



U.S. Department of Energy Office of Environmental Management



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Information Technology Strategic Plan FY2012-2014

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Message from the Director

The vision of the Office of Environmental Management's (EM) Office of Corporate Information Technology (EM-72) is to be not only a collaborative partner within the EM complex, but also across the DOE organization for delivering innovative, secure, and agile Information Technology (IT) solutions in support of EM's evolving mission. At the same time, we are looking forward strategically continuing to meet customer needs and enabling EM's important cleanup mission as we deal with the challenges of cyber security, rapidly changing technology, increased requirements, and even the workplace itself as the availability of mobile access to accomplish our work and mission increases.

In 2009, EM published its 3-year IT Strategic Plan, outlining six strategic goals and associated objectives and performance measures developed in collaboration with Headquarters (HQ) and field site representatives. We have made tremendous progress towards those goals. In 2010 and 2011, EM won the most awards in every category from the Office of the Chief Information Officer's Annual Information Management Conference including Management/Administrative Excellence, Technical Excellence, Executive Leadership, and Cyber Security. Additionally, in 2010 and 2011, EM won the most awards from the Environmental Protection Agency for the Federal Electronics Challenge. EM HQ adopted the Hanford site's document and records management program, leveraging OpenText's Livelink document management system. Web services supporting Recovery Act reporting and data integrity were created, integrating performance metrics data for each of the different cleanup sites. EM partnered with the Walter Reed Medical Center's Wounded Warrior program to hire a federal employee for its Mission Information Protection Program. An EM IT Governance framework was finalized to leverage EM's organizational structure and management processes. Our EM cyber security program continues to serve as the model for the Department of Energy (DOE). And these are to name just a few! I am encouraged by our progress and plans, and pleased with the progress being made at our field sites. Information technology is playing, and will continue to play, a significant role in mission success.

We will continue to face challenges. Guided by our continuously improving EM IT Strategic Plan and joint collaboration, we are prepared to meet these challenges and get results.

Jeanne M. Beard
Director, Office of Corporate Information Technology

Introduction

This IT Strategic Plan (Plan) outlines EM's IT strategic goals, objectives, and performance measures for IT for Fiscal Years 2012-2014. The Plan builds on successes and lessons learned from previous EM IT strategic planning initiatives, including the most recent EM IT Strategic Plan (FY 2009-2011). This Plan emphasizes collaboration among HQ and our field sites to accomplish the stated goals and objectives. Key drivers for this Plan include DOE's overarching mission, "To ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions," DOE's 2011 Strategic Plan, DOE's Information Resources Management (IRM) Strategic Plan FY 2009-2011, EM's Strategic Goals as outlined by the Assistant Secretary in the EM Journey to Excellence Roadmap, and the U.S Chief Information Officer's *25 Point Implementation Plan to Reform IT Management*. Exhibit 1 illustrates the alignment of EM's IT strategic goals with DOE's Strategic Goals, DOE's IRM Strategic Goals, and our program goals.

DOE Strategic Goals are:

- 1) Goal 1: Catalyze the timely, material, and efficient transformation of the nation's energy system and secure U.S. leadership in clean energy technologies.
- 2) Goal 2: Maintain a vibrant U.S. effort in science and engineering as a cornerstone of our economic prosperity with clear leadership in strategic areas.
- 3) Goal 3: Enhance nuclear security through defense, nonproliferation, and environmental efforts.
- 4) Goal 4: Establish an operational and adaptable framework that combines the best wisdom of all Department stakeholders to maximize mission success.

DOE IRM Strategic Goals are:

- 1) Goal 1: Revitalize cyber security across the Department of Energy.
- 2) Goal 2: Use information technology to improve DOE mission accomplishment, at lowest cost.

EM Program Goals are:

- 1) Goal 1: Complete the three major tank waste treatment construction projects within the approved baselines.
- 2) Goal 2: Reduce the life-cycle costs and accelerate the cleanup of the Cold War environmental legacy.
- 3) Goal 3: Complete disposition of 90 percent of the legacy transuranic waste by the end of 2015.
- 4) Goal 4: Reduce the EM legacy footprint by 40 percent by the end of 2011, leading to approximately 90 percent reduction by 2015.
- 5) Goal 5: Improve safety, security and quality assurance towards a goal of zero accidents, incidents, and defects.
- 6) Goal 6: Improve contract and project management with the objective of delivering results on time and within cost.
- 7) Goal 7: Achieve excellence in management and leadership, making EM one of the best places to work in the Federal Government.

Exhibit 1. Illustrates the alignment of EM's IT strategic goals outlined in this Plan with DOE's 2011 Strategic Plan, DOE's IRM Strategic Plan FY 2009-2011, and EM's program goals as outlined by the Assistant Secretary.

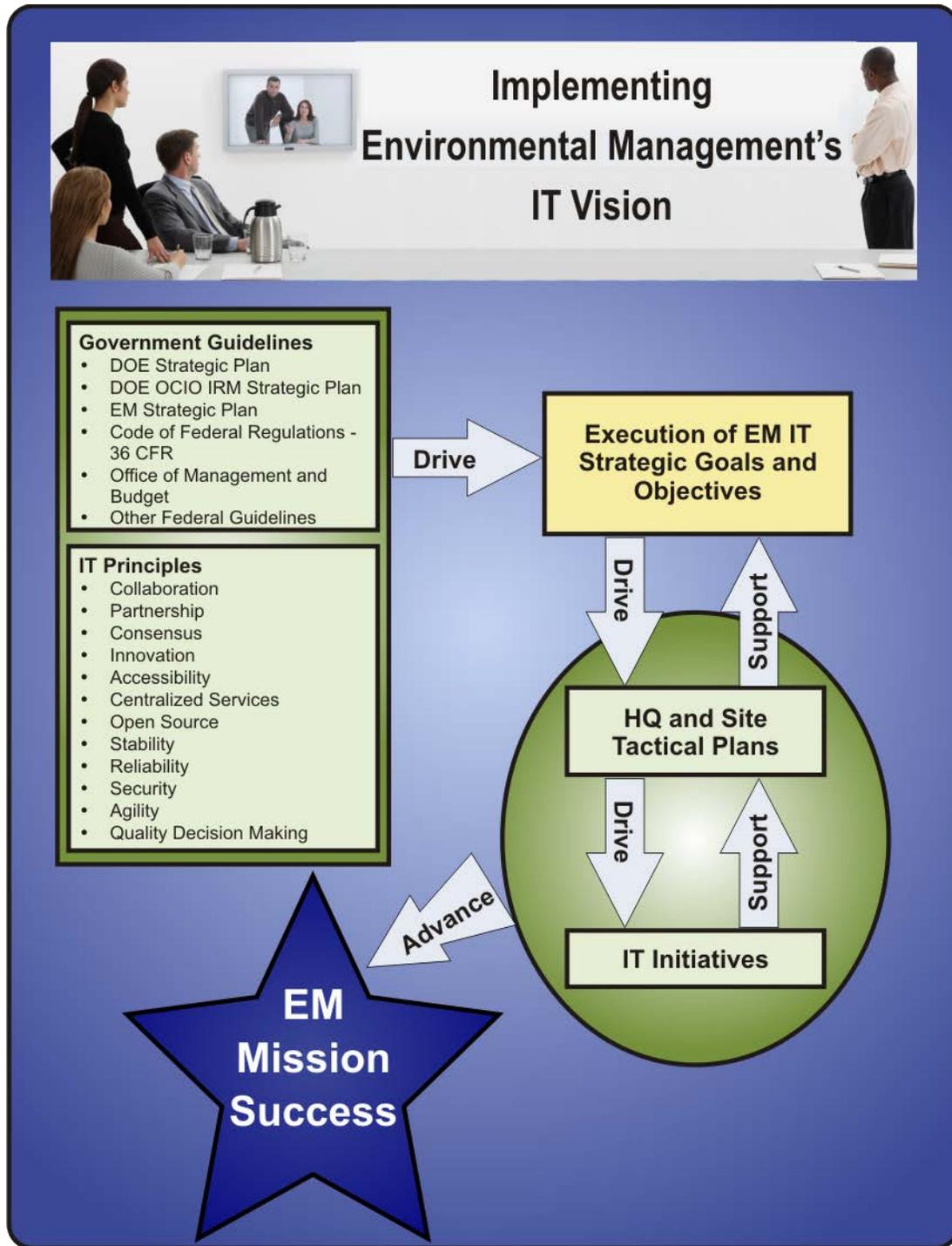
 Managing EM's IT Strategic Goals		DOE Strategic Goals				DOE IRM Strategic Goals		EM Roadmap Program Goals						
		Goal 1	Goal 2	Goal 3	Goal 4	Goal 1	Goal 2	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7
E M I T S t r a t e g i c G o a l s	Goal 1: Deliver efficient and effective enterprise technology services and shared solutions		√	√	√	√	√	√	√				√	√
	Goal 2: Implement Green IT solutions to reduce EM's carbon footprint and increase energy efficiency	√	√				√		√		√		√	
	Goal 3: Sustain a high-performance IM workforce		√		√	√								√
	Goal 4: foster partnerships across and beyond EM for cross-boundary innovations		√		√	√	√	√	√	√	√	√	√	√
	Goal 5: Enable secure and reliable operations across the EM program through program-wide solutions and industry standards		√		√	√	√					√		√
	Goal 6: Transform cyber security practices across the EM program	√		√		√	√					√	√	√
	Goal 7: Implement an efficient and effective program-wide records management capability	√					√						√	√

EM IT Vision

EM IT is a collaborative partner in the EM complex and across the DOE organization for delivering innovative, secure, and agile IT solutions in support of EM's evolving mission.

To implement the EM IT Vision, we will apply IT principles, new technologies, and Federal Guidelines to drive the execution of EM's strategic goals and objectives. Through collaboration, EM HQ and field sites interact with other Departmental organizations to support the actions outlined in the EM IT Strategic Plan. Working together on IT initiatives, we will enable the success of the EM mission.

Exhibit 2. Illustrates EM's approach to implementing the EM IT Vision.



EM IT Principles

EM IT principles provide the foundation for guiding the organization through implementing its IT strategic goals to meet mission needs. EM IT principles include:

- Collaboration – builds support for decisions that are more durable and result in better, more effective management of resources.
- Innovation – encourages collaboration by systematically assessing and sharing innovative solutions to allow others to benefit from the experiences gained.
- Centralized Services – allows EM to leverage buying power and more easily manage and track IT expenditures.
- Risk Management – provides security, reliability, and availability of EM’s IT solutions through continuous monitoring and enterprise cyber security tools and information critical for decision-makers.
- Agility – promotes decisions to be made quickly as a result of adaptable organizational structures and a flexible IT infrastructure.
- Quality Decision Making – is accomplished faster and easier with information gathered through collaboration and risk management.

EM IT Strategic Goals

1.	Deliver efficient and effective enterprise technology services and shared solutions.
2.	Implement Green IT solutions to reduce EM’s carbon footprint and increase energy efficiency.
3.	Sustain a high-performance IM workforce.
4.	Foster partnerships across and beyond EM for cross-boundary innovations.
5.	Enable secure and reliable operations through program-wide solutions and industry standards.
6.	Continually evolve EM cyber security.
7.	Implement an open and transparent program-wide records management capability.



EM IT Strategic Objectives, Strategies, Targets and Measures

EM IT strategic objectives, strategies, targets, and performance measures were developed in collaboration with the EM HQ staff and field site representatives. The tables below outline the objectives, strategies, target completion years, and performance measures to move us forward in meeting the overall EM mission.

Goal 1: *Deliver efficient and effective enterprise technology services and shared solutions.*

Objective (SMART)	Strategy	Target FY	Performance Measure
1.1. Increase the use of enterprise desktop services.	Partner with DOE OCIO to implement DOE Common Operating Environment (COE) at EM Field Sites.	2014	90% of users at two field sites transition to DOE COE.
1.2. Promote efficiency of server operations and management.	Identify servers that are candidates for virtualization, provide cost analysis for virtualization of servers, and transition eligible physical servers to virtual instances.	2012	Transition 50% of eligible physical servers to virtual servers.
	Create and implement an EM-wide policy that new server implementations will be virtualized.	2012	90% of all new servers are implemented as virtual. Policy is developed and disseminated to the EM complex.
1.3. Modernize EM's virtual meeting infrastructure.	Evaluate different types of meetings; determine software that will meet the needs of different types of meetings virtually; and determine technologies needed for each meeting type.	2012	50% increase in virtual meeting use and 90% availability to all EM federal employees.

Goal 2: *Implement Green IT solutions to reduce EM's carbon footprint and increase energy efficiency.*

Objective (SMART)	Strategy	Target FY	Performance Measure
2.1. Reduce data center power consumption.	Use data center energy measuring techniques and other resources to determine if energy consumption is meeting or exceeding standards and implement corrective measures where appropriate.	2013	Real time energy measurements are obtained and reduced to meet a Power Usefulness Effectiveness (PUE) of 1.3% - 1.6%.
2.2. Further reduce the EM hardware infrastructure footprint.	Baseline the EM hardware infrastructure footprint. Research, procure, and implement green hardware solutions to reduce EM's infrastructure footprint.	2012	Reduce the EM hardware infrastructure footprint enterprise-wide by 10%.
	Implement an EM internal cloud environment.	2013	20% of systems and applications transitioned to an internal EM cloud.
2.3. Establish and promote effective IT energy conservation practices across EM.	Conduct annual employee training to understand how to implement energy conservation efforts.	Annually	90% of EM staff trained annually.
	Establish a power management strategy for the lifecycle of assets.	2012	90% of EM desktop environments have centralized power management procedures implemented.
	All computer equipment is procured using Electronic Product Environmental Assessment Tool (EPEAT) standards.	2012	90% of EM equipment purchases are compliant with EPEAT standards.
2.4. Obtain Federal Electronics Challenge (FEC) recognition for Green IT accomplishments.	Ensure that all EM sites participate in the FEC.	Annually	EM sites participate in the FEC and 50% receive an award annually.

Goal 3: *Sustain a high-performance IM workforce.*

Objective (SMART)	Strategy	Target FY	Performance Measure
3.1. Continued improvement of IM workforce skills.	Continue use of traditional opportunities, including EM and DOE mentoring programs; continuing education and training; and professional IT certification programs.	2013	Individual Development Plans (IDP) in place for 100% of IM employees.
3.2. Retain EM's qualified and high-performing IM workforce.	Identify different approaches and opportunities to recognize and reward superior job performance and special acts or service.	2013	EM's high-performing IM workforce retention rate is 80% or higher.
3.3. Maintain a capability to obtain highly-skilled IM resources.	Implement proven and innovative hiring and retention strategies to recruit and retain the best and the brightest to fill current and future vacancies.	2013	80% of vacancies are filled within 3 months of position announcement.

Goal 4: Foster partnerships across and beyond EM for cross-boundary innovations.

Objective (SMART)	Strategy	Target FY	Performance Measure
4.1. Collaborate between and among EM HQ and field sites to leverage technologies across the complex.	Collaborate through regular, complex-wide meetings on options to share technologies across sites.	2014	Two technologies that have been implemented at any EM site are leveraged at other EM sites.
4.2. Provide a mechanism for sharing questions and lessons learned.	Implement a complex-wide collaboration mechanism.	2012	75% of EM sites participating every quarter.
4.3. Investigate opportunities to reduce the number of places employees have to go to access applications.	Integrate applications into a single portal at each field site and HQ where appropriate.	2013	Integrate at least two applications into a single portal at each field site and HQ.
4.4. Increase the variety of online options to timely and accurately communicate EM's business and mission information to internal and external stakeholders.	Develop EM program-wide social media guidance, strategy, and plan, incorporating OMB's Open Government Directive.	2012	Two or more social media initiatives successfully implemented across the complex.

Goal 5: *Enable secure and reliable operations through program-wide solutions and industry standards.*

Objective (SMART)	Strategy	Target FY	Performance Measure
5.1. Standardize the approach to IT scope within DOE contracting strategy.	Define and deliver contracting language to be added to new and existing prime contractors' contracts.	2013	Approved contracting language added to 90% of new and existing contracts
5.2. Enhance EM's IT Governance processes.	Develop and execute an audit capability to examine and improve project management of HQ and field site IT investments in order to reduce compliance risk.	Annually	Conduct two investment audits per year.
5.3. Make IT investment decisions based on EM's IT Portfolio.	Execute an Application Portfolio Management practice enterprise-wide to ensure continued value of EM's IT resources.	2013	90% of EM's applications are mapped to the EM IT Portfolio.
5.4. Determine and communicate the effectiveness of EM's IT Governance processes.	Identify and monitor performance metrics to indicate the effectiveness of the EM IT Governance process.	2012	Meet or exceed 80% of identified IT Governance metrics.

Goal 6: *Continually evolve EM cyber security.*

Objective (SMART)	Strategy	Target FY	Performance Measure
6.1. Comply with OMB's requirement for implementation of HSPD-12 to strengthen authentication to EM mission, IT, and other systems.	Each site will participate in selecting and implementing of hardware and software needed to execute an easy and secure two-factor authentication pilot for network and system access. This will include an implementation plan for the pilot by each EM field site.	2012	90% completion of a logical access pilot by 2 nd Quarter, FY 2012. 90% implementation of an HSPD-12 solution by 4 th Quarter, FY 2012.
	Apply HSPD-12 authentication to all EM systems that support a two factor authentication solution. Each site will create an implementation plan once a solution has been selected.	2013	90% completion of a roll out of HSPD-12 and two-factor authentication at all sites by 2 nd Quarter, FY 2013.
6.2. Control cyber security-related costs through collaboration.	Baseline current overall cyber security costs across EM. Participate in the sharing of hardware, software, and effective ideas and lessons learned for the prevention, detection, and containment of malicious activity.	2012	Reduce overall cyber security costs across the complex by 10% from the current baseline as a result of increased efficiencies.
	Hold Quarterly complex-wide cyber security meetings to collaborate on leveraging enterprise solutions to achieve economies of scale.	Annually	Quarterly cyber security meetings are held 75% of the time beginning in the 1 st Quarter of FY 2012.
	Eliminate Internet connection redundancies to reduce cost.	2013	Reduce the number of Internet connections across the complex by 10%.
6.3. Enhance IT risk management capability to improve EM's cyber-security posture.	Update risk assessments for each certification and accreditation boundary to tie IT to the business process that it supports and demonstrate risk-related cost impacts.	Annually	90% of EM systems have identified and documented risks and associated cost values/impacts. Successfully mitigate 90% or more risks identified as "High" within 90 days.

Objective (SMART)	Strategy	Target FY	Performance Measure
6.4. Improve incident detection and handling across EM.	Baseline the average time between intrusion and detection of intrusion. Perform as an integrated team across the complex to improve the prevention, detection, containment, and eradication of cyber intrusions through collaboration and implementation of a secure, out-of-band communication solution.	2012	A decrease of 10% in average time between intrusion and detection of intrusion.
6.5. Provide best-in-class cyber security awareness training for technical staff and users across EM.	Continually enhance training materials and methods based on current priorities to better inform and motivate IT professionals, managers, and end users.	Annually	Cyber security awareness training sessions conducted at 90% of field sites annually. 90% of EM federal and contractor staff who have access to IT systems participate in one or more cyber security-related training sessions annually.
	Develop and conduct a risk management training course that integrates with business processes.	2012	Training courses conducted at 80% of EM field sites.
6.6. Enhance IT vulnerability assessments.	Perform internal and external web application assessments and authenticated network application assessments.	Annually	Successfully mitigate 90% or more risks identified as "High" within 90 days.

Goal 7: *Implement an open and transparent records management capability.*

Objective (SMART)	Strategy	Target FY	Performance Measure
7.1. Build a Records/Information Management and Content Management System to support EM's electronic records management (RM) needs.	Identify baseline Records Management Program needs across EM and ensure DoD 5015.2-compliant systems are being used for electronic records management.	2012	50% of EM field sites have implemented DoD 5015.2-certified electronic RM solutions for managing site records.
		2013	90% of sites have implemented DoD 5015.2-certified electronic RM solutions.
7.2. Research, develop, and implement consistent policies and procedures for managing all of EM's electronic records, including e-mail records, electronic devices, and data storage media.	Work with OCIO's Electronic Records Management Working Group (ERM WG) to identify an approved set of standards for the capture, control, and preservation of electronic records.	2012	80% of EM sites are using an approved set of standards for the capture, control, and preservation of electronic records.
7.3. Define and implement a training program to elevate the importance of information/records management and content accountability to EM staff.	Create policies to ensure that EM provides regular and consistent training on employee responsibilities concerning records/information management, including setup of mandatory annual Records Management online training for all EM employees.	2012	80% of EM federal and contractor staff who have access to who or create EM records have received records-related training.
7.4. Attain a Generally Accepted Record Keeping Principles (GARP) maturity level.	Identify target GARP maturity level and update EM's RM policies and procedures to ensure compliance with the target GARP maturity level.	2013	Attain identified GARP maturity level.
7.5. Ensure EM's physical records storage locations are compliant with all NARA requirements (36 CFR, Subchapter B, <i>Records Management</i>).	Conduct data calls to identify the location of all EM business records and ensure that all storage mediums are compliant with the related regulations and standards.	2012	80% of EM's physical records storage locations are compliant with all NARA requirements.
		2014	100% of EM's physical records storage locations are compliant with all NARA requirements.



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