

**NOT  
MEASUREMENT  
SENSITIVE**

**DOE G 413.3-11  
8-5-08**

# **PROJECT MANAGEMENT LESSONS LEARNED**

*(This Guide describes suggested non-mandatory approaches for meeting requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice or Manual)*

---



**U.S. DEPARTMENT OF ENERGY**  
**Washington, D.C. 20585**

---

**AVAILABLE ONLINE AT:**  
[www.directives.doe.gov](http://www.directives.doe.gov)

**INITIATED BY:**  
**Office of Engineering and Construction Management**

## FOREWORD

This Department of Energy (DOE) Guide is for use by all DOE elements. Specifically, this Guide is written to aid the federal project directors and their integrated project team members during the execution of projects.

Beneficial comments (recommendations, additions, and deletions) and any pertinent data that may improve this document should be sent by letter or by sending the self-addressed Standardization Document Improvement Proposal (DOE F 1300.3) to—

Director, Office of Policy  
U.S. Department of Energy  
Washington, DC 20585

This Guide is intended to provide approaches for implementing the project management lessons learned requirements of DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, dated 7-28-06. DOE Guides, which are part of the DOE Directives Program, provide supplemental information for fulfilling requirements contained in rules, regulatory standards, and DOE directives. Guides do not establish or invoke new requirements nor are they substitutes for requirements.

## CONTENTS

<b>SECTION I. INTRODUCTION</b> .....	I-1
1. GOAL .....	I-1
2. SCOPE .....	I-1
3. OBJECTIVES .....	I-1
4. APPLICABILITY.....	I-2
5. PROFESSIONAL DEVELOPMENT UNITS .....	I-2
6. DEFINITIONS.....	I-2
<b>SECTION II. ROLES AND RESPONSIBILITIES</b> .....	II-1
1. DOE SENIOR MANAGER.....	II-1
2. CORPORATE CHAMPION .....	II-1
3. GATEKEEPER.....	II-1
4. ORGANIZATION COORDINATORS.....	II-2
5. PROGRAM OFFICE .....	II-2
6. PROJECT/SITE CONTROLLERS .....	II-2
7. PROJECT MANAGEMENT EXPERT (PME).....	II-2
8. INTEGRATED PROJECT TEAM.....	II-2
9. DOE ENTERPRISE.....	II-2
<b>SECTION III. ELEMENTS AND INTERFACES</b> .....	III-1
<b>SECTION IV. CONTENT</b> .....	IV-1
<b>SECTION V. PROCESS</b> .....	V-1
1. CAPTURE .....	V-1
2. CHECK.....	V-1
3. LEARN .....	V-1
4. CLOSE.....	V-1
<b>ATTACHMENT 1. PROJECT MANAGEMENT LESSONS LEARNED PROCESS BY STAGE</b> .....	1
<b>ATTACHMENT 2. PROJECT MANAGEMENT LESSONS LEARNED PROCESS BY RESPONSIBILITY</b> .....	1
<b>ATTACHMENT 3. REFERENCES</b> .....	1

## SECTION I. INTRODUCTION

1. **GOAL.** The goal of this Guide is to encourage compiling and disseminating project management lessons learned as part of effective project management practices encompassing the project lifecycle, Critical Decision 0 to Critical Decision 4, as a viable method of identifying issues and opportunities that influence successful project execution. This information should be collected, reviewed and promptly distributed to all affected programs throughout the Department/DOE Enterprise to aid in achieving the Department goal of improving overall project management performance. However, identification alone is insufficient to promulgate change in Department operations. Each negative lesson learned should be evaluated for appropriate corporate/program actions to prevent the recurrence of the situation. The Department also gains credibility for effective project management when, as a learning organization, positive project performance is realized. The contractor project management organizations and their subcontractors have the opportunity to enhance their performance as well.
2. **SCOPE.** This Guide can enable federal project directors and contractor project managers to capture, check, learn, and close lessons learned during the execution of Department projects. It suggests a logical process for an implementation program from Critical Decision-0 to Critical Decision-4. DOE G 413.3A-11 is not intended to duplicate or conflict with DOE O 210.2, *DOE Corporate Operating Experience Program*, dated 6-12-06. This Guide is specifically for Project Management Lessons Learned associated with the non-operational phase of a facility during construction. Lessons Learned that fall within the applicable category of DOE O 210.2 should follow requirements.
3. **OBJECTIVES.** The objective of this Guide is to suggest a results-based system by capturing Department-wide knowledge, validating its applicability and its correctness, creating a learning platform and recalling relevant lessons for cross-pollination. This includes:
  - a. helping to curtail repeated mistakes during project execution and providing a conduit for transmitting information to all active organizations;
  - b. defining a methodology for capturing applicable data;
  - c. providing a positive closure process for implementation;
  - d. providing a means to publish lessons learned for DOE Enterprise-wide dissemination;
  - e. providing the ability to retrieve information that will enable federal project directors and contractor project managers to accomplish and support the DOE mission, specifically related to projects, in a cost effective and timely manner;
  - f. defining the program's critical elements.

4. APPLICABILITY. This Guide may apply to all DOE elements, including the National Nuclear Security Administration (NNSA), which fund, direct and manage acquisition projects as defined by DOE O 413.3A.

This Guide may be applicable to all projects managed by or for DOE in accordance with DOE O 413.3A and should include Facility and Infrastructure Recapitalization Program (FIRP) projects, general plant projects (GPPs), capital equipment projects (CEPS), line item projects, environmental management cleanup projects, operations expense funded projects (OP-EX), and work-for-others (WFO) projects. In order to improve performance and credibility across the DOE, every project (from conception to completion) can benefit from the application of this Guide. Therefore, the program utilized for the Department should capture both the positive and negative lessons during project execution. It is equally important to publicize both positive and negative lessons.

The provisions in the Guide are DOE's views on acceptable methods of program implementation and are not mandatory. Alternative methods that are demonstrated to provide an equivalent or better level of performance are acceptable. DOE encourages contractors to go beyond minimum requirements and to pursue excellence in their programs.

The words "should" and "may" are used to denote optional program recommendations and allowable alternatives, respectively.

5. PROFESSIONAL DEVELOPMENT UNITS. Continuous improvement in project management cannot occur without sharing these lessons. Internal and external to DOE, project management certification and maintaining continuing education is important for the Project Management Career Development Program and the Project Management Professional Credentials administered through the Project Management Institute, respectively. Continued education units can be obtained several ways, including the generation of valuable lessons learned. For each lesson learned entered into the DOE Enterprise database and endorsed, one continued education unit can be earned (up to a maximum of 15). Once the lessons learned is endorsed, an individual can file for credit through the accrediting agent.
6. DEFINITIONS.
  - a. Project Management Lessons Learned. A work practice or innovative approach to project management that is captured and shared to promote repeat application or an adverse work practice or experience that is captured and shared to prevent recurrence.
  - b. Improvement Actions. Specific activities in response to a project management lesson learned. Actions should have a responsible individual assigned for completion and a proposed due date. Resolution does not constitute direction to the DOE contractors. Contracting officers or the appropriate technical representative should be consulted before any direction is given to a contractor about implementation of an improvement action.

## **SECTION II. RECOMMENDED ROLES AND RESPONSIBILITIES**

An effective system should be supported by a DOE Senior Manager who can serve as the senior member of the project and will appoint the corporate champion. The corporate champion should ensure that the program has the necessary support within all organizations that are executing projects so that lessons learned are being identified and improvement actions are being resolved. As previously identified in roles and responsibilities, the corporate champion resides in the Office of Engineering and Construction Management (OECM).

The primary responsibility for the successful execution of the program SHOULD rest with Gatekeeper, The responsibility of utilizing the lessons learned to the full extend possible SHOULD rest with federal project director and contractor project manager, although the entire integrated project team should be knowledgeable of and utilize lessons learned to provide input and application from their respective areas of expertise.

1. DOE SENIOR MANAGER.
  - a. SHOULD serve as the senior champion who supports initiatives related to the execution and visibility of the program to the DOE Enterprise.
  - b. Can be responsible for appointing a corporate champion.
2. CORPORATE CHAMPION. The role should reside in the Office of Engineering and Construction Management (OECM) and should be appointed by the DOE Senior Manager. Responsibilities should include—
  - a. Administering the program,
  - b. Monitoring activities of each program office,
  - c. Coordinating distribution of lessons learned to the DOE Enterprise, and
  - d. Appointing a gatekeeper.
3. GATEKEEPER.
  - a. Should determine DOE Enterprise applicability.
  - b. Should review all incoming project management lessons learned for completeness.
  - c. Should notify appropriate organizations for improvement actions.
  - d. Should disseminate DOE Enterprise improvement actions.
  - e. Should observe trends across DOE that may point to the need for revisions to project management policy and direction

- f. Should sun-set DOE Enterprise project management lessons learned.
4. ORGANIZATION COORDINATORS. Should coordinate development and implementation of project management lessons learned resolutions.
  5. PROGRAM OFFICE. Should appoint the appropriate organization coordinator and should ensure application of project management lessons learned within the program.
  6. PROJECT/SITE CONTROLLERS.
    - a. Site Federal and/or contract representatives who should address each lesson learned submitted by the project/site integrated project team (IPT) and the organizational coordinator,
    - b. Should input data into the Project Management Lessons Learned System,
    - c. Should validate the information on each entry and coordinate the response (including generation of improvement actions) with the appropriate project management expert,
    - d. Should disseminate the specific lessons learned at their respective locations.
  7. PROJECT MANAGEMENT EXPERT (PME).
    - a. Designated site or Headquarters employee within each DOE program office who should have knowledge of the program and project management and organization.
    - b. Responsibilities should include offering recommendations for implementation and resolution of improvement actions assigned by the controller or coordinator.
    - c. Should have the organizational knowledge to obtain input from subject matter experts for those areas outside their capabilities.
  8. INTEGRATED PROJECT TEAM.
    - a. May consist of professionals representing diverse disciplines with the specific knowledge, skills, and abilities to support efforts of the federal project director.
    - b. Member may enter data into the system.
  9. DOE ENTERPRISE. Membership includes all stakeholders of the DOE complex.

### **SECTION III. ELEMENTS AND INTERFACES**

DOE O 413.3A requires the collection of project management lessons learned during Critical Decision-4. Limiting the preparation of a lessons learned report to the Critical Decision-4 stage of a project can be beneficial as a close-out activity, but it does not allow for full utilization of the program or provide an opportunity for immediate process improvement.

During the Critical Decision-4 stage, many of the IPT members have been reassigned to other tasks or projects. Therefore, unless documentation continues throughout the project execution, many of the lessons learned may be lost. It is incumbent on all members of the IPT (as a minimum) to try to provide “real time” lessons learned information. It is recommended that the program is queried prior to each Critical Decision authorization request to ensure that applicable lessons learned have been considered for the project. In addition, as resolution/incorporation of a specific lesson learned is undertaken, the resources of the IPT should be made available to implement the change. The report at Critical Decision-4 should be a collection of identified and applicable PMLLs gathered throughout the project life cycle starting before Critical Decision-0, as well as those generated through any lessons learned activities conducted during the closeout process. The report should contain at a minimum the information listed within the “PMLL Content” section of this guide.

Each IPT member is encouraged to remain current on external influences that can affect his/her particular area of expertise. Other federal and corporate lessons learned programs (e.g., NASA ASK Magazine, Construction Industry Institute) provide sources of lessons learned information that can be utilized by the Department to enhance overall project execution performance. Each IPT member’s parent organization can contribute to a project’s lessons learned program. For example, a change in the national methodology of calculating seismic response may impact several projects simultaneously. This information should be transmitted to all active projects for evaluation.



## **SECTION IV. CONTENT**

Each lesson learned should contain the following basic attributes when submitted:

1. A clear statement of the project management lessons learned and the Critical Decision stage when it was identified..
2. A background summary of how the project management lessons learned was realized.
3. Contact information for additional detail related to project management lessons learned.
4. Key data fields for future search capabilities.
5. Assumptions and reasoning associated with improvement action (if improvement actions are being realized) including any applicable analysis, such as causal, performed.
6. Specific information relating to the improvement action (if improvement actions are being realized).

## SECTION V. PROCESS

The OECM should establish a system that is accessible to all individuals within DOE, especially federal project directors and contractor project managers. This system should provide a mechanism for documenting lessons learned from any source (field, Headquarters, etc.), tracking the closure or implementation of improvement actions, and retrieval of historical data for use by the Department. When necessary, the OECM should become the change agent in support of modifications to Department procedures and DOE directives to resolve a project management lesson learned and should be responsible for collecting all project management lessons learned and tracking coordination and completion of improvement actions. Periodically, OECM should conduct surveys to determine the effectiveness of the overall program (i.e., is information being distributed, are lessons learned being captured from field submittals, etc.) and should provide briefing to the DOE managers on the effectiveness of the program.

The process exists in four stages: Capture, Check, Learn, and Close.

1. **CAPTURE**. This stage includes all actions that translates information from projects and captures it into the Project Management Lessons Learned System.

A lesson learned can be identified by any federal or contractor individual and transmitted to the controller. Each project federal project director and contractor project manager should encourage IPT members to submit lessons learned as they are identified without any fear of reprisal or blame.

2. **CHECK** This stage includes all actions that take place to validate and disseminate the lessons learned to the appropriate audience including the DOE Enterprise.

To begin executing the process, each program office should select a controller for program site/projects, who will be responsible for screening each lesson learned to ensure that the item is clearly stated and then disseminated to the OECM gatekeeper for evaluation. If the gatekeeper deems the lesson learned applicable to the DOE Enterprise, he/she may notify appropriate organization coordinators.

3. **LEARN**. This stage includes all actions that can translate the lessons learned into actionable tools and create and implement improvement actions.

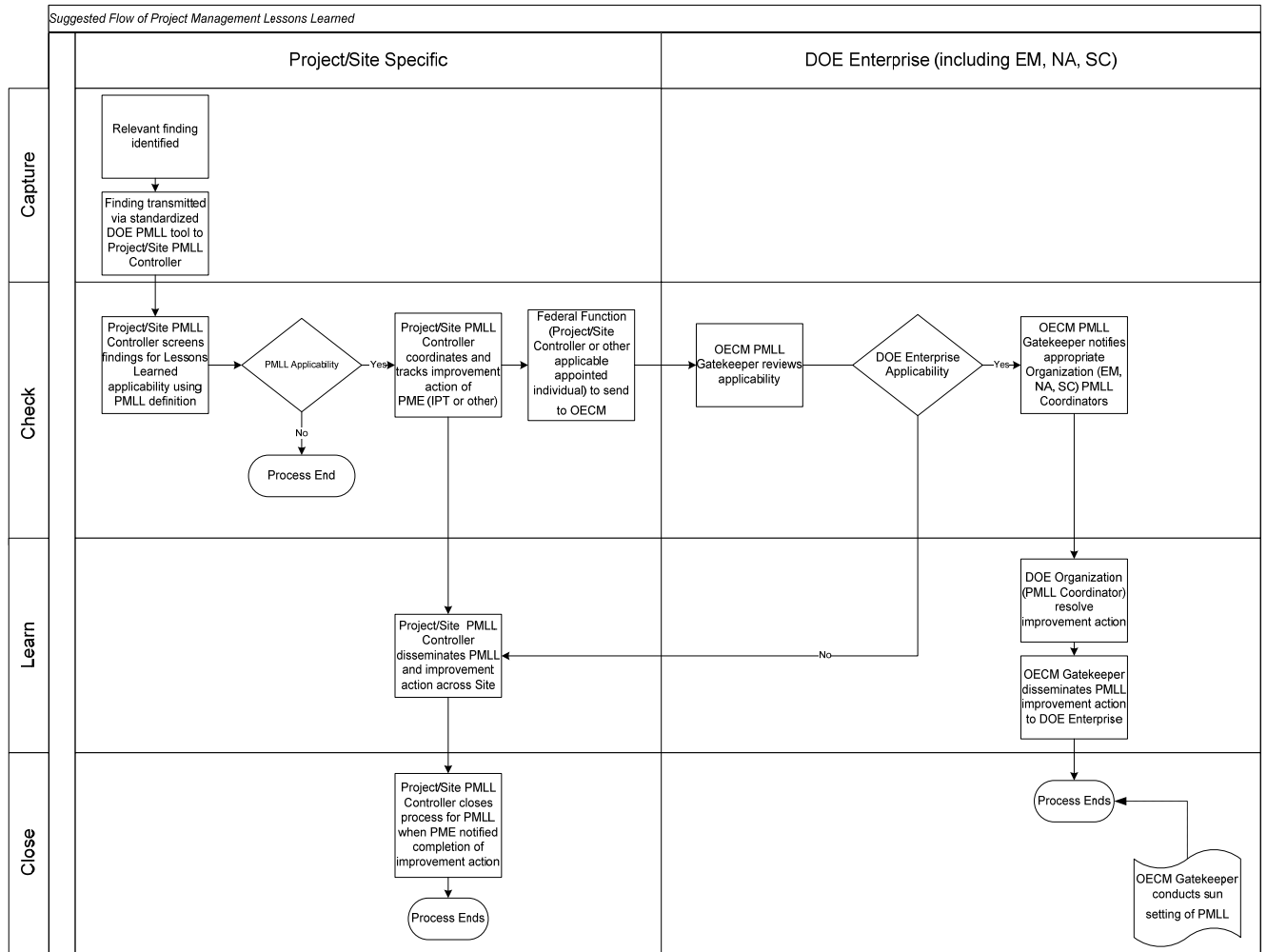
The controller can interface with designated project management experts for resolution of improvement actions and can disseminate improvement actions to the site/project. The organization coordinator can ensure the resolution of the improvement actions and disseminate the information to the gatekeeper for dissemination.

4. **CLOSE**. This stage can include all actions that historically archive the project management lessons learned and those actions that include sun-setting of historical records contained in the system.

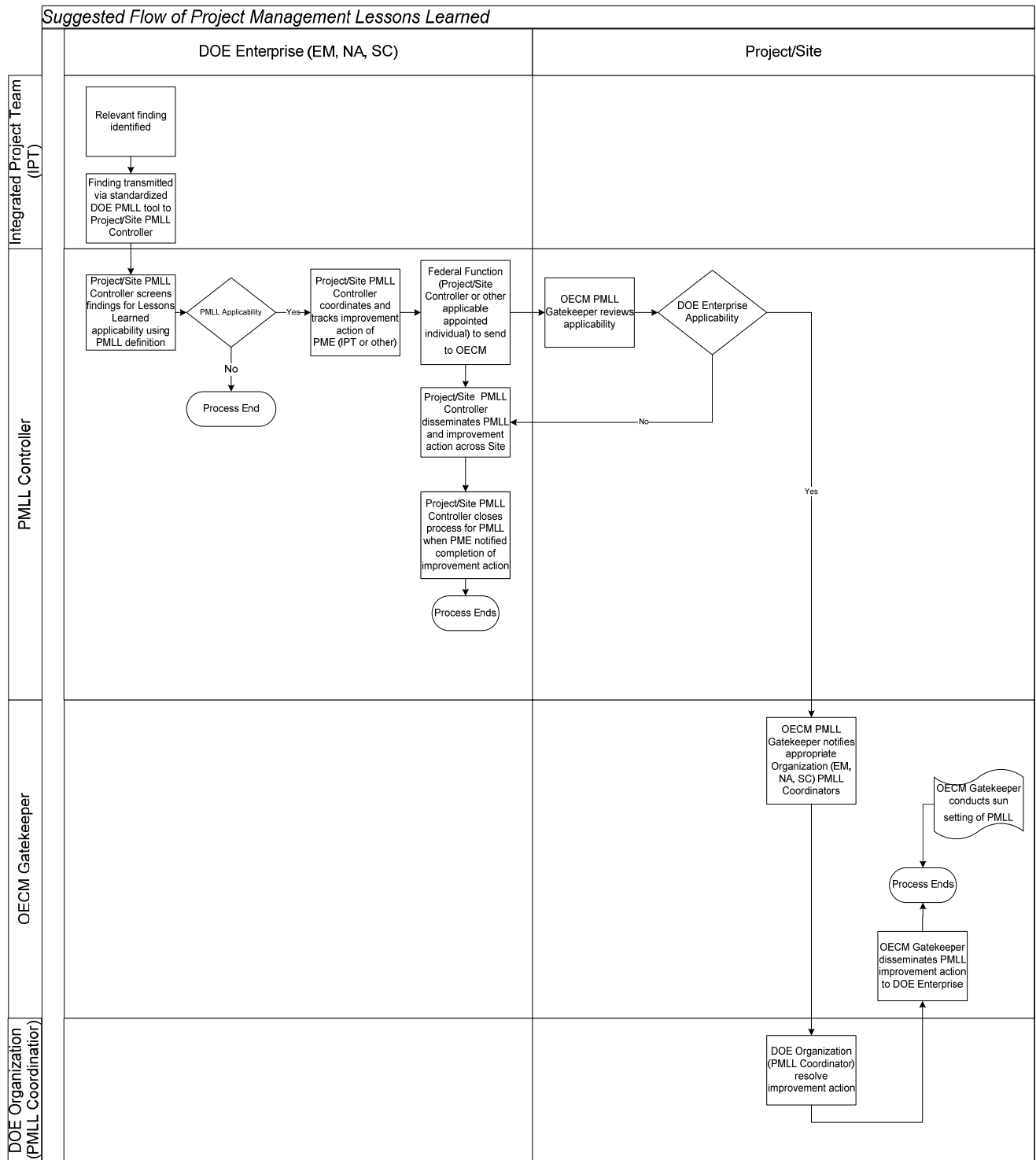
The controller can designate a lesson learned closed when notified by the project

management experts that improvement action resolution has been implemented. If the lesson learned is DOE Enterprise applicable, the organization coordinator can notify the gatekeeper and disseminate the information to the DOE Enterprise. The gatekeeper should be responsible for the sun-setting of lessons learned that are no longer applicable and conducting quality audits on the historical archives to ensure applicability for the DOE Enterprise.

### PROJECT MANAGEMENT LESSONS LEARNED PROCESS BY STAGE



**PROJECT MANAGEMENT LESSONS LEARNED PROCESS BY RESPONSIBILITY**



### **REFERENCES**

1. DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, dated 7-28-06.