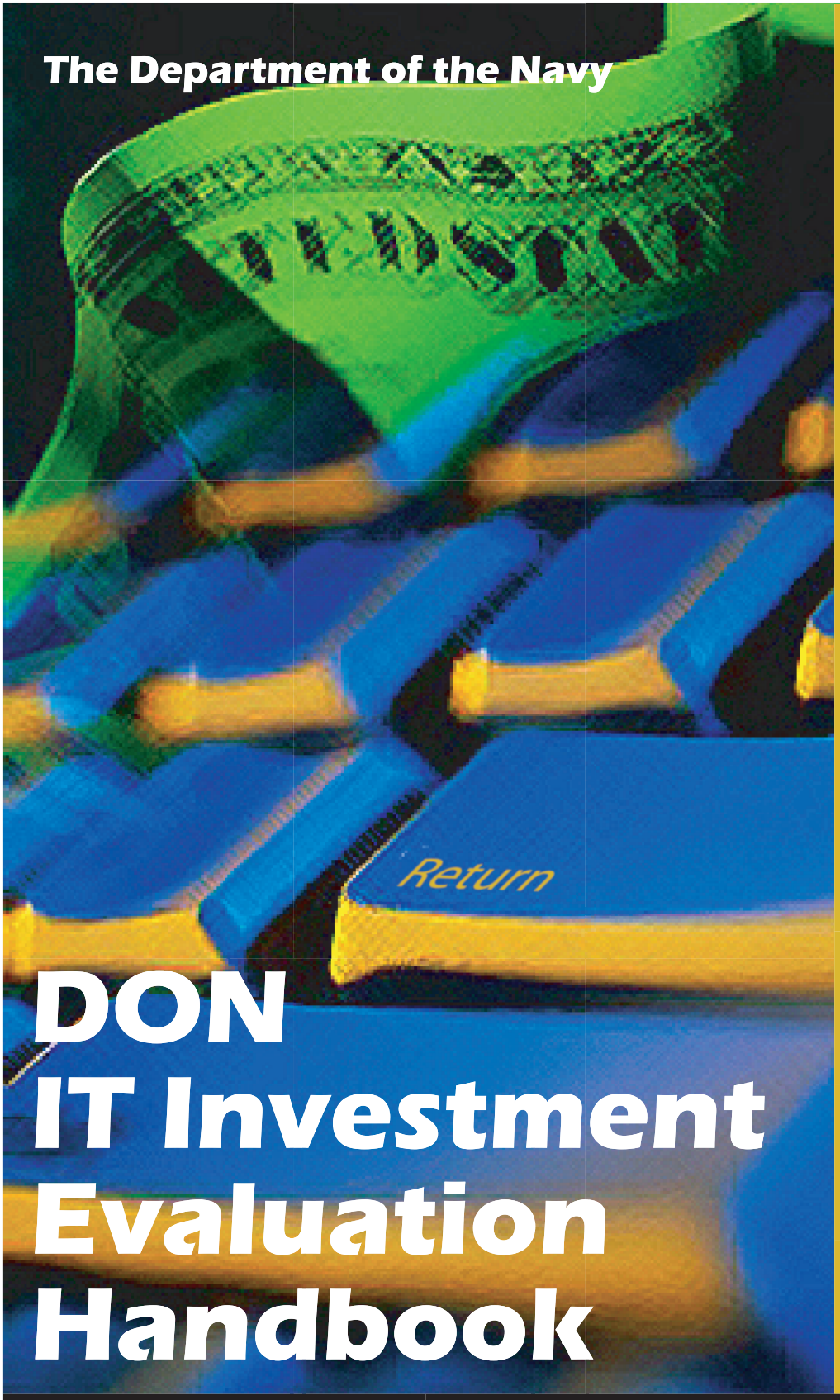
The Department of the Navy




# DON IT Investment Evaluation Handbook

Evaluation is...

the process of systematically collecting, analyzing, and interpreting information for the purpose of assessing success and making decisions.

**Available at www.don-imit.navy.mil**

IT Investment Practices

Weighing Your Investments

**Version 1.0**

DEPARTMENT OF THE NAVY
CHIEF INFORMATION OFFICER
1000 NAVY PENTAGON
WASHINGTON, DC 20350-1000

12 July 2001

MEMORANDUM FOR DISTRIBUTION

Subj: DEPARTMENT OF THE NAVY INFORMATION TECHNOLOGY PROGRAM EVALUATION GUIDANCE

Encl: (1) Department of the Navy Information Technology (IT) Investment Evaluation Handbook

As part of the Department of the Navy's ongoing efforts to comply with the Clinger-Cohen Act (CCA), the Office of the DON Chief Information Officer, working through the Investment Practices Integrated Product Team (IPT), has developed a series of tools to assist commands in making sound Information Technology (IT) investments. Enclosure (1) is the most recent tool which provides a thorough process for evaluating IT programs and projects. The IT Investment Evaluation Handbook will assist executive management, program managers, team leaders, team members, and the IT Workforce in general, in the evaluation of Automated Information Systems, including National Security Systems.

The Handbook will be maintained as a living document on the DON Information Management/Information Technology (IM/IT) home page at www.don-imit.navy.mil. We would appreciate any suggestions you may have for improving the guidance provided in the handbook, as well as any information on command success stories and best practices. My point of contact is Mr. Vince Serio who can be reached via email at serio.vince@hq.navy.mil.

D. E. Porter

Distribution:(see page 2)

# Department of the Navy
# IT Investment Evaluation Handbook
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# I. Introduction

The "Evaluation" phase is the third step in the continuous Capital Planning and Portfolio Management processes. It closes the loop between the "Selection" and "Management" phases by assessing actual system and management performance. While this phase is primarily thought of in terms of Post Deployment Reviews (PDRs) of newly deployed systems, in reality, it also includes the periodic evaluations of ongoing operational systems. The need to evaluate a system's ability to effectively meet the organization's mission needs, both functionally and economically, does not end at deployment. Rather, it is a continuous process to ensure that the system still supports both the end users and the mission needs of the organization. An effective evaluation process not only assesses the success or failure of a newly deployed system or the continued effectiveness of existing operational systems, but also serves as a powerful knowledge tool. It provides insight into the strengths and weaknesses of the processes and procedures performed in the "Selection" and "Management" phases of Capital Planning and Portfolio Management. The ability to ensure future investment success is directly related to identifying strengths and weaknesses in our management processes via "Lessons Learned" and taking corrective actions to make improvements.

This handbook was developed for the sole purpose of providing a recommended approach for conducting evaluation reviews. It applies to Automated Information Systems (AIS) and National Security Systems (NSS) Information Technology (IT) investments. It does not apply to IT that is embedded in weapons systems. **The processes and procedures that follow are intended to serve as guidelines. Organizations may wish to add, modify, or tailor steps based on dollar amount, complexity, and local command requirements.**

Throughout this document the terms "program," "project" and "system" are used interchangeably to define the item under evaluation.

**Acknowledgements**

The Department of the Navy IT Investment Evaluation Handbook was developed by the IT Investment Evaluation Process Product Team, which falls under the umbrella of the IT Investment Practices Integrated Product Teams. The members of the product team are:

- Mr. Don Garner (NAVSEA) *(Product Team Leader)*
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# II. Purpose

The purpose of the evaluation phase is to determine how well the program did in meeting its cost, schedule and performance goals and to identify success or failure points in the selection and management phases of the Capital Planning and Portfolio Management processes. The evaluation outcome of an IT investment should reflect a 360-degree view (Figure 1) of input from all stakeholders, i.e., technology staff, the customers, management and fiscal staff. Essentially, the evaluation review is a fact-finding process that should answer the following key questions:

- Did the program accomplish its intended goals?
- What impact did it have on mission?
- What lessons were learned (what worked…what didn't)?
- What can be done differently to improve the Capital Planning and Portfolio Management processes?

The information gathered during the review serves to support the final report that is developed and submitted to the appropriate senior management officials within the command. **Senior managers should not use the Evaluation Report solely as a report card.** Managers at all levels should view the report as a valued management tool that can be used to improve mission performance by strengthening the investment decisions and management processes based on lessons learned.


**Figure 1. 360-Degree View**

# III. Overview

The primary focus of evaluation reviews should be on how well a program met its cost, schedule and performance goals. For new systems, the PDR should be conducted not later than12 months after Initial Operating Capability (IOC). If the system is being developed and installed in phases, then an abbreviated review should be conducted after deployment of each incremental phase with a full evaluation conducted when the system reaches Full Operating Capability (FOC). The evaluator should capitalize on information gathered from previous incremental reviews when conducting the FOC review. For operational systems, an evaluation should be conducted at least every three years to determine if the system is cost effective and still meets the operational mission needs of the command and users. However, management may want to initiate an out of cycle evaluation of an ongoing program if one or more of the following conditions exist:

- Sharp rise in the cost of operations.
- User complaints on system performance.
- Technology obsolescence (hardware or software).
- Increase in the number of system software changes.
- Continuous user training required.
- Scope/Mission significantly changes.
- Major legislative changes.
- Departmental change in policy.

The evaluation review phase should concentrate on five key focus areas (Figure 2): Mission, Performance, Management, Financial, and Technical.

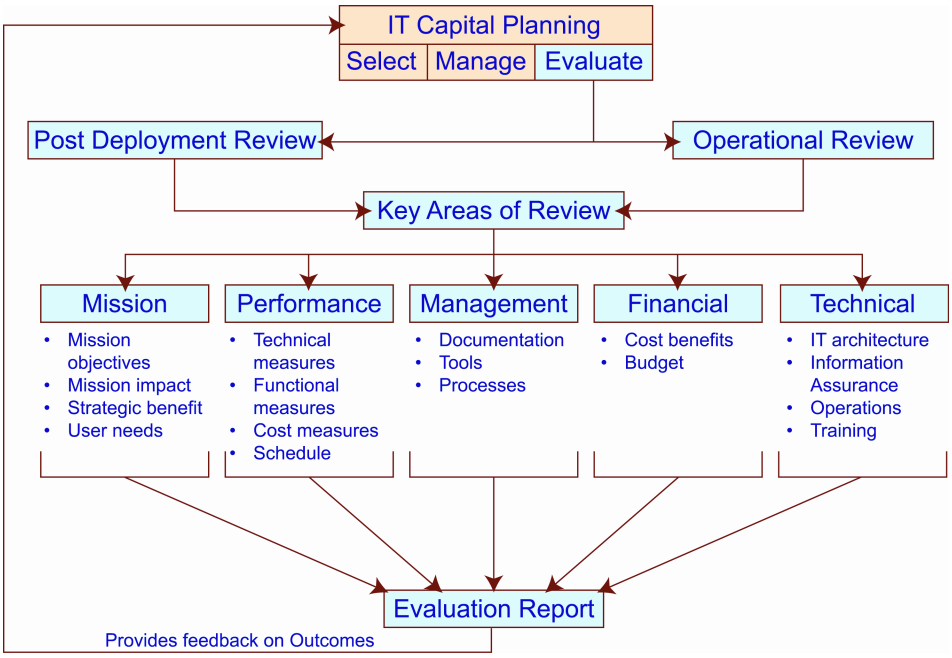



**Figure 2. Five Key Focus Areas**

A thorough analysis of the above five key focus areas requires a variety of skills and knowledge. Therefore, it is recommended that a team of subject matter experts be used for the review. The use of a team allows a division of responsibilities based on skills and abilities and should produce a more comprehensive and effective review and analysis. However, the decision on how best to accomplish the review (i.e., who and how many evaluators) should be based on the complexity of the program, available resources, and management's preference.

An overview of each key focus area is provided in the following section. Section V of this handbook provides an example of the roles and responsibilities of key players in the evaluation review process. Section VI of this handbook provides the details for planning and executing an evaluation review as it relates to each of the five key focus area.

# IV. Evaluation Review Focus Areas

## A. Mission

One of the initial screening points in making the upfront investment decision under the "Selection" phase of the Capital Planning process is the relevance and contribution of the investment to the organization's and agency's missions, overall strategic goals, and objectives. The link between system objectives, mission and strategic goals and objectives should be well defined and documented in the selection process. This information will allow the evaluator to focus on how effectively the program meets its intended objectives, affects operational readiness, and supports the mission. Key indicators should reflect the project's contribution, impact and strategic benefits on mission readiness and performance.

A valuable tool in assessing a program's impact on mission is feedback from the user community (i.e., the system users and managers). System assessment from the users can be obtained through the use of a well-constructed "User Satisfaction Survey" that provides the respondent the opportunity to openly assess the system from his or her perspective (i.e., informational needs and hands-on experience). This feedback should provide insight on how well the system supports the day-to-day performance of their mission responsibilities. A survey should also provide the user the opportunity to make recommendations on system improvements that will further enhance mission capability. The number of users surveyed and the amount of information gathered should be proportionate to the investment's contribution to the mission. The number should also be a statistically valid, random sampling across the user community. The evaluator may want to use a summarization table in the final report that reflects the outcome of the survey results. This provides a visual aid to the report reader.

For those investments that were approved based on increased productivity, an evaluation of the stated functional "Key Performance Indicators (KPIs)" can be used to assess the program's contribution to mission effectiveness. Whereas, technical KPIs will be used to assess the program's operational performance, a review/assessment of functional KPIs will tell the evaluator the impact on the end-user and ultimately the affect on mission. The evaluator should be looking at the "as-is" and "to be" baseline metrics and comparing them to actual. For example, a preparation of purchase orders and the procurement of spare parts in the "as-is" environment may have taken six hours to complete. After implementation of the new system the same effort was accomplished in two hours. However, by comparison, the "to be" objective may have been to accomplish the effort in one hour. The evaluator would need to assess the impact of the variances. Using these types of metrics to effectively measure the impact on functional performance provides the evaluator with substantive information in assessing the investment's contribution to mission. The evaluator must have demonstrated evidence as indicated above that the users have effectively taken advantage of the increased capability provided by the improvements. A determining factor will be how well the users were trained on the new capability.

## B. Performance

The evaluation of program performance focuses on looking at predefined KPIs relative to functional and technical operations, as well as program management. The predefined KPIs establish the benchmark for measuring how effectively the program was managed and whether the intended benefits and goals were achieved. KPIs should be:

- Related to business and performance requirements.
- Observable and verifiable.
- Used to determine program success factors (i.e., achievement of goals and objectives).

KPIs can be measured by outcome, output, and efficiency. Outcome measures are indicators that determine the actual benefit of the program. Output measures are indicators that evaluate the impact of the program on productivity. Efficiency measures are indicators that identify the cost or unit cost associated with a given outcome or output.

Development and maintenance of an effective performance accountability system is critical to gathering the needed statistical information for evaluation. The evaluator should determine in advance of the review the type and availability of KPIs obtained from the program documentation, as well as the mechanism used to collect the data. The following discusses how functional, technical and management KPIs can be used in conducting the program evaluation review:

### 1. Functional KPIs

KPIs, which measure functional operations or processes, are intended to assess the program's value and impact across the user community or organization. These measures can be qualitative or quantitative in nature depending on the program and user community; and should be used in combination to evaluate effectiveness. Qualitative measures, such as user satisfaction surveys, provide subjective feedback to predefined questions on the program's benefit to the user's job performance or the organization's mission. Quantitative measures evaluate the program's impact on productivity and mission performance based on measurable units. For example, if one of the objectives of the program is to speed up the vendor bill paying process via on-line certification of invoices, then the evaluator should look to validate that objective. The evaluator should look to user satisfaction surveys to provide feedback (qualitative) on the user's ability to rapidly process vendor invoices, as well as a comparison of the actual number of invoices (quantitative) processed in the pre- and post-program environments. The information collected should be comparable. If there's a favorable assessment from the user community, then there should be corresponding productivity increases.

### 2. Technical KPIs

Generally, attributes of technical KPIs deal with system (hardware or software) performance. Common measurements, such as, processing cycles, response times, storage capabilities, etc. are intended to assess the processing and performance capability and reliability of the IT program. While these measures are useful for doing the IT system evaluation, there also needs to be a way to value the outcome of system performance measures on user and mission capability, as well as, goals and objectives. For example, internal operating system response time (i.e., the processing time it takes to execute a program task) will be different than the response time (real-time) for the end-user to initiate and complete the transaction from the desktop. The evaluator must draw a correlation between the increase in technology performance and the increase in mission performance (e.g., response time to the user) to determine the effectiveness of the IT program.

### 3. Management KPIs

Management KPIs should measure the Program Manager's (PM's) progress in achieving the stated cost and schedule goals defined in the initial selection process documentation. The goal of the evaluator is to determine the number of times these measures were rebaselined; the cause and effect; and the impact of these changes.

## C. Management

The purpose of evaluating the area of management is to determine the effectiveness of policies, processes, and tools used to manage the program from the initial planning through deployment. In this focus area, the evaluator will review the development, maintenance and completeness of program documentation; automated or manual tools used to track the program's progress; actions taken to mitigate program risks relative to cost, schedule and performance; and compliance with Department of Defense (DoD) and Department of the Navy (DON) policies and standards. The evaluator's goal is to determine how well the manager used the processes, procedures and tools to deliver the program on schedule and within cost.

## D. Financial

Total program cost and return on investment (ROI) play a major role in any upfront investment funding decision, as well as, future decisions to continue funding through development and well into deployment. While cost is not the sole decision factor, there must be some valued ratio between the issues of affordability, ROI and benefit. Therefore, the key goals for the evaluator in the financial area are: (1) to determine the program's success in meeting its financial goals, i.e., Net Present Value (NPV), Payback Period and ROI; (2) to identify cost variances and the reasons for them; and (3) to review whether the total cost of operation is acceptable when measured against benefits and contribution to mission. In the review of the financial area, the evaluator should look at the

criteria used to support financial decisions made from the initial program planning to program implementation, comparing actual to projected costs.

## E. Technical

Evaluating the technical areas of a program results in an analysis of the program's operational readiness: projected vs. actual capabilities; statistical data; and the technical effectiveness of the new or ongoing program. Assessment of test results, monitored performance KPIs, performance trade-offs, system operational reliability, and the operational availability are documented and analyzed to provide validation of the system, as well as lessons learned. Some of the technical areas that should be addressed include IT Architecture, Technical Training, Operations and Information Assurance (IA).

The evaluation of the IT Architecture includes an assessment of external and internal interfaces, system compatibility and interoperability, usage of current architectural standards, and communications solutions. Generally, systems are designed for interoperability within the IT architectural environment.

Technical training is important for smooth program initiation, transition and maintenance. Therefore, the evaluator will review training items such as program, schedule, on-the-job, classroom, and computer-based training for initial effectiveness and ability to meet future training requirements.

Evaluation of system operations validates the effectiveness and efficiency of the program. Many times operations will impact the program in ways that were not projected. Suggestions for the evaluator to review include system downtime (mean time between failure), ease of use, vendor support, equipment obsolescence, capacity planning, system monitoring, etc.

IA requirements are defined in published DoD and DON standards. They require all IT programs to be compliant with architectural standards, interoperability guidelines, and levels of security protection (Defense in Depth). Publications outlining these requirements are:

- Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP), DoDI 5200.40
- Department of the Navy Information Assurance Certification and Accreditation Guidebook, DON 5239-13, Volumes I, II, and III.
- Defense Information Infrastructure Common Operating Environment (DII COE)

The evaluator should obtain a copy of the program's IA certification and accreditation (C&A) completion letter along with a complete copy of the System Security Authorization Agreement. If the program is in the process of receiving accreditation, the Designated Decision Authority (DDA) should prepare a letter indicating when the C&A process should be completed.

# V. Roles and Responsibilities

Senior management should ensure that the appropriate staff participates in the Evaluation Review. The following staff should be included in the review:

- Senior management—Their focus is on the benefits derived by the program. They need to know if the program actually achieved the benefits that were used to make the initial investment decision. Senior management participants may include: (1) Commanding Officer (CO), (2) Chief Information Officer (CIO), (3) Functional Area Owner (FAO), (4) Resource Sponsor (RS), and (5) Milestone Decision Authority (MDA).
- Program team and management—Their contribution should focus on the lessons learned and overall outcomes of the program. These lessons may lead to changes and improvements in the management/funding of future programs.
- Technical and Functional staff—Their focus is on the performance measures and benefits of the system. Their feedback through data gathering techniques will provide the vehicle to compare the performance measures between the initial planned measurements and actual demonstrated measurements. The outcome will reveal whether the program realized the planned performance and benefits.
- Customers directly impacted by the system—Their focus is on service. If applicable, this group should participate in measuring the benefits that apply to them and identifying any lessons learned during the implementation process.

The above list provides an example of some of the key players and how they fit into the evaluation process. These players have different roles depending on their involvement with the program under evaluation. The following are examples of the key player roles and responsibilities in the evaluation process:

| Role | Responsibilities |
|---|---|
| **Chief Information Officer (CIO)** | • Initiates and approves the Evaluation process and the Evaluation Review Plan<br>• Sets the objectives of the review<br>• Appoints the Evaluation Team Leader<br>• Ensures adequate support<br>• Assesses evaluation results<br>• Rates the program based on the Evaluation Report<br>• Advises decision-makers whether to continue, modify, or terminate based on the Evaluation Report<br>• Implements process improvements on portfolio management based on Evaluation Team observations and recommendations<br>• Attends out-briefing of Evaluation Team results to senior management<br>• Receives copy of final Evaluation Report and maintains repository of Evaluation Reports |
| **Milestone Decision Authority (MDA)** | • Receives copy of Evaluation Report<br>• May attend interim briefing of draft evaluation results<br>• May provide comments for inclusion in the Evaluation Report<br>• Implements MDA process changes based on Evaluation Team observations and recommendations<br>• Attends out-briefing of Evaluation Team results to senior management |

| Role | Responsibilities |
|---|---|
| **Investment Review Board (i.e., Information Management Forum Members, Business Unit Leaders)** | • Receives copy of Evaluation Report<br>• Uses the results of the Evaluation Report as part of the Selection criteria<br>• Implements process improvements based on the Evaluation Team observations and recommendations |
| **Functional Area Owner (FAO)** | • Assists in setting objectives and defining scope of the Evaluation<br>• Receives copy of the Evaluation Report<br>• Attends interim briefing of draft evaluation results<br>• Provides comments for inclusion in the Evaluation Report<br>• Rates the program based on the Evaluation Report<br>• Implements functional process improvements based on Evaluation Team observations and recommendations<br>• Attends out-briefing of Evaluation Team results to senior management |
| **Program Manager (PM)** | • Notifies CIO of impending IOC/FOC for evaluation scheduling/planning<br>• Provides Evaluation Team with Points of Contact (POCs) representing mission, performance, management, financial and technical key focus areas<br>• Provides program briefing to Evaluation Team at initial review meeting<br>• Provides requested documentation and information<br>• Supports the Evaluation Team in scheduling required interview and survey participation and any other data collection methodologies used<br>• Ensures maximum support from program management staff in conducting the evaluation<br>• Notifies participants of impending evaluation and reinforces its importance<br>• Attends interim briefing of draft evaluation results<br>• Reviews draft Evaluation Report and provides comments<br>• Signs Evaluation Report and includes any additional comments<br>• Attends out-briefing of Evaluation Team results to senior management |
| **Evaluation Team Leader** | • Develops an Evaluation Review Plan<br>• Defines scope of the Evaluation Review<br>• Defines resources (team membership, training as needed, funding, facilities, etc.)<br>• Assembles team and assigns team member responsibilities<br>• Formally notifies the PM of the impending review<br>• Directs the development and tailoring of the Plan of Action & Milestone (POA&M)<br>• Initiates request for program documentation and basic program information from PM<br>• Conducts Evaluation in-briefing among Evaluation Team, PM and the program's key points of contact during initial review meeting<br>• Oversees data collection, analysis, Evaluation Report and briefing development in accordance with the Evaluation Review Plan<br>• Conducts the interim briefing of draft evaluation results<br>• Performs out-briefing and disseminates Evaluation Report |
| **Evaluation Team Member** | • Assists in the development of the Evaluation POA&M<br>• Participates in the development of review materials<br>• Assists in data collection, analysis, report development and briefing materials<br>• Attends and provides support at Evaluation briefings, as required |
| **Users/Customers and other Key Points of Contact** | • Supports the Evaluation process, as required |

**Table 1. Roles and Responsibilities**

# VI. Evaluation Review Process

## A. Overview

The evaluation review process covers two distinct phases. The first phase involves all the efforts associated with planning for the review. It is critical in this phase that the reviewers have a clear understanding of the goals and objectives to be accomplished and the timeframes for completing their efforts. The second phase involves the actual execution of the review. During this phase, the review team will be gathering data, analyzing documentation, conducting interviews, and developing the report inputs. **Appendix A** illustrates the "Evaluation Review" process flow. Both of these phases are described in the paragraphs below.

## B. Planning for the Evaluation Review

A successful evaluation requires planning consistent with the scope of the program. The planning steps involve: (1) appointing a team leader; (2) developing the evaluation review plan; (3) selecting team members; (4) developing the POA&M, and (5) preparing review materials.

### 1. Appointing a Team Leader

Once the CIO or other senior management has determined that a system will be evaluated, an evaluation team leader will need to be appointed. The evaluation team leader should have knowledge of the evaluation process and be independent of the program design and implementation. This may require either appointment of a team leader from elsewhere in the organization or the use of external sources (depending on the availability of resources, extent of in-house expertise, etc). Management should formally task the team leader and outline the goals and objectives of the review (e.g., what information they want to see in the final report).

### 2. Developing an Evaluation Review Plan

The first action taken by the evaluation team leader is to develop an Evaluation Review Plan. The planning document will outline the team's review strategy and will include information regarding goals and objectives, scope of the evaluation review, approach, team size, security clearances, cost estimates (see sample in **Appendix B**) and reporting relationships to senior management. In order to ascertain the scope, the team leader will need to make initial contact with the PM to discuss the program and request basic program information (**Appendix C**) and the available program documentation (i.e., acquisition management document requirements in DoD/SECNAV 5000 series) (**Appendix D**). The scope of the review (i.e., level of detail) should be based on mission criticality, program size (dollars or complexity), development approach (incremental vs. full capability) and whether it is a newly deployed or existing operational system. Determining

the scope of the review will not only provide the framework for the actual review but will also assist the team leader in determining the required team composition.

The Evaluation Review Plan should be presented to the CIO or other senior management official who initiated the review for approval. This plan may include:

- Goals and Objectives
- Scope
- Approach
- Team Composition
- Team Member Training
- Security Clearance Requirements
- Reporting Relationships (Evaluation Team, the CIO or senior management and the decision authority)
- Reporting Results
- Cost Estimate (**Appendix B** Sample & Worksheet)
- Estimated Duration

Support resource requirements should be negotiated between the team leader and senior management (i.e., team member skill sets and characteristics needed, training, funding, etc).

### 3. Selecting Team Members

Based on the scope of the review and management's stated objectives, the evaluation team leader will propose team membership to senior management for approval. At a minimum the team composition should include one team member with appropriate skill sets for each of the focus areas as follows:

#### a. Mission

For the mission review area, the team member should possess a working knowledge on how to interpret mission-related documentation as well as how to construct, conduct and interpret user satisfaction survey data in order to achieve meaningful feedback that assesses quantitatively and qualitatively the program's benefit and impact on mission.

#### b. Performance

For the performance review area, the team member should be capable of assessing the merits of KPIs captured; and comparing and assessing actual to planned functional, technical and management KPIs for both the test and operational environments.

### c. Management

For the management review area, the team member should possess a working knowledge of program or project management processes, as well as, the technical and acquisition management policies and procedures. The reviewer should also be capable of assessing the effectiveness of management tools, such as, automated project management systems.

### d. Financial

For the financial review area, the team member should possess the necessary analytical skills needed for assessing and validating items such as ROI, NPV, Payback Period, Total Ownership Costs (TOC), and the adequacy of budgeted funds.

### e. Technical

For the technical review area, the team member should possess a working knowledge of policies and procedures applicable to areas such as, software development, network operations, communications, IA, etc.

## 4. Developing the Plan of Action and Milestones (POA&M)

Once the evaluation team is established, the team will meet to construct and finalize the evaluation POA&M, coordinating with the PM as necessary.

During the initial planning meetings, the team should decide on what documentation and information is needed, what interviews to conduct, and the detail level of the user satisfaction survey. The POA&M should include the following types of actions:

- List team financial and logistics requirements
- Formally notify PM of review
- Initiate meeting between the team leader and PM
  (1) Request Program Information (**Appendix C**)
  (2) Request Program Documentation (**Appendix D**)
- Review Program Documentation
- Develop tailored Interview Worksheets (**Appendix E**)
- Develop tailored User Satisfaction Survey (**Appendix F**)
- Conduct initial review meeting between the evaluation team and the PM and POCs
- Disseminate User Satisfaction Survey (if required)
- Conduct interviews
- Review technical test data
- Process User Satisfaction Survey data
- Process interview feedback

- Develop findings and recommendations
- Draft Evaluation Report
- Brief management (e.g., PM, FAO, CIO)
- Finalize Evaluation Report (including PM and FAO comments)
- Brief final report results to senior management

## 5. Preparing Review Materials

The final planning step involves tailoring the interview questions and user satisfaction survey documents in order to capture the information required to address the goals and objectives established by senior management during the initial tasking. This part of the process is key to gathering the information necessary to perform a thorough evaluation. It is important to collect both quantitative and qualitative data to determine the suitability of the system. Data collection should be proportionate to the program being evaluated. Team members will need to balance the need for information without making the request for data over burdening on the respondent. Therefore it is important to use data collection techniques that are appropriate to the program. Team members should focus on techniques that provide timely data gathering at reasonable costs. Specific data collection techniques include:

- Questionnaires
- Participant interviews
- Expert walk through
- Observation
- Workshops
- Discussion groups
- Sampling
- Obtaining reports for performance measurements
- Inspection of procedures manuals and training materials

Whichever techniques are used, thought should be given to insuring that information collected will be suitable for comparison and analysis. Specific attention should be given at this stage to performance measurement data (i.e., KPIs that are critical to the success of the evaluation review) and assessment of outcome oriented performance measures.

## C. Performing the Evaluation Review

### 1. General

The actual performance of the evaluation is the most difficult and time-consuming phase of the evaluation process. The credibility of the final report rests in the way data is collected and analyzed, and how it is used to support the team's observations and recommendations. Accurate translation of the data will depend on a number of variables such as, team member skills, how user satisfaction surveys are orchestrated and the data controlled, and the accessibility to test and operational metrics and documentation.

Analysis of the information gathered includes comparing what actually happened against what was planned (for example, the predicted ROI or cost savings in a business case). Reviewers must determine what was done well and what was done poorly, and their analysis will be used to formulate the overall assessment of the program, as well as recommendations for process improvement. Recommendations should include improvements to add value and should be sufficiently robust for the organization to act upon them. The remainder of this section discusses the recommended actions to take in performing an evaluation review.

### 2. Conducting Initial Review Meeting

As a precursor to conducting the evaluation, the team leader and members should meet with the program manager and selected program personnel to set the groundwork for the evaluation. The agenda for this meeting should include the scope, objectives and timeliness of the review, introduction of the team members, and coordination of the physical and logistical setups and assignments. The team leader should request that the PM provide a short briefing on the program outlining the background, purpose (i.e., goals and objectives), approach, number of installations, delivery schedule, number of users, development and operating costs, etc. This briefing will provide the evaluation team with an overview of how the program was developed, managed, implemented and maintained.

### 3. User Satisfaction Surveys

The purpose of initiating user satisfaction surveys is to gain valued feedback from the user community (i.e., customers, IT staff, financial and management personnel). A cross sampling of the user communities will provide different perspectives about perceived expectations and performance of the program. In order to achieve equitable input, the population surveyed should be selected at random and should be based on a statistically valid sample size from each of the user communities. The total user population should drive the sample size used for the survey.

### a. Collection Methods

There are a variety of methods that can be applied to collect user satisfaction survey data. Collection of survey data can be obtained via the following methods:

- Mail (hard copy)
- Computer/electronic surveys (email-soft copy)
- Group surveys
- Telephone surveys
- Personal interviews (face-to-face)

The following table provides a matrix for each survey methodology and the advantages and disadvantages of each.

| Survey Method | Generally Used for | Advantages | Disadvantages |
|---|---|---|---|
| Mail | Large number of users at many locations | • Allows large sampling at relatively low costs<br>• Allows respondents to respond at their own pace<br>• Free from interviewer bias | • Questionnaire must be made simple<br>• Possible biased response<br>• Low response rate<br>• Lost in the mail |
| Computer/ Electronic | Large number of users with network accessibility | • Allows instant data collection<br>• Easy to conduct<br>• Eliminates hard copy<br>• Can be programmed to populate database<br>• Supports rapid analysis | • Programming can be complex<br>• Could be expensive if additional programming is required<br>• Respondents restricted to email clients<br>• Concerns regarding anonymity |
| Group | Moderate number of users in a single location | • Quick and inexpensive way to obtain sample<br>• Captive audience | • Difficult to coordinate<br>• Limited time available for respondent to answer |
| Telephone | Small to moderate number of users in a single location | • Low cost<br>• Can obtain information quickly | • Interviews must be short<br>• Responses may be influenced by the interviewer |

**Table 2. Survey Methodology Matrix**

### b. Construction of the Survey

The decision to use user surveys should be driven by the need to support the stated objectives of the review. Therefore, survey questions should be streamlined and pointed towards achieving insight on those objectives. For example, if senior management wanted the evaluation team to assess the IT staff's effectiveness in supporting users relative to operation, then the survey questions should focus on areas such as, problem resolution, user training, system reliability, accessibility, etc. Surveys should not overburden the respondent and should have generalized characteristics that are applicable across the target population to prevent biased responses. While the initial construction of the survey will be done as part of the planning step of "preparing review materials," the survey can be modified prior to distribution based on the outcome of the initial meeting with the PM and any change in review direction.

Obtaining reliable survey data is dependent on surveying and collecting input from a sufficient portion of the target population. The reviewer should determine an adequate sample size that will yield valued results. There are various formulae that can be used to determine a valid sample size. The team should pick a formula that will produce the desired confidence level in survey results. Motivating the respondent to provide feedback will assist in gaining a significant return of survey responses. The cover letter, memo, or email should stress the importance and value of the respondent's opinion, and that the feedback will be used to quantify the project's success or make product improvements. Every effort should be made to take advantage of management's support in getting the participants to respond to the survey. This can be accomplished by having management endorse the survey as part of the dissemination process.

### c. Dissemination/Distribution of the Survey

Dissemination of the survey and collection of the results should be timely and cost effective, for example, using email for dissemination. A sample user survey is provided (**Appendix F**) that can be used as-is, or tailored for your organization. It provides the respondent the opportunity to rate each survey item relative to importance and satisfaction. This type of format allows the reviewer the capability to analyze and display data in a variety of forums. For example, the data can be analyzed to determine if there are gaps between various user groups (i.e., IT staff, management and customers), relative to what's important and the level of satisfaction. Analysis of survey data is further discussed in a subsequent section of this handbook.

## 4. Conducting Focus Area Interviews

Focus area interviews serve a different purpose than user satisfaction surveys. User satisfaction surveys determine the observations and impact on those individuals who use the system. Focus area interviews are used to gather insight on how well the program met its cost, schedule, and performance goals, its contribution to mission and how effectively it was managed from concept to delivery. Focus area information is generally gathered by the reviewer through

face-to-face interviews with designated personnel and through review of documentation. However, it can also be used as a self-assessment form to be completed by the interviewee. Information gathered during this process is both subjective and objective. Subjective data represents observations documented by the reviewer during the interview; whereas, objective data will be obtained from source documents, such as test data, cost reports, etc.

Sample interview worksheets are provided (**Appendix E**) for the mission, performance, management, finance and technical focus areas. These worksheets can be modified to meet local requirements. Each worksheet should be designed to capture sufficient information necessary to answer a stated objective about a new or operational system. For example, in evaluating a new system, one of the stated objectives under the "Mission" focus area might read, "Determine the strategic benefit/mission impact of the program." The interview worksheet should have questions to prompt the reviewer on how to gain information that would support assessing that objective. Sample questions might include:

- "How did this program improve the Command's ability to meet its mission?"
- "What productivity improvements have resulted from the implementation of this program?"

## 5. Analyzing and Assessing Data Collected

Outcomes from the review and analysis of data collected from KPIs (i.e. performance measures), program documentation, user surveys and the interview worksheets will be the centerpiece for the final Evaluation Report. It is critical that the reviewer accurately portray the information gathered for each of the focus areas and is able to support observations and recommendations. The use of an automated tool (i.e., spreadsheet, database) provides a vehicle for capturing, analyzing and reporting the information gathered. The following identifies the source input and a discussion on analyzing each area:

### a. Mission

(1) Source Input. User satisfaction surveys, interview worksheets, and program documentation.

(2) Analysis. The mission needs statement and its relation to corporate strategies sets the core basis for the reviewer's analysis. The mission needs statement described in the program documentation spells out the overarching objective for undertaking the investment. The reviewer's analysis should determine if the need was accomplished and the impact on mission capability. This will be verified by analyzing the source inputs from user surveys and the interview worksheets, and comparing with information from the "Selection" phase. The outcome of this analysis will be used to form an overall assessment for the mission area. The reviewer should perform a comparative analysis of survey data to ascertain what's important and to assess the level of satisfaction with the IT investment by total population and user groups. Survey feedback

can also be compared to productivity measures. For example, user satisfaction can be compared to productivity measures to determine if it supports an increase, decrease or status quo in productivity. The reviewer can use customer feedback to graphically demonstrate user perceptions across the target population.

**b. Performance**

(1) Source Input. User satisfaction surveys, interview worksheets, program documentation, KPIs, and test and operational results (system and functional).

(2) Analysis. As noted earlier, there are technical, financial and management indicators, which must be assessed against the planned measures that were established in the initial program documentation. In making the assessment, the reviewer should evaluate the collection methodology used to capture the performance measures; determine the accuracy of the data captured; and make an assessment on how well the actual results fared against the planned results. Since most investments are generally sold on the basis of cost savings or productivity improvements, more emphasis should be given to assessing measures affecting those areas. For example, if the investment was supposed to yield a 10-15% increase in productivity in materiel management for the command, the reviewer needs to validate whether the metrics used to measure the productivity increase accurately captures meaningful results and whether the final results were within the predefined ranges. If not, the reviewer must draw a conclusion as to the impact of not achieving those results against the continued expenditure of operating funds.

**c. Management**

(1) Source Input. User satisfaction surveys, interview worksheets and program documentation.

(2) Analysis. Data collected during the interview process should be analyzed to determine how well the program was managed in terms of cost, schedule, and risk. Part of the review should include an assessment of what tools and procedures were used and how effective they supported program management. Areas for analysis include the changes in the acquisition program baseline for cost and schedule, and compliance with management legislation and regulations (i.e., Clinger Cohen Act, DoD 5000.2R).

**d. Financial**

(1) Source Input. Interview worksheets, program documentation and program budget documentation (budget and execution).

(2) Analysis. Analysis will include comparing actual results to the baseline of cost goals for items such as TOC, ROI, NPV, cost savings, etc. that were established in the initial program documentation. The reviewer should assess the level of success in meeting the predefined cost goals and should document any variances and causes. The reviewer should also confirm that the program has been adequately funded in the current and outyear budgets, including resources required to continue operations and maintenance.

**e. Technical**

(1) Source Input. User satisfaction surveys, interview worksheets, program documentation, and test results.

(2) Analysis. Technical analysis includes system capacity monitoring, help desk statistics, IT training, equipment compatibility, program interoperability, etc. Information can be obtained through observation, reports, system logs and operational testing results. Statistical analysis will show whether the program ensures optimum availability to the user, minimum downtime and adequate capacity to store the program data.

## 6. Developing Draft Evaluation Report

The draft Evaluation Report should follow a structure that provides senior management and pertinent program personnel information intended to support decisions about the program's usefulness to the agency or customer. The recommended body of the report should be a maximum of 8 pages. The following describes the recommended content for each section of the report (**Appendix G** provides a template for the Evaluation Report):

**a. Executive Summary**

This section provides an overall, summary level assessment of the system in terms of the five focus areas of Mission, Performance, Management, Financial, and Technical. It should highlight major areas of concern and recommendations, as well as lessons learned relative to the "Selection" and "Management" phases of the command's Capital Planning and Portfolio Management processes.

**b. Background**

The "Background" section should paint a historical picture of the program from conception to deployment as well as notable interruptions and the cause, program objectives, terms of reference, functional system description and data usage.

**c. Evaluation Methodology**

The evaluation methodology provides a complete description of the approach used to conduct the evaluation. The methodology (i.e., questionnaire, observation, interview) and the type of information for each technique used to gather information should be discussed to prepare the reader for the assessment of the data.

**d. Assessment**

The "Assessment" section will address the outputs from the five focus area groups: mission, performance, management, financial and technical. In addition to the five focus areas the evaluation team should address the analysis of the user satisfaction surveys. This assessment should show graphical depictions of performance comparisons and discuss the program's status. The qualitative and quantitative analyses for this section are products of Section VI, paragraph C.5, "Analyzing and Assessing Data Collected," above.

**e. Observations and Findings**

This section addresses observations and findings noted during the evaluation. This information should include any variances obtained from comparison of the selection criteria and actual outcomes, and provides an overall picture of the health of the program.

**f. Lessons Learned**

The "Lessons Learned" section shows the planning and development process improvements that can be used for future projects. Lessons Learned provide valuable information to senior management that can be incorporated into the Capital Planning process. These may include but not be limited to lessons learned about:

- Program Management process
- System Development process
- Contracting Methodology used
- Training received/provided
- Conversion/Transition tasks
- Technology used
- Evaluation process

**g. Recommendations and Conclusion**

This section includes recommendations for improvements to better aid programs in the future. Describe the best practices identified in this program that should be repeated in the other programs. If the recommendations show a definite impact to the program, briefly describe the general impact on managers and the user community. Provide feedback to senior management on the success of the program and the benefits realized.

**h. Evaluation Report Appendices**

Attachments may include:

(1) User Satisfaction Survey results

(2) Completed Interview Worksheets

(3) Comments from appropriate managers

(4) Program Rating and Sign-off

(5) Senior Management Program Decision

(6) Other additional information, as appropriate

### 7. Interim Briefing of Draft Report

Once the team has drafted the Evaluation Report, the evaluation team leader will schedule a briefing with the appropriate managers (e.g., PM, FAO, MDA) to discuss the observations and recommendations. The evaluation team leader and the PM will identify personnel who should attend. The briefing should outline the facts and observations of the team's review for each focus area. All appropriate managers will be provided a printed copy of the draft Evaluation Report and will be given an opportunity to comment on the report. The team leader and PM will set the deadline date for submission of comments (e.g., 2-3 weeks).

### 8. Developing Final Evaluation Report

Following receipt of the appropriate managers' comments, the team will prepare the final Evaluation Report for distribution. Managers' comments will be included as an appendix to the report. The report will be forwarded to the appropriate managers as a read ahead in preparation for the out briefing to senior management. It is important for the team to recognize the value of the evaluation observations and recommendations to the annual "Selection" phase, and strive to have the final evaluation report available to support that process.

### 9. Briefing Senior Management

Briefing senior management is the evaluation team's final step in the evaluation process. The briefing will present an overview of the evaluation process and highlight the positive and negative results of the evaluation. The briefing will provide recommended actions for management's consideration. The team leader will be responsible for determining content of the brief, providing a complete evaluation package, and coordinating the briefing date.

### 10. Program Rating and Retention

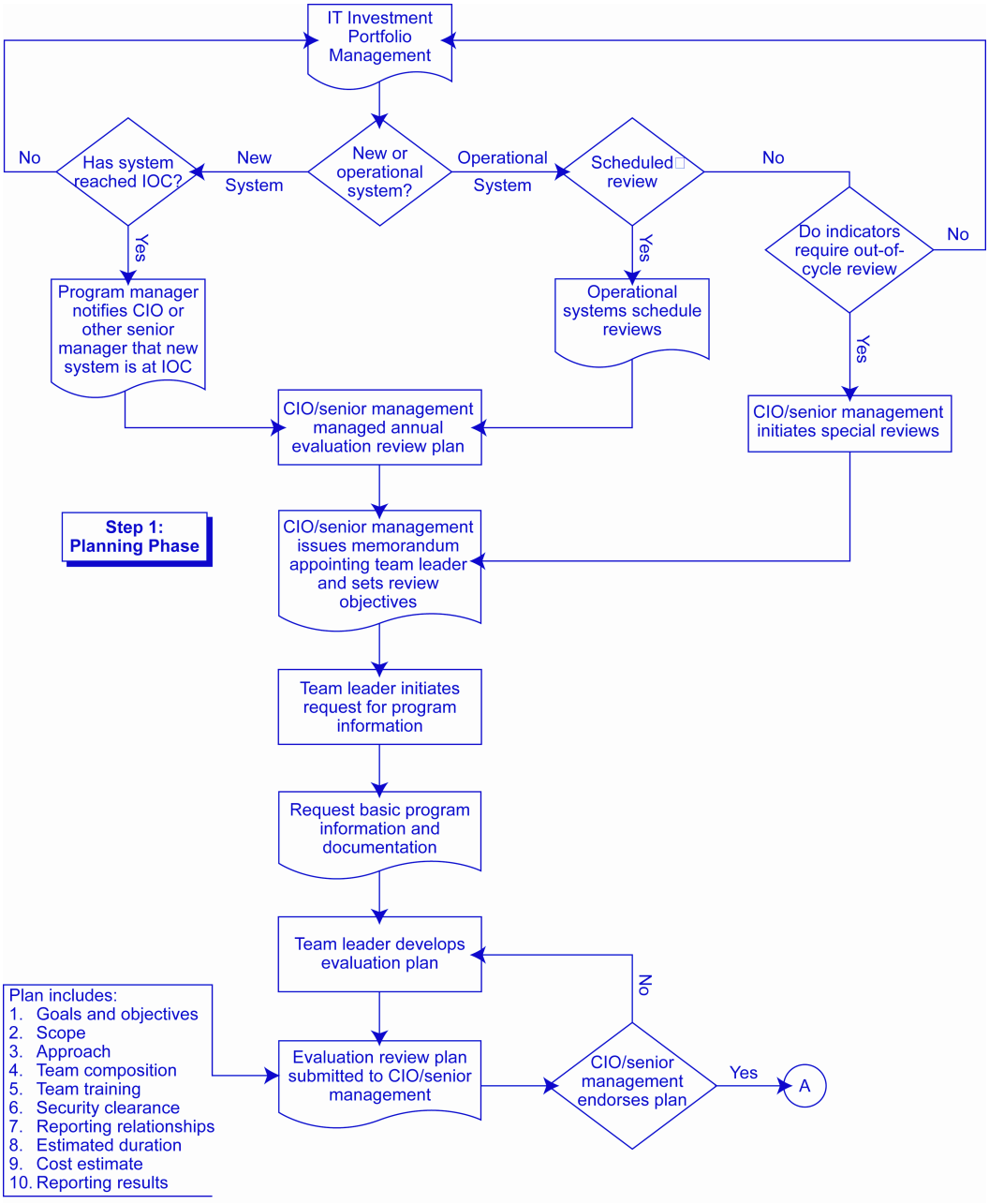
After rating the program using **Appendix H**, senior management will determine the program's overall health and recommend the program for continuation, modification or termination and will present recommended course(s) of action to the senior decision official. The senior decision official will agree or disagree with the recommended course(s) of action and provide final decision via **Appendix I**. The CIO or other designated official will retain the rated evaluation package as part of the organization's Capital Planning and Portfolio Management documentation. Developing this complete library of program information helps to establish an organizational memory in which both successes and failures can be used for learning.

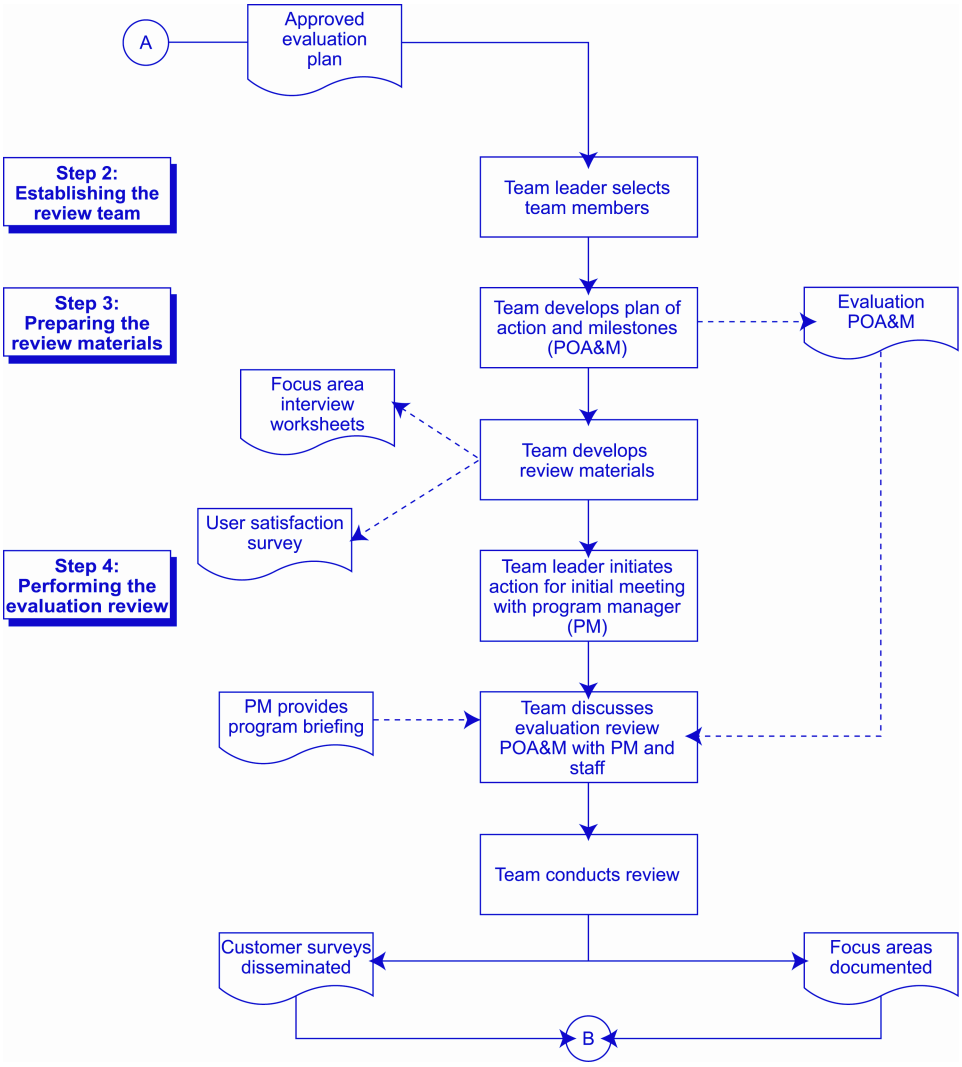
# VII. Conclusion

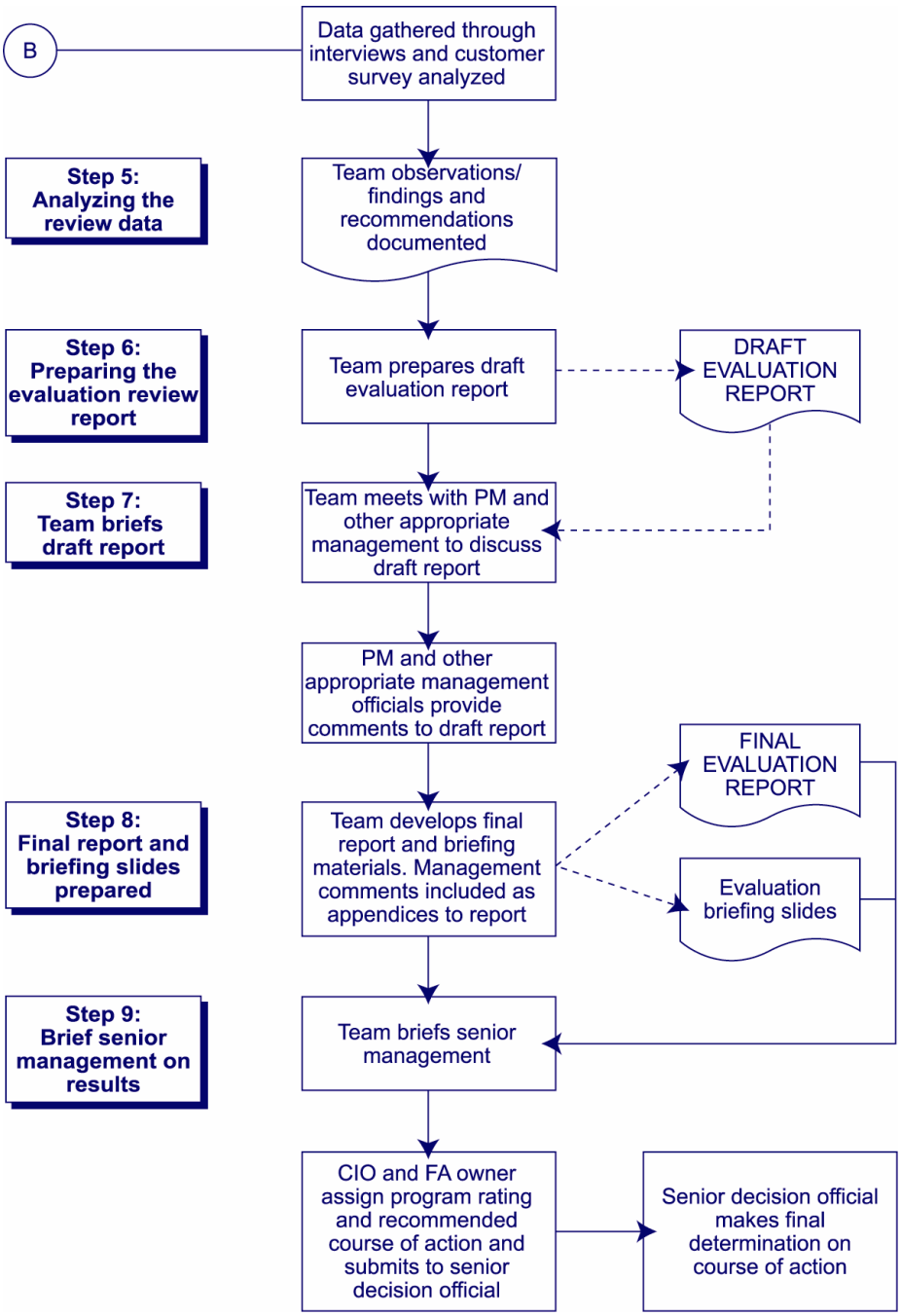
An effective investment evaluation review process provides insight on the cost and operational effectiveness of IT investments, as well as the processes and procedures used to manage those resources. It requires discipline, executive management involvement, accountability, and focus on risks and returns using qualitative and quantifiable measures. It serves as an invaluable knowledge tool for process improvement to the "Selection" and "Management" phases of Capital Planning and Portfolio Management. A mature evaluation process should continuously provide timely feedback to senior management officials on the viability of the command's assets as they make funding decisions on new and operational programs.

# Appendices

# Appendix A. Evaluation Process Flowchart




A
Approved evaluation plan
Step 2: Establishing the review team
Team leader selects team members
Step 3: Preparing the review materials
Team develops plan of action and milestones (POA&M)
Evaluation POA&M
Focus area interview worksheets
Team develops review materials
User satisfaction survey
Step 4: Performing the evaluation review
Team leader initiates action for initial meeting with program manager (PM)
PM provides program briefing
Team discusses evaluation review POA&M with PM and staff
Team conducts review
Customer surveys disseminated
Focus areas documented
B


B
Data gathered through interviews and customer survey analyzed
Step 5: Analyzing the review data
Team observations/ findings and recommendations documented
Step 6: Preparing the evaluation review report
Team prepares draft evaluation report
DRAFT EVALUATION REPORT
Step 7: Team briefs draft report
Team meets with PM and other appropriate management to discuss draft report
PM and other appropriate management officials provide comments to draft report
FINAL EVALUATION REPORT
Step 8: Final report and briefing slides prepared
Team develops final report and briefing materials. Management comments included as appendices to report
Evaluation briefing slides
Step 9: Brief senior management on results
Team briefs senior management
CIO and FA owner assign program rating and recommended course of action and submits to senior decision official
Senior decision official makes final determination on course of action

## Appendix B. Cost Estimate Worksheet

| Tasks | Man Hours | | Costs | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Govt. ($75/hr) | Contractor ($125/hr) | Labor Cost | Materials | Travel | Training | Misc. | Total |
| 1. Preparation for initial contact between Team Leader and PM | 8 | 8 | 1600 | 0 | 0 | 0 | 100 | 1700 |
| 2. Team Leader Development of Evaluation Review Plan | 8 | 40 | 5600 | 50 | 0 | 0 | 0 | 5650 |
| 3. Senior Management/Team Leader agreement on Evaluation Review Plan | 4 | 0 | 300 | 0 | 0 | 0 | 0 | 300 |
| 4. Establish Review Team | 40 | 0 | 3000 | 0 | 0 | 0 | 0 | 3000 |
| 5. Evaluation Team training in the Evaluation Process and other areas as required | 200 | 0 | 15000 | 0 | 2000 | 5000 | 0 | 21000 |
| 6. Team reviews basic program documentation | 200 | 40 | 20000 | 0 | 0 | 0 | 0 | 20000 |
| 7. POA&M Development of evaluation review actions | 40 | 0 | 3000 | 0 | 0 | 0 | 0 | 3000 |
| 8. Preparation of Review Materials:<br>a. Interview Worksheet<br>b. User Satisfaction Survey | 300 | 60 | 30000 | 0 | 0 | 0 | 0 | 30000 |
| 9. Initial team meeting with PM | 10 | 0 | 750 | 0 | 0 | 0 | 0 | 750 |
| 10. Scheduling of Focus Area POC and other appropriate interviews | 0 | 5 | 625 | 0 | 0 | 0 | 0 | 625 |
| 11. Performing the Evaluation:<br>a. Conducting Interviews<br>b. User Satisfaction Survey<br>c. Other sources | 40 | 10 | 4250 | 0 | 5000 | 0 | 0 | 9250 |
| 12. Analysis of Data | 200 | 40 | 20000 | 0 | 0 | 0 | 0 | 20000 |
| 13. Draft Report Preparation | 8 | 32 | 4600 | 250 | 0 | 0 | 0 | 4850 |
| 14. Draft Report Briefing | 12 | 0 | 900 | 0 | 0 | 0 | 0 | 900 |
| 15. Final Report and Presentation (written report and slides) | 8 | 32 | 4600 | 1000 | 0 | 0 | 0 | 5600 |
| 16. Senior Management Briefing | 4 | 0 | 300 | 0 | 0 | 0 | 0 | 300 |
| **Total** | **1082** | **267** | **114525** | **1300** | **7000** | **5000** | **100** | **126925** |



Note: This sample provides a methodology for estimating evaluation team costs involved in the Evaluation Review. Subjective cost figures for government and contractor labor were used. The estimated hours will vary dependent upon program complexity.

## Cost Estimate Worksheet

| Tasks | Man Hours | | Costs | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Govt. ($75/hr) | Contractor ($125/hr) | Labor Cost | Materials | Travel | Training | Misc. | Total |
| 1. Preparation for initial contact between Team Leader and PM | | | | | | | | |
| 2. Team Leader Development of Evaluation Review Plan | | | | | | | | |
| 3. Senior Management/Team Leader agreement on Evaluation Review Plan | | | | | | | | |
| 4. Establish Review Team | | | | | | | | |
| 5. Evaluation Team training in the Evaluation Process and other areas as required | | | | | | | | |
| 6. Team reviews basic program documentation | | | | | | | | |
| 7. POA&M Development of evaluation review actions | | | | | | | | |
| 8. Preparation of Review Materials:<br>a. Interview Worksheet<br>b. User Satisfaction Survey | | | | | | | | |
| 9. Initial team meeting with PM | | | | | | | | |
| 10. Scheduling of Focus Area POC and other appropriate interviews | | | | | | | | |
| 11. Performing the Evaluation:<br>a. Conducting Interviews<br>b. User Satisfaction Survey<br>c. Other sources | | | | | | | | |
| 12. Analysis of Data | | | | | | | | |
| 13. Draft Report Preparation | | | | | | | | |
| 14. Draft Report Briefing | | | | | | | | |
| 15. Final Report and Presentation (written report and slides) | | | | | | | | |
| 16. Senior Management Briefing | | | | | | | | |
| **Total** | | | | | | | | |

## Appendix C. Program Information

| | | | | |
|---|---|---|---|---|
| 1. | Program Name (full and short title): | | | |
| 2. | Program Manager/POC:<br>Name:<br>Phone:<br>Email: | | | |
| 3. | Program Security Classification: | | | |
| 4. | Point of Contact Information: | **Name** | **Phone** | **Email** |
| | Mission: | | | |
| | Performance: | | | |
| | Management: | | | |
| | Financial: | | | |
| | Technical: | | | |
| 5. | Acquisition Category, if applicable: | | | |
| 6. | Functional Area(s) Supported: (identify) | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Civilian Personnel | | Information Operations/Warfare | | Reserve Affair |
| | Command and Control | | Intelligence | | Science and Technology |
| | Economic Security | | Logistics | | Security Activities |
| | Environmental Security | | Military Personnel & Readiness | | Space |
| | Finance | | NBC Defense Programs | | Systems Acquisition Management |
| | Health | | Policy | | Test and Evaluation |
| | Information Management | | Procurement/Contract Administration | | Transportation |

| | | |
|---|---|---|
| 7. | Strategic Goal(s) and Objective(s): | |
| 8. | Mission Critical<br>Mission Essential | |
| 9. | Program Type: | |
| | Joint<br>DON Enterprise-wide<br>Command Standard<br>Local Unique | |
| 10. | Date of Last Evaluation Review: | |
| 11. | Number and location of Deployments: | Date of Last Deployment: |
| 12. | Estimated Number of Users: | |
| 13. | Program Description: (History of the program to present) | |

# Appendix D. Program Documentation

| | Program Documentation | Check if Required* | Check if Available |
|---|---|---|---|
| 1. | Mission Element Needs Statement | | |
| 2. | Cost Benefit Analysis | | |
| 3. | Business Case Analysis | | |
| 4. | Operational Requirements Document | | |
| 5. | Acquisition Program Baseline | | |
| 6. | Test and Evaluation Master Plan | | |
| 7. | Environmental, Safety, and Health Evaluation | | |
| 8. | Independent Cost Estimate | | |
| 9. | Analysis of Alternatives | | |
| 10. | Acquisition Strategy | | |
| 11. | Risk Management | | |
| 12. | Life Cycle Cost Estimate | | |
| 13. | Acquisition Decision Memorandum | | |
| 14. | Security Certification and Accreditation Package | | |
| 15. | Quality Assurance | | |
| 16. | Training | | |
| 17. | Transition Strategy | | |
| 18. | Implementation Plan | | |
| 19. | Budget Profile | | |
| 20. | IT Strategic Plan (or comparable document) | | |
| 21. | Compliance/Certifications: | | |
| | Chief Financial Office (Blue Book) | | |
| | Clinger-Cohen (Information Technology Management Reform Act of 1996) | | |
| | Defense Information Infrastructure Common Operating Environment (DII-COE) | | |
| | Other: (Specify) | | |

*See acquisition management documentation requirements in DoD/SECNAV 5000 series

# Appendix E. Interview Worksheets

## Focus Area: Mission

| Objective | Questions | Other Validating Sources |
|---|---|---|
| Determine the strategic benefit/mission impact of the program.<br>Assess user satisfaction related to the mission. | 1. Were stated goals and objectives for mission improvement achieved?<br>2. How did this program improve the Command's ability to meet its mission?<br>3. What productivity improvements have resulted from the implementation of this program?<br>4. Does this program eliminate the need for other programs based on mission accomplishments?<br>5. What methodology have you used to determine customer satisfaction?<br>6. How would you rate the customer's satisfaction?<br>7. Do you have any lessons learned in the mission area that you would like to share?<br>8. Did the system fulfill the stated mission need identified in the program documentation?<br>9. Do the functional and performance measures support increased productivity?<br>10. Does the program still meet the mission need, as it currently exists?<br>11. When was the mission need last validated? | User Satisfaction Survey<br>Program Documentation |

## Focus Area: Performance

| Objective | Questions | Other Validating Sources |
|---|---|---|
| Determine if stated performance goals were achieved.<br>Determine if the operational system continues to perform effectively and efficiently.<br>Determine if all program requirements have been met. | 1. What mechanisms were used to collect and control performance metrics?<br>2. What are the functional KPIs associated with this program and are they within acceptable ranges?<br>3. What are the technical KPIs associated with this program and are they within acceptable ranges?<br>4. What are the management KPIs associated with this program and are they within acceptable ranges?<br>5. Do you feel the correct KPIs were established?<br>6. Do you have any lessons learned in the performance area that you would like to share? | User Satisfaction Survey<br>Program Documentation<br>Key Performance Indicators<br>Test and Operational Results (systems and functions) |

## Focus Area: Management

| Objective | Questions | Other Validating Sources |
|---|---|---|
| Determine the effectiveness of management systems and processes in delivering the program on schedule and within budget.<br>Confirm that legislative, regulatory and policy requirements were met.<br>Validate the accuracy and completeness of program documentation.<br>Determine how effectively program risks were managed. | 1. If the system is mission critical or mission essential, is it registered in the DON IT Database?<br>2. Does the system comply with the requirements of the Clinger-Cohen Act?<br>3. Is the development effort completed? Explain.<br>4. To what extent did the PM involve the process owner during the development and delivery of the program?<br>5. How were system requirements defined?<br>6. Were the requirements revised during development? If so why and what was the impact?<br>7. Is system documentation accurate and complete and in accordance with acquisition management policies?<br>8. What tools were used to manage the program from conception to implementation?<br>9. How did these tools support the management process?<br>10. How often was the program rebaselined for cost and schedule slippages?<br>11. What were the causes for the rebaselining and what was the impact on the program?<br>12. Were any internal/external obstacles encountered? If yes, list and explain impact. What actions were taken by the PM to overcome those obstacles?<br>13. Were there any major issues associated with the transition to operational status? If yes, explain.<br>14. What were the major risks associated with this program? Were they anticipated prior to deployment?<br>15. What mechanisms are in place to identify and counter program risk?<br>16. Are the staffing resources adequate for meeting the program requirements?<br>17. Is a standard configuration management process in place and utilized?<br>18. Have training requirements been identified and implemented?<br>19. Do you have any lessons learned in the management area that you would like to share? | User Satisfaction Survey<br>Program Documentation |

## Focus Area: Financial

| Objective | Questions | Other Validating Sources |
|---|---|---|
| Determine how effectively program risks were managed.<br>Determine if cost benefits were realized.<br>Determine if program is still cost effective to operate.<br>Determine if funding is adequate. | 1. Is the program fully funded in the budget? If no, identify unfunded requirements and explain.<br>2. Have these funding shortfalls been addressed in the budget or POM?<br>3. Is the funding properly aligned by appropriation for developmental and operational dollars?<br>4. Has the program budget been executed in accordance with appropriate plan (i.e., spend plan, obligation plan, etc.)?<br>5. What are the total operation and maintenance costs of the program?<br>6. What was the approved baseline LCC and current projected LCC? Explain changes.<br>7. If the system is a financial or financial feeder system, has it been CFO certified?<br>8. Did the program achieve its targeted financial goals (i.e., ROI, cost savings/avoidances (NPV and payback period))?<br>9. Did developmental and/or installation costs significantly increase over the projected? If yes, identify cost drivers and causes.<br>10. Do you have any lessons learned in the financial area that you would like to share? | Program Budget Documentation |

## Focus Area: Technical

| Objective | Questions | Other Validating Sources |
|---|---|---|
| Assess operational performance:<br>• Reliability<br>• Maintainability<br>• Training<br>• Information Assurance<br>Assess system compliancy with policies on:<br>• IT Architecture<br>• Software<br>• Information Assurance<br>• Contingencies<br>Assess the adequacy of operating documentation<br>Assess the effectiveness of IT support staff | 1. Are there any performance issues related to the infrastructure that the program uses (network, bandwidth, etc)?<br>2. What training was provided to the program users? Has it proved adequate?<br>3. Are user guides available?<br>4. Does the system comply with the IT architecture?<br>5. What IA certification/accreditation has been completed? If none, explain. If so, provide expiration date.<br>6. Are the required interfaces identified, documented and working?<br>7. Are standard operating procedures adequate for the operation of the program?<br>8. What are the trends for trouble calls/reports?<br>9. Are there any technology changes or obsolescence issues that need to be addressed?<br>10. Are there logistic support issues that need to be addressed?<br>11. Have all outstanding testing issues been resolved?<br>12. Are there technical deficiencies or discrepancies that need to be corrected?<br>13. Is the program meeting projected operational requirements/capabilities (i.e., system response time, turn around time, and availability) as stated in the program documentation?<br>14. Were all legislative, regulatory and policy requirements met?<br>15. Do you have any lessons learned in the technical area that you would like to share? | User Satisfaction Survey<br>Program Documentation<br>Test Results |

## Appendix F. User Satisfaction Survey

This survey will be used as part of the overall evaluation process. User satisfaction is a very important element in this process, therefore your participation is essential. Please return the survey per guidance received. Thanks!

| **Optional Information:** | |
|---|---|
| Name: | Phone: |
| E-mail Address: | |

| **Required Information:** | | | | | | | |
|---|---|---|---|---|---|---|---|
| System Name: | | | | Date: | | | |
| Data collection method utilized: Electronic | | Personal Interview | | Other | | | |
| Please return survey to: | | | | Due Date: | | | |

| **Demographics:** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **1. Activity/Agency** (e.g., NAVSEA/NAVAIR)**:** | | | | | | | |
| **2. Location** (e.g., Charleston/Pax River/San Diego)**:** | | | | | | | |
| **3. How long have you been in your current position?** Less than 1 year ☐ 1-3 years ☐ 3-5 years ☐ More than 5 years ☐ | | | | | | | |
| **4. Choose the category which best describes your primary responsibility as it relates to the system:** (Choose one) | | | | | | | |
| Administrative | Program Management | Engineering | Information Management | Contracting | Financial | Contractor | Other (specify) |
| | | | | | | | |

| **5. How would you rate your overall computer skills?** (Choose one) | | | | |
|---|---|---|---|---|
| Novice<br>1 | 2 | 3 | 4 | Expert<br>5 |
| | | | | |
| Seldom use computers. | Can create & print a document; check e-mail. | Can use basic software functions, customize settings, and troubleshoot basic problems. | Can use & configure advanced features. Sought by others as a technical resource. | Can write code, design networks and/or configure complex hardware and software. |

| **6. How many hours per day do you use a computer in performing your job? (Choose one)** | | | | | |
|---|---|---|---|---|---|
| Almost never | < 1 hour/ day | 1-2 hours/day | 3-4 hours/day | 5-6 hours/day | > 6 hours/day |
| | | | | | |

| | Importance | | | | | Satisfaction | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very Important | Important | Somewhat Important | Not Important | N/A | Very Satisfied | Satisfied | Somewhat Satisfied | Dissatisfied | N/A |
| 7. Ease of access to Computing Facility | | | | | | | | | | |
| 8. Easy access to the system when needed | | | | | | | | | | |
| 9. Users' understanding of the system | | | | | | | | | | |
| 10. System is easy to use | | | | | | | | | | |
| 11. User has confidence in the system | | | | | | | | | | |
| 12. Degree of personal control over the systems | | | | | | | | | | |
| 13. Participation in the planning of system requirements | | | | | | | | | | |
| 14. Data security and privacy | | | | | | | | | | |
| 15. System has up-to-date hardware | | | | | | | | | | |
| 16. System has up-to-date software | | | | | | | | | | |
| 17. Interoperability with other data resources | | | | | | | | | | |
| 18. System's response time | | | | | | | | | | |
| 19. Low percentage of system downtime | | | | | | | | | | |
| 20. Contingency procedures for when system is down | | | | | | | | | | |
| 21. System responsiveness to changing user needs | | | | | | | | | | |
| 22. Flexibility of the system to produce professional reports | | | | | | | | | | |
| 23. Quality of professional reports is verifiable | | | | | | | | | | |
| 24. Positive attitude from IT Staff to users (O&M) | | | | | | | | | | |
| 25. High degree of system competence from system support staff (O&M) | | | | | | | | | | |
| 26. Fast response time from support staff to remedy (O&M) | | | | | | | | | | |
| 27. Positive attitude from Help Desk to users | | | | | | | | | | |
| 28. Fast response time from Help Desk staff to remedy problems | | | | | | | | | | |

(continued on next page)

| | Importance | | | | | Satisfaction | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very Important | Important | Somewhat Important | Not Important | N/A | Very Satisfied | Satisfied | Somewhat Satisfied | Dissatisfied | N/A |
| 29. Ability of the system to improve users' personal productivity | | | | | | | | | | |
| 30. Extent of User Training | | | | | | | | | | |
| 31. Ability of the system to enhance the learning experience of the users | | | | | | | | | | |
| 32. User documentation to support training is provided | | | | | | | | | | |
| 33. Follow on technical training is provided to the user at pertinent intervals | | | | | | | | | | |
| 34. OVERALL SATISFACTION SCALE | | | | | | | | | | |

| **3+3 Survey** |
|---|
| Please provide three negative comments about this system. |
| 1. |
| 2. |
| 3. |
| Please provide three positive comments about this system. |
| 1. |
| 2. |
| 3. |

## Appendix G. Evaluation Report Template

**Evaluation Report for *[Project Title]***
***(Template See Section VI.C.6 for details)***

**1. Executive Summary.** This section provides the overall summary of the significant evaluation findings in terms of the five key focus areas: mission, performance, management, financial and technical. Describe which major objectives were met or not (fully, partially, etc.), and describe the most significant achievements from the program perspective. Summarize recommendations.

**2. Background.** This section of the report provides a brief history of the program, names of key program personnel, total funding expended, names of industry/intergovernmental partners, and names of the stakeholders. Focus should be placed on background items such as program objectives, functional system description, and expected outcomes.

**3. Evaluation Methodology.** This section describes the approach and measurement tools used, and the associated techniques (e.g., observations, questionnaires, interviews, test results, report reviews) used to gather data and conduct the evaluation review.

**4. Assessment.** This section of the report is used to identify the high-level outcomes of the evaluation, focusing on the following five areas: mission, performance, management, financial and technical. Summarize the level of stakeholder involvement, and analyze User Satisfaction Surveys in terms of what is important and how much satisfaction they received from the program. Graphical displays may be used to represent the analytical outcomes of the Key Performance Indicators (KPIs) measured and user satisfaction results.

a. Mission Assessment: *(describe strategic benefits and impacts on mission capability and readiness planned and achieved as a result of the investment)*

b. Performance Assessment: *(describe the KPIs (performance measures) used to baseline the program's performance (as-is and to be) and provide an overall assessment of their applicability and the results relative to the total cost and contribution to mission)*

c. Management Assessment: *(describe how effectively the program was managed in terms of risk, cost and schedule. Identify the processes and tools used and provide an overall assessment of their effectiveness)*

d. Financial Assessment: *(describe planned and actual results of ROI, cost savings/avoidances and Total Ownership Cost. Provide an overall assessment on the value of the investment relative to continued funding)*

e. Technical Assessment: *(provide an overall assessment of the actual system performance capabilities compared to the relationship to the mission needs)*

**5. Observations and Findings.** This section should detail any observations and findings based on the review and analysis of documentation, stakeholder interviews, user surveys, and actual data collected. One example may be documenting variances resulting from a comparison of the As-Is and To-Be baselines against actual data for the functional, technical and management KPIs. Also include any remaining issues that need to be completed and what action(s) will be taken to resolve the open issues.

**6. Lessons Learned.** This section describes the lessons learned (i.e., best practices, pitfalls, internal and external influences) documented as part of the evaluation review. These items will provide benefit to future investment programs, as well as investment management processes. Details may include: System Development Activities - non-value added or under funded activities; Program Management Process - managing the program's cost, schedule and performance; Contracting Methodology and Deliverables - quality achieved versus what was expected (or needed); Technical - unexpected technical issues (i.e., technology obsolescence, training or the lack thereof, conversion/transition tasks or problems); Political - program impacts due to stakeholder expectations or demands.

**7. Recommendations and Conclusion.** This section of the report provides recommended courses of action (i.e., next steps) as applicable to the improvement of the IT program and the management processes.

**8. Evaluation Report Appendices.** Attachments may be included to support the findings. A suggested list is provided in VI.C.6.h of the DON IT Investment Evaluation Handbook.

## Appendix H. Program Rating and Sign-Off (Used by the CIO, FAO, or other designated official.)

| | |
|---|---|
| **1. Program Name:** | |
| **2. Program Manager:** | |
| **3. Evaluation Comments:** | |
| **4. Evaluation Review Rating:**<br>• Terminate:<br>• Modify:<br>• Continue: | |
| **5. Recommended Course of Action (for modify or terminate ratings):** | |
| | |
| **Name and Title** | **Date** |

## Appendix I. Senior Management Program Decision

| | |
|---|---|
| **1. Program Name:** | |
| **2. Program Manager:** | |
| **3. Evaluation Comments:** | |
| **4. Final Evaluation Decision:**<br>• Terminate:<br>• Modify:<br>• Continue: | |
| | |
| **Commanding Officer Name and Title** | **Date** |

## Appendix J. Glossary of Terms

| Term | Definition | Reference |
|---|---|---|
| Acquisition Category (ACAT) | The program's size (cost), complexity, and risk generally determine the category of an acquisition program. Acquisition programs are divided into different categories that are established to facilitate decentralized decision-making, execution, and compliance with statutory requirements. DoD 5000.2-R defines ACAT IAM, IAC, II and III; additionally SECNAVINST 5000.2B defines ACAT IV and Abbreviated Acquisition Programs (AAPs). | DoD 5000 Series DON IT Capital Planning Guide SECNAVINST 5000 Series |
| Acquisition Program | A directed, funded effort designed to provide a new, improved, or continuing materiel, weapon, or information system or service capability in response to a validated operational or business need. | DoDI 5000.2, para E2.1.2 |
| Automated Information System (AIS) | An acquisition program that acquires Information Technology (IT) except IT that:·<br>• Involves equipment that is an integral part of a weapon or weapons system; or·<br>• Is a tactical communication system | DoDI 5000.2, para E2.1.4 |
| Evaluation Phase | "Evaluation" phase is third step of the Capital Planning process. It closes the loop between the "Selection" and "Management" phases by assessing actual system and management performance. It provides valued feedback to senior decision officials on all aspects of IT investments encompassing both new development and operational systems. | DON IT Capital Planning Guide, Chapter 4, para 4a |
| Capital Planning Process | An integrated management process for the continuous selection, management and evaluation of IT investments over their lifecycles, focused on achieving desired outcomes. | DON IT Capital Planning Guide, Chapter 1, para 1 |
| Chief Financial Officer (CFO) Certification | Certification required for financial and financial feeder systems in accordance with the CFO Act of 1990. | Guide to Federal Requirements for Financial Management Systems (DFAS Blue Book) |
| Clinger Cohen Act (CCA) Certification | Major automated information systems certification, prior to Milestone I, II or III (or equivalent) approval, that the system is being developed in accordance with the Clinger Cohen Act of 1996. | FY 2001 Appropriations Act, Section 8102 |
| Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP) | A DoD standard infrastructure-centric approach that protects and secures the entities comprising the Defense Information Infrastructure. The process is governed by DoD 5200.40-M. | DoD 5200.40-M para C1.3.1 |
| DON IT Registration Database | The consolidated inventory of Department of Defense mission critical and mission essential information systems. | |

| Term | Definition | Reference |
|---|---|---|
| Financial System | The term "financial system" means an information system, comprised of one or more applications, that is used for any of the following:<br>• collecting, processing, maintaining, transmitting, and reporting data about financial events;<br>• supporting financial planning or budgeting activities;<br>• accumulating and reporting cost information; or<br>• supporting the preparation of financial statements. | OMB CIRCULAR A-127 |
| Full Operating Capability (FOC) | The full capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics, which is manned and operated by a trained, equipped, and supported military force. This date will be based on when all the new systems have been produced, handed off to the using units, and those units have attained the capability to use the system in an operational sense. | Defense Acquisition Deskbook |
| Information Technology (IT) | Any equipment, or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. | Clinger Cohen Act Section 5002 (3) DoD FMR Volume 2 Chapter 18 DoD 5000 Series SECNAV 5000 Series |
| Initial Operating Capability (IOC) | The first attainment of the minimum capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics, and which is manned or operated by an adequately trained, equipped, and supported military unit or force. | Defense Acquisition Deskbook |
| IT Architecture | IT Architecture means an integrated framework for evolving or maintaining existing information technology to achieve the agency's strategic goals and information resources management goals. | Clinger Cohen Act Section 5125 (d) |
| Key Performance Indicators (KPIs) | "Performance Indicator" means a particular value or characteristic used to measure output or outcome. | GPRA Sec 4. |
| Life Cycle Cost (LCC) | Life-Cycle Cost includes ALL WBS elements; ALL affected appropriations; and encompasses the costs, both contractor and in house effort, as well as existing assets to be used, for all cost categories. It is the TOTAL cost to the Government for a program over its full life, and includes the cost of research and development, investment in mission and support equipment (hardware and software), initial inventories, training, data, facilities, etc., and the operating, support, and, where applicable, demilitarization, detoxification, or long term waste storage. | DoD 5000.4-M |
| Management Phase | The "Management" phase is one of the phases of the Capital Planning process. During the "Management" phase, acquisition management officials are actively engaged in monitoring all of the programs in the investment portfolio; making decisions and taking actions to change the course of a program when necessary; and providing feedback to the Planning, Programming and Budgeting System (PPBS) decision makers (i.e., into the selection process), if applicable for purposes of reflecting the appropriate changes in the funding availability/profile for a particular investment. | DON IT Capital Planning Guide, Chapter 4, para 3a |

| Term | Definition | Reference |
|---|---|---|
| Milestone Decision Authority (MDA) | The individual designated in accordance with criteria established by the USD (AT&L), or by the ASD (C3I) for AIS programs, to approve entry of an acquisition program into the next phase of the acquisition process. | DoDI 5000.2, para E2.1.11 |
| Mission Critical Information System/ Information Technology System | A system that meets the definitions of "information system" and "National Security System" in the Clinger-Cohen Act, the loss of which would cause the stoppage of warfighter operations or direct mission support of warfighter operations. (Note: The designation of mission critical should be made by a Component Head, a CINC or their designee.) | DoDI 5000.2, para E2.1.12 |
| Mission Essential Information System/ Information Technology System | A system that meets the definition of "information system" in the Clinger-Cohen Act, that the acquiring Component Head or designee determines is basic and necessary for the accomplishment of the organizational mission. (Note: The designation of mission essential should be made by a Component Head, a CINC or their designee.) | DoDI 5000.2, para E2.1.13 |
| National Security System (NSS) | Any telecommunications or information system operated by the U.S. Government, the function, operation, or use of which:<br>• Involves intelligence activities<br>• Involves cryptologic activities related to national security<br>• Involves command and control of military forces<br>• Involves equipment that is an integral part of a weapon or weapons system; or<br>• Is critical to the direct fulfillment of military or intelligence missions. This does not include a system that is to be used for routine administrative and business applications (including payroll, finance, logistics, and personnel management applications). | Clinger Cohen Act Section 5142 (a) |
| Net Present Value (NPV) | Discounted life-cycle benefits, less discounted life-cycle costs. | DON IT Capital Planning Guide, Appendix D |
| New System | For purposes of the Evaluation Process a new system is one that has been deployed for less than three years or has never had a PDR. | |
| Operational System | For purposes of the Evaluation Process an operational system is one that has received a PDR evaluation or has been operating for more than three years. | |
| Outcome | The effect, result, or consequence that occurs from the output(s) of a process. An output goal is the intended result of a process. | DON IT Capital Planning Guide |
| Output | The product, information, or service provided to a customer; the end point or result of a process | DON IT Capital Planning Guide |
| Payback Period | The payback period estimates the time it takes to recover the implementation costs of the investment. | DON IT Investment Portfolio Model, page J-A-8 |
| Portfolio Management | The process of managing assets and investments in order to achieve desired organizational outcomes. It consists of the following activities: selection, management and evaluation. | |

| Term | Definition | Reference |
|---|---|---|
| Program | As used herein, program, project, and system are used interchangeably to refer to the item under evaluation. | |
| Program Manager (PM) | The appropriately certified individual designated in accordance with criteria established by the cognizant Component Acquisition Executive to manage an acquisition program. | DoDI 5000.2 para E2.1.17 |
| Return On Investment (ROI) | Discounted life-cycle benefits (i.e., savings or cost avoidances stream over the life-cycle), divided by discounted life-cycle costs. | DON IT Capital Planning Guide |
| Selection Phase | The "Selection" phase is one of the phases of the Capital Planning Process. During the "Selection" phase, the benefits, costs and risk information of all programs are analyzed and assessed for purposes of making funding decisions. | DON IT Capital Planning Guide, Chapter 4, para 2a |
| Tool | Tool as used herein is related to any mechanism that assists in the management of the program (i.e., an automated tool, a process, a document, etc.). | |
| Total Ownership Cost (TOC) | The sum of financial resources to organize, equip, sustain, and operate military forces to meet national goals, policies and standards of readiness, environmental compliance, safety and quality of life concerns. | DoDI 5000.2 para E2.1.20 |

## Appendix K. Acronyms and Abbreviations

| Acronym | Description |
|---|---|
| AAP | Abbreviated Acquisition Program |
| ACAT | Acquisition Category |
| AIS | Automated Information System |
| ASD (C3I) | Assistant Secretary of Defense (Command, Control and Communications) |
| CCA | Clinger Cohen Act |
| C&A | Certification and Accreditation |
| CFO | Chief Financial Officer |
| CINC | Commander in Chief |
| CIO | Chief Information Officer |
| CO | Commanding Officer |
| DASN C4I | Deputy Assistant Secretary of the Navy for Command, Control, Communications, Computers,and Intelligence |
| DFAS | Defense Finance and Accounting Service |
| DII-COE | Defense Information Infrastructure Common Operating Environment |
| DITSCAP | Department of Defense Information Technology Security Cert. and Accreditation Process |
| DoD | Department of Defense |
| DoDD | Department of Defense Directive |
| DoDI | Department of Defense Instruction |
| DON | Department of the Navy |
| DONCIO | Department of the Navy Chief Information Officer |
| FAO | Functional Area Owner |
| FOC | Full Operating Capability |
| GAO | General Accounting Office |
| GPRA | Government Performance Results Act |
| IA | Information Assurance |
| IOC | Initial Operating Capability |
| IT | Information Technology |
| KPI | Key Performance Indicator |
| LCC | Life Cycle Cost |
| MARCORSYSCOM | Marine Corps Systems Command |
| MDA | Milestone Decision Authority |
| NAVAIR | Naval Air Systems Command |
| NAVSEA | Naval Sea Systems Command |
| NPV | Net Present Value |
| NSS | National Security System |
| O&M | Operations and Maintenance |
| OMB | Office of Management and Budget |
| PDR | Post Deployment Review |

| | |
|---|---|
| PM | Program Manager |
| POA&M | Plan of Actions and Milestones |
| POC | Point of Contact |
| PPBS | Planning, Programming and Budgeting System |
| ROI | Return on Investment |
| RS | Resource Sponsor |
| SECNAV | Secretary of the Navy |
| SPAWAR | Space and Warfare Systems Command |
| TOC | Total Ownership Cost |
| USD (AT& L) | Under Secretary of Defense (Acquisition, Technology and Logistics) |
| WBS | Work Breakdown Structure |

## Appendix L. References


a) Clinger Cohen Act of 1996

b) Defense Acquisition Deskbook, www.deskbook.osd.mil

c) Defense Financial Accounting Service (DFAS), *"Guide to Federal Requirements for Financial Management Systems*" (DFAS Blue Book)

d) DoD 5000.2-R, *"Mandatory Procedures for Major Acquisition Programs (MDAP) and Major Automated Information System (MAIS) Acquisition Programs"*

e) DoD 5000.4-M, *"Department of Defense Manual Cost Analysis Guidance and Procedures"*

f) DoD 5200.40, *"Department of Defense Information Technology Security Certification and Accreditation Process"*

g) DoDD 5000.1, *"Defense Acquisition System"*

h) DoDI 5000.2, *"Operation of Defense Acquisition Systems"*

i) DON 5239-13, *"Department of the Navy Information Assurance Certification and Accreditation Guidebook,"* Volumes I, II, and III.

j) DON IT Capital Planning Guide v2 5 April 2000

k) DON IT Portfolio Model v1 30 July 1999

l) GAO, *"Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making"* Version 1 February 1997

m) OMB, Circular A-127, Financial Management Systems

n) OMB Guide, *"Evaluating Information Technology Investments"*

o) Public Law, 106-259, *"Government Performance Results Act (GPRA) of 1993"*

p) Public Law, 106-259 FY2001 Appropriations Act

q) Public Law, 106-398, FY2001 Authorizations Act

r) Remenyi, Dan, et al. *"The Effective Measurement and Management of IT Costs and Benefits,"* Second Edition. Woburn, MA, 1995.

s) SECNAVINST 5000.2B, *"Implementation of Mandatory Procedures for Major and Non-Major Defense Acquisition Programs and Major and Non-Major Information Technology Acquisition Programs"*

t) U.S. Customs Service, May 00, *"Post Implementation Review, Reviewer's Handbook"*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