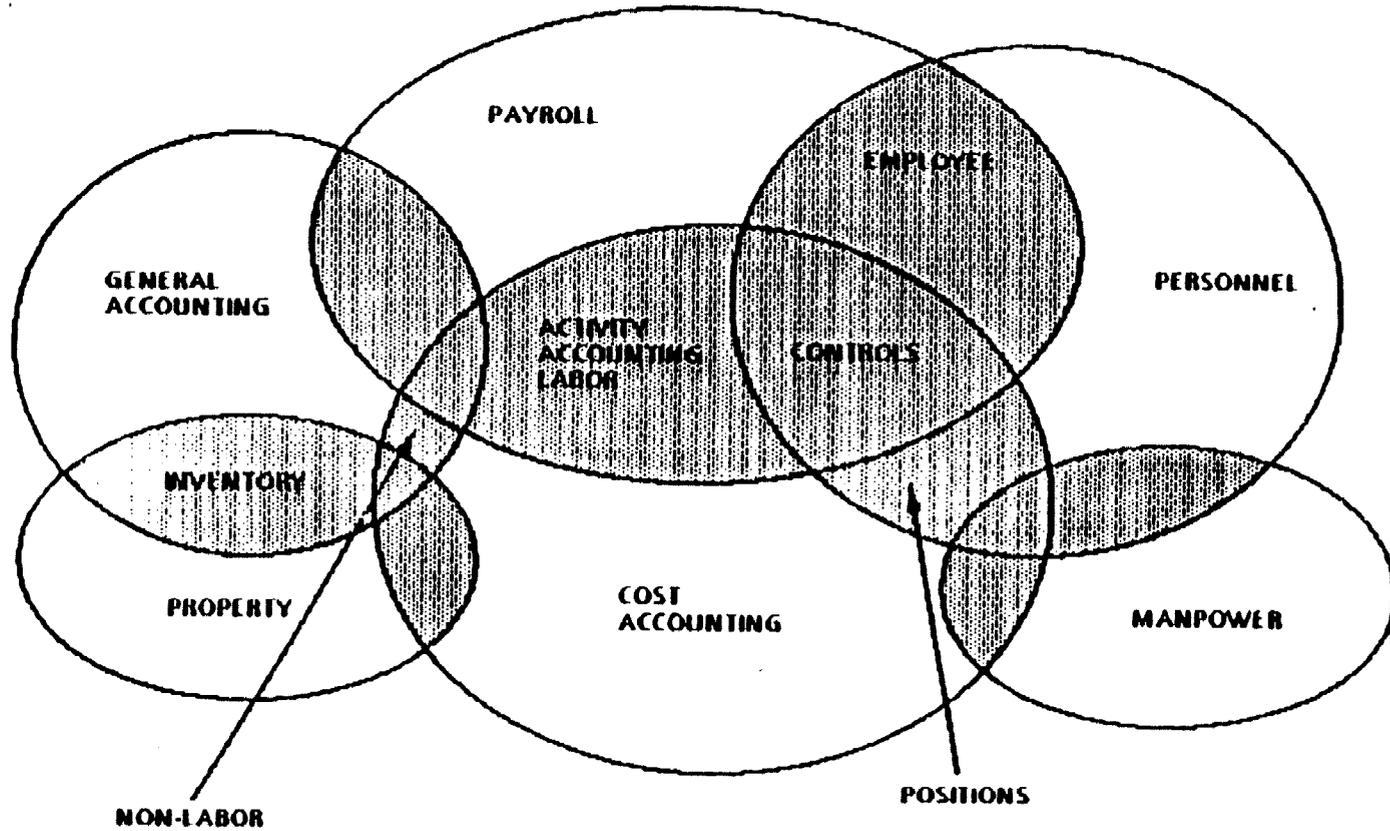
POLICY ORGANIZATIONS
BUSINESS PRACTICE ORGS
DATA STANDARDS
FUNCTIONAL RQTS

CENTRAL DESIGN

APPLICATION DESIGN
APPLICATION DEVELOPMENT
DEPLOYMENT/SUPPORTWARE
END USERS/CONSUMERS



DATA INTEGRATION



56

C. STATUS OF SYSTEMS IMPROVEMENT EFFORTS

Section B. discussed the selection of a migratory or interim system, which will ultimately become the standard system for business activities. This section discusses current efforts to improve the Defense Business Management System to meet short term goals and improve the accuracy and timeliness of information provided to business managers. The current efforts are also necessary to improve the quality and timeliness of information provided to DoD and congressional oversight staffs, as well as the accuracy of the business statements required by the CFO act.

A major redesign of the Defense Business Management System Resource Administration subsystem in the areas of Operational Cost accounting functionality, Organization Management structures, and Military Personnel costing has been accomplished to support the concepts and requirements of the Defense Business Operations Fund. Additionally, significant enhancements to the Personnel, Payroll, and Appropriation Accounting subsystems have also been completed. This enhanced and updated version of DBMS is currently undergoing system testing and is scheduled for initial operating capability testing in April 1993 and full implementation in May 1993.

Enhancement of the Resource Administration subsystem will enable it to perform a full range of cost accumulation and allocation procedures including the production of a integrated Departmentwide unit cost report. This report will utilize data resident in the system. This will increase the accuracy and reliability of the data and the ability to correlate data with the financial reports prepared from the same source. The DBMS generated report will be provided on a more timely basis to all levels of management within the business areas as well as to the DoD Comptroller.

An initial planning session was held in January 1993, and monthly sessions are planned thereafter which will include a cross section of system users and management personnel from the DoD Components, the Defense Finance and Accounting Service (DFAS), and the Defense Information Technology Services Organization (DITSO). This working group will provide the detail policy, process, and data definition necessary to complete DBMS requirements development and deployment concepts. These sessions, which will be held at the lead Central Design Activity, will provide a broad based approach to incorporating diverse views of system requirements, and to the standardization of operating procedures necessary to generate consistent and comparable data across the Department's many business areas.

Initial functional requirements have been developed by current system users, including DFAS, and coordinated with the DoD Comptroller. DITSO will integrate into the DBMS baseline, the functionality observed in legacy systems, and other

enhancements required to support Fund business areas already using DBMS as well as those business areas that are anticipated to transition to DBMS. Complete modules, subsystems, or systems that contain desired functionality are being reengineered and integrated into the DBMS baseline.

Fund unit cost and financial reports have been reviewed to determine the extent of data inaccuracies and inconsistencies, and their affect on management decisions. DFAS and the DoD Components have performed analysis of the data to identify systemic problems and their relationship to variances and deviant net operating results. Analysis of the sources of data used to populate specific financial reporting structures is ongoing. Further analysis of standardization of procedures used to extract the data from divergent systems is also underway. These analyses are being instituted as part of DFAS's standard operating procedures.

D. TRANSITION PLAN

DBMS is currently being utilized to support a number of existing Defense Business Operations Fund business areas including, distribution depots, financial operations, and industrial plant equipment. Milestone plans are being finalized for the transition of the Fund's activities to DBMS that currently utilize other systems for cost accounting support. These plans are dependent on the development and deployment of specific functional enhancements required to support the individual business areas. Many of the existing Fund businesses utilize unique systems that provide important supporting information to managers not currently available in DBMS. Although these unique systems suffer from data accuracy problems, the particular businesses will not be transitioned to DBMS until that system can provide at least the current level of important supporting information to the local business managers.

Transition to DBMS will also depend on the DFAS Centers acquiring the capacity and capability to support additional businesses. Although currently all DBMS accounting and finance operations are located in Columbus, Ohio, since DBMS will be the standard DoD system, the long range intent is to provide that support from all of the DFAS Centers. The current transition plan is as follows:

1. FY 1993 Transitions. Activities transferred to DITSO as a result of DMRD 918; Activities transferred to DFAS as a result of DMRD 910; Joint Logistics Systems Center; and placing the Commissary Agency and the Navy Inventory Control Points on the DBMS civilian personnel module so as to replace the current interface between the personnel and payroll functions.

2. FY 1994 Transitions. Currently there is a great deal of uncertainty about FY 1994 transitions, pending the certain accomplishment of functional improvements. Current plans

include transitioning of the following on October 1, 1993: Air
Mobility Command; Transportation Command headquarters; Army
Inventory Control Points; Naval Command, Control and Ocean
Surveillance Center; and Army Base Operations Test sites.

IV. BENEFITS

A. OVERVIEW

The Defense Business Operations Fund provides a financial framework for more efficient and effective allocation of resources within the Department. The Fund itself does not generate tangible savings. Instead, it provides more comprehensive cost visibility, and business tools and concepts to manage and account for those costs. The benefits of the Fund are derived from the application of business practices to the DoD support establishment. This section describes the benefits of the Fund's businesslike approach to capital asset budgeting and accounting, inventory costs, pricing policies, real property maintenance, and revenue recognition. Implementation of these policies and procedures provide the basis for realizing savings in the various businesses of the Fund through management changes.

The Fund also supports other efforts to improve management and productivity. First, all the costs for providing a service, such as a ship overhaul, are in one place; thereby improving cost visibility in the decision making process, and increasing the accountability of managers for their decisions. Second, businesslike cost accounting procedures are used to associate costs with outputs and set prices charged to customers. Third, support activities, under the unit cost resourcing system, are funded based on their requirement to meet customer demand instead of on predetermined set sums. Fourth, the performance measures described in this report form the basis for combining cost efficiency goals with mission effectiveness goals into a comprehensive business plan. Finally, the Fund provides the mechanism for employee incentive programs, such as productivity gain sharing, in which employees share in the success of their organizations when corporate goals are exceeded.

Implementation of the Fund, the adoption of better business practices and the formal establishment of customer/provider relationships will increase awareness and motivate cost consciousness in decision making at all levels. This should result in long-term changes in the way we deliver support services and ultimately reduce the cost of doing business.

B. ACHIEVEMENTS TO DATE

The Department has developed and issued a number of new policies governing Fund business areas. These policies provide tools that are necessary for more businesslike management of Fund support activities. In many cases, these policies also establish consistency in business practices across the business areas that was lacking prior to the implementation of the Fund.

1. Capital Budgeting. The Fund is essentially a business-type financial system. One of the most significant initiatives reflected in the Fund is the inclusion of capital budgeting. Capital budgeting is an essential ingredient in capturing the total costs associated with a business area and reflecting the true costs in the prices charged to customers. Under this policy, business area budgets are segregated into operating and capital budgets. Any investment in automated data processing equipment, other equipment, software development, minor construction, or management improvement, costing \$15,000 or more, is funded in the capital budget. Once the investment is installed and implemented, it is amortized or depreciated over a predetermined period of time. The depreciation or amortization costs are reflected in the business area operating budgets and in the prices charged to customers. The budget structure for the Fund provides the traditional information for line approval of all capital investments.

A major component of the capital budgeting policy is the treatment of software development/modernization projects as capital investments. Prior to FY 1992, these costs were not considered investments even though they were generally justified in the budget using cost/benefit analysis and anticipated savings. Once these investments were approved, there was no way to ensure savings were actually realized. Funding software projects in the capital budget, and applying depreciation to the to the cost of operations and customer prices, provides the mechanism to ensure that savings are achieved once the project is operational.

2. Capital Asset Accounting. The DoD Comptroller issued the capital asset accounting policy for the Defense Business Operations Fund on July 21, 1992. This policy was issued to provide detailed accounting and financial management guidance on the acquisition, transfer, sale, depreciation, and amortization of the Fund's capital assets, and to ensure accounting for capital assets was consistent throughout the Fund. This guidance also includes procedures for depreciating and amortizing capital assets acquired or developed within the Fund. Any investment in equipment, software, minor construction, and other management improvements costing \$15,000 or more is funded through the capital budget of the business area and its costs amortized or depreciated over a predetermined period.

Obsolete capital assets are replaced with modern equipment, increasing operating efficiencies which result in reduced cost of product or service to the business area's customers. The business area manager has more flexibility and authority in making capital asset decisions. The business area manager has more responsibility for managing the capital program because they have day-to-day knowledge of the activities modernization needs and can execute the capital program and make decisions on proposing project funding through the capital budget process. Each business area is responsible for identifying, justifying

and submitting investment requirements through their DoD Component manager. Each business area manager is responsible for executing the approved capital program by monitoring the investment from inception to installation at the business area.

Requests for capital budget approvals must demonstrate that there are no known economical and readily available alternatives, must contribute significantly to fulfilling the business area's mission, or that mission essential considerations require capital asset funding. A post-investment analysis is required for each capital investment justified wholly or partially on the basis of economic considerations. Analysis must be retained and available at the business area of the change in operating costs which resulted from implementation of each capital asset project.

The capital asset program is a very beneficial initiative to the Fund. Investment in all capital assets used by Fund activities will be financed through the Fund capital program in lieu of the current period operating program. The program allows managers to request funding and make the necessary improvements without substantially increasing their operating cost or prices in any single year. The business area funds the cost of the capital asset and then recovers the cost of the capital item by including depreciation expense in the charge to its customers. The Fund capital program requires business areas to justify their requirements for capital assets rather than purchasing these assets with their operating funds.

3. Total Cost of Inventory Support. One of the primary objectives of the Fund is to provide total cost visibility to all managers. This objective has been successfully achieved in the Supply Management business area. Prior to the Fund, the costs associated with the management and distribution of inventory was fragmented between the Inventory Control Points (ICPs) and the distribution depots. Current policy in the Fund now requires that distribution be reflected as a cost to the ICP in the Supply Management business area. This change accomplished two objectives: 1) it established and reinforced a customer/provider relationship between the ICP and the distribution depot; and 2) it established a business environment which facilitates the accomplishment of overall DoD inventory reduction initiatives, such as Just-in-Time or Direct Vendor Delivery.

4. Pricing Levels of Service. The current initiative to maximize flexibility in pricing policies will enhance efforts towards total cost visibility. The pricing policy has been refined to distinguish between varying levels of services provided by Supply Management businesses. Once implemented, customers will be allowed to select the level of service required and will be charged for the true cost of receiving that service. This is an improvement upon our former practice of charging an average cost for specific services which were

assumed to be performed at a standard level of service, distorting the relationship between the standard price of an item and the true cost incurred in management, acquisition, storage and distribution. This increase in cost visibility permits us to understand and select minimum costs, appropriate pricing, and maximum customer service.

5. Real Property Maintenance. The DoD Comptroller issued financial guidance for major real property maintenance (RPM) and repair projects for the Defense Business Operations Fund on December 24, 1991. This policy was issued to establish criteria for funding major real property maintenance and repair projects costing more than \$15,000. A monthly amount to be expensed for major real property maintenance and repair projects will be specified in the operating budgets of the Fund business area. This amount will accrue an expense for those projects for which the actual outlay is expected to occur in a future accounting period. The purpose of recording this monthly amount is to avoid significant annual fluctuations in recorded major real property maintenance and repair expenses, and provide increased visibility of actual costs of these projects.

Prior to the issuance of this policy, many decisions on repair projects were made only when other projects were canceled, or when accomplishment of these projects would not substantially increase the total current year funding requirements. Many of the projects that were not funded would have enhanced the quality of life for the work force, and/or pay for themselves through productivity increases. Without the establishment of specific monthly cost allocation for major real property maintenance and repair projects, operational costs would fluctuate dramatically from one year to the next. Fluctuations in cost and the subsequent prices charged to customers could severely constrain the businesses ability to compete with other governmental or private sector entities.

The provision of both a funding limitation and a normalized RPM cost over a defined period is intended to allow business managers to invest in much needed and beneficial maintenance and repair projects without the fear of escalating operating cost and prices in any single year. The establishment of criteria to identify pending or recurring projects and fund them outside of the operating budget allows the managers to evaluate the projects on their merit and expected benefits in the long term. The inclusion of a fixed amount in the cost of operations over a specified time period allows for the stabilization of prices charged to customers.

The initial decision to use a ten-year period for the distribution of real property maintenance and repair projects cost was an effort to establish a standard operating procedure and to structure management focus on needed repairs. As data is gathered, and experience is gain in the actual cost and trends

of RPM projects in each business area, the time period will be adjusted to one that is consistent with the business practice.

6. Revenue Recognition. The DoD Comptroller issued a revenue recognition policy for the Defense Business Operations Fund on January 21, 1992. This policy was issued because previous Department of Defense policy allowed industrial fund type activities to choose between two different methods of revenue recognition for end-product type orders: the completed-contract or percentage-of-completion method.

The completed-contract method required activities to defer recognition of revenue until work on the job was completed. Managers did not see the financial results of their efforts and initiatives until after all the work on a job was complete. Under this method all of the revenue is included in the financial statements when the contract is completed but expenses incurred in prior accounting periods are not included. Therefore, the net operating results are not accurate.

The percentage of completion method allows the provider of the product to recognize the revenue earned as the benefits of the work pass to the customer. The percentage of completion method recognizes that the benefit of many types of work, such as maintenance, repair and modifications, passes from the contractor to the customer as work progresses.

The previous DoD policy did not specify the circumstances under which each method should be used, therefore, there was not a consistent method used throughout the Department. Since the operating results reported in financial statements of the separate Fund business areas can vary considerably, depending upon which method is used, it was especially important that all Fund entities use the same accounting methods in recognizing revenues. Without consistent accounting practices, the operating results reported in the various Fund financial statements would not be comparable; therefore, reducing the usefulness of these statements.

A primary benefit of the percentage of completion method is that it allows users of financial information to better evaluate the performance of an organization for the periods in which work is performed. The financial reports reflect events more clearly, provide more timely feedback on operating results, and represent more accurately the relationships between gain, loss and related costs.