



Briefing to the EFCOG

DOE Project Management Issues

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Well, I “unretired.”

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Effective October 26, 2008



Top Twenty Causes of DOE Project Failures



- Inadequate pre-project planning/requirements definition
- Abrogation of “Owner’s Role”
- Alternative Analysis & Acquisition Strategy not adequate/robust
- Next phase not sufficiently defined for decision making
- Only a limited set of risks or limited mitigation/management. Resource allocation not using risk analysis. Lack of risk informed decision-making.
- Inadequate use of EVMS
- Mission Need not linked to Strategic Goal
- Facility Startup process not sufficiently planned
- Total Estimated Cost vs. Other Project Cost binning concerns (chart of accounts)
- IPT membership incomplete or not involved
- Lack of Budget integration and linkage (timing of funds/appropriations, Critical Decisions, Project Data Sheets, etc.)
- DOE context not adequately accounted for (Critical Decisions, External Independent Reviews, procurement, etc.)



Top Twenty Causes of DOE Project Failures – Cont'd.



- Overly optimistic assumptions and cost/schedule estimates
- Incomplete design prior to commencing construction
- Design/Safety Issues
- Lack of Experience – especially on large nuclear projects
- Poor Contracting Strategy/Execution:
 - Risk allocation
 - M&O contractors executing Line Item projects
 - Lack of accountability (contractors)
 - Lack of contractors' financial commitment toward project success – lack of incentives.
- Increased role of material/cost escalation – market forces
- Changing requirements – e.g. DBT changes, seismic changes
- Poor cost estimating, especially Government Cost Estimates. Lack of databases on actual costs and cost models.



Congressional Concerns



- From the House E&W Subcommittee Report (June 11, 2007):
 - “Project management is the Committee’s number one concern at the Department of Energy.”
 - “The Committee repeats its prior guidance on the importance of improving the project management culture within the Department and on faithful compliance with Project Management Order 413.3. It is important for the Department to maintain its focus on project management for all aspects of its work, but most especially for major capital projects.”
 - “The Committee directs the Department to work with GAO and develop an action plan with concrete steps and schedule milestones whose implementation will result in DOE contract management being removed from the GAO High-Risk List as soon as possible. This action plan is to be provided to the Committees on Appropriations of the House and Senate not later than November 1, 2007.”



GAO Report 07-518

June 2007



- “Consistent Applications of Guidelines Needed to Improve Project Management”
- “Since 1999, DOE has improved its approach to project management by addressing weaknesses in three key areas, as recommended by the National Research Council....”
- “DOE has not ensured that its project management guidelines are consistently followed.”



Other Background Information



- Project Management is an easy target (Waste Treatment Plant, MOX, Highly Enriched Uranium Management Facility, etc.).
- We do need to improve our performance. However, it is likely that we will always have some project failures.
- We are working closely with the M&O contractors through the EFCOG (e.g. Guides).
- We are doing many good things to improve project management, most of which Congress is unaware (EVMS certification, updates to DOE O 413.3, DOE 413.3 Guides Development, PMCDP, IPRs, etc.).



NNSA Project Portfolio Summary



Status as of August 31, 2008

Site	# of Projects	Total Project Costs (\$M)	Certified FPDs (Incumbents)	Certified FPDs (Candidates)	Total Certified FPDs
Kansas City	1	\$215.0	1	2	3
Los Alamos	10	\$1,634.6	6	14	20
Lawrence Livermore	2	\$2,261.4	1	4	5
Nevada	3	\$200.8	3	6	9
Pantex Site	5	\$276.7	4	0	4
Sandia	4	\$693.9	3	3	6
Savannah River	3	\$7,393.5	2	0	2
Y-12	7	\$4,409.1	5	2	7
Various Other *	3	\$957.8	3	13	16
Total:	38	\$18,042.7	28	44	72

* Various Other includes: Seversk, Russia, \$387.5M; Zheleznogorsk, Russia, \$570.5M; Fuel Fabrication Capability, \$TBD.

FPD = Federal Project Director



Project Management Improvement Actions



- Re-write of DOE O 413.3 to incorporate enhanced planning and integration of safety into design
- PMCDP – over 72 people certified in the NNSA. Over 260 in DOE
- PMP Bootcamps – over 150 people certified by PMI
- EVMS certification of most of our M&O contractors
- Enhanced Technical IPR process (BOP)
- Enhanced ESAAB process (BOP)
- Enhanced QPR process and status reporting to NA-1/NA-2 and S-2
- New Value Management process (BOP) and related training
- Emphasis on Knowledge Management/Lessons Learned
 - NA-54 Website, NA-54 PM Bulletin, Annual NNSA Project Management Workshop, Monthly NNSA Project Management Teleconferences.
- ICE contracts
- Guides development (17 DOE O 413.3A Guides)
- DOE Standard 1189



Requirements for Acquisition of Capital Assets



DOE O 413.3 and DOE M 413.3-1:

- **Critical Decisions and ESAABs**
- **Documentation**
 - **Mission Need Statement**
 - **Program Requirements**
 - **Conceptual Design**
 - **Project Execution Plan**
 - **Risk Management Plan**
 - **Acquisition Plan**
- **Baselines and BCPs**

DOE O 413.3 and DOE M 413.3-1 (Continued):

- **Reviews**
 - **Independent Cost Estimate**
 - **Technical Independent Project Reviews**
 - **External Independent Review and Corrective Action Plan**
 - **Quarterly Performance Reviews**
- **Reporting**
 - **PARS**
 - **EVMS Reporting**
- **Budgeting**
 - **Project Data Sheets**

Color Key:

- **BLACK:** Existing Requirement (prior to 1999)
- **GREEN:** Improved Requirement (existed prior to 1999, but improved since then)
- **RED:** New Requirement (since 1999)



New (or Improved) Program and Project Management Requirements



OMB Circular A-11

- OMB Exhibit 300s

DOE O 361.1A

- Project Management Career Development Program (PMCDP)
- PMCDP Training Courses (Risk Management and EVMS)
- PMP Boot Camp

DOE P 413.2

- Value Engineering

Other New Requirements:

- Project Management Performance Plans (McSarrow memo, 12/22/04)
- EVMS Certification (Carnes memo, 11/03/04)
- Program Management Quarterly Reporting (McSarrow memo, 10/04/04)

Other New Requirements (Continued):

- Program Manager Qualification Program (NNSA BOP 006.001, 08/12/04)
- Program Management Implementation Plans (McSarrow memo, 01/22/04)
- Information Technology
 - IT Project Management in Accordance with DOE O 413.3 (OMB Direction)
 - IT Project Manager Certification (OMB Direction, Mark Foreman)
 - IT EVMS Certification (Carnes memo, 11/03/04)
- Monthly Project Status Reporting
 - To S-2 (OECM requirement)
 - To NA-1 (NNSA requirement)
- JOULE Reporting

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Current Events in Project Management in the NNSA/DOE



- NNSA Focus Area # 5 – “Integrate Project Management Best Practices Throughout NNSA.”
- Cost Estimating group being formed in DOE CFO’s Office (CF-70).
- OECM-led effort to get off the GAO High Risk List.



My Opinion: In the NNSA, The Contractor Assurance System and Project Management Improvement can be Mutually Exclusive.



NNSA Special Focus Area #5



- The Administrator has formed teams to address six focus areas for the NNSA.
- Special Focus Area #5 is entitled “Integrate Project Management Best Practices throughout the NNSA.”
- Objective: “Further enhance the credibility of NNSA by increasing the likelihood of the success of construction projects.”
- Team has been working for the past year to identify and promulgate best practices.



Blueprint for Improving Project Management in the NNSA Planned Actions, Products and Schedule



#	Action	Products	Schedule / Status
1	Properly resource our projects with qualified personnel	<ul style="list-style-type: none"> Integrated Project Team Survey 	<ul style="list-style-type: none"> Survey responses have been analyzed. FTE needs identified – about 15 (esp. UPF and PDCF). Complete Needs Assessment by September 30, 2008 and brief NA-2.
2	Effective requirements definition process	<ul style="list-style-type: none"> Program Requirements Document Business Operating Procedure Project Definition Rating Index Technology Readiness Level 	<ul style="list-style-type: none"> Program Requirements Document BOP issued February 2008 Project Definition Rating Index Model and associated Manual Drafted June 2008. PDRI Manual and Business Operating Procedure finalized in 4QFY08. Develop & Conduct PDRI and PRD training 1QFY09. Develop NNSA TRL model by 1QFY09.
3	Improve our cost estimating capability	<ul style="list-style-type: none"> Cost Estimating Business Operating Procedure Cost Estimating Guide New Cost Estimating Group in CFO 	<ul style="list-style-type: none"> Cost Estimating Business Operating Procedure currently in REVCOM – awaiting SC approval of cost impact analysis. <u>CFO Actions:</u> <ul style="list-style-type: none"> –Office of Cost Analysis (CF-70) established in December 2007. –DOE Cost Estimating Order and Guide by December 2008. –Initial databases/models by June 2009.



Blueprint for Improving Project Management in the NNSA - Planned Actions, Products and Schedule



#	Action	Products	Schedule / Status
4	Improve our acquisition planning/ contracting capability	<ul style="list-style-type: none"> • Construction Contracting Improvement Group. • Complex-wide construction contracting • Enhanced use of Management and Operating Contractor Award Fee pools to incentivize construction • Enhanced training for Federal Project Directors • Provide Service Center support to Federal Project Directors 	<ul style="list-style-type: none"> • <u>Construction Contracting Improvement Group</u> <ul style="list-style-type: none"> –Inputs received from private sector companies via EFCOG. –Analyzing CII risk allocation information. –Analyzing R&R report from NV. –Reviewing 4 RFPs (SC). –Summary report due in 4QFY08. • Partner with Service Center personnel to supply acquisition planning and contracting support to FPDs and IPTs. • Conduct training in 1QFY09.
5	Improve our ability to identify and manage project risks	<ul style="list-style-type: none"> • Risk Management Business Operating Procedure • Training for Federal Project Directors, Program Managers and Acquisition Executives 	<ul style="list-style-type: none"> • Risk Management Business Operating Procedure - Develop and issue in 1QFY09. • DOE Risk Management Guide - Issue in September 2008. • Develop and conduct training in 1QFY09. • Integrate with Quarterly Project Review and Energy Systems Acquisition Advisory Board processes in 1QFY09.. • QPR Business Operating Procedure –Develop and issue in 1QFY09..
6	Clarify roles, responsibilities, authorities, and accountability in project management	<ul style="list-style-type: none"> • 413.3A Implementation Reviews • NNSA FPD of the Year Award • Project Management Functional Accountability Process – Mobility • Project Management Roles and Responsibility Training for Federal Project Directors 	<ul style="list-style-type: none"> • Site-wide DOE O 413.3A assessments complete. Report due September 30, 2008. • NNSA FPD of the Year Award presented in July 2008 at the NNSA Project Management Workshop. • Issue Functional Accountability Implementation BOP in 1QFY09. • Filming of Level 4 Federal Project Directors at 4 sites - Lessons-Learned - to be completed in October 2008. • Project Management Roles & Responsibilities brochure being finalized. Training to be developed in 1QFY09. • Roles & Responsibilities pilot course to be developed and piloted in 2QFY09.



Construction Contracting Improvement



- Almost every subcontractor bid is coming in 30-50% above the Government Estimate.
- In the NNSA, on average, we're only getting 1½ bids per solicitation.
- Potentially the highest impact activity in Special Focus Area #5.
- Received and analyzing the EFCOG Members' input.
- Reviewing recent RFPs.
- Improper DOE/M&O contractor risk allocation. DOE really needs to improve in this area.
- Examples:
 - “Bruce Springsteen” Clause.
 - Economic Price Adjustment/Materials escalators.
 - Greater use of CPIF vs FFP/LS contracts.
 - Specify funding profile in the contract.
 - Site access/productivity concerns.
 - Critical Size Threshold for subcontracts (less than \$40-50 million).
- Lack of M&O contractor incentives.
- Need to provide more CO support to our Federal Project Directors



Conclusion



- There is room for improvement in project management in the DOE.
- We have taken many steps to improve our processes.
- We need to do a better job of execution.
- Some failures are probably inevitable.
- We can probably do a better job of making Congress aware of our successes.