



U.S. DEPARTMENT OF
ENERGY

Continuous Improvement in Project Management

*Gary Riner
Office of Project Management
Environmental Management*

*Meeting of the
Environmental Management Advisory Board
September 15, 2010*



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The How: Management Goals

Goal

Improve project and contract management with the objective of delivering results on time, within cost, and with world class technical competencies, so that EM is viewed as one of the federal government's best managed programs

Key Strategies

- **Restructure the EM Portfolio to accurately reflect capital projects and operations**
- **Partner with the National Laboratories and the Corps of Engineers to enhance EM's science, engineering and construction capabilities**
- **Develop a Partnering Policy to transform contract management across EM**
- **Establish an X-Team to develop the Next Generation Acquisition Strategy**

Key Success Indicators

- **Projects are delivered on cost and schedule (cost and performance indices are between 0.9 and 1.15)**
- **Projects and contracts are aligned**
- **Program performance metrics are met or exceeded**
- **Removal of EM from the GAO High Risk Watch List**
- **Reduced time to process EM procurements**



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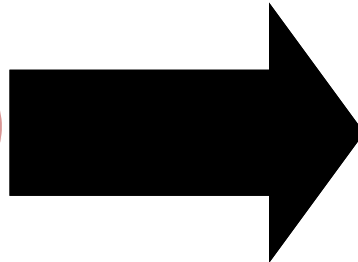
EM Portfolio Restructuring Complete

Pre-Restructuring

***60 Project
Baseline
Summaries***

***4 Line-Item
Construction
Projects***

***1 Clean-up
Construction
Project***



Post-Restructuring

***48 Clean-up Projects
(Base and ARRA)***

***14 CD-0/CD-1 Capital Asset Projects
(Line-Item/Clean-Up)***

4 Line-Item Construction Projects

***6 Clean-Up Construction Projects
(Base and ARRA)***

***90 Operations Activities
(Base and ARRA)***



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Project Management Partnership

- **The detailed staffing estimates were completed by the US Army Corp of Engineers (USACE) for the following projects:**
 - **Waste Treatment Plant**
 - **Salt Waste Processing Facility**
 - **U-233 Disposition Project**
 - **East Tennessee Technology Park – K-25 D&D**
- **Project Management Partnership continues to provide 60+ project controls and cost engineering resources for EM construction and capital asset projects.**
- **USACE awarded contracts to new firms in July and will begin providing additional types of resources in the areas of design review, construction management, quality assurance, and engineering and technical services in FY11.**



Technical Expert Group (TEG)

Areas of Assistance

Field :

- Mentoring Federal Project Directors on Technology Issues***
- Assessment of Integrated Project Teams Technical Capabilities***
- Defense Nuclear Facilities Safety Board***

Types of Reviews:

- Construction Project Reviews***
- Technical Readiness Assessments***
- Design Reviews***
- External Independent Reviews***
- Independent Project Reviews***

TEG

Mitigation of Technical Risks:

- Review of Reports***
- Lessons Learned***
- Unknown/First-of-a-Kind Technologies***

Other:

- Quality Assurance/Quality Control Issues***
- Upfront Planning***
- EMAAB Ad-Hoc Member (Technology Issues)***



Construction Project Reviews (CPRs)

Construction Projects with at least one CPR

- Waste Treatment Plant (WTP)
- Sodium Bearing Waste Treatment (SBWT)
- Salt Waste Processing Facility (SWPF)
- DUF 6
- U-233 Disposition (U-233)
- Plutonium Preparation (PuPP)

Clean-Up Projects with at least one CPR

- East Tennessee Technology Park – K-25 D&D
- SPRU

Upcoming CPRs for next three months

- U-233
- Savannah River Site – Tank 48
- DUF6
- SBWT
- WTP



Project Assessment and Reporting System (PARS) II

- **PARS II is intended to provide more timely, accurate, consistent, and auditable project information**
- **PARS II Implementation will be completed by the end of Fiscal Year 2010**
- **All Contractor and Federal Staff will complete PARS II training by September 15.**
- **EM is working with OECEM to identify future projects with new contractors for PARS II deployment.**



Lessons Learned

- The Department recently released **DOE Guide 413.3-11, *Project Management Lessons Learned***, to encourage compilation and dissemination of lessons learned throughout DOE project lifecycles from CD-0 through CD-4.
- FPDs and contractor project managers will be able to capture, check, learn and close lessons learned during the execution of the Department's projects.
 - ❑ *This guide is especially for Project Management Lessons Learned associated with the non-operational phase of a facility during construction.*
 - ❑ *DUF 6 developed and presented the first Lessons Learned Report at the 2009 FPD Workshop.*



Portfolio Success Metric

How Will We Define Success?

- Portfolio Success Per Root Cause Analysis

| Total EM Forecast FY10, FY11 and FY12 Completions | | | | | | | | | | |
|---|--------------------|--------------|-----------|-----------|-----------------------------------|---------------------------------|--------------------------------------|----------------|------------------------------------|--------------|
| Fiscal Year | Number of Projects | Base Program | ARRA | Line Item | Line Item Success per RCA Metrics | Cleanup Success per RCA Metrics | Line Item Project Success Percentage | Line Item Goal | Cleanup Project Success Percentage | Cleanup Goal |
| FY10 * | 6 | 5 | 1 | 0 | 0 | 6 | N/A | 85% | 100% | 70% |
| FY11 ** | 39 | 5 | 32 | 2 | 0 | 34 | 0% | 90% | 92% | 80% |
| FY12 | 9 | 5 | 4 | 0 | 0 | 8 | 0% | 90% | 89% | 90% |
| Total | 54 | 15 | 37 | 2 | 0 | 48 | 0% | | 92% | |

* EM forecasts that 2 projects will be accelerated and completed in FY10

** EM forecasts that 3 projects will be accelerated and completed in FY11



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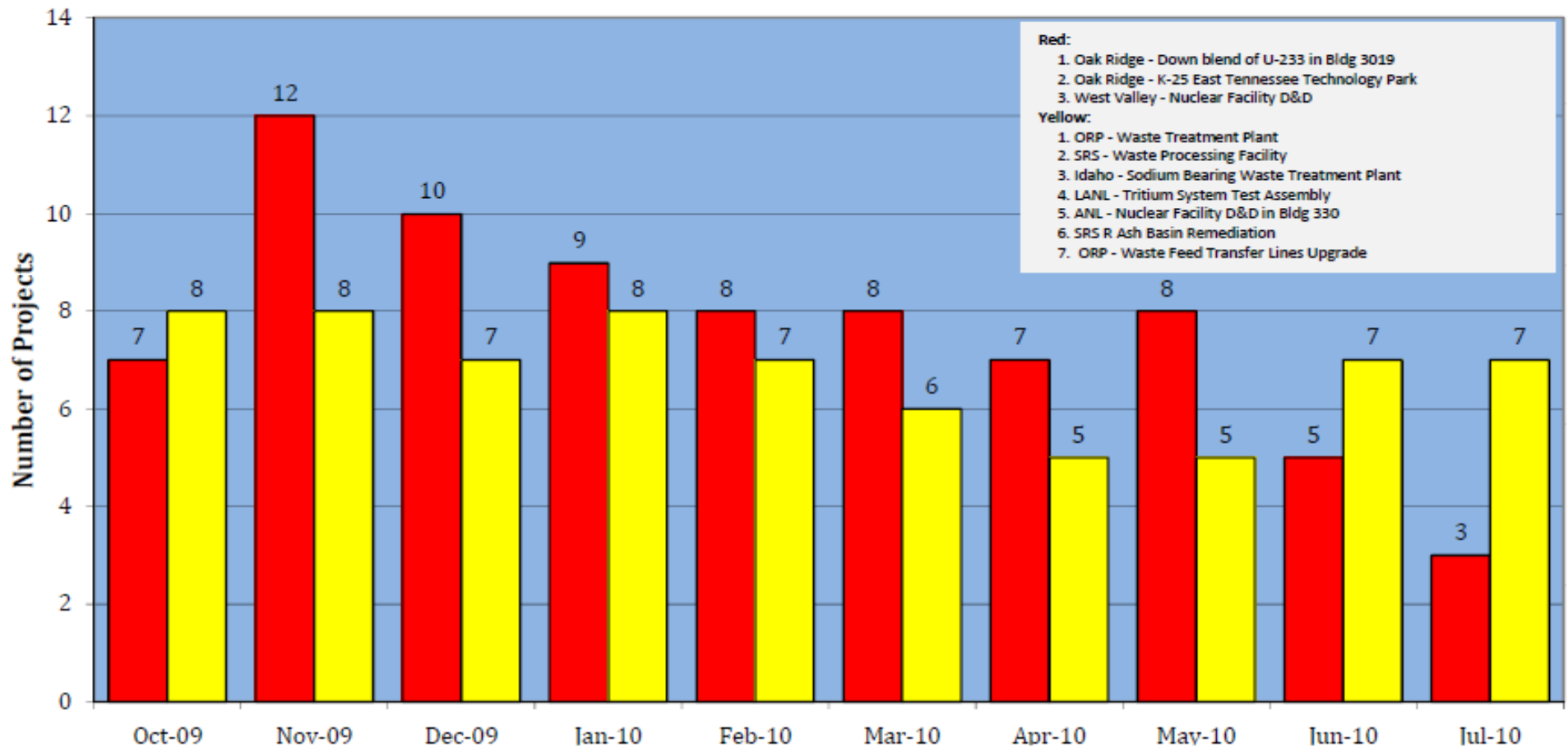
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RED and YELLOW Projects As Rated by OECM

- From November 2009 to July 2010, the number of Red and Yellow projects decreased from 12 to 3 and 8 to 7, respectively.

59 Projects Evaluated



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Certified EVMS Metric

How Will We Define Success?

- **Portfolio Success Per Root Cause Analysis**
 - In FY 2008, less than 50% of contracts managing capital asset projects were EVMS certified.

| Earned Value Management System Metrics | | | | | | | |
|--|------------|-----------|------------|-----------------|------------|------|------|
| Cumulative-to-Date | | | | Projected Total | DOE Goal | | |
| | # Projects | EV Cert | % Complete | % Complete | % Complete | | |
| | | | 11/13/2009 | 9/30/2010 | 2010 | 2011 | 2012 |
| Line Item | 8 | 7 | 88% | 88% | 90% | 95% | 95% |
| Clean-up | 79 | 68 | 86% | 95% | 75% | 85% | |
| Total | 87 | 75 | 86% | 94% | | | |



Federal Project Director Metrics

How Will We Define Success?

- Portfolio Success Per Root Cause Analysis

| Corrective Measure Performance Metrics and Targets | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Contract/Project Management Performance Metrics | FY 09 Actual | FY 09 Target | FY 10 Actual | FY 10 Target | FY 11 Target | FY 12 Target | FY 13 Target |
| <i>Corrective Measure 2: By the end of FY 2011, 95% of projects have certified FPDs no later than CD-1.</i> | 96% | 90% | 99% | 93% | 95% | - | - |
| <i>Corrective Measure 2: By the end of FY 2011, 90% of projects have FPDs certified at the appropriate level assigned to projects no later than CD-3.</i> | 58% | 85% | 92% | 88% | 90% | - | - |



Summary

- **EM is committed to continuous improvement of project management and removal from the GAO High-Risk List**
- **The objective is delivering results on time, within cost, and with world class technical competencies, so that EM is viewed as one of the federal government's best managed programs**
- **EM continues to make progress in implementing key improvement strategies and in achieving success metrics**



Backup Slides



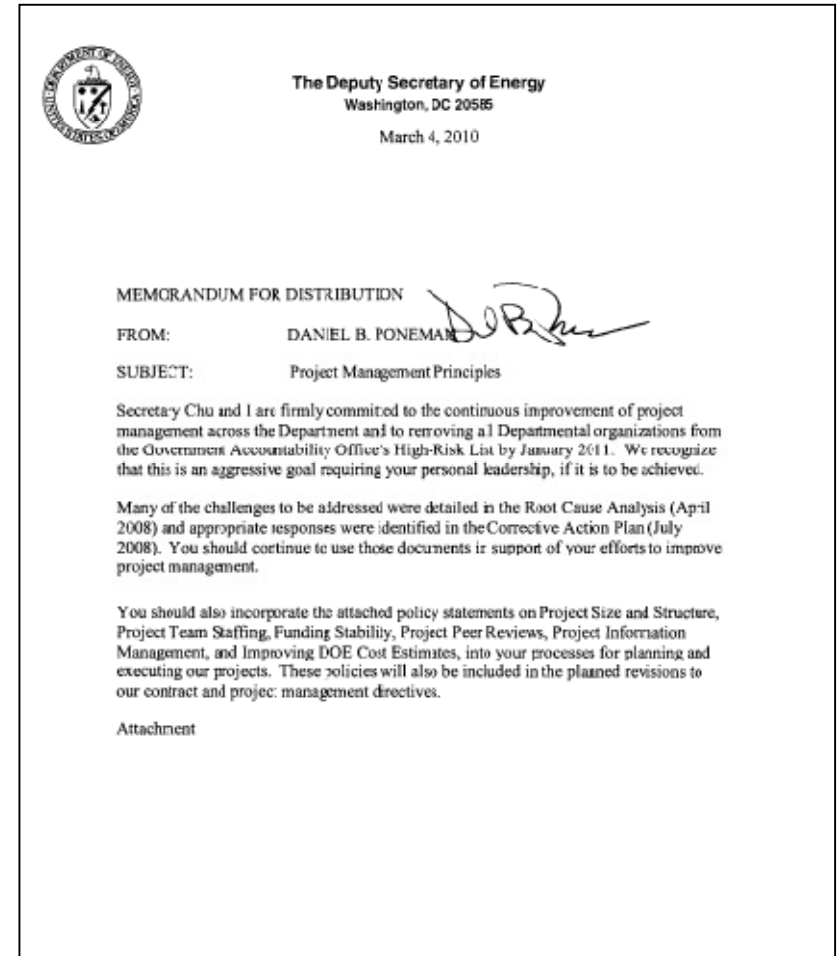
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DOE Project Management Principles

- March 4, 2010, policy memorandum from Deputy Secretary Poneman issued project management principles for DOE
- DOE senior leadership commitment
 - Continuous improvement of project management
 - Removing all DOE organizations from the Government Accountability Office's High-Risk List by January 2011



Maintain Being Off the GAO High-Risk List

EM Performance

What We Do

(EM's Reason for Being)

- EM Mission
- Program Priorities
- Program Goals, Key Strategies, Key Success Indicators
- Program Implementation



How We Do It

(Managing How We Perform)

- Key Guiding Principles (Rules of the Road)
- Management Goals, Key Strategies, Key Success Indicators
- Measurement and Evaluation Systems
- Cultural Support Systems

Are we doing the right things?

Are we doing the right things well?



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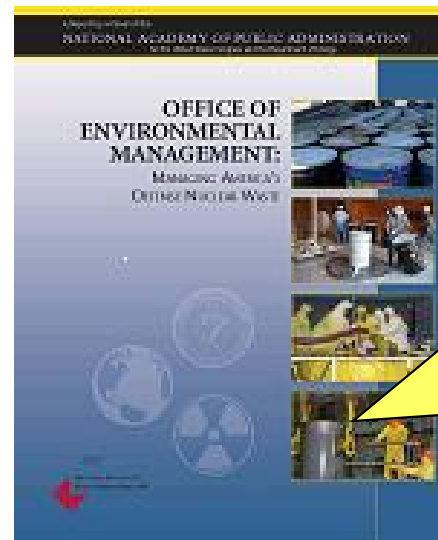
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The How: Management Goals

Program success depends on the success of these critical *Management Goals*:

1. Improve safety performance
- 2. Improve project and contract management**
3. Excellence in management and leadership



“EM is on a solid path to becoming a high-performing organization.”

--National Academy of Public Administration



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EM's Operations Programs Protocol

Metrics and Program Reporting Requirements

- Performance Metrics
- Monthly Performance Reports Submitted to IPABS: Cost, Schedule, Metrics, Milestones
- Quarterly Reporting/Mid-Year Review



Life-Cycle Planning

- Increases to LCC and New Scope additions controlled by EM-1
- Maintain EM Environmental Liability Costs in IPABS
- Identify future Capital Asset scope



Current Baseline

- Establish Operations Program Control Board (OPCB)
- Baseline tied to Contract
- PMP for execution of Operations Activities



Other Requirements

- DOE O 413.3A applied in a tailored manner
- Project-like activities vs Level-of-Effort activities
- Operations Activities must tie to the EM Corporate WBS



Identification of Performance Metrics

Life Cycle Metrics (Corporate)

Contract Metrics

Tank Waste

Liquid Waste
Eliminated

✓ **Retrieve C-Farm Sludge (Kgal)**

C-101: 88
C-102: 316
C-103: 2
C-104: 259
C-105: 132
C-106: 3
C-107: 247
C-108: 7
C-109: 718
C-110: 177
C-111: 57
C-112: 104

Annual Metric

Gallons of
waste retrieved
C-104—259 Gallons

Tanks Closed

- ✓ **C-Farm Retrievals
Complete: (9/2014)**
✓ **C-Farm Closed 2019**

SST ready for closure -1

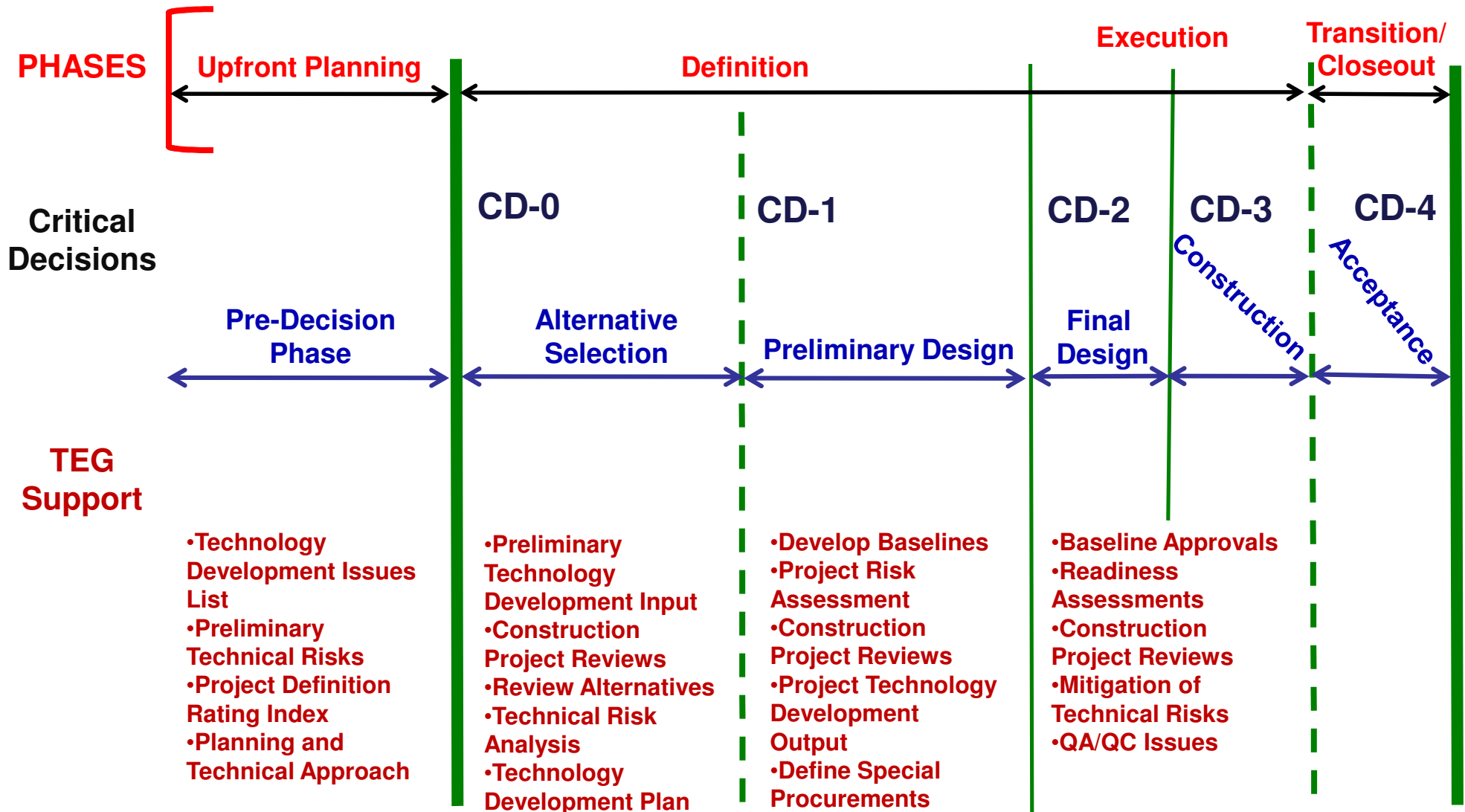


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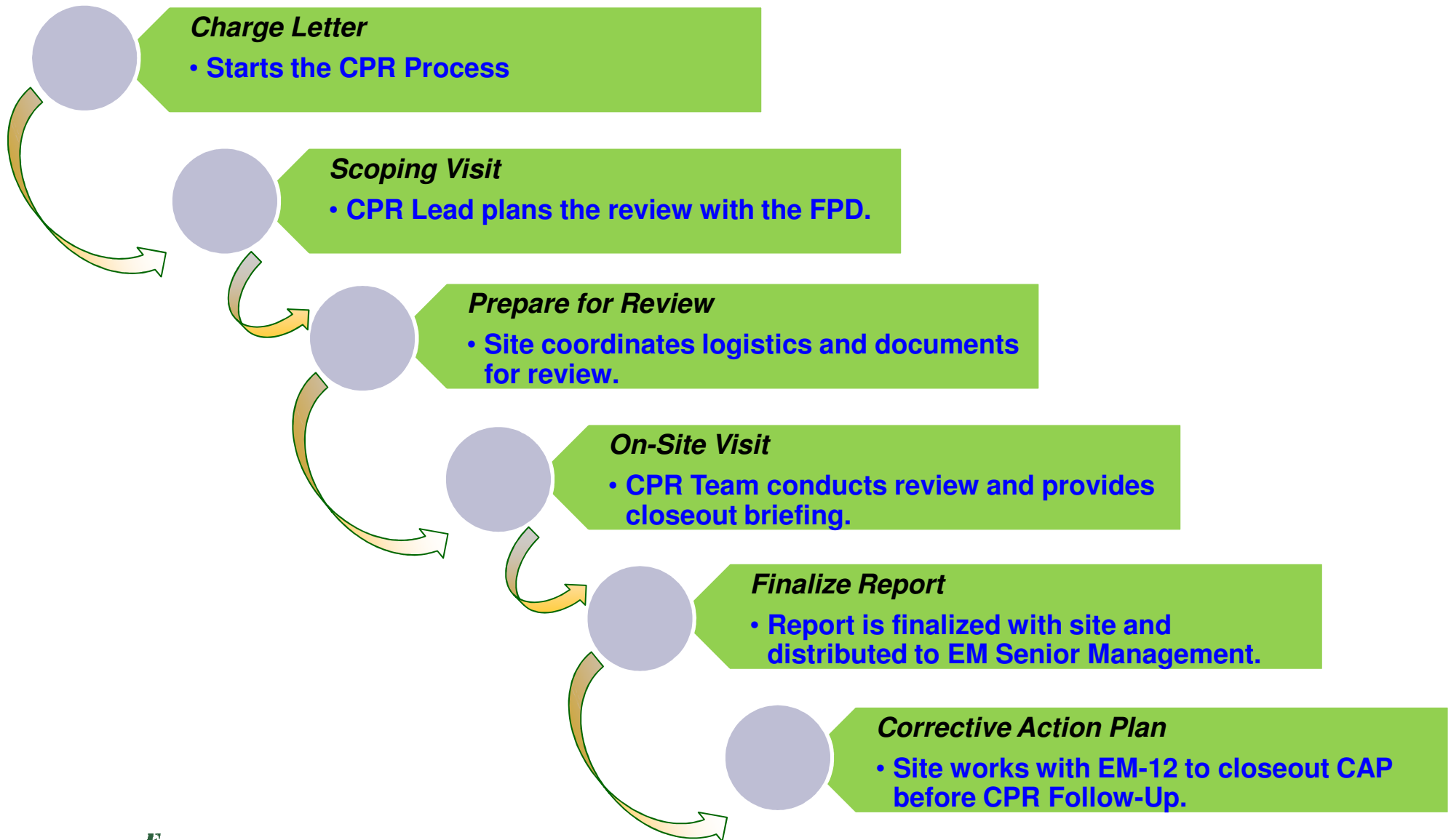
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TEG Support – Project Phases



Construction Project Reviews (CPRs)



Standard Review Plan (SRP) Modules

- **The SRP Modules have been implemented as a practical tool for the EM Federal Project Directors, Integrated Project Teams, Technical Authority Board, and Senior Management to ensure that issues and risks that could challenge the success of EM projects are identified early and proactively addressed.**
- **The SRP Modules can be found at the link below:**
<http://www.em.doe.gov/Pages/StandardReviewPlanModules.aspx>



The What: Program Goals

Goal 1

Timely completion of tank waste treatment facilities

Key Strategies

- Conduct routine Construction Project Reviews and aggressively implement recommendations and/or corrective actions
- Partner with the National Laboratories and the Corps of Engineers to enhance EM's science, engineering and construction capabilities

Key Success Indicators

- Project cost and performance indices are in the range of 0.9 and 1.15
- Construction projects are delivered within the cost and schedule of current baselines



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The What: Program Goals

Goal 2

Complete disposition of 90% of legacy Transuranic (TRU) waste by 2015

Key Strategies

- **Centralize in Idaho the characterization of small quantity sites' waste to be shipped to WIPP**
- **Expand Central Characterization capabilities**
- **Process and dispose of Large Box TRU**

Key Success Indicators

- **Continue aggressive progress: 30 contact-handled shipments and 5 remote shipments per week**
- **Complete disposal of legacy defense TRU from small quantity sites**



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The What: Program Goals

Goal 3

Reduce the EM Footprint: 40% by 2011, leading to 90% by 2015

Key Strategies

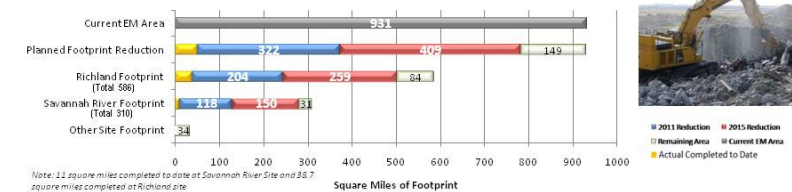
- Utilize \$6 billion from the American Recovery and Reinvestment Act (ARRA)
- Working with regulators and stakeholders to develop a joint vision of compliance and cleanup
- Focus on completion of EM activities (TRU, LLW, soil and ground water, and D&D)

Key Success Indicators

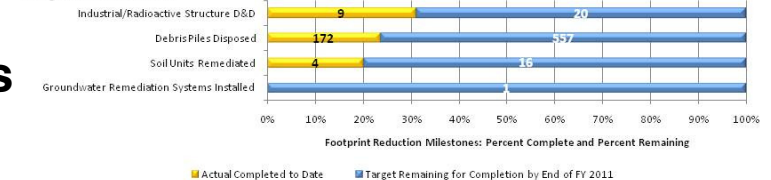
- Reduction in active EM footprint from 931 to approximately 560 square miles by FY2011 leading to approximately 90 square miles by 2015
- Delivering on our compliance commitments
- Acceleration of legacy cleanup at BNL, SLAC and SPRU to allow completion by FY2011

High Priority Performance Goal – EM Legacy Waste (Footprint Reduction)

Planned Completions by Year and Site



Progress Milestones



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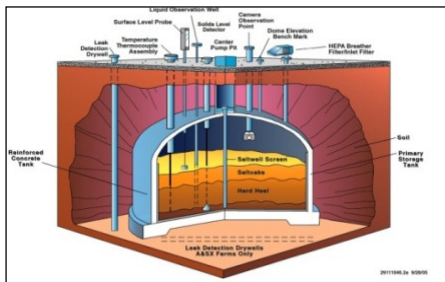
The What: Program Goals

Goal 4

Reduce the life cycle costs and accelerate the cleanup of the Cold War legacy

Key Strategies

- Use science and technology to enhance current clean-up approaches
- Review of budget and prioritization
- Identify strategic investments for enhancing tank waste treatment and disposition
- Work with regulators and stakeholders to develop a joint vision of compliance and cleanup
- Develop strategic options for disposition of SNF and SNM



Key Success Indicators

- Development of an EM Strategic Investment Portfolio
- Acceleration of cleanup schedule
- Reduction in EM's environmental liability and life cycle cost



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The How: Management Goals

Goal 5

Improve safety and quality performance towards a goal of zero accidents, incidents and defects

Key Strategies

- **Implementation of effective Integrated Safety Management System and Quality Assurance Program**
- **Use sound science and engineering along with developing a proactive relationship with the Defense Nuclear Facilities Safety Board (DNFSB) to avoid or expeditiously resolve Board concerns and issues**

Key Success Indicators

- **Maintain an EM average Total Recordable Case (TRC) Rate of <1.5 and a Days Away from work, Restricted work or Transfer Rate (DART) of <0.7**
- **Reduced rework and nonconformance**
- **Reduced number of DNFSB concerns, and reduced amount of time to adequately address any DNFSB concerns or issues received**



The How: Management Goals

Goal 7

Achieve excellence in management and leadership with the objective of making EM an employer of choice in the federal government

Key Strategies

- **Organizational Alignment that defines roles/responsibilities**
- **Create a seamless Headquarters and field operation through the standardization of all EM business practices**
- **Utilize outward looking X-Teams throughout the organization**
- **Promote diversity in the workforce**
- **Support an Ombudsman Program to provide candid communication throughout the EM organization**
- **Establish an Organizational Climate Group to foster EM-wide improvement in the work environment**
- **Through enhanced training practices, ensure that all employees are continuously improving their skill sets**
- **Utilize 360 degree assessment for all managers and supervisors**



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The How: Management Goals

Goal 7 (continued)

Achieve excellence in management and leadership with the objective of making EM an employer of choice in the federal government

Key Success Indicators

- **The Annual Performance Agreement with the Assistant Secretary links all employees to the organization program and management goals**
- **The EM-wide annual surveys demonstrates that employees:**
 - **Feel valued**
 - **Have a clear understanding of their roles and responsibilities**
 - **Believe that EM is characterized by effective decision-making**
 - **Believe that organizational communication is inclusive**
 - **Believe the chain of command is aligned**
 - **Have a sense urgency about the EM mission and the actions necessary to support it**
 - **Believe internal and external relationships are effective and constructive**



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