

# ROOT CAUSE ANALYSIS

CONTRACT AND PROJECT MANAGEMENT

## CORRECTIVE ACTION PLAN

JULY 2008



U.S. DEPARTMENT OF  
**ENERGY**

**Cover Photo:**

The OMEGA EP (Extended Performance) Laser Facility, located at the University of Rochester, was completed in the spring of 2008. This NNSA Stockpile Stewardship Science project houses a four-beam, high-energy, high-intensity, short- and long-pulse laser beam. It was completed at a total project cost of \$98.5 million.



**The Secretary of Energy**  
Washington, D.C. 20585

July 18, 2008

MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS

FROM:

SAMUEL W. BODMAN

A handwritten signature in black ink that reads "Samuel W. Bodman".

SUBJECT:

Improving Contract and Project Management

Improving the Department of Energy's performance on contract and project management is essential to ensuring that we meet our strategic objectives and provide value to the American taxpayer. This continues to be one of my top management priorities.

As part of our initiative to institutionalize strong contract and project management practices, I directed a team of senior leaders to develop a plan to address long-standing impediments to improving our performance. These impediments were identified in a Root Cause Analysis that I approved on April 7, 2008.

I am pleased to announce that the team has completed the Contract and Project Management Corrective Action Plan (CAP), which provides the roadmap to mitigate or eliminate the obstacles that have significantly impeded the Department's ability to complete projects on cost and schedule. I have accepted the CAP and fully endorse its conclusions and recommendations. A copy of the CAP is attached. It can also be viewed electronically at <http://management.energy.gov>.

The CAP was developed through extensive collaboration between DOE's headquarters and field project, contract and financial management professionals and in coordination with the Office of Management and Budget and the Government Accountability Office. It identifies the key corrective measures necessary to make the meaningful changes required to consistently deliver projects within cost and schedule performance parameters. These include, for example: disciplined upfront planning; adequate, skilled Federal contract and project management and oversight staff; realistic cost baselines and associated funding profiles; and improved communication between the project director, project team members and senior management. The CAP also recommends improved performance metrics, annual targets as well as an action plan with milestones.

Today, I am officially establishing the CAP Executive Steering Committee (ESC) and I approve its charter. The Chairperson of this committee is Ms. Ingrid Kolb, Director, Office of Management. The Committee members include representatives from the Under Secretaries' Offices, the Office of Management and the Office of the Chief Financial Officer.



Implementation of the Corrective Action Plan with oversight by the ESC will ensure that DOE's efforts to improve contract and project management are focused on addressing the root causes with meaningful and lasting solutions and provide demonstrable results.

I remain strongly committed to tangible improvement in DOE's project and contract performance. My endorsement of the CAP today demonstrates my commitment to pursue those initiatives and actions which, when implemented, will resolve the contract and project management issues and root causes which have challenged DOE for years. I expect that you, as a senior leader of this Department, will fully commit your organization's resources to bring about the needed changes reflected in the CAP. Your personal commitment and the active participation of your headquarters and field organizations are critical to our success.

Attachment

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## Contract and Project Management: Corrective Action Plan

JULY 2008

# Executive Summary

Achieving and maintaining excellence in contract and project management is a top priority for the Department of Energy (DOE). To accomplish this goal, the Department has already implemented a series of significant contract and project management reforms, including the conduct of a root cause analysis (RCA) to identify the major challenges to planning and managing DOE projects.

The RCA pinpoints opportunities for improving the Department's management of contracts and projects and is serving as the foundation for developing and implementing corrective measures to improve performance and, ultimately, being removed from the Government Accountability Office (GAO) High Risk List. The RCA is unique in that it represents the first time that the Department internally identified past and present deficiencies in contract and project management and gained consensus on their root causes. Developed through extensive collaboration between DOE's Headquarters and field project, contract, and financial management professionals, it highlights several areas requiring improvement. These include, for example, front-end planning and requirements definition, risk management, independent government cost estimating, acquisition planning, and overall project oversight.

The issues and underlying root causes identified in the Department's RCA highlight past and present contract and project management challenges. They do not presuppose future solutions. The specific wording of these issues and associated root causes have been codified in the Department of Energy Contract and Project Management Root Cause Analysis published in April 2008.

The focus of this Corrective Action Plan (CAP) is to successfully address the deficiencies identified in the RCA and improve contract and project management performance. To realize improvement, the number and capabilities of federal contract and project management personnel may need to be increased and the management policies, systems, and structures used to manage contracts and projects strengthened. Improved contract and project management performance will require a dedicated effort to first look to reallocate the current use of resources, reduce the reliance on contractors, and increase the federal ownership role for management and oversight of contracts and projects.

The 10 most significant issues identified and the underlying root causes contributing to the contract and project management challenges are listed below.

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- ◆ **Front-End Planning:** DOE often does not complete front-end planning to an appropriate level before establishing project performance baselines.
    - Insufficient number of personnel
    - Lack of personnel with the appropriate skills
    - Inadequate time dedicated to front-end planning
    - Reliance on the management and operating (M&O) contractor
    - Lack of defined benchmarks
    - Lack of effective interdepartmental integration
    - Insufficient planning budget resources
  
  - ◆ **Federal Personnel:** DOE does not have an adequate number of federal contracting and project management personnel with the appropriate skills (e.g., cost estimating, scheduling, risk management, and technical) to plan, direct, and oversee project execution.
    - Insufficient budget resources
    - Conflicting and competing priorities
    - Inferior Federal government compensation compared to the private sector
    - Inadequate roles and responsibilities definition
    - Inadequate training
  
  - ◆ **Risk Assessment and Management:** Risks associated with projects are not objectively identified, assessed, communicated, and managed through all phases of planning and execution.
    - Insufficient number of personnel
    - Inadequate training
    - Lack of management emphasis and direction
    - Lack of recognition of required number and skills of personnel needed
  
  - ◆ **Funding:** Failure to request and obtain full funding or planned incremental funding results in increased risk of project failure.
    - Ineffective project and program prioritization
    - Inadequate resource allocation
  
  - ◆ **Cost Estimating:** Contracts for projects are too often awarded prior to the development of an adequate independent government cost estimate.
    - Lack of policy or standards
    - Lack of personnel with the appropriate skills
    - Lack of databases with current or historical information

- ◆ **Acquisition Strategy and Planning:** DOE's acquisition strategies and plans are often ineffective and are not developed and driven by federal personnel. DOE does not begin acquisition planning early enough in the process or devote the time and resources to do it well.
  - Lack of personnel with the appropriate skills
  - Competing priorities
  - Personnel resource conflicts and budget limitations
  - Lack of effective field and headquarters integration
  - Lack of lessons learned
  - Inadequate roles and responsibilities definition
  
- ◆ **Organizational Structure and Alignment:** DOE's organizational structure is not optimized for managing projects.
  - Competing priorities
  - Lack of prioritization on project management
  - Lack of alignment in authority, accountability, and responsibility
  - Attributes of optimized organizational structure are not understood
  
- ◆ **Requirements Management:** DOE has not ensured that its project management requirements are consistently followed. In some instances projects are initiated or carried out without fully complying with the processes and controls contained in DOE policy and guidance.
  - Conflicting guidance and priorities
  - Lack of adequate personnel resources
  - Inadequate training
  - Lack of failed project reviews
  
- ◆ **Project Oversight:** Ineffective DOE project oversight has sometimes resulted in failure to identify project performance issues in a timely manner.
  - Inadequate budget and personnel resources
  - Competing and conflicting resource priorities
  - Inadequate field oversight
  
- ◆ **Project Owner Role:** DOE is not effectively executing its ownership role on some large projects with respect to the oversight and management of contracts and contractors.
  - Inconsistent expectations and definition of federal ownership role
  - Lack of personnel with the appropriate skills
  - Limited authority of Federal Project Directors (FPDs)
  - Lack of accountability

These are the most fundamental issues and associated root causes that must be addressed to bring about significant and lasting solutions to the Department's contract and project management challenges. Accordingly, the Department's CAP is being established to mitigate and eliminate these issues and their associated root causes. Included in the CAP are performance goals that the

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Department has identified for capital line item and environmental management (EM) cleanup projects. These goals constitute the definition of success for project management. They represent interim goals and will be revisited in two years with a focus towards continuous improvement as the Department strives to ensure attainment of the Federal Acquisition Streamlining Act V integrated cost, schedule, and performance goals. The Department's goals include:

- ◆ Capital Asset Line Item Projects: Capital asset line item projects will be completed at Critical Decision 4 within the original approved scope baseline and within 10 percent of the original approved cost baseline (Critical Decision 2), unless otherwise impacted by a directed change.<sup>1</sup> Baselines impacted by a directed change will have adjusted baselines established. On a project portfolio basis, 90 percent of DOE line item projects will meet the project success definition benchmark.
- ◆ EM Cleanup (Soil and Groundwater Remediation, Decontamination and Decommissioning, and Waste Treatment and Disposal) Projects: EM cleanup projects will be completed by achieving at least 80 percent of the defined near-term baseline end-state scope (Critical Decision 2) with less than a 25 percent cost variance from the original approved baseline, unless impacted by a directed change. On a project portfolio basis, 90 percent of EM cleanup projects will meet the project success definition benchmark.

These are the benchmarks that will be used to define, track, and measure project performance over time. The difference in performance benchmarks reflects the inherent differences in the planning and execution of capital asset construction projects and EM cleanup projects. It is often more difficult to clearly define up-front requirements for EM cleanup projects (e.g., Soil and Groundwater Remediation) and, in most cases they operate in different regulatory and funding environments with different stakeholder pressures. The objective is to align both performance goals. The EM cleanup project performance goal will be revisited within the next two years and revised as appropriate.

While each project has individual schedule goals, the primary focus of these Departmental overarching performance goals is to maintain cost discipline by recognizing that any significant schedule delay translates to project cost increases. Project schedules will continue to be monitored; however, in the near term, minimizing project cost growth will be the Department's primary focus with the understanding that there is a strong correlation between schedule and cost. In order to maintain a Departmental focus on adherence to schedules, a project schedule performance metric has been established and is included as part of Corrective Measure 7. This metric is included in Chapter 2 and Appendix B of the CAP. The Department will strive to improve the project schedule performance metric realizing that more often than not, the Department's construction schedules are driven more by funding profiles than by construction scheduling best practices. It will be revisited within the next two years and revised as appropriate.

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<sup>1</sup> Directed Change: Changes, as validated by OECM, caused by DOE Policy Directive, Regulatory, or Statutory action. Directed changes, with the exception of policy directives, are changes that are caused by entities external to the Department, to include external funding reductions. (Directed change decisions will be reviewed and validated by OMB periodically.)

In addition, maintaining the original capital asset line item scope baseline by achieving the minimum key performance parameters and mission need is paramount. In some instances, scope reductions in facility requirements may be necessary to maintain scope, schedule, and cost balance; however, minimum key performance parameters will not be compromised. Capital asset mission achievement will not be sacrificed. This is consistent with construction industry practice and the protocol of the federal government's largest design and construction agents—the U.S. Army Corps of Engineers and the Naval Facilities Engineering Command.

This contract and project management CAP establishes eight corrective measures that, when completed, will result in significant, measurable, and sustainable improvements in the Department's contract and project management performance and culture. These corrective actions, in priority order, include:

- ◆ **Strengthen Front-End Planning:** Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution.
- ◆ **Improve Staffing Levels:** Develop and implement a comprehensive federal staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum contract and project management federal workforce.
- ◆ **Strengthen Risk Management:** Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency.
- ◆ **Improve Funding and Baseline Alignment:** Improve the alignment and integration of cost baselines with budget funding profiles to account for federal budget fiscal realities and to ensure uninterrupted project execution. Enhance project and program prioritization and associated resource allocation to minimize negative impacts to the performance baseline.
- ◆ **Improve Cost Estimating Capability:** Establish and implement a federal independent government cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labor and material databases.
- ◆ **Strengthen Federal Ownership:** Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans, and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration.
- ◆ **Improve Oversight:** Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities, including field and headquarters integration; establish a project oversight benchmark; and align the program and project organizational structures.

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- ◆ **Strengthen Requirements Management:** Re-evaluate program and project management policy, guidance, and standards for alignment and consistency. Establish measures and procedures to ensure that all project management requirements are clearly documented and followed and responsible personnel are held accountable.

Each of the corrective measures addresses a critical issue the Department has identified that impedes contract and project management performance. Chapter 1, Introduction, of this CAP aligns each specific issue and underlying root causes with each corrective measure. With successful CAP implementation, these root causes will be mitigated and/or eliminated, and contract and project management significantly improved.

The Department's RCA and associated CAP were formulated as part of a continuous improvement effort to strengthen the Department's contract and project management performance. The documented issues and root causes identify the project and program management weaknesses that must be addressed by the Department to strengthen its role as an owner and more effectively fulfill its contract and project management responsibilities. The measures committed to in this CAP were developed to address and resolve the issues and root causes of the documented contract and project management weaknesses and to prevent their recurrence.

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# Chapter 1

## Introduction

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The Department’s contract and project management RCA identified the significant issues negatively impacting contract and project management performance as well as their associated underlying root causes. In order for the Department to improve its contract and project management performance, it is imperative to mitigate and, where applicable, eliminate the root causes associated with these issues. Accordingly, the Department has identified eight corrective measures that are being developed and defined to directly address each issue and its root causes. These corrective measures are summarized below and described in further detail in Chapter 2 of this CAP.

<b>U.S. Department of Energy Corrective Measures Aligned to Address the Most Significant Contract and Project Management Issues and the Associated Underlying Root Causes</b>	
<b>Most Significant Contract and Project Management Issues and Underlying Root Causes</b>	<b>Contract and Project Management Corrective Measures</b>
<p><b>ISSUE</b> – DOE often does not complete front-end planning to an appropriate level before establishing project performance baselines.</p> <ul style="list-style-type: none"> <li>▪ Insufficient number of personnel</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Inadequate time dedicated to front-end planning</li> <li>▪ Reliance on the M&amp;O contractor</li> <li>▪ Lack of defined benchmarks</li> <li>▪ Lack of effective interdepartmental integration</li> <li>▪ Insufficient planning budget resources</li> </ul>	<p><b>CORRECTIVE MEASURE #1</b> – Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution.</p>
<p><b>ISSUE</b> – DOE does not have an adequate number of federal contracting and project management personnel with the appropriate skills (e.g., cost estimating, scheduling, risk management, and technical) to plan, direct, and oversee project execution.</p> <ul style="list-style-type: none"> <li>▪ Insufficient budget resources</li> <li>▪ Conflicting and competing priorities</li> <li>▪ Inferior federal government compensation compared to the private sector</li> <li>▪ Inadequate roles and responsibilities definition</li> <li>▪ Inadequate training</li> </ul>	<p><b>CORRECTIVE MEASURE #2</b> – Develop and implement a comprehensive federal staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum contract and project management federal workforce.</p>

<b>U.S. Department of Energy Corrective Measures Aligned to Address the Most Significant Contract and Project Management Issues and the Associated Underlying Root Causes</b>	
<b>Most Significant Contract and Project Management Issues and Underlying Root Causes</b>	<b>Contract and Project Management Corrective Measures</b>
<p><b>ISSUE</b> – Risks associated with projects are not objectively identified, assessed, communicated, and managed through all phases of planning and execution.</p> <ul style="list-style-type: none"> <li>▪ Insufficient number of personnel</li> <li>▪ Inadequate training</li> <li>▪ Lack of management emphasis and direction</li> <li>▪ Lack of recognition of required number and skills of personnel needed</li> </ul>	<p><b>CORRECTIVE MEASURE #3</b> – Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency.</p>
<p><b>ISSUE</b> – Failure to request and obtain full funding or planned incremental funding results in increased risk of project failure.</p> <ul style="list-style-type: none"> <li>▪ Ineffective project and program prioritization</li> <li>▪ Inadequate resource allocation</li> </ul>	<p><b>CORRECTIVE MEASURE #4</b> – Improve the alignment and integration of cost baselines with budget funding profiles to account for federal budget fiscal realities and to ensure uninterrupted project execution. Enhance project and program prioritization and associated resource allocation to minimize negative impacts to the performance baseline.</p>
<p><b>ISSUE</b> – Contracts for projects are too often awarded prior to the development of an adequate independent government cost estimate.</p> <ul style="list-style-type: none"> <li>▪ Lack of policy or standards</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Lack of databases with current or historical information</li> </ul>	<p><b>CORRECTIVE MEASURE #5</b> – Establish and implement a federal independent government cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labor and material databases.</p>
<p><b>ISSUE</b> – DOE’s acquisition strategies and plans are often ineffective and are not developed and driven by federal personnel. DOE does not begin acquisition planning early enough in the process or devote the time and resources to do it well.</p> <ul style="list-style-type: none"> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Competing priorities</li> <li>▪ Personnel resource conflicts and budget limitations</li> <li>▪ Lack of effective field and headquarters integration</li> <li>▪ Lack of lessons learned</li> <li>▪ Inadequate roles and responsibilities definition</li> </ul>	<p><b>CORRECTIVE MEASURE #6</b> – Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration.</p>

<b>U.S. Department of Energy Corrective Measures Aligned to Address the Most Significant Contract and Project Management Issues and the Associated Underlying Root Causes</b>	
<b>Most Significant Contract and Project Management Issues and Underlying Root Causes</b>	<b>Contract and Project Management Corrective Measures</b>
<p><b>ISSUE</b> – DOE’s organizational structure is not optimized for managing projects.</p> <ul style="list-style-type: none"> <li>▪ Competing priorities</li> <li>▪ Lack of prioritization on project management</li> <li>▪ Lack of alignment in authority, accountability, and responsibility</li> <li>▪ Attributes of optimized organizational structure are not understood</li> </ul> <p><b>ISSUE</b> – Ineffective DOE project oversight has sometimes resulted in failure to identify project performance issues in a timely manner.</p> <ul style="list-style-type: none"> <li>▪ Inadequate budget and personnel resources</li> <li>▪ Competing and conflicting resource priorities</li> <li>▪ Inadequate field oversight</li> </ul> <p><b>ISSUE</b> – DOE is not effectively executing its ownership role on some large projects with respect to the oversight and management of contracts and contractors.</p> <ul style="list-style-type: none"> <li>▪ Inconsistent expectations and definition of federal ownership role</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Limited authority of FPDs</li> <li>▪ Lack of accountability</li> </ul>	<p><b>CORRECTIVE MEASURE #7</b> – Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities, including field and headquarters integration; establish a project oversight benchmark; and align the program and project organizational structures.</p>
<p><b>ISSUE</b> – DOE has not ensured that its project management requirements are consistently followed. In some instances projects are initiated or carried out without fully complying with the processes and controls contained in DOE policy and guidance.</p> <ul style="list-style-type: none"> <li>▪ Conflicting guidance and priorities</li> <li>▪ Lack of adequate personnel resources</li> <li>▪ Inadequate training</li> <li>▪ Lack of failed project reviews</li> </ul>	<p><b>CORRECTIVE MEASURE #8</b> – Re-evaluate program and project management policy, guidance, and standards for alignment and consistency. Establish measures and procedures to ensure that all project management requirements are clearly documented and followed and responsible personnel are held accountable.</p>

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## Chapter 2

# Corrective Measures

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The information contained in this chapter is a summary of each of the eight corrective measures. Each corrective measure contains a summary sheet intended for use as a framework to guide the further development of more detailed plans of action to address the issues and associated root causes and ultimately implement effective corrective actions. The responsibility for conducting a comprehensive review and analysis resides with each of the corrective measure teams under the leadership and direction of the assigned organizational sponsor.

The detailed development and implementation of corrective actions is a dynamic and iterative process. Several options and alternatives are expected to address the deficiencies associated with each corrective measure. These will be considered, evaluated, and implemented, as applicable. In order to maintain an organized process and not presuppose answers or solutions, the responsibility for identifying and analyzing these recommended solutions lies with each corrective measure team. During the process, there is an expectation that additions to corrective measure elements and future actions will be considered and incorporated. The following corrective measure sheets document the starting point. The implementation of proposed corrective measure actions will be coordinated and integrated using an established Executive Steering Committee (discussed in more detail in Chapter 3) and in accordance with the Department's established organizational structure and management systems.

As the starting point, each of the corrective measures summarized in this chapter have been developed and defined to include:

- The Departmental organizational sponsor and supporting organizations responsible and accountable for developing and implementing the corrective measure;
- A broad description of the corrective measure, including a list of some of the activities comprising the measure;
- A listing of some impediments and challenges facing the Department for successful corrective measure implementation;
- A listing of some accomplishments and remaining near-term actions to successfully implement and complete the corrective measure; and
- A description of the desired outcome resulting from implementing the corrective measure, including how successful implementation will be measured.

The overall implementation schedule of these corrective measures is highlighted within Appendix A and addressed within Chapter 3. The schedule sequencing of these corrective measures is, for the most part, based on their relative priority as numbered one through eight. The priorities were established as a result of the RCA through a nominal voting methodology.

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In addition, metrics and targets for each corrective measure are included in Appendix B. Each metric and its baseline are clearly defined, as well as the appropriate end date to achieve the objective. The Department's plans of action and milestones for each corrective measure are also reflected in Appendix B. The organizational sponsor is also indicated, by name and title. This is the person accountable to deliver the corrective measure and each of the specific actions outlined within.

<b><u>CORRECTIVE MEASURE 1</u></b>	
<p><b>Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution.</b></p>	
<p><b><u>Issue:</u></b> DOE often does not complete front-end planning to an appropriate level before establishing project performance baselines.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Insufficient number of personnel</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Inadequate time dedicated to front-end planning</li> <li>▪ Reliance on the M&amp;O contractor</li> <li>▪ Lack of defined benchmarks</li> <li>▪ Lack of effective interdepartmental integration</li> <li>▪ Insufficient planning budget resources</li> </ul>
<p><b><u>Organizational Sponsor:</u></b> Thad Konopnicki Deputy Associate Administrator Office of Infrastructure and Environment National Nuclear Security Administration</p>	<p><b><u>Supporting Organizations:</u></b> Office of Engineering and Construction Management Office of Environmental Management Office of Chief Financial Officer Office of Under Secretary or other Program Office Rep (e.g., RW, EE, NE, FE)</p>
<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Establish a more detailed internal front-end planning process, including planning metrics to ensure preliminary project scope statements are in place prior to CD-1 and detailed project scope definitions are in place prior to CD-2, and limit follow-on scope creep.</li> <li>▪ Develop a uniform set of front-end planning requirements/criteria/benchmarks including readiness of critical technologies.</li> <li>▪ Identify and define specific and bounding assumptions for associated technical design and nuclear safety requirements by CD-1.</li> <li>▪ Identify and allocate the appropriate resources to effectively complete front-end planning.</li> <li>▪ Perform independent reviews to ensure the appropriate level of planning is complete prior to project approval and additional resource allocation.</li> <li>▪ Include research, development, demonstration, and implementation of critical technologies in front-end planning basis of projects beginning no later than CD-1, as appropriate.</li> <li>▪ Develop improved program management requirements/guidance and training that enables better planning, management, execution, budgeting, and oversight of large programs and their projects.</li> <li>▪ Break large programs/projects into smaller stand-alone projects, as appropriate.</li> <li>▪ Establish clear federal ownership responsibility for front-end planning.</li> <li>▪ Ensure that all viable alternatives have been considered and that a thorough life cycle cost analysis has been performed.</li> <li>▪ Ensure that project requirements are tied to strategic program objectives/plans.</li> </ul>	
<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ Competing influences and inconsistent decision making based on the annual budget cycle/schedule</li> <li>▪ Organizational culture and resistance to change</li> <li>▪ Over-reliance on the M&amp;O contractors</li> <li>▪ There is a tendency to discount viable alternatives</li> <li>▪ Managers have a strong desire to get to the execution stage of a project</li> <li>▪ Project assumptions and cost and schedule estimates tend to be overly optimistic</li> </ul>	

**CORRECTIVE MEASURE 1**

**Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution.**

**Accomplishments to Date:**

- Commenced development of NNSA Project Definition Rating Index (PDRI)
- External Independent Reviews and Independent Project Reviews
- EM Technology Readiness Level (TRL) process and Guide
- Development of the NNSA Program Requirements Document Business and Operating Procedure
- Developed and successfully using an EM PDRI
- EM "Best in Class" initiative; an EM initiative to improve EM contract and project management

**Some Remaining Near-Term Actions:**

- Develop and implement TRL models, where applicable
- Establish procedures for requirements documentation and hierarchy early in project cycle
- Develop and implement tailored PDRI models
- Develop and conduct PDRI and TRL training
- Develop PDRI and TRL guides, as appropriate
- Enhance change control process

**Expected Outcomes/Key Success Measures:**

- Outcome: Improved project requirements definition and front-end planning.
- Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.
- Metric: By the end of FY 2011, 80% of projects (greater than \$100 million) will use PDRI methodologies no later than CD-2.
- Metric: By the end of FY 2011, all projects (greater than \$750 million [i.e., Major System Projects]) applying new technology, as appropriate, will implement technology readiness assessment methodologies no later than CD-2.

<b><u>CORRECTIVE MEASURE 2</u></b>	
<b>Develop and implement a comprehensive federal staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum contract and project management federal workforce.</b>	
<p><b><u>Issue:</u></b> DOE does not have an adequate number of federal contracting and project management personnel with the appropriate skills (e.g., cost estimating, scheduling, risk management, and technical) to plan, direct, and oversee project execution.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Insufficient budget resources</li> <li>▪ Conflicting and competing priorities</li> <li>▪ Inferior federal government compensation compared to the private sector</li> <li>▪ Inadequate roles and responsibilities definition</li> <li>▪ Inadequate training</li> </ul>
<p><b><u>Organizational Sponsor:</u></b> Pete Check Deputy Director Office of Engineering and Construction Management Office of Management</p>	<p><b><u>Supporting Organizations:</u></b> Office of Environmental Management National Nuclear Security Administration Office of Human Capital Management Office of Chief Financial Officer Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE) Office of Procurement and Assistance Management</p>
<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Baseline existing contract and project management personnel and organization.</li> <li>▪ Benchmark contract and project management functions and personnel in other federal agencies.</li> <li>▪ Conduct a contract and project management personnel resources needs assessment.</li> <li>▪ Conduct a gap analysis between federal benchmarks, results of needs assessment, and current baseline.</li> <li>▪ Identify the number, qualifications, and skills required of additional personnel by organization.</li> <li>▪ Develop a resource plan to acquire additional federal personnel, if applicable.</li> <li>▪ Review appropriate personnel compensation incentives and encourage their use, where appropriate.</li> <li>▪ Analyze and recommend revisions to the existing contract and project management staffing structure.</li> <li>▪ Clearly define and document the roles, responsibilities, authority, and accountability for all contract and project management personnel.</li> <li>▪ Identify and implement contract and project management training in specific areas of need.</li> <li>▪ Garner input and approval of implementation plan from appropriate stakeholders and senior leadership.</li> </ul>	
<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ Competing Departmental priorities and change in Administration</li> <li>▪ Re-allocation of necessary budget and personnel resources</li> <li>▪ Organizational culture and resistance to change</li> </ul>	
<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ EM "Best in Class" initiative; an EM initiative to improve EM contract and project management</li> <li>▪ DOE Acquisition Career Management Program for certifying contract managers and contracting officer's representative (COR)</li> <li>▪ Project Management Career Development Program</li> <li>▪ Contracting competency/resource gap analyses across the complex</li> <li>▪ Targeted training delivered across the complex</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Benchmarking and Gap Analysis</li> <li>▪ Recruit additional federal staff, as needed</li> <li>▪ Enhancement to training programs</li> <li>▪ Re-allocation of resources, as appropriate</li> <li>▪ Stakeholders support and approval</li> </ul>
<p><b><u>Expected Outcomes/Key Success Measures:</u></b></p> <ul style="list-style-type: none"> <li>▪ Outcome: Fully staffed, right-sized federal contract and project management organization.</li> <li>▪ Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.</li> <li>▪ Metric: By the end of FY 2011, federal contract and project management positions (based on new model) are staffed at 80% of the desired level.</li> <li>▪ Metric: By the end of FY 2011, 95% of projects have certified FPDs no later than CD-1.</li> <li>▪ Metric: By the end of FY 2011, 90% of projects have FPDs certified at the appropriate level assigned to projects no later than CD-3.</li> <li>▪ Metric: By the end of FY 2011, 85% of the 1102 contracting series will be certified.</li> </ul>	

**CORRECTIVE MEASURE 3**

**Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency.**

**Issue:**

Risks associated with projects are not objectively identified, assessed, communicated, and managed through all phases of planning and execution.

**Root Causes:**

- Insufficient number of personnel
- Inadequate training
- Lack of management emphasis and direction
- Lack of recognition of required number and skills of personnel needed

**Organizational Sponsor:**

Jack Surash  
Deputy Assistant Secretary  
Office of Acquisition and Project Management  
Office of Environmental Management

**Supporting Organizations:**

Office of Engineering and Construction Management  
National Nuclear Security Administration  
Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE)  
Office of Chief Financial Officer

**Description:** The following elements are some of the core components of this corrective measure:

- Clearly define the types of project risks (including programmatic risk and technical risk related to technology readiness).
- Develop standard methods to assess and manage project risks starting at front-end planning and continuing through project completion.
- Establish risk communication protocols and methodologies.
- Establish consistent protocol for the definition, development, funding, and use of management reserve and contingency as a key part of the policy and guidance on project cost estimation.
- Establish procedures to encourage, recognize, and reward project teams that do not use all management reserve and contingency.
- Provide consistent risk management training and mentoring across programs and projects.
- Develop processes that describe how risks (including the management, mitigation, and response) can be transferred, when appropriate, either in whole or part, from a project to a site or HQ program.
- Establish risk management as an essential performance element for a FPD position.
- Establish a cadre of risk management experts who can assist/supplement the project team.
- Develop and implement risk management training and mentoring.
- Establish ongoing web-based risk management training and communication to establish a network community on the subject.
- Provide human capital and skill gap analysis and recommendations for the area of project risk management to the Corrective Measures 2 team.

**Impediments/Challenges:**

- Aligning results of the many risk assessment techniques: TRL, PDRI, interviewing, brainstorming, corporate experience, lesson learned, etc.
- Organizational culture and resistance to change allowing projects to proceed based on program and budget priorities instead of project maturity
- Differences in methodologies throughout DOE/NNSA in both the Federal and contractor communities
- Inadequate resources for risk management, including funding, human resources, and training

<b><u>CORRECTIVE MEASURE 3</u></b>	
<p><b>Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency.</b></p>	
<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ DOE 413.3 manual</li> <li>▪ Established the Office of Cost Analysis</li> <li>▪ Developed and delivered Risk Management training modules in the Project Management Career Development Program</li> <li>▪ Standard 1189 “Integration of Safety into the Design Process”</li> <li>▪ EM “Best in Class” initiative; an EM initiative to improve EM contract and project management</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Completing Project Management Guides</li> <li>▪ Revising applicable sections of DOE Order 413.3A</li> <li>▪ Creating E-learning opportunities in Risk Management</li> </ul>
<p><b><u>Expected Outcomes/Key Success Measures:</u></b></p> <ul style="list-style-type: none"> <li>▪ Outcome: Realistic project plans. Cost and schedule baselines are developed and reviewed using consistent and standard risk analysis tools and expertise.</li> <li>▪ Outcome: Increased visibility of project risk discussions in project reviews.</li> <li>▪ Outcome: Stronger correlation between project risks and the use of management reserve and contingency.</li> <li>▪ Outcome: Protocol for the development, funding, and use of management reserve and contingency.</li> <li>▪ Outcome: Protocol for risk assessment and management.</li> <li>▪ Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.</li> <li>▪ Metric: By the end of FY 2011, for all capital asset line item projects that are completed at CD-4, 50% are completed below their currently approved TPC with some contingency and/or management reserve remaining.</li> </ul>	

**CORRECTIVE MEASURE 4**

**Improve the alignment and integration of cost baselines with budget funding profiles to account for federal budget fiscal realities and to ensure uninterrupted project execution. Enhance project and program prioritization and associated resource allocation to minimize negative impacts to the performance baseline.**

<p><b><u>Issue:</u></b> Failure to request and obtain full funding or planned incremental funding results in increased risk of project failure.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Ineffective project and program prioritization</li> <li>▪ Inadequate resource allocation</li> </ul>
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<p><b><u>Organizational Sponsor:</u></b> Jack Surash Deputy Assistant Secretary Office of Acquisition and Project Management Office of Environmental Management</p>	<p><b><u>Supporting Organizations:</u></b> Office of Program Analysis and Evaluation Office of Chief Financial Officer Office of Engineering and Construction Management National Nuclear Security Administration Office of Science Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE)</p>
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<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Institutionalize the use of independent government cost estimates to improve the quality of project cost estimates.</li> <li>▪ Establish policy and procedures for requiring funding profiles to be front-end loaded relative to project cost baselines to avoid project cost growth caused by budget delays.</li> <li>▪ Establish “full funding” policy to promote full funding of smaller projects to minimize risk exposure, and allow projects to be scheduled based on optimum construction management practices, not be scheduled driven by incremental funding profiles.</li> <li>▪ Establish procedures to include individual “project affordability” as a part of project validation, in the context of the Program’s five-year budget profile.</li> </ul>
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<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ Effective prioritization and allocation of resources based on competing priorities and political pressures</li> <li>▪ External stakeholders resistance to allow full funding and front-end loaded funding profiles</li> <li>▪ Current budget request and Congressional authorization processes regarding full funding of DOE projects</li> <li>▪ Organizational culture and resistance to change</li> </ul>
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<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ Established cost assessment group in the OCFO</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Use of independent government cost estimates to validate and improve estimates</li> <li>▪ DOE policy on full funding and front-end loaded funding profiles</li> <li>▪ Improve Budget Guidance</li> <li>▪ Completing Project Management Guides</li> <li>▪ Stakeholder support and approval</li> </ul>
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<p><b><u>Expected Outcomes/Key Success Measures:</u></b></p> <ul style="list-style-type: none"> <li>▪ Outcome: Improved accuracy and alignment between project cost baselines and annual budget requests.</li> <li>▪ Outcome: Minimal project cost and schedule impacts from annual budget allocation.</li> <li>▪ Outcome: Uninterrupted project execution due to federal budget delays and continuing resolutions.</li> <li>▪ Outcome: Policy for full/forward funding of projects established.</li> <li>▪ Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.</li> <li>▪ Metric: By the end of FY 2013, 80% of capital asset line item projects (less than \$50 million) are fully funded in one Fiscal Year (one Appropriation).</li> </ul>
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<b><u>CORRECTIVE MEASURE 5</u></b>	
<b>Establish and implement a federal independent government cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labor and material databases.</b>	
<p><b><u>Issue:</u></b> Contracts for projects are too often awarded prior to the development of an adequate independent government cost estimate.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Lack of policy or standards</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Lack of databases with current or historical information</li> </ul>
<p><b><u>Organizational Sponsor:</u></b> Barry Berkowitz Director Office of Cost Analysis Office of Chief Financial Officer</p>	<p><b><u>Supporting Organizations:</u></b> Office of Project Management and System Support, National Nuclear Security Administration Office of Engineering and Construction Management Office of Environmental Management Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE) Office of Procurement and Assistance Management</p>
<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Develop the DOE Cost Estimating Order and Cost Estimating Manual to establish DOE cost estimating requirements and guidance, as well as requirements for independent cost reviews and independent government cost estimates.</li> <li>▪ Develop cost estimating training course, and implement training to include independent government cost estimates.</li> <li>▪ Develop historical cost database to improve cost estimating accuracy.</li> <li>▪ Conduct independent cost reviews and independent government estimates.</li> <li>▪ Develop lessons learned from independent cost reviews, and identify corrective actions.</li> <li>▪ Develop policy/guidance on definition, development, and use of escalations rates based on industry and geographic trends.</li> </ul>	
<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ The Office of Cost Analysis is new, and there will be challenges of standing-up a new organization</li> <li>▪ Organizational culture and resistance to change</li> </ul>	
<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ Established cost estimating and analysis office in the OCFO, responsible for all cost estimating in the Department</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Develop new DOE Cost Estimating Order to include project requirements for Independent Cost Reviews, Independent Cost Estimates, and Independent Government Estimates</li> <li>▪ Develop Cost Estimating Manual</li> <li>▪ Develop Cost Estimating Training Course</li> <li>▪ Establish project cost database</li> <li>▪ Initiate independent cost reviews and independent government estimates</li> </ul>
<p><b><u>Expected Outcomes/Key Success Measures:</u></b></p> <ul style="list-style-type: none"> <li>▪ Outcome: Improved competitive solicitation processes and contract management.</li> <li>▪ Outcome: Improved accuracy of project cost estimates and baselines.</li> <li>▪ Outcome: Historical project cost information used as benchmarks for future projects.</li> <li>▪ Outcome: Improved guidance on project escalation rates aligned with industry trends.</li> <li>▪ Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.</li> <li>▪ Metric: By the end of FY 2010, establish and staff (at 80% of authorized FTEs) a cost estimating and analysis organization in the Chief Financial Officer, Office of Cost Analysis (CF-70) organization.</li> <li>▪ Metric: By the end of FY 2011, 80% of contract awards are within plus or minus 25% of independent government cost estimates.</li> </ul>	

**CORRECTIVE MEASURE 6**

**Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans, and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration.**

<p><b><u>Issue:</u></b> DOE's acquisition strategies and plans are often ineffective and are not developed and driven by federal personnel. DOE does not begin acquisition planning early enough in the process or devote the time and resources to do it well.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Competing priorities</li> <li>▪ Personnel resource conflicts and budget limitations</li> <li>▪ Lack of effective field and headquarters integration</li> <li>▪ Lack of lessons learned</li> <li>▪ Inadequate roles and responsibilities definition</li> </ul>
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<p><b><u>Organizational Sponsor:</u></b> Ed Simpson Director Office of Procurement and Assistance Management Office of Management</p>	<p><b><u>Supporting Organizations:</u></b> National Nuclear Security Administration Office of Engineering and Construction Management Office of Environmental Management Office of General Counsel Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE)</p>
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<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Review existing directives, policy, guidance, etc., pertaining to development of acquisition strategies, project plans and acquisition plans including integrated project teams; roles and responsibilities of FPDs, Contracting Officers, etc.</li> <li>▪ Review training requirements of FPDs in the Project Management Career Development Program related to the development of acquisition strategies, project plans, and acquisition plans and to ensure alignment with responsibilities of performing as a COR.</li> <li>▪ Perform a process flow analysis regarding the extent to which program offices do, or do not, integrate project management with contract management in the development of acquisition strategies, project plans, and acquisition plans.</li> <li>▪ Perform a benchmark analysis on other Federal agencies regarding the development of acquisition strategies and plans.</li> <li>▪ Review and assess output from Corrective Measures 1 – 3 for applicability in resolving the issues under this measure.</li> <li>▪ Perform gap analysis to ensure identification of gaps and vulnerabilities in Departmental guidance, procedures, etc., which may contribute to, or exacerbate, issues relating to ineffective and/or late acquisition strategies and plans.</li> <li>▪ Recommend specific actions to resolve identified gaps and challenges.</li> <li>▪ Incorporate approved recommendations.</li> </ul>
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<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ Historical over-reliance on the M&amp;O contractors</li> <li>▪ Pressure to rapidly award contracts to meet project schedules</li> <li>▪ Continued coordination and integration challenges between headquarters line and staff offices and between headquarters and the field</li> <li>▪ Organizational resistance to change</li> </ul>
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<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ Two NNSA Requests for Information issued</li> <li>▪ Draft Acquisition Strategy Guide near completion</li> <li>▪ Integrated Project Team Guide is in draft</li> <li>▪ EM "Best in Class" initiative; an EM initiative to improve EM contract and project management</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Complete Acquisition Strategy Guide</li> </ul>
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**CORRECTIVE MEASURE 6**

**Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans, and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration.**

**Expected Outcomes/Key Success Measures:**

- Outcome: Improved alignment between project requirements and contracting strategies and plans.
- Outcome: Better integration between contract management and project management.
- Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.
- Metric: By the end of FY 2011, achieve a contract specialist to contract value ratio of 1 per \$X\* million or less. (\* The staffing study will establish the appropriate benchmark factor "X" to be applied.)

**CORRECTIVE MEASURE 7**

**Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities, including field and headquarters integration; establish a project oversight benchmark; and align the program and project organizational structures.**

<p><b><u>Issue:</u></b> DOE's organizational structure is not optimized for managing projects.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Competing priorities</li> <li>▪ Lack of prioritization on project management</li> <li>▪ Lack of alignment in authority, accountability, and responsibility</li> <li>▪ Attributes of optimized organizational structure are not understood</li> </ul>
<p><b><u>Issue:</u></b> Ineffective DOE project oversight has sometimes resulted in failure to identify project performance issues in a timely manner.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Inadequate budget and personnel resources</li> <li>▪ Competing and conflicting resource priorities</li> <li>▪ Inadequate field oversight</li> </ul>
<p><b><u>Issue:</u></b> DOE is not effectively executing its ownership role on some large projects with respect to the oversight and management of contracts and contractors.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Inconsistent expectations and definition of federal ownership role</li> <li>▪ Lack of personnel with the appropriate skills</li> <li>▪ Limited authority of FPDs</li> <li>▪ Lack of accountability</li> </ul>
<p><b><u>Organizational Sponsor:</u></b> Bob Raines Director, Project Management Systems &amp; Assessments Office of Engineering and Construction Management Office of Management</p>	<p><b><u>Supporting Organizations:</u></b> Office of Environmental Management National Nuclear Security Administration Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE) Office of Procurement and Assistance Management Office of Program Analysis and Evaluation</p>
<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Clearly define and document the roles, responsibilities, and authorities for all personnel assigned to various project and contract oversight and management functions within DOE.</li> <li>▪ Identify redundancies and gaps within and between field and headquarters organizations, functions, authorities, and responsibilities.</li> <li>▪ Establish a benchmark of DOE and other federal agency contract and project management organizations and associated roles, responsibilities, and authorities; then compare and contrast these benchmarks to identify gaps and areas of improvement for DOE.</li> <li>▪ Implement changes, if warranted, to organizational structures and functions to improve the effectiveness and efficiency of the management and oversight of contracts and projects, and establish clear ownership responsibility.</li> <li>▪ Establish checklist for performing contract and project oversight (may be in the form of a comprehensive project oversight plan).</li> <li>▪ Ensure accountability of personnel responsible for project oversight functions.</li> <li>▪ Establish project and contract controls requirements, guidelines, and training.</li> <li>▪ Implement standardized project and contract management performance metrics and reporting requirements.</li> <li>▪ Develop and deploy a replacement to the Project Assessment and Reporting System (PARS) information management system.</li> <li>▪ Ensure integration of project and contract management organizations and functions in the performance of oversight.</li> <li>▪ Strengthen existing external independent reviews and internal project reviews to ensure project and contract oversight compliance.</li> </ul>	

**CORRECTIVE MEASURE 7**

**Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities, including field and headquarters integration; establish a project oversight benchmark; and align the program and project organizational structures.**

**Impediments/Challenges:**

- Minimizing headquarters and site authorities providing project direction
- Organizational culture and resistance to change
- Lack of a project oversight benchmark
- Lack of communication/coordination at staff levels between Headquarters and Field personnel

**Accomplishments to Date:**

- Establishment of DOE Order 413.3A
- Earned Value Management (EVM) System Certification Program

**Some Remaining Near-Term Actions:**

- Benchmark DOE and other federal agency contract and project management organizations
- PARS replacement information management system

**Expected Outcomes/Key Success Measures:**

- Outcome: Streamlined oversight for contract and project management.
- Outcome: Increased federal and contractor accountability for project and contract performance.
- Outcome: A revised Departmental structure more effectively aligned and organized to carry out contract and project management functions.
- Outcome: Improved project and contract performance metrics.
- Outcome: Completed external and internal project reviews documenting improved project oversight.
- Outcome: PARS replacement with operating manual.
- Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.
- Metric: By the end of FY 2012, achieve a FPD (including Deputy FPD(s), as applicable) to annual work in place ratio of 1 per \$X\* million or less, and/or in accordance with the staffing study. (\* The staffing study will establish the appropriate benchmark factor "X" to be applied.)
- Metric: For projects post CD-3, by the end of FY 2011 and FY 2012, 95% of cost reimbursable capital asset line item projects (greater than \$20 million) and cost reimbursable EM cleanup projects, respectively, use certified EVM systems.
- Metric: By the end of FY 2011, on a program portfolio basis, 90% of all projects will meet the project schedule metric that follows: from CD-3 to CD-4, for projects less than five years in duration, they will be completed within 12 months of the original CD-3/4 duration.
- Metric: By the end of FY 2011, on a program portfolio basis, 90% of all projects will meet the project schedule metric that follows: from CD-3 to CD-4, for projects greater than five years in duration, they will be completed within 20% of the original CD-3/4 duration.

**CORRECTIVE MEASURE 8**

**Re-evaluate program and project management policy, guidance, and standards for alignment and consistency. Establish measures and procedures to ensure that all project management requirements are clearly documented and followed and responsible personnel are held accountable.**

<p><b><u>Issue:</u></b> DOE has not ensured that its project management requirements are consistently followed. In some instances projects are initiated or carried out without fully complying with the processes and controls contained in DOE policy and guidance.</p>	<p><b><u>Root Causes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Conflicting guidance and priorities</li> <li>▪ Lack of adequate personnel resources</li> <li>▪ Inadequate training</li> <li>▪ Lack of failed project reviews</li> </ul>
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<p><b><u>Organizational Sponsor:</u></b> Paul Bosco Director Office of Engineering and Construction Management Office of Management</p>	<p><b><u>Supporting Organizations:</u></b> Office of Environmental Management National Nuclear Security Administration Office of Science Office of Under Secretary or Other Program Office Rep (e.g., RW, EE, NE, FE)</p>
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<p><b><u>Description:</u></b> The following elements are some of the core components of this corrective measure:</p> <ul style="list-style-type: none"> <li>▪ Review various program and project management policies and guidance for consistency; ensure consistent and standard definitions for terms.</li> <li>▪ Develop a checklist of all phases of project management to assess compliance with requirements.</li> <li>▪ Clearly define and document the roles, responsibilities, and authorities for project management personnel throughout all phases of project management and establish clear ownership responsibility.</li> <li>▪ Identify best management practices in DOE programs and document and transfer across and between programs, as appropriate.</li> <li>▪ Update DOE Order 413.3A.</li> </ul>
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<p><b><u>Impediments/Challenges:</u></b></p> <ul style="list-style-type: none"> <li>▪ Ownership to specific procedures and guidance developed by specific programs</li> <li>▪ Organizational culture and resistance to change</li> </ul>
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<p><b><u>Accomplishments to Date:</u></b></p> <ul style="list-style-type: none"> <li>▪ Establishment of DOE Order 413.3A</li> </ul>	<p><b><u>Some Remaining Near-Term Actions:</u></b></p> <ul style="list-style-type: none"> <li>▪ Update DOE Order 413.3A</li> <li>▪ Complete 413 Guides</li> <li>▪ Improve compliance oversight</li> </ul>
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<p><b><u>Expected Outcomes/Key Success Measures:</u></b></p> <ul style="list-style-type: none"> <li>▪ Outcome: Eliminate competing and conflicting project guidance and direction.</li> <li>▪ Outcome: Increased accountability and compliance with project management requirements.</li> <li>▪ Metric: By the end of FY 2011 and 2012, 90% of DOE capital asset line item projects and 90% of EM cleanup projects, respectively, will meet their overall performance baseline goals.</li> <li>▪ Metric: By the end of FY 2011, 95% of projects have certified FPDs no later than CD-1.</li> <li>▪ Metric: By the end of FY 2011, 90% of projects have FPDs certified <u>at the appropriate level</u> assigned to projects no later than CD-3.</li> <li>▪ Metric: For projects post CD-3, by the end of FY 2011 and FY 2012, 95% of cost reimbursable capital asset line item projects (greater than \$20 million) and cost reimbursable EM cleanup projects, respectively, use certified EVM systems.</li> </ul>
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# Chapter 3

## Summary and Next Steps

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The Department has made a steadfast commitment to making tangible improvements in contract and project management performance. This commitment permeates the Department, from DOE Headquarters to field offices and begins with the Secretary of Energy and cascades to a multitude of contract, project, and financial management professionals. This is a long-term commitment; the nature and duration of project execution, and the timeline required to document it require nothing less. The life cycle for projects can extend for many years and sometimes decades. This CAP is the Department's plan to develop, prioritize, and implement the necessary corrective measures to successfully address the most significant challenges and underlying causes facing contract and project management today and in the future. These corrective measures represent the most significant efforts to date for improving the Department's contract and project management performance.

This CAP demonstrates the Department's overarching approach to eliminating or mitigating contract and project management issues and associated root causes. It establishes the broad framework for improving contract and project management based on the findings from the RCA. For each of the eight corrective measures identified in this CAP, cross-functional Departmental teams are responsible for developing and maintaining detailed plans of action and milestones. Due to finite personnel and monetary resources, and other competing activities, the corrective measures and associated detailed plans of action and milestones will have staggered start dates. This is reflected in Appendix A.

The priority for the start and review of corrective measures is based on the relative significance of the contract and project management issues identified through the Department's RCA process. For example, the most significant issue identified in the RCA was the lack of adequate front-end planning. As a result, the corrective actions associated with the Department's inadequate front-end planning will be addressed first. The one exception is with Corrective Measure 4, Improve Funding and Baseline Alignment. It displaced Corrective Measure 3, Strengthen Risk Management. This was done to allow any new funding policies to become effective before the next budget cycle.

Accordingly, the goal is to start three corrective measures (Nos. 1, 2, 4) within six months of approval and publication of this CAP. The next three corrective measures (Nos. 3, 5, 6) will be started approximately six months after CAP publication. The remaining two (Nos. 7 and 8) will be initiated no later than twelve months following CAP approval and publication. These macro milestones will be refined as each corrective measure team completes and refines their plans of action and milestones, with implementation of all corrective measures within three years of CAP approval. The key to achieving improvements will be the effective implementation of these corrective measures.

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Each corrective measure team will be responsible for developing recommended actions. The organizational sponsor will be held responsible and accountable for the timely development of their respective corrective measure. Prior to implementation, these actions will be briefed to an Executive Steering Committee (ESC). The ESC will be the overarching committee providing direction to each corrective measures team, ensuring proper team integration, coordination of corrective measure development and implementation, and monitoring their performance. The ESC will be chaired by the Director of the Office of Management and comprised of representatives from the Office of Engineering and Construction Management (OECM), the Program Management Support Offices, and others. They will be responsible for overseeing the entire process. The ESC will ultimately be responsible for ensuring that corrective measures are effectively established and implemented to bring about the lasting improvement to contract and project management performance.

In some cases, implementing the recommended actions from the corrective measures teams should be relatively straightforward and could be initiated immediately. In other cases involving significant organizational changes and other major impacts, senior leadership approval will be required. Recommendations involving significant changes will require the respective teams to brief senior management on proposed courses of action. Under no circumstance will actions be implemented without briefing the ESC, the affected organizations, and the appropriate senior leadership.

These corrective measures will be monitored, measured, and reported quarterly to senior leadership starting within 60 days of CAP approval. OECM will take the lead in this effort. The progress of each team will be reported monthly, including identification of variances and implementation of corrective actions to maintain the overall plan and schedule. Team members will be responsible for corrective measure implementation, after appropriate approval, and the lead sponsor will be accountable for ensuring successful execution and completion. Each of these corrective measures will be coordinated and specific plans and milestones established for each to ensure proper, timely execution. The corrective measures will be monitored and tracked against clearly defined metrics to ensure success.

In addition to discrete metrics for specific corrective measures, the Department will also develop, monitor, and report on overarching contract and project management metrics. The proposed overarching metrics include: the performance goal for capital asset line item projects; the performance goal for EM cleanup projects; and the percentage of certified EVM systems used to manage contracts and projects. Of course, the primary success metric will be the Department's project and portfolio success rate. These metrics will be measured and reported annually and include a three-year rolling average to determine positive or negative contract and project management performance trends.

Real, sustainable, and measurable contract and project management performance improvement requires a DOE organizational and leadership commitment to continuous improvement. Each of the Departmental organizations identified in the CAP share the responsibility for the success of this plan. The development and implementation of successful corrective measures is a Department-wide effort requiring everyone's support.

Implementation of this plan is a significant step toward fundamentally reshaping the contract and project management culture within the Department. Clearly, further investments will be necessary in the areas of human capital management, organizational alignment and integration, prioritization and resource allocation, and management systems. The focus will be in the areas of project definition and front-end planning, cost estimating, risk management, acquisition strategy decisions and plans, and overall project oversight. Collectively, these investments will strengthen the rigor and discipline in DOE contract and project management and result in dramatic improvements in project execution delivery, on time and on budget making the Department a stronger and more effective project owner.

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# Appendix A

## Corrective Measure Sequencing Schedule

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Appendix A contains a summary, high-level schedule for completing the corrective measures. More detail regarding the specific activities to successfully complete each corrective measure is included within Appendix B, Section VIII Major Initiatives.

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Corrective Measures Plan Schedule												
ID	Task Name	2008		2009		2010		2011		2012		
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	
1	Approval of Corrective Action Plan		◆ 7/18									
2	Execute Corrective Measures 1, 2, 4											
3	Execute Corrective Measures 3, 5, 6											
4	Execute Corrective Measures 7, 8											
5	Schedule Contingency											
6	Completion of 8 Corrective Measures											◆ 7/18

Task		Rolled Up Task		External Tasks	
Progress		Rolled Up Milestone		Project Summary	
Milestone		Rolled Up Progress		Group By Summary	
Summary		Split		Deadline	

Project: DOE Corrective Action Plan

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## Appendix B

# Department of Energy Contract and Project Management High Risk Plan

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Appendix B contains the Department of Energy Contract and Project Management High Risk Plan. The content of the High Risk Plan is consistent with the Department's Contract and Project Management RCA CAP. This appendix will be used as the primary reporting tool to OMB and other external stakeholders as appropriate. It will facilitate progress and status reporting over time as the corrective measures are implemented. The corrective measure plan of action and milestones reflected within Section VIII Major Initiatives may be modified over time to accommodate the results and finding of related corrective measures. The overall schedule objective remains fixed—to complete all the corrective measures within three years of CAP publication.

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## **High Risk: Department of Energy Contract and Project Management**

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**I. Scope:** Contract and project management, including improving contract administration and the management and oversight of projects.

**II. Overall:** Demonstrate improved contractor and project performance, including achievement of planned cost, schedule, and performance goals, by strengthening the Department's oversight and management of contracts and projects.

### **III. Focus Areas (Corrective Measures):**

**1. Improve Project Front-End Planning:** Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution. (Corrective Measure 1. Organizational Sponsor: Thad Konopnicki, Deputy Associate Administrator, Office of Infrastructure and Environment, National Nuclear Security Administration)

- Establish a more detailed internal front-end planning process, including planning metrics to ensure preliminary project scope statements are in place prior to CD-1 and detailed project scope definitions are in place prior to CD-2, and limit follow-on scope creep.
- Develop a uniform set of front-end planning requirements/criteria/benchmarks including readiness of critical technologies.
- Identify and define specific and bounding assumptions for associated technical design and nuclear safety requirements by CD-1.
- Identify and allocate the appropriate resources to effectively complete front-end planning
- Perform independent reviews to ensure the appropriate level of planning is complete prior to project approval and additional resource allocation.
- Include research, development, demonstration, and implementation of critical technologies in front-end planning basis of projects beginning no later than CD-1, as appropriate.
- Develop improved program management requirements/guidance and training that enables better planning, management, execution, budgeting, and oversight of large programs and their projects.
- Break large programs/projects into smaller stand-alone projects, as appropriate.
- Establish clear federal ownership responsibility for front-end planning.
- Ensure that all viable alternatives have been considered and that a thorough life cycle cost analysis has been performed.
- Ensure that project requirements are tied to strategic program objectives/plans.

2. **Enhance the Federal Contract and Project Management Workforce:** Develop and implement a comprehensive federal staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum contract and project management federal workforce. (Corrective Measure 2. Organizational Sponsor: Pete Check, Deputy Director, Office of Engineering and Construction Management, Office of Management)
- Baseline existing contract and project management personnel and organization.
  - Benchmark contract and project management functions and personnel in other federal agencies.
  - Conduct a contract and project management personnel resources needs assessment.
  - Conduct a gap analysis between federal benchmarks, results of needs assessment, and current baseline.
  - Identify the number, qualifications, and skills required of additional personnel by organization.
  - Develop a resource plan to acquire additional federal personnel, if applicable.
  - Review appropriate personnel compensation incentives and encourage their use, where appropriate.
  - Analyze and recommend revisions to the existing contract and project management staffing structure.
  - Clearly define and document the roles, responsibilities, authority, and accountability for all contract and project management personnel.
  - Identify and implement contract and project management training in specific areas of need.
  - Garner input and approval of implementation plan from appropriate stakeholders and senior leadership.
3. **Improve Project Risk Assessment, Communication, and Management:** Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency. (Corrective Measure 3. Organizational Sponsor: Jack Surash, Deputy Assistant Secretary, Office of Acquisition and Project Management, Office of Environmental Management)
- Clearly define the types of project risks (including programmatic risk and technical risk related to technology readiness).
  - Develop standard methods to assess and manage project risks starting at front-end planning and continuing through project completion.
  - Establish risk communication protocols and methodologies.
  - Establish consistent protocol for the definition, development, funding, and use of management reserve and contingency as a key part of the policy and guidance on project cost estimation.
  - Establish procedures to encourage, recognize, and reward project teams that do not use all management reserve and contingency.
  - Provide consistent risk management training and mentoring across programs and projects.
  - Develop processes that describe how risks (including the management, mitigation, and response) can be transferred, when appropriate, either in whole or part, from a project to a site or HQ program.
  - Establish risk management as an essential performance element for a FPD position.
  - Establish a cadre of risk management experts who can assist/supplement the project team.
  - Develop and implement risk management training and mentoring.
  - Establish ongoing web-based risk management training and communication to establish a network community on the subject.

- Provide human capital and skill gap analysis and recommendations for the area of project risk management to the Corrective Measure 2 team.
4. **Align and Integrate Budget Profiles and Project Cost Baselines:** Improve the alignment and integration of cost baselines with budget funding profiles to account for federal budget fiscal realities and to ensure uninterrupted project execution. Enhance project and program prioritization and associated resource allocation to minimize negative impacts to the performance baseline. (Corrective Measure 4. Organizational Sponsor: Jack Surash, Deputy Assistant Secretary, Office of Acquisition and Project Management, Office of Environmental Management)
- Institutionalize the use of independent government cost estimates to improve the quality of project cost estimates.
  - Establish policy and procedures for requiring funding profiles to be front-end loaded relative to project cost baselines to avoid project cost growth caused by budget delays.
  - Establish “full funding” policy to promote full funding of smaller projects to minimize risk exposure, and allow projects to be scheduled based on optimum construction management practices, not be scheduled driven by incremental funding profiles.
  - Establish procedures to include individual “project affordability” as a part of project validation, in the context of the Program’s five-year budget profile.
5. **Improve Independent Government Cost Estimates:** Establish and implement a federal independent government cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labor and material databases. (Corrective Measure 5. Organizational Sponsor: Barry Berkowitz, Director, Office of Cost Analysis, Office of the Chief Financial Officer)
- Develop the DOE Cost Estimating Order and Cost Estimating Manual to establish DOE cost estimating requirements and guidance, as well as requirements for independent cost reviews and independent government cost estimates.
  - Develop cost estimating training course, and implement training to include independent government cost estimates.
  - Develop historical cost database to improve cost estimating accuracy.
  - Conduct independent cost reviews and independent government estimates.
  - Develop lessons learned from independent cost reviews, and identify corrective actions.
  - Develop policy/guidance on definition, development, and use of escalations rates based on industry and geographic trends.
6. **Improve Acquisition Strategies and Plans:** Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans, and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration. (Corrective Measure 6. Organizational Sponsor: Ed Simpson, Director, Office of Procurement and Assistance Management, Office of Management)
- Review existing directives, policy, and guidance pertaining to development of acquisition strategies, project plans and acquisition plans including integrated project teams; roles and responsibilities of FPDs, Contracting Officers, etc.
  - Review training requirements of FPDs in the Project Management Career Development Program related to the development of acquisition strategies, project plans and acquisition plans and to ensure alignment with responsibilities of performing as a COR.

- Perform a process flow analysis regarding the extent to which program offices do, or do not, integrate project management with contract management in the development of acquisition strategies, project plans, and acquisition plans.
- Perform a benchmark analysis on other Federal agencies regarding the development of acquisition strategies and plans.
- Review and assess output from Corrective Measures 1 – 3 for applicability in resolving the issues under this measure.
- Perform gap analysis to ensure identification of gaps and vulnerabilities in Departmental guidance and procedures which may contribute to, or exacerbate, issues relating to ineffective and/or late acquisition strategies and plans.
- Recommend specific actions to resolve identified gaps and challenges.
- Incorporate approved recommendations.

7. **Improve Project Oversight and Management:** Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities, including field and headquarters integration; establish a project oversight benchmark; and align the program and project organizational structures. (Corrective Measure 7. Organizational Sponsor: Bob Raines, Director of Project Management Systems and Assessments, Office of Engineering and Construction Management, Office of Management)
- Clearly define and document the roles, responsibilities, and authorities for all personnel assigned to various project and contract oversight and management functions within DOE.
  - Identify redundancies and gaps within and between field and headquarters organizations, functions, authorities, and responsibilities.
  - Establish a benchmark of DOE and other federal agency contract and project management organizations and associated roles, responsibilities, and authorities; then compare and contrast these benchmarks to identify gaps and areas of improvement for DOE.
  - Implement changes, if warranted, to organizational structures and functions to improve the effectiveness and efficiency of the management and oversight of contracts and projects, and establish clear ownership responsibility.
  - Establish checklist for performing contract and project oversight (may be in the form of a comprehensive project oversight plan).
  - Ensure accountability of personnel responsible for project oversight functions.
  - Establish project and contract controls requirements, guidelines, and training.
  - Implement standardized project and contract management performance metrics and reporting requirements.
  - Develop and deploy a replacement to the Project Assessment and Reporting System (PARS) information management system.
  - Ensure integration of project and contract management organizations and functions in the performance of oversight.
  - Strengthen existing external independent reviews and internal project reviews to ensure project and contract oversight compliance.

**8. Improve Adherence to Project Management Requirements:** Re-evaluate program and project management policy, guidance, and standards for alignment and consistency. Establish measures and procedures to ensure that all project management requirements are clearly documented and followed and responsible personnel are held accountable. (Corrective Measure 8. Organizational Sponsor: Paul Bosco, Director, Office of Engineering and Construction Management, Office of Management)

- Review various program and project management policies and guidance for consistency; ensure consistent and standard definitions for terms.
- Develop a checklist of all phases of project management to assess compliance with requirements.
- Clearly define and document the roles, responsibilities, and authorities for project management personnel throughout all phases of project management and establish clear ownership responsibility.
- Identify best management practices in DOE programs and document and transfer across and between programs, as appropriate.
- Update DOE Order 413.3A.

#### **IV. Process:**

1. DOE conducts a contract and project management RCA.
2. DOE identifies significant contract and project management deficiencies based on RCA.
3. DOE develops eight focus areas and corrective measures to address identified deficiencies.
4. DOE identifies overarching and specific corrective measure metrics and performance targets.
5. DOE identifies plans of action and milestones for achieving corrective measure metrics and targets.
6. OMB/GAO/DOE concur on corrective measures, metrics, targets, and milestones.
7. DOE implements corrective measures.
8. DOE manages and monitors progress quarterly.
9. DOE reports progress to OMB/GAO with semi-annual meetings and quarterly reports.

#### **V. Responsible Organizations:**

The Director, Office of Management, is responsible for identifying the focus areas, corrective measures, metrics, and overseeing the initiatives cited in this plan. The organizational sponsors are responsible for the development of their corrective measures. The ESC will oversee the entire process, to include implementation.

#### **VI. Goals:**

The Department's goal under this plan is to strengthen the DOE performance in managing contracts and projects as demonstrated by improved project performance. Specific performance goals are provided below:

- ◆ Capital Asset Line Item Projects: Capital asset line item projects will be completed at Critical Decision 4 within the original approved scope baseline and within 10 percent of the original approved cost baseline (Critical Decision 2), unless otherwise impacted by a directed change.<sup>1</sup>

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<sup>1</sup> Directed Change: Changes, as validated by OECM, caused by DOE Policy Directive, Regulatory, or Statutory action. Directed changes, with the exception of policy directives, are external to the Department, to include external funding reductions. (Directed change decisions will be reviewed and validated by OMB periodically.)

Baselines impacted by a directed change will have adjusted baselines established. On a project portfolio basis, 90 percent of DOE line item projects will meet the project success definition benchmark.

- ◆ EM Cleanup (Soil and Groundwater Remediation, D&D, and Waste Treatment and Disposal) Projects: EM cleanup projects will be completed by achieving at least 80 percent of the defined near-term baseline end-state scope (Critical Decision 2) with less than a 25 percent cost variance from the original approved baseline, unless impacted by a directed change. On a project portfolio basis, 90 percent of EM cleanup projects will meet the project success definition benchmark.

## VII. Metrics, Baselines, and Fiscal Year Targets.

### 1. Overall Performance Metrics and Targets

The three metrics included in Table B-1 are the Department’s overarching primary metrics to monitor progress towards achieving success. DOE’s primary goal is to improve contract and project management over time, and the secondary goal is to be removed from GAO’s High Risk List for “Contract Management.” Relative to this secondary goal, the emphasis will be on the three primary deficiencies noted within the GAO report; namely “inadequate management and [inadequate] oversight of contractors and failure to hold contractors accountable.” These metrics represent the yardstick towards achieving the goals while recognizing that some of these stretch goals may not be achieved in the near term. They are meant to demonstrate that the Department has the capacity (people and resources) to resolve the past contract and project management problems and that, over time, can monitor and independently validate the effectiveness and sustainability of the corrective measures.

Table B-1 – Overall Contract and Project Management Performance Metrics and Targets					
Contract/Project Management Performance Metrics	FY 2008	FY 2009 Target	FY 2010 Target	FY 2011 Target	FY 2012 Target
<b>Capital Asset Line Item Projects:</b> Capital asset line item projects will be completed at Critical Decision 4 within the original scope baseline and within 10 percent of the original approved cost baseline (Critical Decision 2), unless otherwise impacted by a directed change. Baselines impacted by a directed change will have adjusted baselines established. On a program portfolio basis, 90 percent of DOE line item projects will meet the project success definition benchmark.	75% <sup>2</sup>	80%	85%	90%	-

<sup>2</sup> The performance targets are based on a three-year rolling average of projects reaching CD-4. The FY 2008 target is based on projects reaching CD-4 in the 2006 – 2008 time frame. Subsequent FY targets include projects reaching CD-4 in the respective subsequent three years.

**Table B-1 – Overall Contract and Project Management Performance Metrics and Targets**

<b>Contract/Project Management Performance Metrics</b>	<b>FY 2008</b>	<b>FY 2009 Target</b>	<b>FY 2010 Target</b>	<b>FY 2011 Target</b>	<b>FY 2012 Target</b>
<b>EM Cleanup (Soil and Groundwater Remediation, D&amp;D, and Waste Treatment and Disposal) Projects:</b> EM cleanup projects will be completed by achieving at least 80 percent of the defined near-term baseline end-state scope (Critical Decision 2) with less than a 25 percent cost variance from the original approved baseline, unless impacted by a directed change. On a program portfolio basis, 90 percent of EM cleanup projects will meet the project success definition benchmark. <sup>3</sup>	Establish Baseline <sup>4</sup>	Establish Baseline <sup>4</sup>	70% <sup>4</sup>	80%	90%
<b>Certified EVM Systems:</b> For projects post CD-3, by the end of FY 2011 and FY 2012, 95% of cost reimbursable capital asset line item projects (greater than \$20 million) and cost reimbursable EM cleanup projects, respectively, use certified EVM systems. <sup>5</sup>	65% Line Item	85% Line Item	90% Line Item	95% Line Item	-
	55% EM	65% EM	75% EM	85% EM	95% EM

## 2. Corrective Measure Performance Metrics and Targets

With some exceptions, the metrics included in Table B-2 are the Department’s secondary metrics to measure progress towards achieving the corrective measure end state. These end states goals may change as more information becomes available. This will not detract from their intended purpose; namely, to monitor progress of the corrective measure. In that context, they will not necessarily be used to gauge improvements in contract and project management. The lack of achievement of these goals should not and will not detract from the ultimate benchmark of project success. They will serve as management indicators and help focus management’s attention and resources, as appropriate.

<sup>3</sup> The EM Cleanup Project performance metric will be reviewed within two years and revised to be more consistent with the Capital Asset Line Item Project performance metric, if appropriate.

<sup>4</sup> The three-year rolling average will be established in FY 2010 (the first three-year’s worth of data will be available) in concert with revising the EM Cleanup Project performance metric.

<sup>5</sup> Cost reimbursable capital asset projects (greater than \$20 million) and cost reimbursable EM cleanup projects currently use EVM systems no later than CD-3. The focus of this metric is to certify the EVM systems being used in accordance with ANSI/EIA-Standard-748. The Department currently uses EVM systems on 100% of their cost contracts. This metric is focused on certifying these EVM systems. These goals are based on a projected increase in EVM system certification funding.

**Table B-2 – Corrective Measure Performance Metrics and Targets**

<b>Contract/Project Management Performance Metrics</b>	<b>FY 2008</b>	<b>FY 2009 Target</b>	<b>FY 2010 Target</b>	<b>FY 2011 Target</b>	<b>FY 2012 Target</b>	<b>FY 2013 Target</b>
<b>Corrective Measure 1:</b> By the end of FY 2011, 80% of projects (greater than \$100 million) will use PDRI methodologies no later than CD-2.	Establish Baseline	50%	65%	80%	-	-
<b>Corrective Measure 1:</b> By the end of FY 2011, all projects (greater than \$750 million [i.e., Major System Projects]) applying new technology, as appropriate, will implement technology readiness assessment methodologies no later than CD-2.	Establish Baseline	50%	70%	80%	-	-
<b>Corrective Measure 2:</b> By the end of FY 2011, federal contract and project management positions (based on new model) are staffed at 80% of the desired level. <sup>6</sup>	Start New Staffing Model	50%	65%	80%	-	-
<b>Corrective Measure 2:</b> By the end of FY 2011, 95% of projects have certified FPDs no later than CD-1.	85%	90%	93%	95%	-	-
<b>Corrective Measure 2:</b> By the end of FY 2011, 90% of projects have FPDs certified at the appropriate level assigned to projects no later than CD-3.	80%	85%	88%	90%	-	-
<b>Corrective Measure 2:</b> By the end of FY 2011, 85% of the 1102 contracting series will be certified.	78% <sup>7</sup>	80%	83%	85% <sup>8</sup>	-	-
<b>Corrective Measure 3:</b> By the end of FY 2011, for all capital asset line item projects that are completed at CD-4, 50% are completed below their currently approved TPC with some contingency and/or management reserve remaining.	Establish Baseline	25%	40%	50%	-	-
<b>Corrective Measure 4:</b> By the end of FY 2013, 80% of capital asset line item projects (less than \$50 million) are fully funded in one Fiscal Year (one Appropriation). <sup>9</sup>	N/A	N/A	N/A	80% of Projects <\$20M	80% of Projects <\$35M	80% of Projects <\$50M
<b>Corrective Measure 5:</b> By the end of FY 2010, establish and staff (at 80% of authorized FTEs) a cost estimating and analysis organization in the Chief Financial Officer, Office of Cost Analysis (CF-70) organization.	20%	50%	80%	-	-	-

<sup>6</sup> Staffing contract and project management positions requires personnel with the required training and certification. The 80% staffing goal takes into consideration competing private sector employment opportunities and the remote geography of several DOE locations.

<sup>7</sup> During FY 2008, DOE transitioned from the DOE Acquisition Career Development Program to the Government-wide Federal Acquisition Certification–Contracting (FAC-C). The transition to the new FAC-C is reflected in the FY 2008 target.

<sup>8</sup> The percentage of certified 1102 series employees fluctuates significantly with changes in personnel due to the normal and expected cycles in attrition and hiring. It is also dependent on the actual level of funding made available for training. In FY 2011, the target will be reevaluated for possible increase in FY 2012 and beyond. We understand that 85% is the recognized target for DoD acquisition workforce certification and believe that it is an appropriate target for the DOE acquisition program. DOE’s Acquisition Career Management Program was modeled after the DoD/DAWIA program.

<sup>9</sup> This is a proposed metric based on a new established policy, if instituted.

**Table B-2 – Corrective Measure Performance Metrics and Targets**

<b>Contract/Project Management Performance Metrics</b>	<b>FY 2008</b>	<b>FY 2009 Target</b>	<b>FY 2010 Target</b>	<b>FY 2011 Target</b>	<b>FY 2012 Target</b>	<b>FY 2013 Target</b>
<b>Corrective Measure 5:</b> By the end of FY 2011, 80% of contract awards are within plus or minus 25% of independent government cost estimates.	Establish Baseline	70%	75%	80%	-	-
<b>Corrective Measure 6:</b> By the end of FY 2011, achieve a contract specialist to contract value ratio of 1 per \$X* million or less. * The staffing study will establish the appropriate benchmark factor “X” to be applied.	start staffing study	1 per \$2.0XM or less	1 per \$1.5XM or less	1 per \$XM or less	-	-
<b>Corrective Measure 7:</b> By the end of FY 2012, achieve a FPD (including Deputy FPD(s), as applicable) to annual work in place ratio of 1 per \$X* million or less, and/or in accordance with the staffing study. * The staffing study will establish the appropriate benchmark factor “X” to be applied.	start staffing study	1 per \$2.5XM or less	1 per \$2.0XM or less	1 per \$1.5XM or less	1 per \$XM or less	-
<b>Corrective Measure 7:</b> For projects post CD-3, by the end of FY 2011 and FY 2012, 95% of cost reimbursable capital asset line item projects (greater than \$20 million) and cost reimbursable EM cleanup projects, respectively, use certified EVM systems.	65% Line Item	85% Line Item	90% Line Item	95% Line Item	-	-
	55% EM	65% EM	75% EM	85% EM	95% EM	-
<b>Corrective Measure 7:</b> By the end of FY 2011, on a program portfolio basis, 90% of all projects will meet the project schedule metric that follows: from CD-3 to CD-4, for projects less than five years in duration, they will be completed within 12 months of the original CD-3/4 duration. <sup>10</sup>	75%	80%	85%	90%	-	-
<b>Corrective Measure 7:</b> By the end of FY 2011, on a program portfolio basis, 90% of all projects will meet the project schedule metric that follows: from CD-3 to CD-4, for projects greater than five years in duration, they will be completed within 20% of the original CD-3/4 duration. <sup>10</sup>	75%	80%	85%	90%	-	-
<b>Corrective Measure 8:</b> By the end of FY 2011, 95% of projects have certified FPDs no later than CD-1.	85%	90%	93%	95%	-	-

<sup>10</sup> The project schedule metric will be revisited within two years and revised, as appropriate. In the case of CD-3, for actions that have been tailored (i.e., CD-3A, CD-3B, etc.), the duration clock starts at the first increment (i.e., CD-3A). This metric will be based on a three-year rolling timeline of projects reaching CD-4. The FY 2008 target is based on projects reaching CD-4 in the FY 2006 – 2008 timeframe.

**Table B-2 – Corrective Measure Performance Metrics and Targets**

<b>Contract/Project Management Performance Metrics</b>	<b>FY 2008</b>	<b>FY 2009 Target</b>	<b>FY 2010 Target</b>	<b>FY 2011 Target</b>	<b>FY 2012 Target</b>	<b>FY 2013 Target</b>
<b>Corrective Measure 8:</b> By the end of FY 2011, 90% of projects have FPDs certified <u>at the appropriate level</u> assigned to projects no later than CD-3.	80%	85%	88%	90%	-	-
<b>Corrective Measure 8:</b> For projects post CD-3, by the end of FY 2011 and FY 2012, 95% of cost reimbursable capital asset line item projects (greater than \$20 million) and cost reimbursable EM cleanup projects, respectively, use certified EVM systems.	65% Line Item	85% Line Item	90% Line Item	95% Line Item	-	-
	55% EM	65% EM	75% EM	85% EM	95% EM	-

**VIII. Major Initiatives:**

To improve contract and project management, the Department will take the following actions associated with each corrective measure.

1. Establish and implement measures to ensure adequate project requirements definition is accomplished before a project performance baseline is established. This would include defining planning benchmarks, ensuring adequate resource allocation, and conducting third-party reviews prior to project approval, additional funding authorization, and project execution.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Develop tailored Prototype Project Definition Rating Index (PDRI) applications	6/9/08	2/13/09	
Pilot prototype PDRIs	2/16/09	6/19/09	
Develop final PDRI applications	6/22/09	10/23/09	
Integrate PDRI with Energy Systems Acquisition Advisory Board (ESAAB) process	10/26/09	1/15/10	
Develop and conduct PDRI training	10/26/09	7/2/10	
Develop DOE-wide technology readiness level (TRL) model	6/9/08	11/21/08	
Pilot TRL applications	11/24/08	3/27/09	
Revise TRL model	3/30/09	6/19/09	
Integrate TRL with ESAAB process	6/22/09	9/11/09	
Develop and conduct TRL training	9/14/09	2/26/10	
Provide input for DOE O 413.3 revision	10/26/09	5/21/10	

2. Develop and implement a comprehensive federal staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum contract and project management federal workforce.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Develop communications strategy	6/16/08	12/31/08	
Review existing documents, benchmark, compile gap analysis	6/30/08	10/6/08	
Develop staffing model	9/15/08	10/20/08	
Develop high-level policy strategies for acquisition, retention and training of personnel	8/18/08	10/1/08	
Develop resourcing alternatives	10/20/08	12/29/08	
Refine metrics and plan of measurement	11/24/08	12/29/08	

3. Establish objective, uniform methods for assessing, communicating, and managing project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development, and use of management reserve and contingency.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Complete risk guidance	1/5/09	7/3/09	
Make available Risk Management tools	2/5/09	9/4/09	
Review/evaluate current practices. Identify gaps/issues in processes.	2/5/09	7/4/09	
Develop risk analysis and management standards.	5/5/09	8/4/09	
Review and revise risk training curriculum.	6/5/09	9/4/09	

4. Improve the alignment and integration of cost baselines with budget funding profiles to account for federal budget fiscal realities and to ensure uninterrupted project execution. Enhance project and program prioritization and associated resource allocation to minimize negative impacts to the performance baseline.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Establish policy and procedures for improved incremental funding profiles and full funding for smaller projects	7/15/08	9/15/08	
Develop funding policy recommendation for next revision of DOE O 413.3A	8/1/08	10/31/08	
Establish consistent protocol for the definition, development, funding, and use of management reserve and contingency as a key part of the policy and guidance on project cost estimation	1/2/09	2/27/09	
Analyze impacts of Continuing Resolution and incremental funding to determine possible cost savings.	1/2/09	2/27/09	
Develop new policy that balances the impact of forward funding and the impact of unobligated balances	2/2/09	3/31/09	
Add assessment of project affordability in baseline validation/approval	9/1/08	12/20/08	

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Propose process improvement for strengthening project funding discipline	3/2/09	4/30/09	
Incorporate funding policy in budget guidance	7/15/08	12/20/08	

5. Establish and implement a federal independent government cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labor and material databases.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Develop CF-70 staffing plan	6/30/08	9/30/08	
Establish Cost Estimating order and manual	7/1/08	12/2/08	
Improve cost estimating training	12/3/08	6/1/09	
Develop initial cost estimating database	7/1/08	6/1/09	
Complete first independent cost review	6/1/08	2/28/09	
Perform at least four cost estimating reviews and independent government estimates	6/1/08	12/2/09	

6. Strengthen the commitment to federal ownership by aligning and integrating acquisition strategies and acquisition plans, and project plans; clearly define roles and responsibilities, enhance integrated project teams participation, and ensure accountability for ownership and integration.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Review existing directives, policy, guidance	1/12/09	2/13/09	
Review training requirements of FPDs and CORs	2/16/09	3/20/09	
Perform a process flow analysis to integrate project management with contract management	3/23/09	4/24/09	
Perform a benchmark analysis on other Federal agencies	4/27/09	5/15/09	
Review and assess output from Corrective Measures 1 – 3	5/18/09	6/5/09	
Perform gap analysis	6/8/09	6/26/09	
Recommend specific actions	6/29/09	7/10/09	
Incorporate approved recommendations	7/13/09	9/11/09	

7. Identify and implement opportunities to improve the management and oversight of projects; clarify federal project management roles, responsibilities, and authorities; establish a project oversight benchmark; and align the program and project organizational structures.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Review current directives, orders, guides	7/6/09	8/14/09	
Benchmark other agencies (organizational structure, roles and responsibilities)	8/17/09	11/6/09	
Benchmark private sector	11/9/09	1/8/10	
Perform gap analysis	1/11/10	3/12/10	
Procure Project Assessment and Reporting System (PARS) 2	7/6/09	2/12/10	

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Pilot PARS 2	2/15/10	8/16/10	
Strengthen contractor accountability with new award fee protocol	3/15/10	2/11/11	
Full deployment of PARS 2	8/17/10	4/25/11	

8. Re-evaluate program and project management policy, guidance, and standards for alignment and consistency. Establish measures and procedures to ensure that all project management requirements are clearly documented and followed and responsible personnel are held accountable.

<b>Plan of Action</b>	<b>Start</b>	<b>Finish</b>	<b>Status</b>
Establish a project management policy, guidance, and standards directory on OECEM website	11/1/08	4/1/09	
Develop checklist and/or flowcharts for all project management phases	12/1/08	6/1/09	
Identify best management practices	12/1/08	6/1/09	
Define and document roles, responsibilities, and authorities for project management personnel	6/1/09	11/6/09	
Develop draft A update of DOE Order 413.3	12/1/08	12/1/09	
Develop draft B update of DOE Order 413.3	1/1/10	4/1/10	
Issue update of DOE Order 413.3	4/1/10	9/30/10	

#### **IX. Methodology for Evaluation:**

The Director of the Office of Engineering and Construction Management is responsible for measuring and reporting the validity of data for each corrective measure and for tracking progress. The DOE organizational sponsor will provide quarterly updates to the Executive Steering Committee, and OECEM will facilitate semi-annual and quarterly reviews with external stakeholders (GAO and OMB) as requested.

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