



- **Lynn R. Hogg, Vice President
Enfos, Inc.**

Phone: 410-247-4040

lynn@enfes.com



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE MAY 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE Managing Environmental Liabilities using Full Lifecycle Accounting				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Enfos, Inc, 505 Gun Road, Baltimore, MD, 21227				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the NDIA Environment, Energy Security & Sustainability (E2S2) Symposium & Exhibition held 4-7 May 2009 in Denver, CO. U.S. Government or Federal Rights License					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 39	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Managing Environmental Liabilities using Full Lifecycle Accounting



ENTERPRISE SOFTWARE
FOR ENVIRONMENTAL
BUSINESS MANAGEMENT





- **Lynn R. Hogg, Vice President
Enfos, Inc.**

More than 25 years of Environmental Compliance, Enterprise Business Process and Document Management executive management experience.

A frequent speaker NAEM and other national environmental conferences and symposium .





OUR AGENDA TODAY

Discuss strategies for:

- comprehensive Environmental Liability (EL)
- Risk Management
- standard Asset Retirement Obligation (ARO) accounting
- and Spend Management

Show how to ease the DoD's EL reporting burden

Increase visibility and facilitate effective coordination across the various environmental, property management, and accounting communities



History, Common Issues and Challenges



BACKGROUND

Federal accounting standards define environmental cleanup costs as *the cost of removing, containing, and/or disposing of hazardous waste at associated property, plant, and equipment*

Cleanup may include:

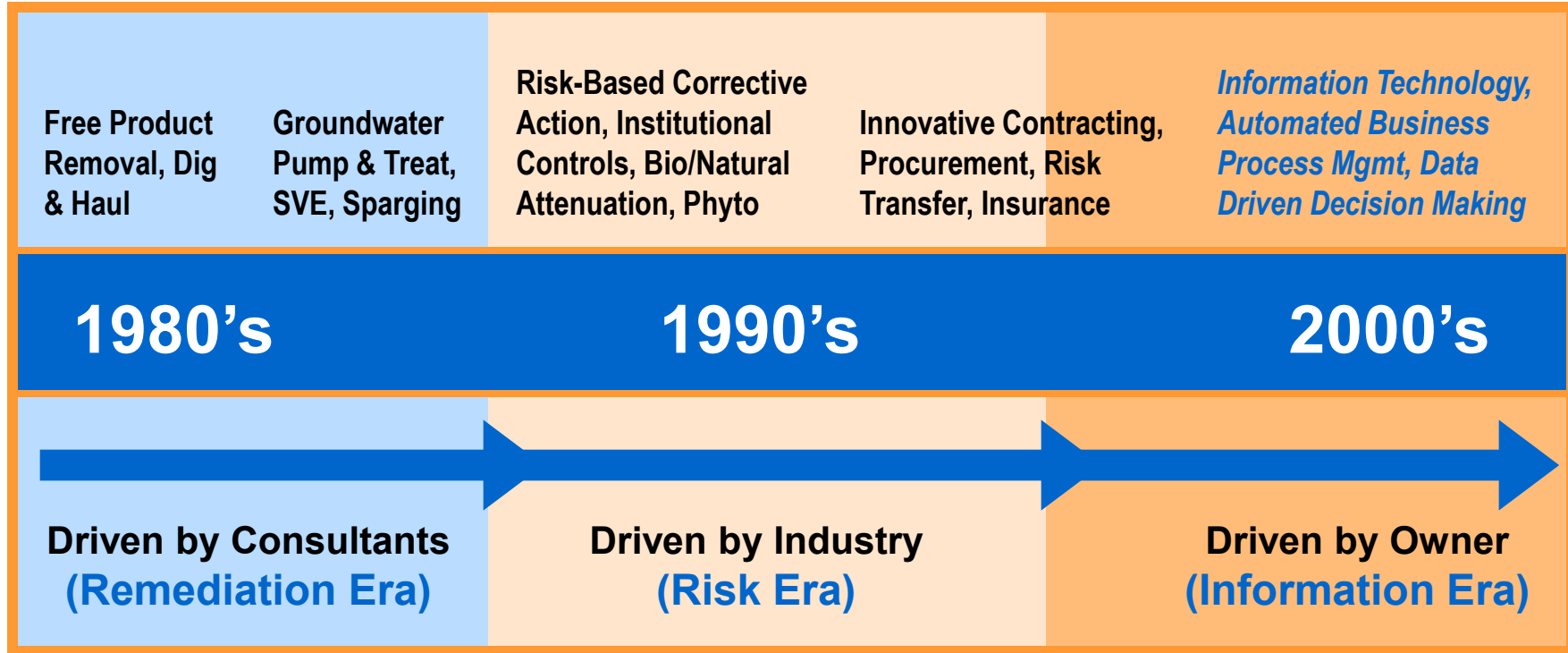
- decontamination
- decommissioning
- site restoration
- site monitoring
- closure
- and post-closure costs

The CFO Act, a mandate for Federal Financial Management Reform, requires federal agencies to reconcile financial statement reporting with budget submissions

This means managing environmental liabilities as part of the lifecycle business process in order to support program management and business decisions



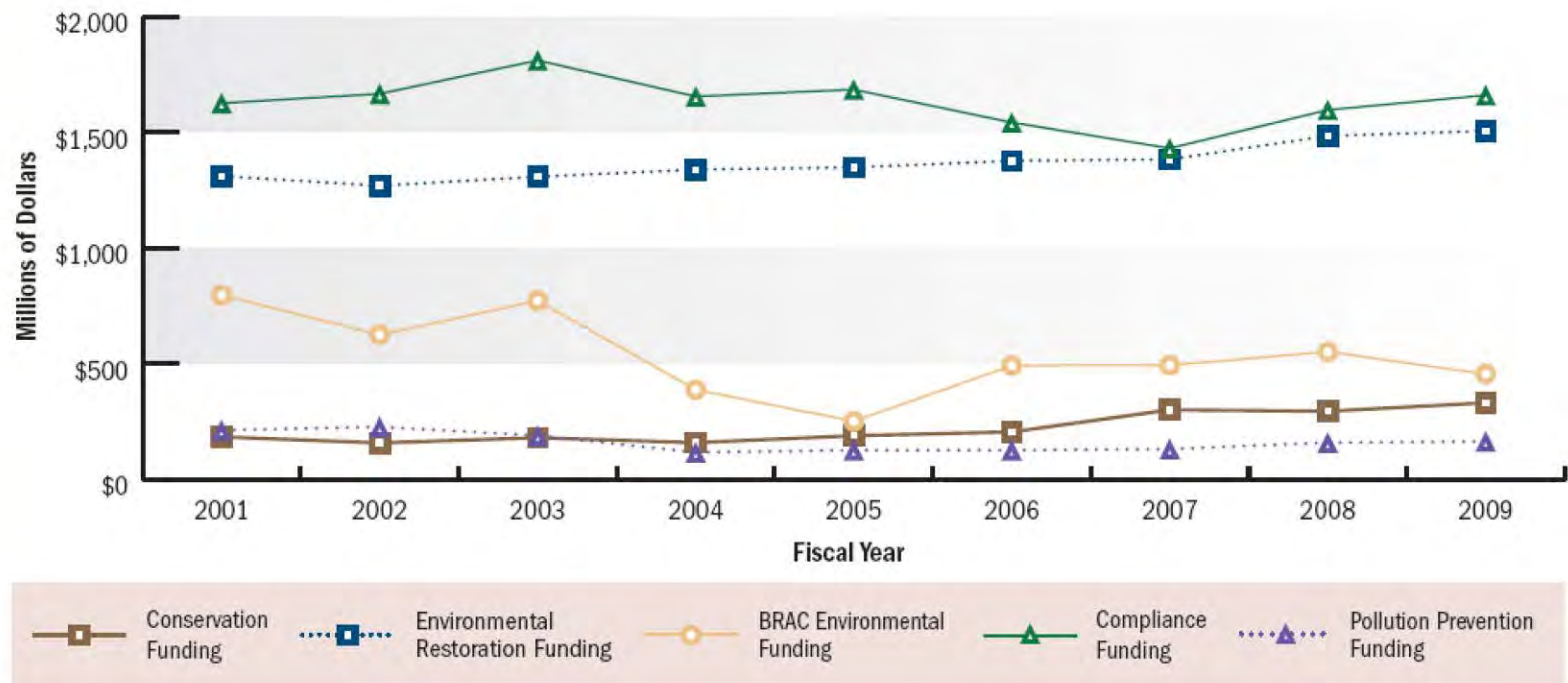
REMEDIATION INDUSTRY PROGRESSION





DoD REPORT TO CONGRESS 2008

Figure 1 Defense Environmental Funding Trends

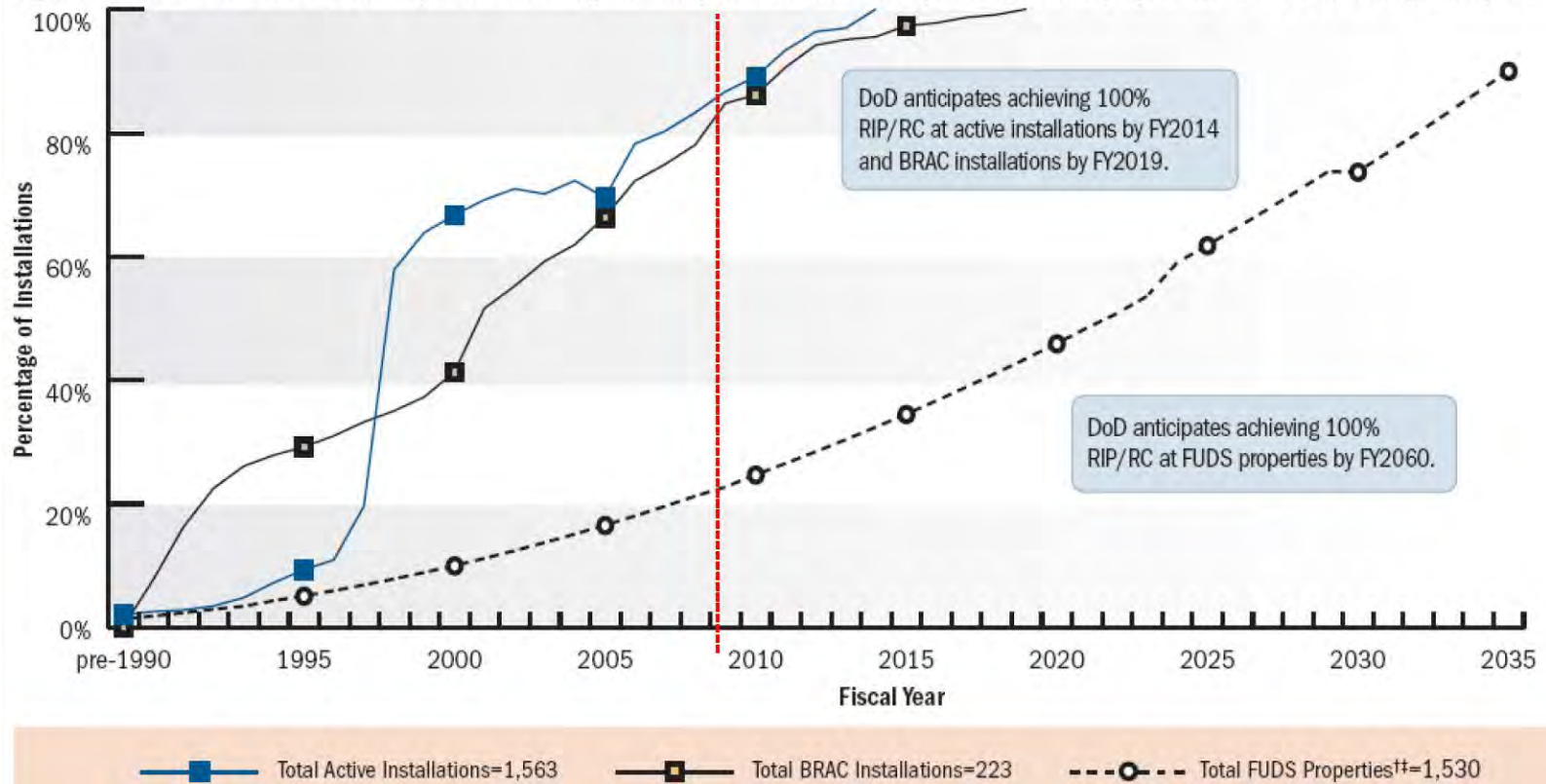




SIGNIFICANT INCREASES IN EL SPEND ARE PLANNED

Restoration within Defense Environmental Restoration Program (DERP) are funded from the Environmental Restoration (ER) and Base Realignment and Closure (BRAC) accounts. ER account funds DERP environmental restoration activities at active military installations and formerly used defense sites (FUDS)

Figure 21 Installations and FUDS Properties Achieving Final RIP/RC at all IRP Sites* (Cumulative and projected, Pre-FY1990 through completion)

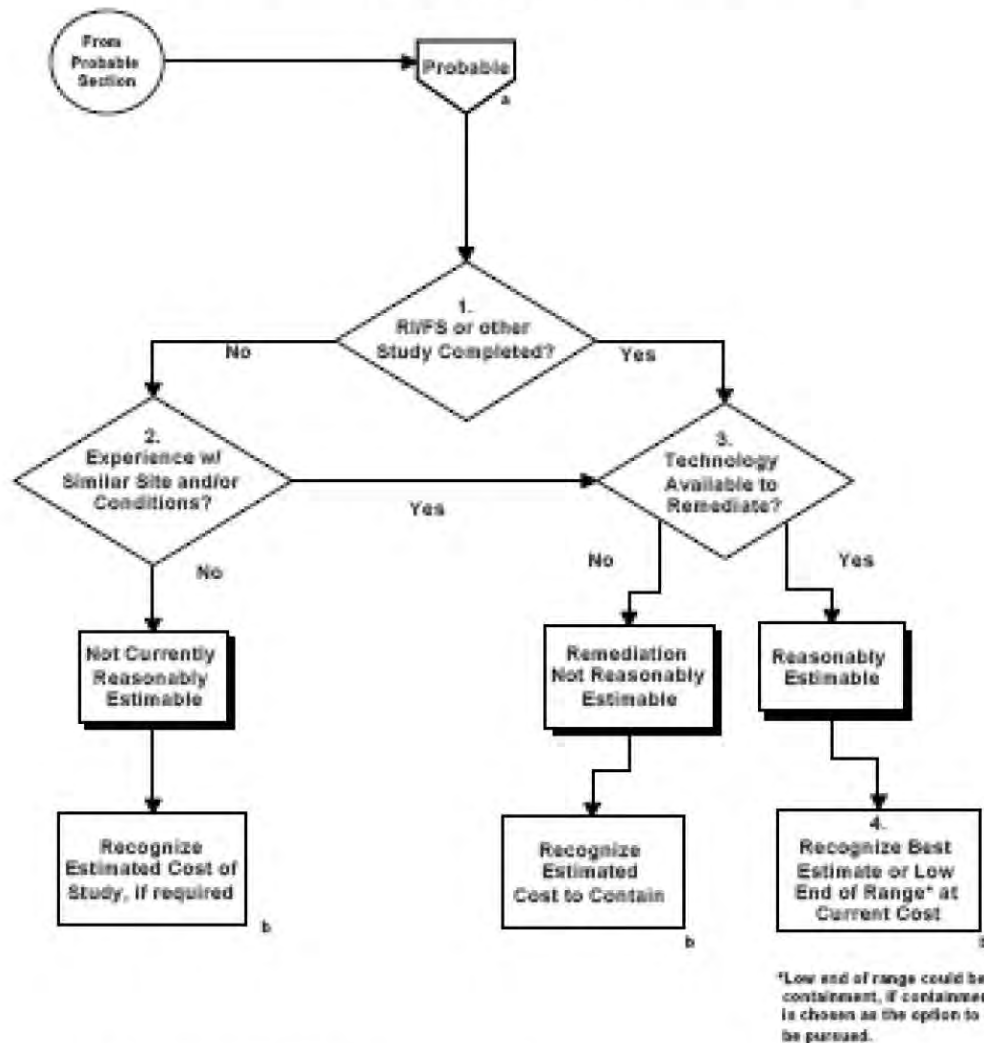


Remedies In Place (RIP), Response Complete (RC) although may be in the long-term management (LTM) phase.



PREVIOUS “REASONABLY ESTIMATABLE” MODEL

Diagram 2.1: Determination and Quantification of Reasonably Estimable Environmental Liabilities



a Probable refers to track 1 (government related) which is found in Section 1. Track 2 (government acknowledged) is not applicable.

b With all tracks, see SFFAS #6 par. 107-111 and SFFAS #5 par. 40-42 for disclosure requirements.



EMERGING “FAIR VALUE MEASUREMENT”

Fair value measurement, also known as “*mark-to-market*”, has emerged as the favored measurement principle under U.S. and international financial reporting standards over the past decade.

In recent years, the FASB has adopted numerous standards requiring fair value measurement of liabilities and impairments, including:

Year Pronouncement History

2007 Statement 141R, Business Combinations

2006 Statement 157, Fair Value Measurements

2005 Interpretation 47, Accounting for Conditional Asset Retirement Obligations

2002 Statement 146, Accounting for Costs Associated with Exit or Disposal Activities

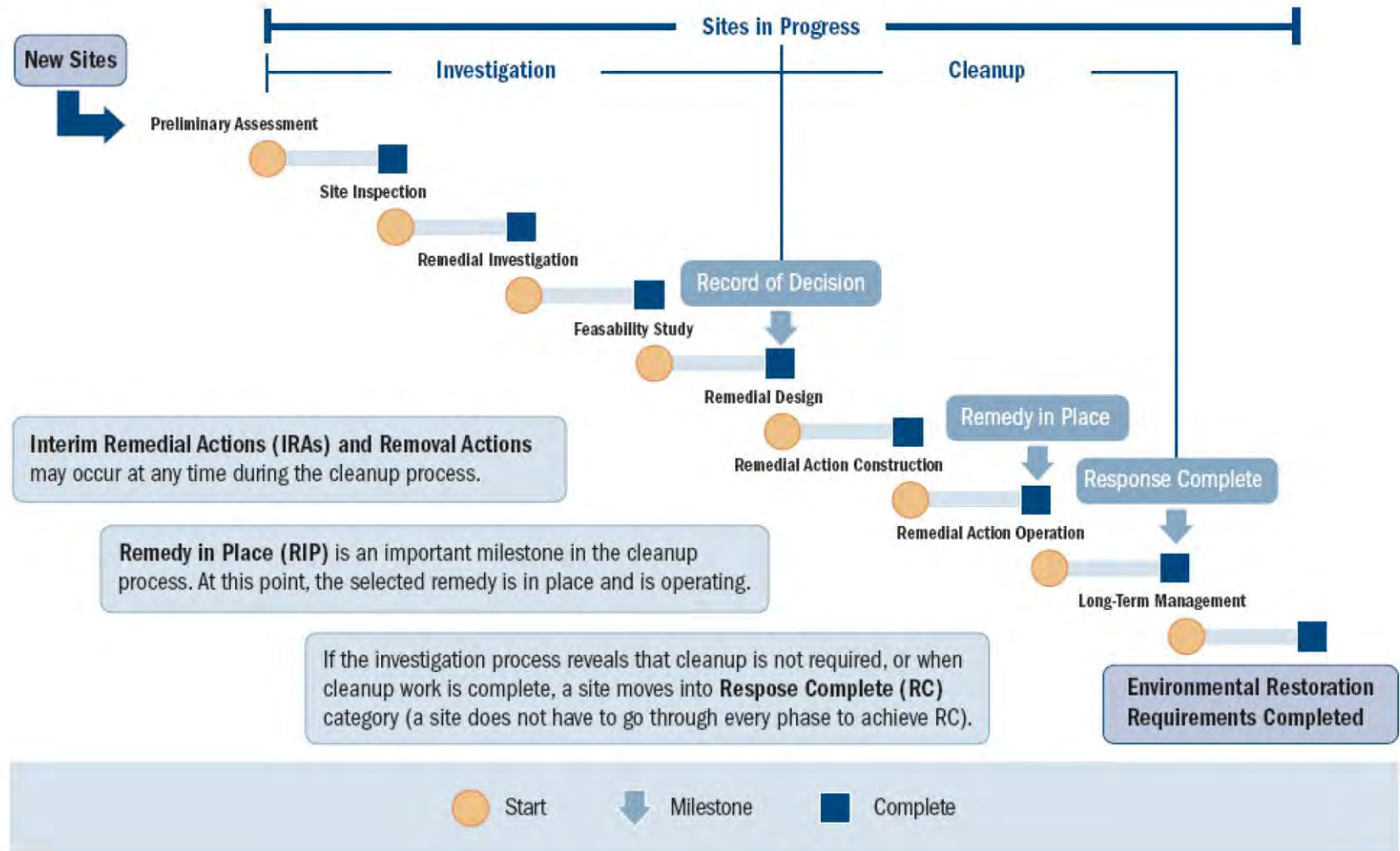
2001 Statement 144, Accounting for the Impairment or Disposal of Long-Lived Assets

2001 Statement 143, Accounting for Asset Retirement Obligations (AROs)



ENVIRONMENT RESTORATION PHASES AND MILESTONES

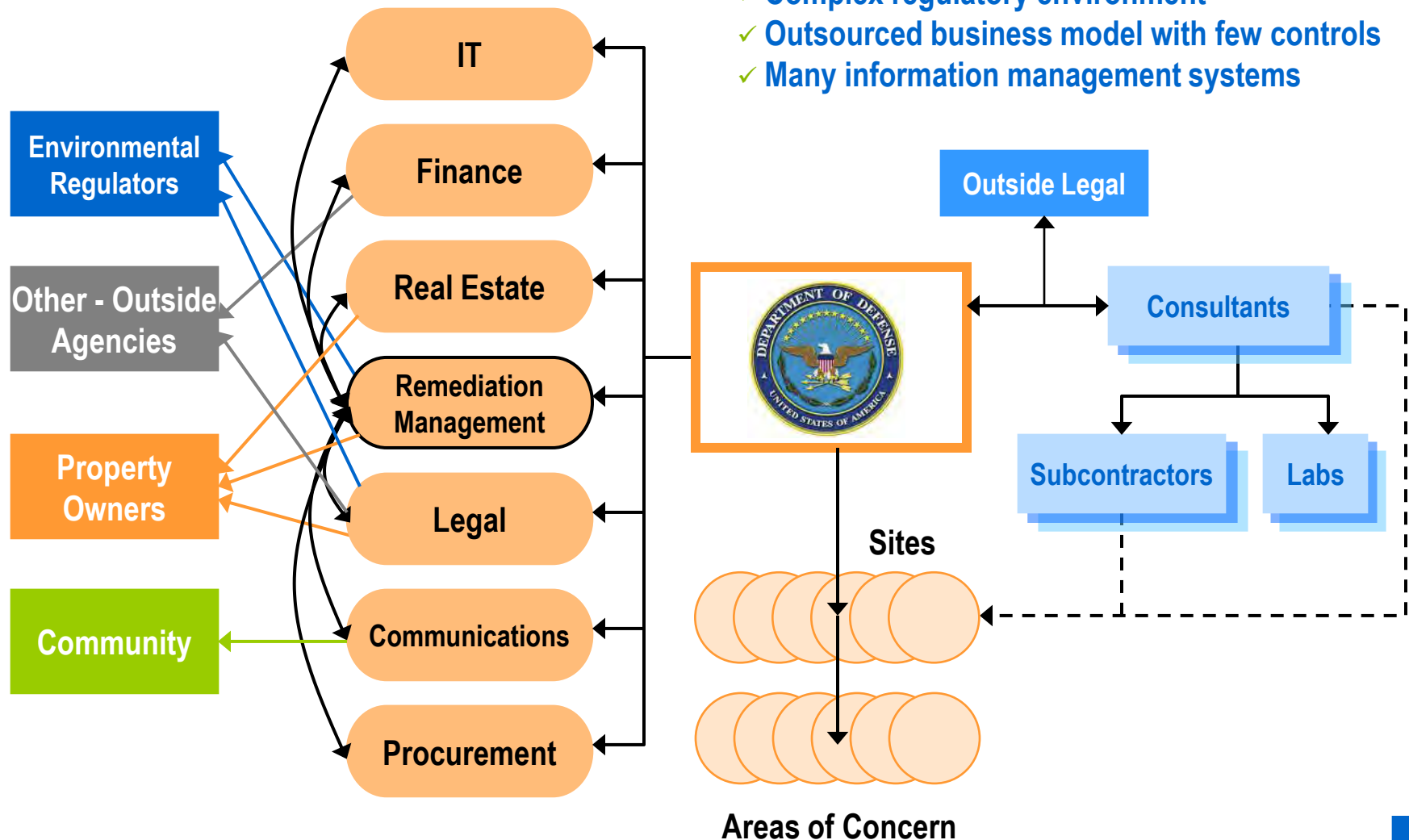
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)





CURRENT MANUAL PROCESSES

- ✓ Many Disciplines
- ✓ Thousands of transactions & documents
- ✓ Complex regulatory environment
- ✓ Outsourced business model with few controls
- ✓ Many information management systems

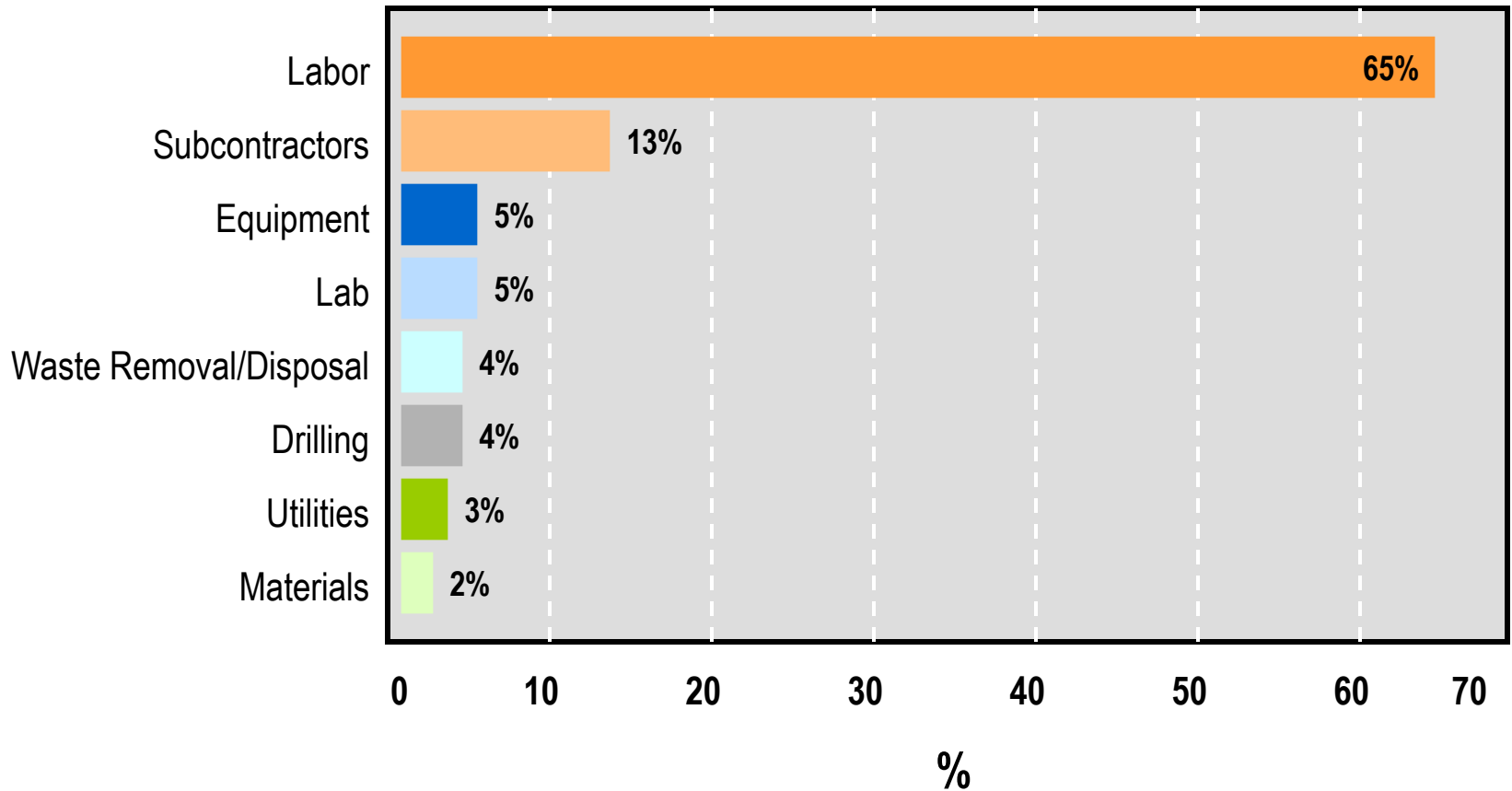




REMEDIATION IS LABOR INTENSIVE

Information Technology Improves Labor Efficiency which Lowers Cost

Average Annual Spending Distribution by Cost Element





WHAT IS THE GAP?



Environmental Liabilities Recognition, Valuation, and Reporting Requirements Document

The Department is unable to consistently provide data sufficient for an auditor to form an opinion regarding EL estimates.

Underlying factors *are*

- lack of comprehensive enterprise-wide business processes and business rules
- use of dissimilar and non-interoperable (IT) management systems
- lack component inventories of ELs reconciled with PP&E asset records
- lack guidance on what constitutes - how to report - an EL that is not part of DERP

As a result,
the Department is unable to accurately and consistently account for DoD environmental liabilities, in accordance with generally-accepted accounting standards on the annual DoD financial statement.



DATA – BUSINESS PROCESS GAPS



- Data is inadequate or not available to:
 - determine accuracy and reliability of environmental liability cost estimates
 - determine completeness or materiality of cost estimates
- Inadequate or non-existent audit trails prevent validation of estimates
- Information is inadequate or non-existent to ascertain estimator, reviewer, approver credentials
- Inadequate or non-existent common core data inhibits data sharing
- Inconsistent environmental liabilities recognition, valuation, and reporting methods
- Inadequate or inconsistent business processes result in:
 - data variability
 - inhibit proper management controls
 - result in enterprise data interpretation problems



INFORMATION TECHNOLOGY GAPS



Environmental Liabilities Recognition, Valuation,
and Reporting Requirements Document

- Functionally fragmented
- Independent IT systems result in insufficient management capabilities
- Parallel and duplicative IT capabilities result in limited agility and interoperability
- Limited or lack of data exchange or communication among and between IT systems



MADE GREAT STRIDES ... SIGNIFICANT IMPROVEMENTS STILL NEEDED



- Institute consistent business processes, business rules, and common EL related data
- Comply with generally accepted accounting standards and DoD accounting policy, and report consistent environmental liability values on its financial statement
- DoD's reengineered business processes (BEA & BEI) will enable a joint, interoperable capability to recognize, value, and report environmental liabilities sufficient to achieve an unqualified audit opinion
- Key tenet of successful financial reporting = ability to audit the data
- Eliminate environmental liabilities as a systemic material weakness
- Enable DoD Components to compile fully-supported, complete, and accurate EL information reconciled with PP&E asset records

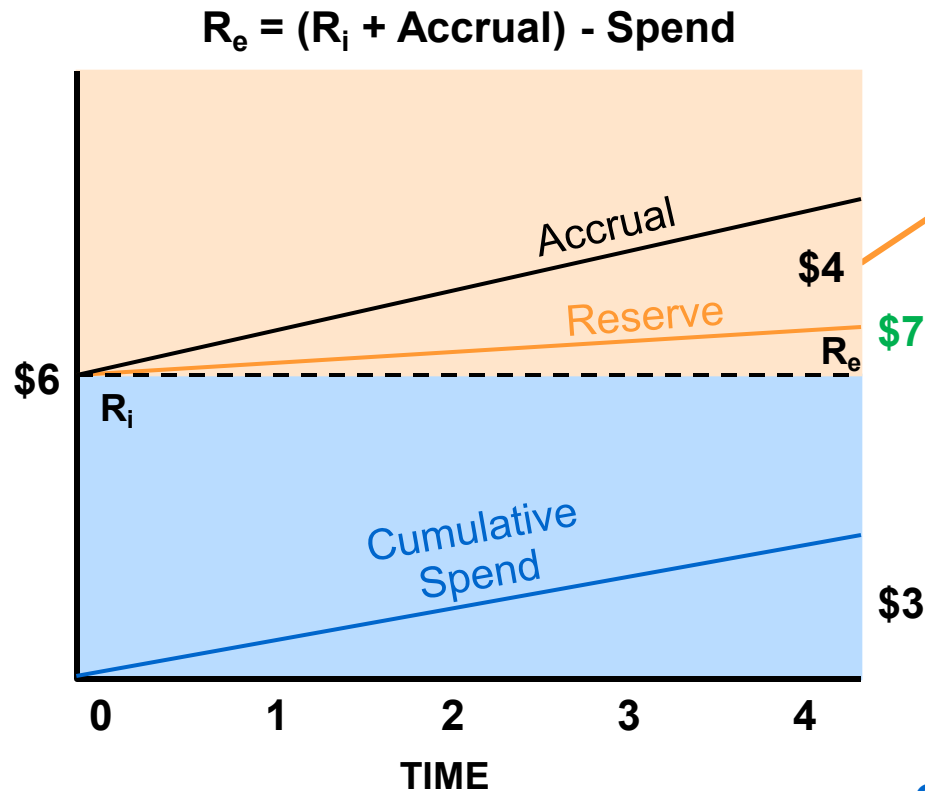


CHALLENGES (you're not alone)

- Reserve balances are not decreasing at the expected rate (or not decreasing at all)
- Accruals from new liabilities and changes to estimates are increasing at a higher rate than annual spending
- Ineffective use of cash expenditures
- Strategies, processes, systems, and people are not aligned for success



RESERVE PERFORMANCE OVER TIME



Additions to Reserve due to changed estimates, new liabilities, etc.

$$R_e = (\$6 + \$4) - \$3 = \$7$$

EXAMPLE:

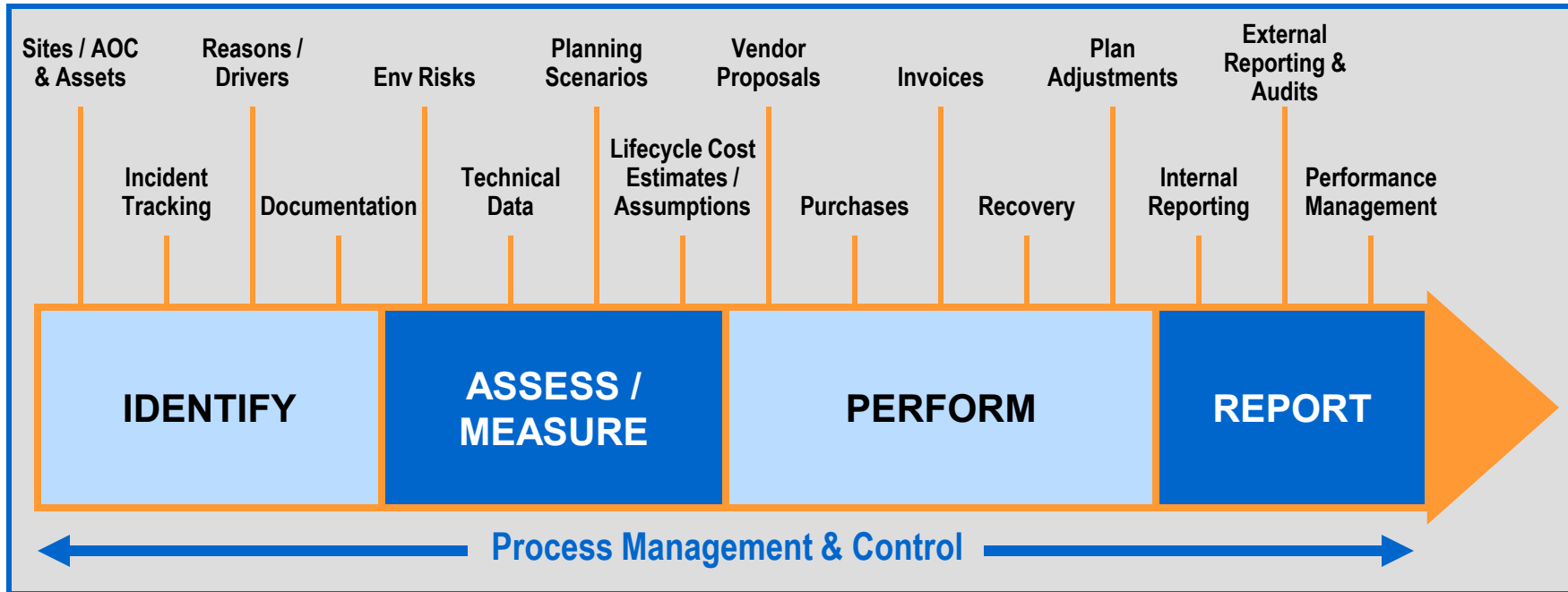
Cash Utilization Metric equals -0.33

Finding: Cash use not efficient. For every dollar spent, Reserve is increasing by 33 cents.



AVOID POINT SOLUTIONS FOR ENVIRONMENTAL MANAGEMENT PROCESSES

(FAS 5 / SOP 96-1, FAS 143 / FIN 47, SOX)





Best Practices

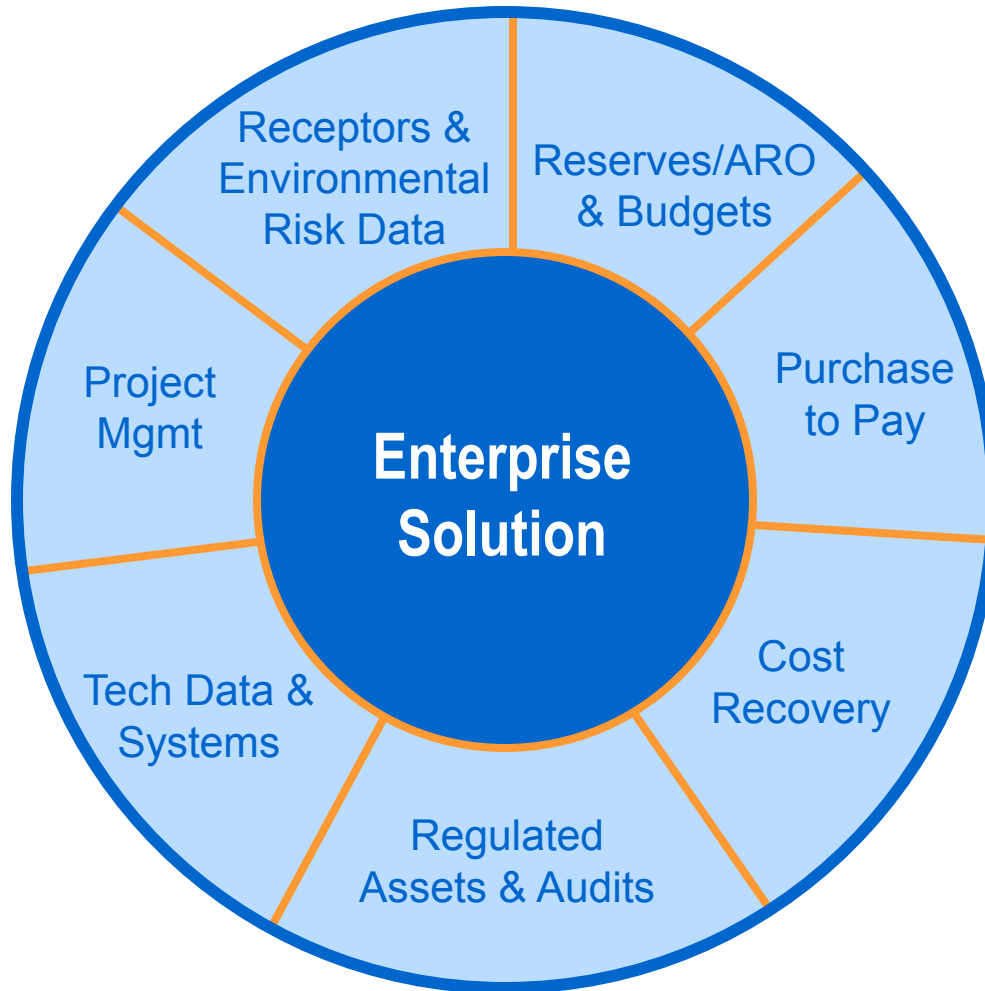


EL BUSINESS PROCESS RE-ENGINEERING

- Support organizational structures / locations across complex organizational structures
- Sites / sampling data / regulatory documents
- Detailed break-down across (Projects / Proposals / Invoices)
- Cost Estimates / Environmental Liabilities
- Interface with a number of back-end accounting & legacy systems
- Interface with real property systems
- Real time decrementing of environmental liabilities.



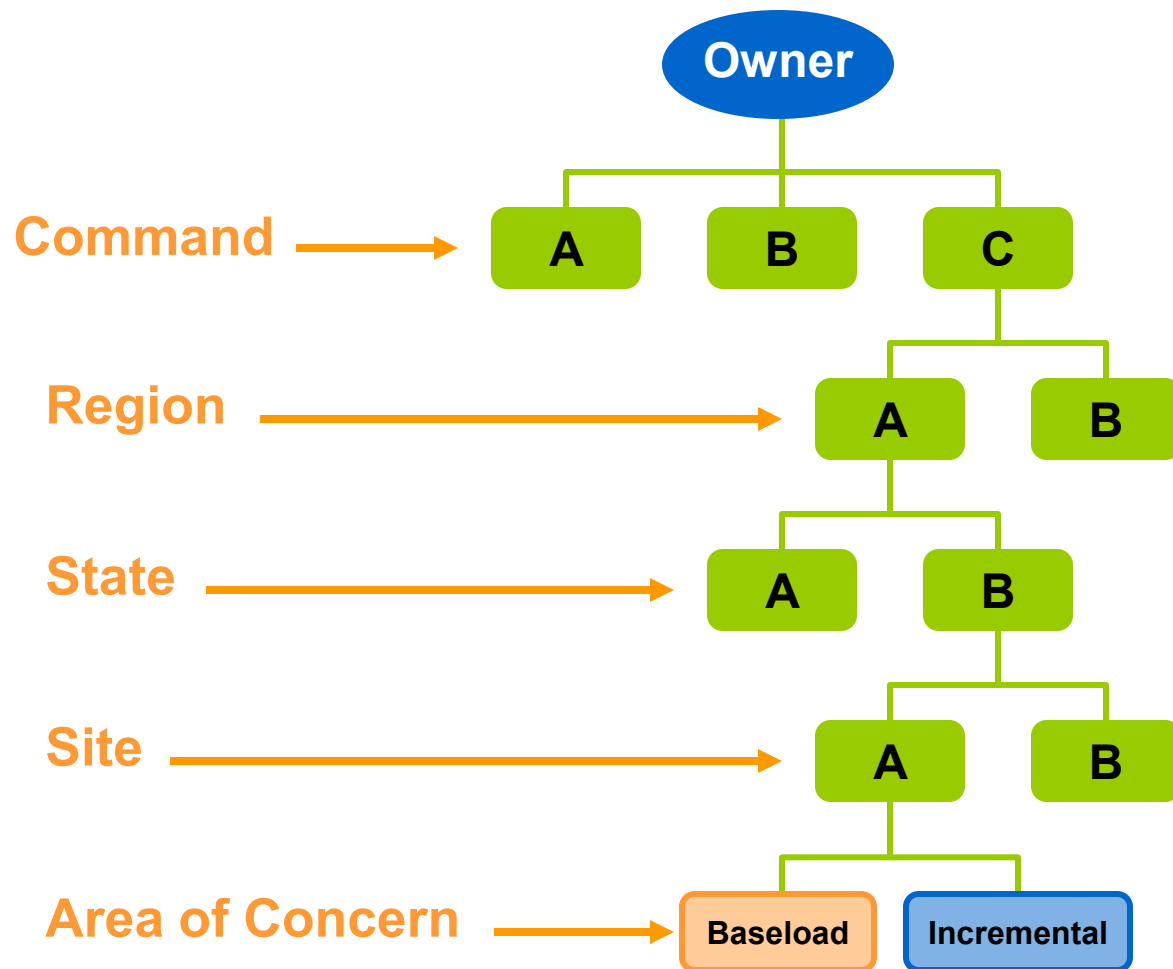
COMPREHENSIVE MANAGEMENT PLATFORM



A single system supports the management of environmental, regulatory, & financial risks associated with remediation and decommissioning sites



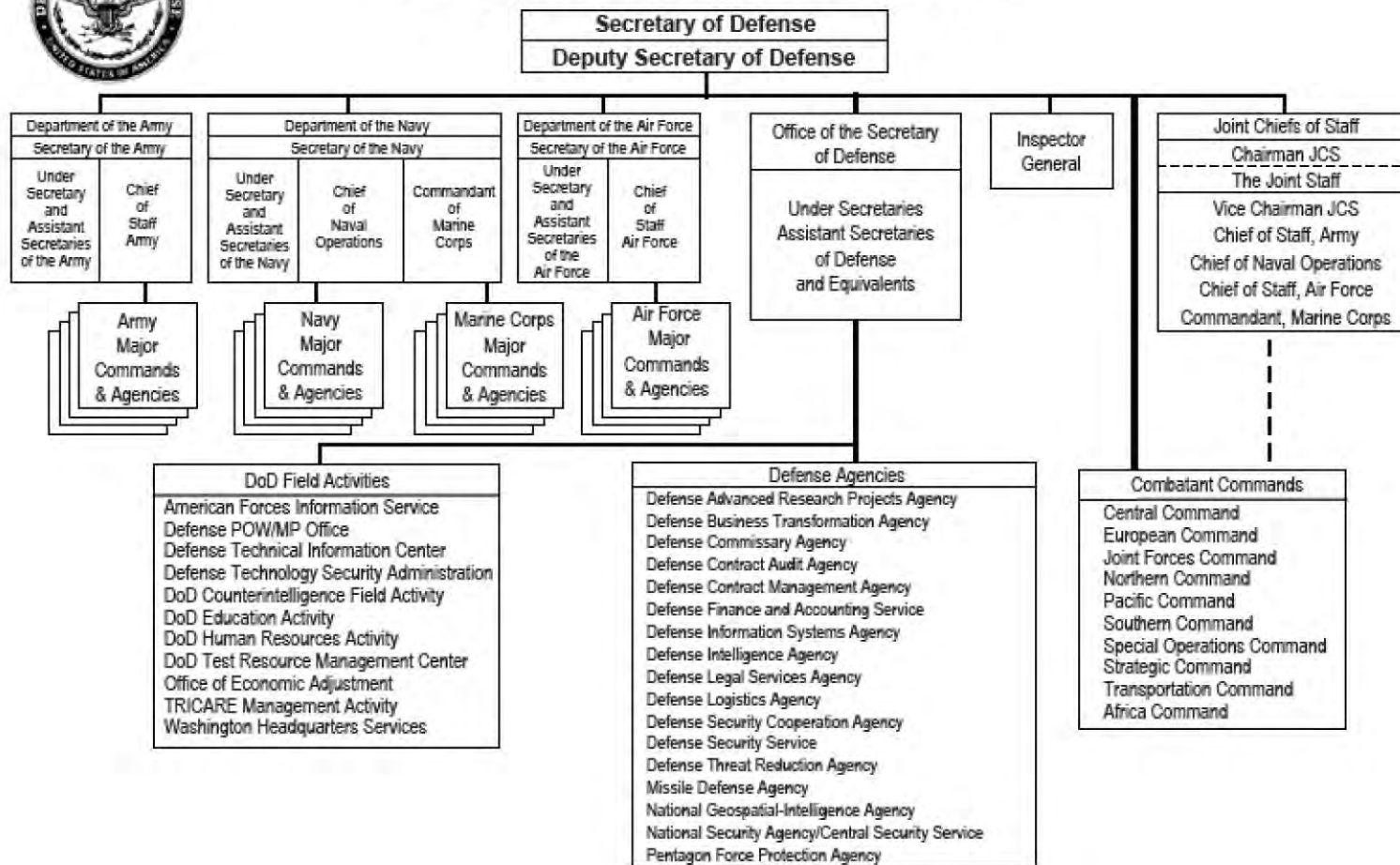
COMPLEX ORGANIZATIONAL STRUCTURES



Baseload / Incremental enables true performance measurement

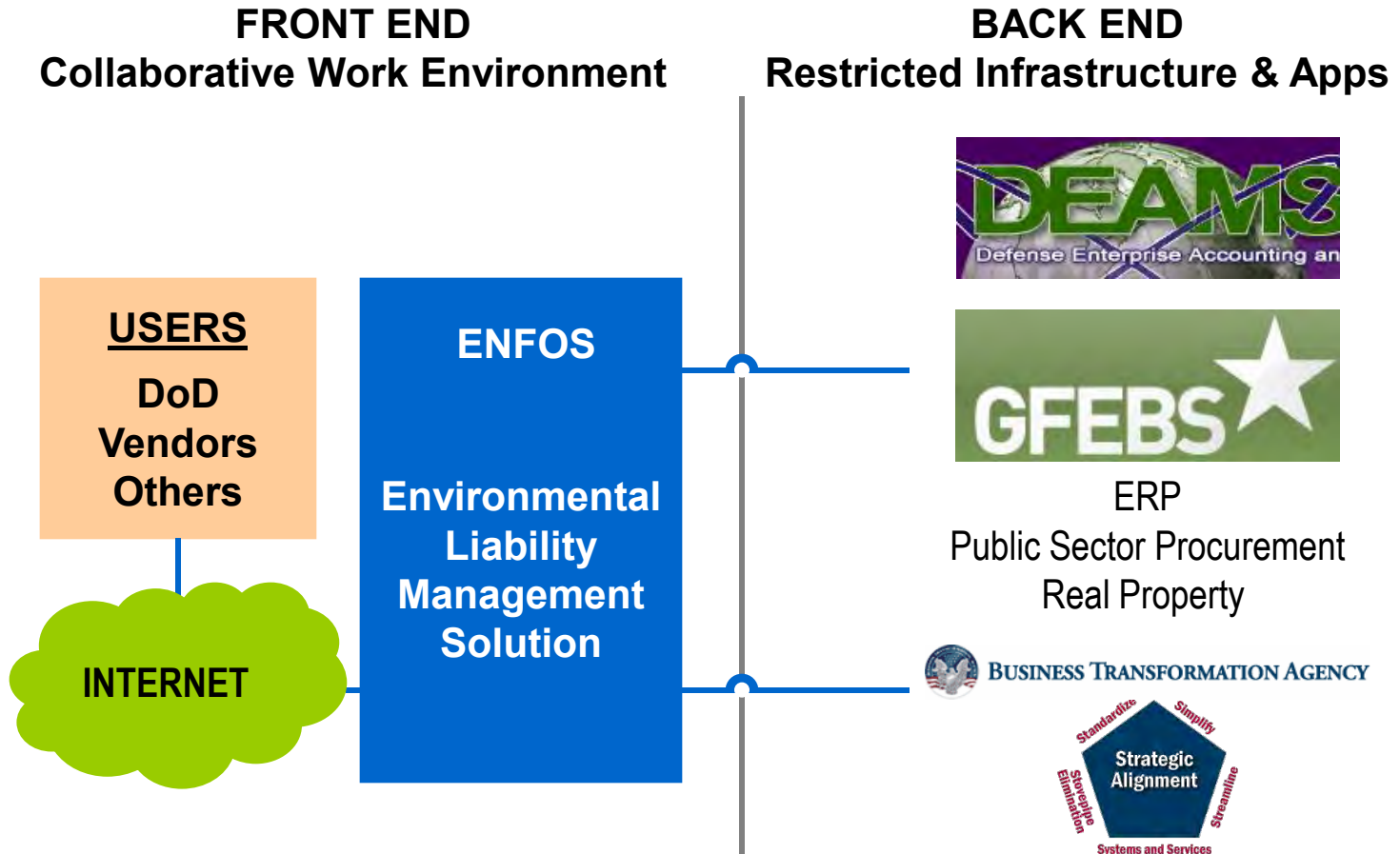


Department of Defense





ENTERPRISE SYSTEMS ARCHITECTURE





EXAMPLE – FUNCTIONAL AREAS SUPPORTED BY USAF DEAMS

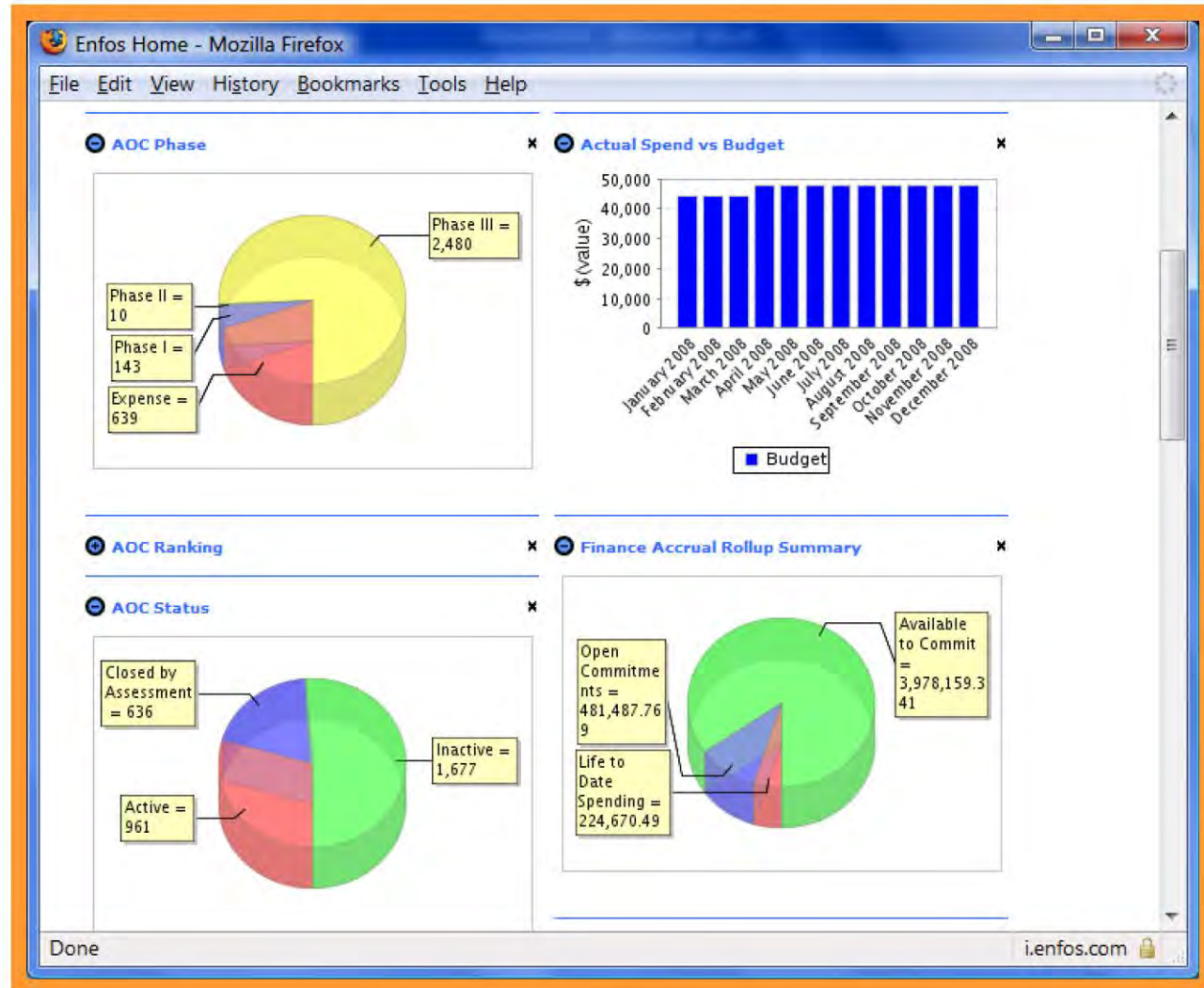
- Collections
- Obligations
- Cost Accounting
- Purchase Request
- Receipt and Acceptance
- Analysis and Decision Support
- Accounts Payable and Disbursement
- Customer Order and Customer Billing
- General Ledger, Budget Distribution, Control and Execution
- Property, Plant and Equipment (PP&E) -(USTRANSCOM only)



No tools or methodologies for the tracking of EL with sufficient detail needed to perform the EL Mission



REAL-TIME PERFORMANCE MEASUREMENTS





COMPLIANCE ACTIVITY PLANNING

Enfos Activity Planner - Mozilla Firefox

File Edit View History Bookmarks Tools Help

ENFOS

Home Sign-Out Company Help Site Map

Site Portfolio Data Finance Tools Compliance Admin

Community Activity Search Alerts Transfer

Roger Well : WestCo > USA > Retail > DC > 43844 > 43844.00

Company | Country | Program | State/Province | Site | AOC

Activity Calendar for 43844.00

Calendar

December, 2008						
<	>					
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Activities for December, 2008

Node	Date	Name	Activity Type	Status
...44 > 43844.00	12/31/2008	Facility Inspection	Compliance Audit	New
...44 > 43844.00	12/08/2008	NPDES Permit Renewal	Registration	New
...44 > 43844.00	12/19/2008	Tank Registration	Registration	New

Activity Planner

Add Download

showing 1-3 of 3

Name	Activity Target Date	Activity Type	Status	Copy	Check All
Facility Inspection	12/31/2008	Compliance Audit	New	Copy	☐
NPDES Permit Renewal	12/08/2008	Registration	New	Copy	☐
Tank Registration	12/19/2008	Registration	New	Copy	☐

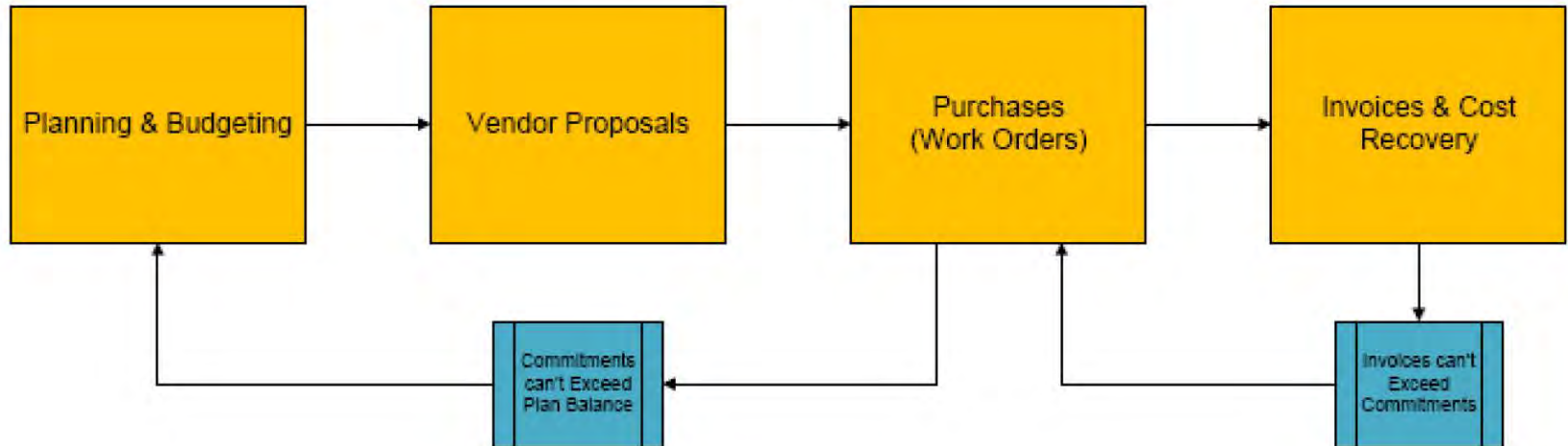
Done i.enfos.com



BUSINESS PROCESS IMPROVEMENT

“Plan for Performance” Overview

Finance Workflow Summary



Work Breakdown Structure - Common Thread across all Transactions

Level 1 – “Phase”

Level 2 (optional) – “Activity”

Level 3 (optional) – “Element”

Level 4 (optional) – “Component”

Can also easily integrate with systems like





BUDGETS, WBS, ESTIMATES, ACTUALS

Enfos Planning - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Stage Gate

1_Select - Define Oct 2009

2_Define - Execute Jan 2010

3_Execute - Operate Dec 2013

Site Milestones

1_Field Char. Complete Oct 2009

2_Remedial Approved Nov 2009

3_Remedial Imp. Complete Jun 2010

4_Remedial Operation Complete Sep 2012

5_Project Closure Dec 2013

Remediation Spend Plan [Operating Case Scenario]

Add Row

View By Cost

Show ☐ All ☒ Current Year ☐ Next Year ☐ 3 Year ☐ Future

Actions: [Copy Previous Financial Plan](#)

	/ Stage	Activity	Comments	Original Plan	Last Approved	Latest Estim	Variance	2009 Q1 Ac	2009 Actua	2009 Q1	Total
10	F 1_Appraise	Field Characteriz	Six wells	\$10,000.00	\$10,000.00	\$7,506.51	(\$2,493.49)	\$7,506.51	\$7,506.51	7506.51	\$7,506.51
20	F 2_Select	Feasibility Study	GW control	\$20,000.00	\$20,000.00	\$22,500.00	\$2,500.00			12500.00	\$22,500.00
30	F 3_Define	Monitoring	M&S	\$30,000.00	\$30,000.00	\$30,000.00	\$0.00				\$50,000.00
40	F 4_Execute	Construct/Install	P&T	\$20,000.00	\$20,000.00	\$20,000.00	\$0.00				\$60,000.00
50	F 5_Operate	Operations & Ma	O&M	\$0.00	\$0.00	\$0.00	\$0.00				\$30,000.00
1				\$80,000.00	\$80,000.00	\$80,006.51	\$6.51	\$7,506.51	\$7,506.51	\$20,006.51	\$170,006.51

Select Action Go

☐ Actual Spend Detail
 ☐ Plan Spend Detail
 ☒ Plan Spend Grand Total
 ☐ Plan Spend Annual Total
 ☐ Actual Spend Total

Done

w5.enfos.com



REAL-TIME RESERVE BALANCES

Enfos Report - Mozilla Firefox

https://i.enfos.com/enfos/portfolio/reportPopupUI.jsp?crypt=Sv9tc4u%2F35%2Fb96Qo6neEOsgfPf72N%2BY5tvt9GwYYTToy7cV6DRiipA%3D%3D

Roger Well

[Print](#) | [Download](#) | [Template](#) | [Save to Favorites](#)

Financial Reserve Report Options

Portfolio Portfolio for Parent : C2

Report 96-1 2008 Report
Show Financial Reserve report in currency USD for Project Type FAS5 SOP96-1 for period starting May 2008 and

Select State All ▼

Showing 1-20 of 232 »

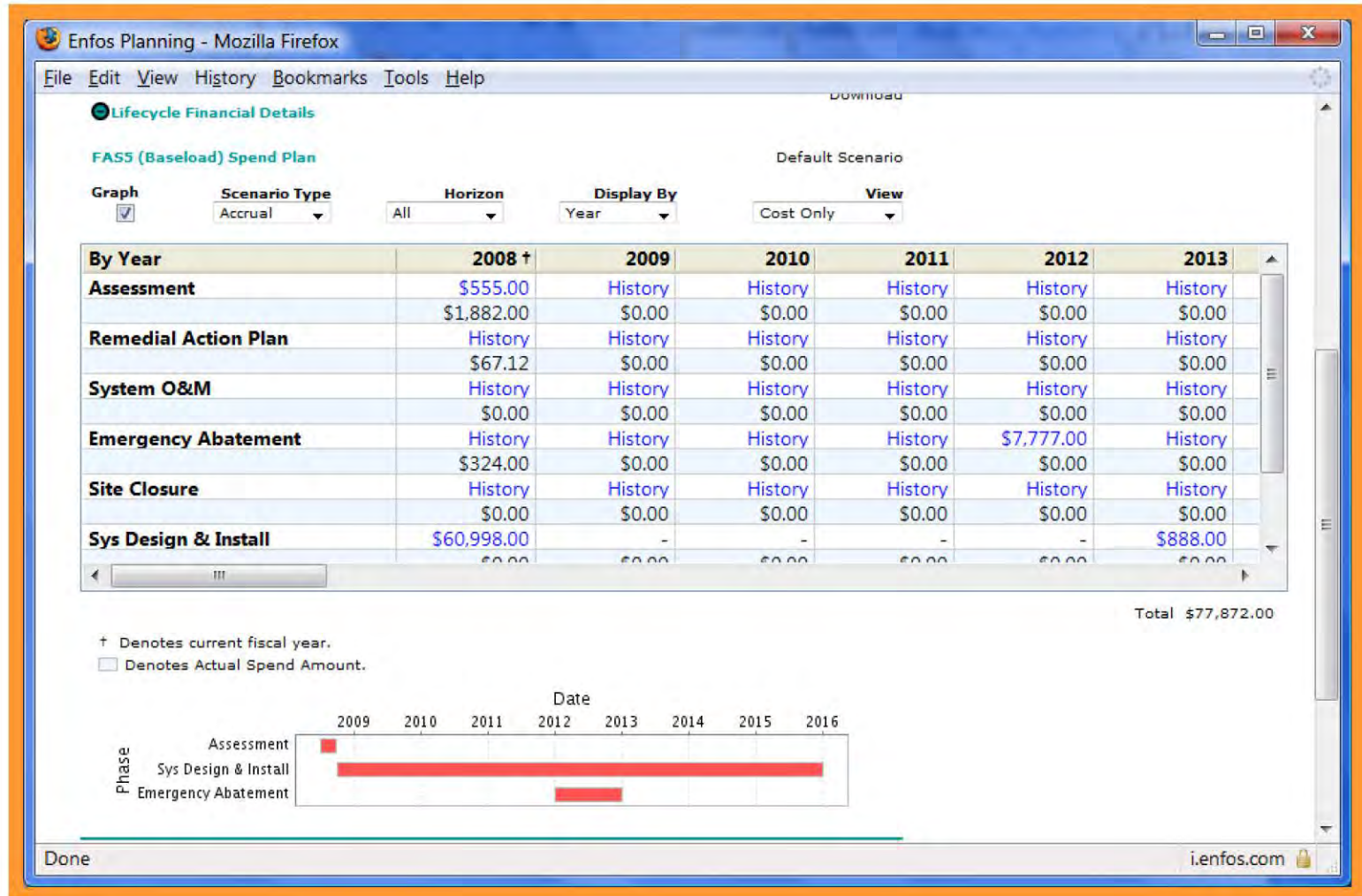
Node Path	Site Name	Project Type	Starting Balance *	Adjustments *	Spend *	Accretion *	Corrections *	Final Balance *
...Program Management		FAS5 SOP96-1	USD4,413.73	(USD3,988.02)	USD225.71	-	-	USD200.00
...tigation & Studies		FAS5 SOP96-1	USD1,200.00	-	-	-	-	USD1,200.00
...Settlement to Roan		FAS5 SOP96-1	USD70,000.00	-	-	-	-	USD70,000.00
...Program Management		FAS5 SOP96-1	USD171,249.34	USD37,734.03	USD4,821.37	-	-	USD204,162.00
...96-1 > Remediation		FAS5 SOP96-1	USD2,074,050.00	-	-	-	-	USD2,074,050.00
... 96-1 > Compliance		FAS5 SOP96-1	USD862,238.00	-	-	-	-	USD862,238.00
...Program Management		FAS5 SOP96-1	USD2,005.00	-	USD117.51	-	-	USD1,887.49
...Program Management		FAS5 SOP96-1	USD4,305.00	-	USD1,825.82	-	-	USD2,479.18
...actual Obligations		FAS5 SOP96-1	USD30,000.00	-	-	-	-	USD30,000.00

Done

i.enfos.com

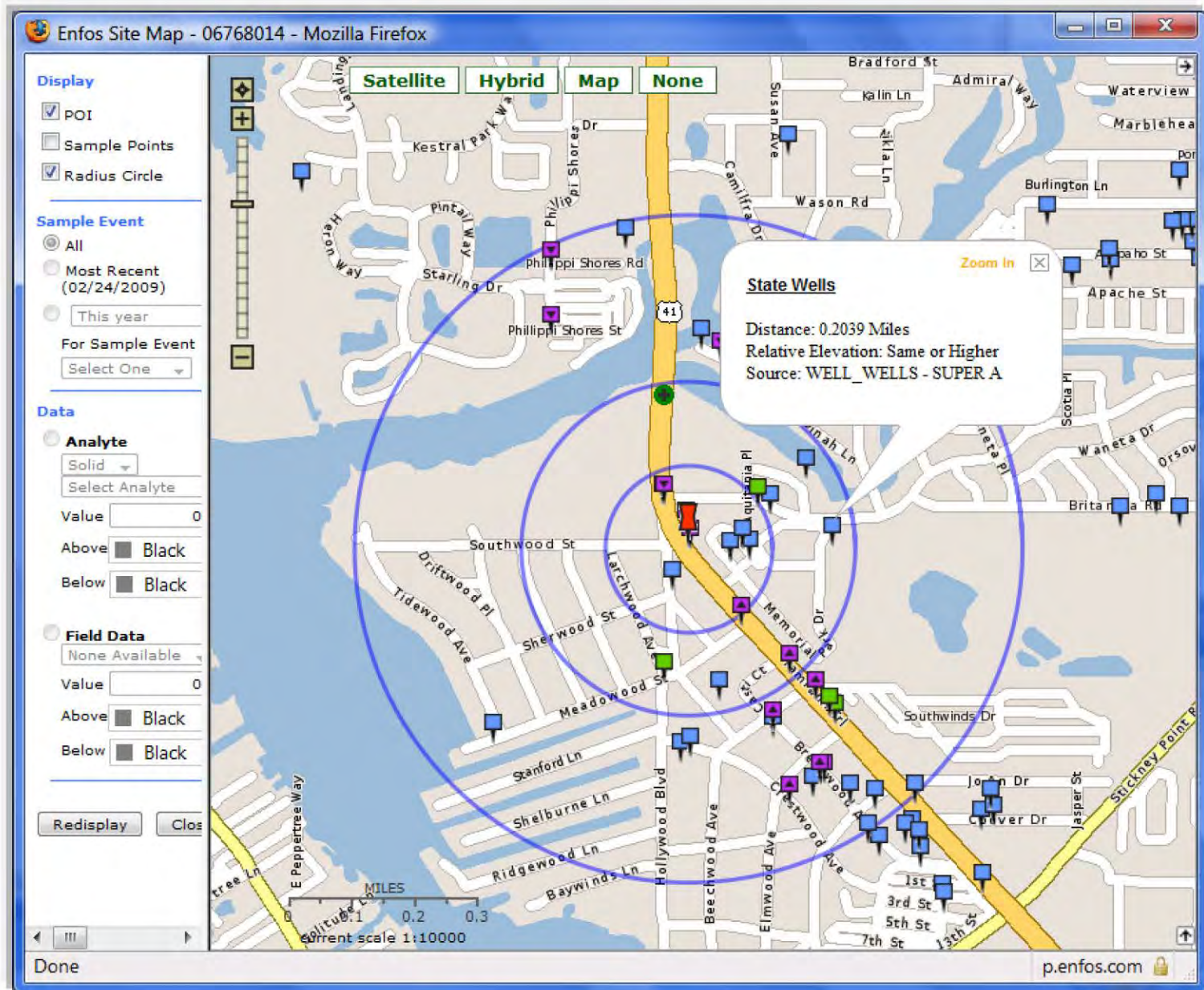


LIFECYCLE REMEDIATION (FAS 5) SPEND PLAN





MANAGE RECEPTORS (EDR[®] CONTENT) GIS





BEFORE

- MS Project & Excel files for planned costs
- Information transmitted through email
- No consolidated database of planned - actual costs
- Non-standard naming convention for remediation and ARO efforts
- Manual / non-standard calculations for net present value (NPV), accretion, and accrual adjustments > High Risk Spreadsheet controls required
- Evidence of Remediation and Finance approvals lack audit trail controls
- Time consuming reporting efforts
- No mid-period data available for analysis of forecast vs. actuals



AFTER

- Common, central database of all planning and actual data
- Standardized naming conventions for all remediation and ARO efforts
- Eliminate effort associated with spreadsheets organizing, storing, and retrieving data
- Daily accrual calculation and standardized NPV and accretion calculations
- Online evidence of Remediation and Finance approvals
- Reduced cycle time during quarterly reviews
- Reduced effort to review, analyze, and query actuals and projections
- Enhanced reporting and analysis capabilities
- Immediate calculations of plan adjustments based on plan pre-approval



QUESTIONS



Thank you for attending !



CONTACT INFORMATION

Enfos, Inc.

(Headquarters)

2000 Alameda de las Pulgas

Suite 160

San Mateo, CA 94403

Phone: 650-357-0007

(Midwest Location)

27475 Ferry Road

Suite 1145

Warrenville, IL 60555

Phone: 630-717-2783

(Federal Operations)

505 Gun Road

Baltimore, MD 21227

Phone: 410-247-4040

visit us at www.enfos.com

