Department of Energy
Washington, DC 20585

January 5, 2006

MEMORANDUM FOR JERALD S. PAUL
PRINCIPAL DEPUTY ADMINISTRATOR
FOR NATIONAL NUCLEAR SECURITY
ADMINISTRATION

JAMES A. RISPOLI
ASSISTANT SECRETARY FOR ENVIRONMENTAL
MANAGEMENT

ROBERT L. MCMULLAN
ACTING DIRECTOR, OFFICE OF ENGINEERING AND
CONSTRUCTION MANAGEMENT

FROM: MARK B. WHITAKER, JR.
DIRECTOR, DEPARTMENTAL REPRESENTATIVE TO
THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SUBJECT: Defense Nuclear Facilities Safety Board Public Meeting – Safety in Design – Path Forward

In his December 5, 2005 memorandum the Deputy Secretary directed programs to identify any specific implementation actions they will take to address the weaknesses and expectations described above and provide a listing of their implementation actions and schedules by January 31, 2006. Attached are two documents that are intended to assist you in meeting this deadline.

The first document is a detailed schedule which, when implemented will result on an integrated path forward for implementing the various commitments made by the Department during the public meeting. The second document is a table of the commitments included in the Department's testimony that has been derived from the Department's written testimony, the draft transcript of the meeting, and the videotape record.

My office will coordinate this effort and monitor progress against the attached schedule. Please submit the information identified in the schedule to Bob McMorland.

Attachments

cc (enc): Clay Sell

The Deputy Secretary of Energy
Washington, DC 20585

December 5, 2005

MEMORANDUM FOR LINTON F. BROOKS
UNDER SECRETARY FOR NUCLEAR SECURITY

DAVID K. GARMAN
UNDERSECRETARY FOR ENERGY, SCIENCE,
AND ENVIRONMENT

JOHN S. SHAW
ASSISTANT SECRETARY, ENVIRONMENT,
SAFETY, AND HEALTH

INGRID A. C. KOLB
DIRECTOR, OFFICE OF MANAGEMENT

FROM: CLAY SELL

SUBJECT: Integrating Safety into Design and Construction

The following information outlines my expectations regarding effectively integrating safety into projects. We must identify and resolve safety issues as early in the design process as is practicable. By so doing, we can address safety in a manner that will result in minimal project delays and fewer cost overruns. This is what sound project management is about, and this is why the Secretary and I have placed such importance on effective project management. This is not only good safety; it is also good business. As stewards of the country's defense nuclear facilities, we cannot have one without the other.

Program Strengths. The Department is focused on effective implementation of our project management program. I see five major strengths we can build upon in better integrating safety into design early in our project lifecycle.

1. Our project management program has the right goal – "to deliver capital assets on schedule, within budget, and fully capable of meeting mission performance and environmental, safety, and health standards."

2. Our project management order and manual are significant steps moving us forward in instilling the required discipline into the acquisition of major capital assets.

3. The Department is moving forward with the certification of our Federal project directors.

4. The Department has a strong set of safety rules and directives, and we need to build on this foundation by making necessary clarifications and amplifications.

5. The Department has strong Integrated Safety Management systems implemented at our facilities, and we are implementing the Secretary's 2004-1 implementation plan to institutionalize and revitalize our safety management implementation.

Program Weaknesses. Recent history shows that we can improve our performance by adequately identifying and resolving safety issues early in the design cycle. Although safety is an integral part of the project management, we need to improve how safety is incorporated into design, especially in the early project planning phases. Projects such as the Waste Treatment Plant at Richland, the Salt Waste Processing Plant at Savannah River, and the Sandia Underground Reactor Facility make clear the need to better incorporate safety into early design activities.

1. In terms of policy, we need to revise and reissue the DOE Order 413.3, *Project Management for the Acquisition of Capital Assets,* originally issued in October 2000, to bring it into agreement with the Manual. Based on experience and feedback, we have identified a number of worthwhile improvements to clarify and strengthen the project management order, including the following: (a) more complete description of safety expectations for early design steps as well as for project completion and turnover; (b) clarification of the expected use of the graded approach by identifying clear expectations, including more complete expectations for acceptable use of design/build approaches; (c) clear requirements regarding safety qualification of individuals involved in project management and integrated project teams; (d) clear references to the required safety rules, directives, and standards; (e) more complete coverage of tailoring and safety issues at ESAAB meetings; (f) provisions for safety oversight by the Chiefs of Nuclear Safety; (g) provisions for safety engineering reviews by the Office of Environment, Safety and Health for projects over $4 million; and (h) more complete requirements for after-action reports to promote effective learning from experience.

2. While we pursue changes to the project management order to better control and verify that safety is being adequately addressed, we know that line management, not the project management staff organization, owns the responsibility for developing designs using sound engineering practices.

In terms of implementation, the line programs need to better staff their project teams with the necessary design engineering and safety expertise to ensure safety requirements are properly identified, translated into the project's design documents, and maintained in effect throughout the procurement, construction, and testing phases of the project. Where this expertise is not readily available within the Department, I expect the line programs to contract this expertise. Line programs also need to more clearly define contractual expectations regarding the early integration of safety into the alternative studies and project design.

3. In terms of safety oversight, the Chiefs of Nuclear Safety are implementing their milestones in the Secretary's 2004-1 implementation plan and will soon begin providing effective oversight on the selection of safety requirements and standards for design and construction, and translation of expectations into contract requirements. I also expect the Chiefs to review project team make-up and contractor oversight, and sample safety hazard analyses, facility hazard categorization, safety analyses, safety system identification and performance categorization, and resolution of design and construction safety issues so that they can provide feedback and input to their Central Technical Authorities regarding whether they have confidence that the project teams have effectively integrated safety considerations into design and construction work activities.

Expectations. Please find below my top-level expectations regarding integrating safety into project design and construction. To the extent that you have not fully realized these expectations, I am now directing the responsible organization parties to identify specific actions to close the gaps between our performance and our expectations, and take those actions on a deliberate pace to fully meet these expectations.

1. I expect safety to be fully integrated into design early in the project. Specifically, by the start of the preliminary design, I expect a hazard analysis of alternatives to be complete and the safety requirements for the design to be established. I expect both the project management and safety directives to lead projects on the right path so that safety issues are identified and addressed adequately early in the project design.

2. I expect my line organizations to follow the requirements defined in the project management order and manual. The Secretary's August 2005 memo made it clear that he expects compliance with these directives.

3. I expect line project teams to have the necessary experience, expertise, and training in design engineering, safety analysis, construction, and testing.

4. I expect that the Chiefs of Nuclear Safety will provide safety oversight during the design, construction, and testing phases of our projects.

5. I expect staff work and presentations to the ESAAB to be sufficiently complete so that they highlight tailoring issues and safety issues that need management attention. I expect every ESAAB review to include a discussion of relevant safety issues.

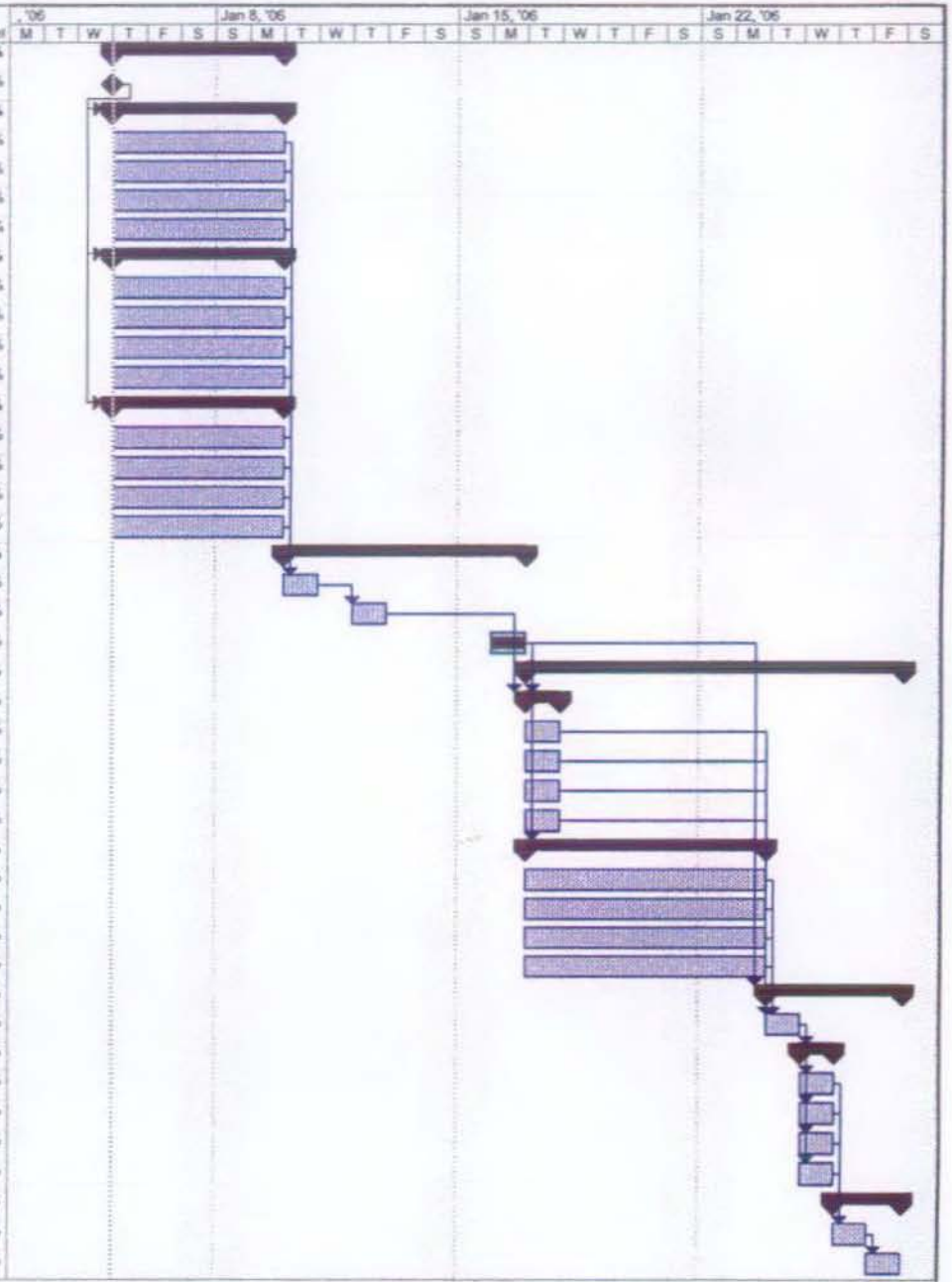
6. I expect that we will learn effectively from our project experience so that future projects are more likely to be completed on time and on budget with all mission and safety objectives satisfied.

Path Forward. I want the OECM to begin needed revisions of the project management order in January 2006 and develop and issue this revision as a priority task during the upcoming year. I also want EH to review the existing safety directives and identify those that need to be revised to provide clear requirements regarding safety into early project phases. I do not expect line offices to await issuance of the revised order before they move forward on implementing the expectations I have described above. Other programs are requested to identify any specific implementation actions you will take to address the weaknesses and the expectations described above. Please provide a listing of your implementation actions and schedules by January 31, 2006, to Ms. Ingrid Kolb.

In closing, the Department has a solid foundation and is moving in the right direction in improving its project management practices. We need to make the needed improvements in effectively incorporating safety into design and construction so that we can reach our goal of world-class project management.

cc:
Mark B. Whitaker, DR-1
James A. Rispoli, EM-1
Robert L. McMullan, MA-50
Thomas P. D'Agostino, NA-10
R. Shane Johnson, NE-1
Raymond L. Orbach, SC-1
C. Russell H. Shearer, EH-1

ID	Task Name	Start	Finish	Duration	% complet
1	**Review Draft List of Action Items**	**1/5/06**	**1/9/06**	**3 days**	**0%**
2	DR Issue Kickoff Memorandum	1/5/06	1/5/06	0 days	100%
3	**Identify Non-commitments**	**1/5/06**	**1/9/06**	**3 days**	**0%**
4	OECM Identify Non-commitments	1/5/06	1/9/06	3 days	0%
5	EM Identify Non-commitments	1/5/06	1/9/06	3 days	0%
6	NNSA Identify Non-commitments	1/5/06	1/9/06	3 days	0%
7	EH Identify Non-commitments	1/5/06	1/9/06	3 days	0%
8	**Identify Commitments Requiring Detailed Action Plan**	**1/5/06**	**1/9/06**	**3 days**	**0%**
9	OECM Identify Commitments Requiring Detailed Action Plan	1/5/06	1/9/06	3 days	0%
10	EM Identify Commitments Requiring Detailed Action Plan	1/5/06	1/9/06	3 days	0%
11	NNSA Identify Commitments Requiring Detailed Action Plan	1/5/06	1/9/06	3 days	0%
12	EH Identify Commitments Requiring Detailed Action Plan	1/5/06	1/9/06	3 days	0%
13	**Identify Responsible Org. & Person for Each Commitment**	**1/5/06**	**1/9/06**	**3 days**	**0%**
14	OECM Identify Responsible Org. & Person for Each Commitment	1/5/06	1/9/06	3 days	0%
15	EM Identify Responsible Org. & Person for Each Commitment	1/5/06	1/9/06	3 days	0%
16	NNSA Identify Responsible Org. & Person for Each Commitment	1/5/06	1/9/06	3 days	0%
17	EH Identify Responsible Org. & Person for Each Commitment	1/5/06	1/9/06	3 days	0%
18	**Finalize List of Action Items**	**1/10/06**	**1/16/06**	**5 days**	**33%**
19	DR Update & Distribute Actions Items List	1/10/06	1/10/06	1 day	0%
20	DR - Meeting - Resolve Conflicts & Finalize List	1/12/06	1/12/06	1 day	0%
21	DR Finalize & Distribute Action Items List	1/16/06	1/16/06	1 day	100%
22	**Develop Implementation Schedule**	**1/17/06**	**1/27/06**	**9 days**	**0%**
23	**Identify Completion Dates for Simple Commitments**	**1/17/06**	**1/17/06**	**1 day**	**0%**
24	OECM Identify Completion Dates for Simple Commitments	1/17/06	1/17/06	1 day	0%
25	EM Identify Completion Dates for Simple Commitments	1/17/06	1/17/06	1 day	0%
26	NNSA Identify Completion Dates for Simple Commitments	1/17/06	1/17/06	1 day	0%
27	EH Identify Completion Dates for Simple Commitments	1/17/06	1/17/06	1 day	0%
28	**Develop Action Plans and Completion Dates for Complex Commitments**	**1/17/06**	**1/23/06**	**5 days**	**0%**
29	OECM Develop Action Plans and Completion Dates for Complex Commitments	1/17/06	1/23/06	5 days	0%
30	EM Develop Action Plans and Completion Dates for Complex Commitments	1/17/06	1/23/06	5 days	0%
31	NNSA Develop Action Plans and Completion Dates for Complex Commitments	1/17/06	1/23/06	5 days	0%
32	EH Develop Action Plans and Completion Dates for Complex Commitments	1/17/06	1/23/06	5 days	0%
33	**Prepare Draft Implementation Schedule**	**1/24/06**	**1/27/06**	**4 days**	**0%**
34	DR Prepare & Distribute Draft Schedule	1/24/06	1/24/06	1 day	0%
35	**Review Draft Implementation Schedule**	**1/25/06**	**1/25/06**	**1 day**	**0%**
36	OECM Review Draft Schedule	1/25/06	1/25/06	1 day	0%
37	EM Review Draft Schedule	1/25/06	1/25/06	1 day	0%
38	NNSA Review Draft Schedule	1/25/06	1/25/06	1 day	0%
39	EH Review Draft Schedule	1/25/06	1/25/06	1 day	0%
40	**Finalize Schedule**	**1/26/06**	**1/27/06**	**2 days**	**0%**
41	DR Prepare Final Schedule	1/26/06	1/26/06	1 day	0%
42	DR Forward Final Schedule to Deputy Secretary & Action Parties	1/27/06	1/27/06	1 day	0%



Project: 12-7-05 Public Meeting Action
Date: 1/5/06

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

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
Miscellaneous Open Items					
1.	R. McMullan promised to get back to K. Fortenberry regarding whether the open decision on the CMRR ventilation system design is identified in the monthly project status reports to the Deputy Secretary and Under Secretaries.	R. McMullan question response	R. McMullan		
2.	J. Paul promised to get back to R. Mathews regarding whether the NNSA training program provides opportunities for personnel to manage progressively more complex projects.	J. Paul question response	J. Paul		
Deputy Secretary Directions					
3.	Programs are requested to identify any specific implementation actions you will take to address the weaknesses and expectations described above. Provide a listing of your implementation actions and schedules by January 31, 2006, to Ms. Ingrid Kolb.	C. Sell 12-5-05 memorandum – Path Forward)	PSOs	01-31-06	
4.	I have directed my staff to identify and initiate those actions needed within the Department so that the Department can function safely and effectively on its own without the need for independent Board oversight.	C. Sell written statement to the Board, 2nd§ C. Sell verbal testimony	PSOs		

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
Directives Changes (Also see Integrated Safety Management, Design/Build, Early in Life Cycle, and Integrated Project Teams, And Lessons Learned, Continuous Improvement, & NNSA Pilot Effort)					
5.	EH review the existing safety directives and identify those that need to be revised to provide clear requirements regarding safety in early project phases.	C. Sell 12-5-05 memorandum – Path Forward) C. Sell written statement to the Board, Path Forward C. Sell verbal testimony	EH		
6.	We have an adequate foundation of DOE rules and directives, and we need to build on this foundation by making necessary clarifications and amplifications. Our current safety directives focus primarily on existing facilities and we need to augment them for new designs.	C. Sell written statement to the Board, Program Strengths # 4	EH		
7.	Remove watch list requirement from O 413.3.	R. McMullan question response	OECM		
8.	a. O 413.3 is primarily a management order. When it is revised consider how the engineering requirements for the project will be handled to ensure they have "depth &	A.J. Eggenberger recommendations during R. McMullan testimony	OECM		

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	integrity". b. ESAAB needs to be able to look at the engineering details.				
9.	a. Add to O 413.3 ability to warn management promptly of safety issues that could impact cost or schedule. b. Consider using Performance Categorization rather than $400 million as the threshold for requiring ESAAB approval; c. Need to establish criteria for conducting EIRs for CD-2 and CD-3. d. Earned value should not be the only criteria for determining whether a project is red, yellow, or green, (since it does not account for open safety issues that could have significant cost/schedule impacts).	K. Fortenberry recommendations during R. McMullan testimony	OECM		
10.	Revise Order 413.3 to bring it into agreement with Manual 413.3-1 including: a. More complete description of safety expectations for early design steps as well as for project completion and turnover. b. Clarification of the expected use of the graded approach by identifying clear expectations, including more complete expectations for	C. Sell 12-5-05 memorandum – Program Weaknesses # 1. C. Sell written statement to the Board, Program	OECM		Begin Order revision by January 2006 and issue as a priority task. (Ref. C. Sell 12-5-05 memorandum – Path Forward & C. Sell Statement to the Board, Path Forward Note for item g. $4M in C. Sell memo, but $5M in C.

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	acceptable use of design/build approaches; c. Clear requirements regarding safety qualification of individuals involved in project management and integrated project teams; d. Clear references to the required safety rules, directives, and standards; e. More complete coverage of tailoring and safety issues at ESAAB meetings; f. Provisions for safety oversight by the Chiefs of Nuclear Safety; g. Provisions for safety engineering reviews by the Office of Environment, Safety and Health for projects over $5 million; h. More complete requirements for after-action reports to promote effective learning from experience.	Weaknesses # 1 R. McMullan written statement to Board, Ideas and Actions for Improvements 1st § R. McMullan verbal testimony			Sell Statement to the Board.
Tailoring/Graded Approach & ESAAB Meetings (Also see Directives Changes)					
11.	In strengthening our existing process, we must ensure that we preserve our capability to wisely use a graded approach to tailor the process based on complexity and risk; however, this graded approach must have appropriate guidelines and expectations to maintain necessary	C. Sell written statement to the Board, Program Strenghts # 2	OECM		See item 10.b

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	checks and balances.				
12.	Would not tailor: a. High hazard situations; b. Areas involving safety requirements. Tailoring is not expected to reduce safety requirements.	C. Sell question response R. McMullan question response J. Paul question response.	OECM		
13.	We don't eliminate essential CD elements when tailoring	R. McMullan question response	OECM		
14.	No required documents can be omitted when tailoring	J. Rispoli question response	OECM		
15.	EM will use CD process for all projects regardless of project estimated cost.	J. Rispoli question response	EM		
16.	...yes we do have a list of precisely what should be included before each critical decision. And we have incorporated the new CTA function into that list.	J. Rispoli question response	OECM		The list referred to in this item was e-mailed to J. Batherson on 12-16-05
17.	I expect staff work and presentations to the ESAAB to be sufficiently complete so that they highlight tailoring issues and safety issues that need management attention. I expect every ESAAB review to include a	C. Sell 12-5-05 memorandum – Expectations # 5.	PSOs		See item 10.e

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	discussion of relevant safety issues.	C. Sell written statement to the Board, Expectations # 5. C. Sell verbal testimony			
Design-Build					
18.	In response to J. Bader question regarding whether revised O 413.3 would include specific requirements to define the level of maturity of the design and how the design will be frozen before adopting a design/build approach R. McMullan responded that how to use a design/build approach will be addressed in the revised Order.	R. McMullan question response	OECM		See item 10.b
19.	In response to a J. Bader suggestion the design build not be used for first time, one-of-a-kind or fast track projects, R. McMullan agreed.	R. McMullan question response	OECM		See item 10.b
20.	I do believe that when we're talking about design build on a one-of-a-kind projects that I certainly believe that there should be a "devil's advocate", if you will, Dr. Mansfield, and that role would be played by the people I just mentioned and the organizations	R. McMullan question response	OECM/CTAs/EH		

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	I just mentioned [CTAs & EH].				
Early in the Life Cycle					
21.	Need: a. Credible project baselines including safety reviews; b. Selection of the most appropriate contract types; c. Realistic schedules; d. Early & frequent communications with stakeholders, regulators, committees, Congress, and contractors.	J. Rispoli verbal testimony	OECM		
22.	Need initial hazards assessment after CD-0 /before CD-1.	C. Sell question response J. Rispoli & R. McMullan question (to C. Sell) response	OECM		See item 10.a
23.	Hazards analysis done prior to CD-1 to identify performance category that is to be used in the conceptual design.	R. McMullan question response	OECM		See item 10.a
24.	We must institute safety reviews earlier in the design process.	J. Rispoli written statement to the Board, 11th § J. Rispoli verbal testimony	OECM		See item 10.a
25.	Need to better review/resolve safety issues at CD-1	C. Sell question response	OECM		See item 10.a

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
		J. Rispoli verbal testimony			
26.	Analysis, design, and procurement specification work must be complete and reviewed for quality early enough to be used as the basis for key decisions. For nuclear projects, the overall safety strategy and preliminary hazard analysis, accepted by the authorization basis manager, should be completed prior to CD-1.	J. Paul written statement to the Board, 3rd § 2nd o J. Paul verbal testimony	OECM		See item 10.a
27.	Controversial, complicated, and/or potentially expensive issues must be resolved in a timely manner	J. Paul written statement to the Board, 3rd § 3rd o J. Paul verbal testimony	OECM		See item 10.a
28.	Establish Performance Category, ventilation approach (i.e. active vs. passive), fire protection design concept at CD-1. Use conservative assumption at this time, but allow for later reduction in requirements if defensible based on design development.	J. Rispoli question (to J. Paul) response.	OECM		See item 10.a
29.	Second, the Department of Energy does not have a manual that sets design function expectations for hazardous nuclear facilities. I believe	J. Bader opening remarks	OECM		See item 10.a

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	the existence of such a manual would reduce the number of occasions where significant design changes are made at late stages of projects				
30.	In order to determine the best design approach, it is essential to analyze the safety aspects of each alternative being considered. … It is of paramount importance that this occurs prior to CD-1… The hazards analysis conducted prior to CD-1 also identifies the project risks, from a safety perspective, which will need to be addressed during preliminary design.	R. McMullan written statement to the Board R. McMullan verbal testimony	OECM		See item 10.a
31.	Certainly we need to look by CD-1 at whether or not we need an active confinement system.	J. Rispoli question response	OECM		
32.	Need an updated hazards assessment before CD-2	C. Sell question response	OECM		See item 10.a
33.	Line programs also need to more clearly define contractual expectations regarding the early integration of safety into the alternative studies and project design.	C. Sell 12-5-05 memorandum – Program Weaknesses # 2. C. Sell written statement to the Board, Program	PSOs/Office and Site Managers		

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
		Weaknesses # 2. C. Sell verbal testimony			
34.	Ensure that the design requirements are consistent with the specified safety standards	C. Sell written statement to the Board, 3rd §	PSOs/Office and Site Managers		
35.	I expect safety to be fully integrated into design early in the project. Specifically, by the start of preliminary design, I expect a hazards analysis of alternatives to be complete and the safety requirements for the design to be established.	C. Sell 12-5-05 memorandum – Expectations # 1. C. Sell written statement to the Board, Expectations # 1 C. Sell verbal testimony	OECM		OECM resolve need to revise Order and/or Manual.
36.	The conceptual design phase requires a hazard analysis and selection of safety related systems, structures, and components.	J. Rispoli written statement to the Board, 6th §	OECM		OECM resolve need to revise Order and/or Manual.
37.	It is imperative that we establish an appropriate safety strategy which includes identification of safety class safety significant structures, systems	J. Paul written statement to the Board, 2nd § 3rd o	OECM		OECM resolve need to revise Order and/or Manual.

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	and components for nuclear projects early in the project's life.	J. Paul verbal testimony			
38.	In response to a J. Bader request for a more formal CD-1 process and better definition of safety requirements, C. Sell replied that a greater emphasis on safety design requirements will be implemented for CD-1	C. Sell question response	OECM		See item 10.a
Risk Identification & Management					
39.	Need to do better with: a. Identifying project uncertainties; b. Developing better risk management systems.	J. Rispoli verbal testimony	OECM		
40.	Need effective identification and management of risk	J. Rispoli verbal testimony	OECM		
Later in the Life Cycle					
41.	Ensure that construction is consistent with the design requirements	C. Sell written statement to the Board, 3rd §	Office and Site Managers		
42.	A Preliminary Documented Safety Analysis must be prepared and approved by DOE as a prerequisite for approval of the final design for Hazard Category 3 or higher facilities.	J. Rispoli written statement to the Board, 6th §	OECM		OECM resolve need to revise Order and/or Manual.

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
Personnel – General					
43.	Need qualified personnel	J. Rispoli verbal testimony	OECM		
44.	Goal – Re-establish technical competence and expertise of the DOE staff.	C. Sell verbal testimony	PSOs/Office and Site Managers		
45.	Line programs need to better staff their project teams with the necessary design engineering and safety expertise to ensure safety requirements are properly identified, translated into the project's design documents, and maintained in effect throughout the procurement, construction, and testing phases of the project.	C. Sell 12-5-05 memorandum – Program Weaknesses # 2. C. Sell written statement to the Board, Program Weaknesses # 2. C. Sell verbal testimony.	PSOs/Office and Site Managers		
46.	I expect line project teams to have the necessary experience, expertise, and training in design engineering, safety analysis, construction, and testing.	C. Sell 12-5-05 memorandum – Expectations # 3. C. Sell written statement to the Board,	PSOs/Office and Site Managers		

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
		Expectations # 3. C. Sell verbal testimony			
47.	There are two key areas in need of immediate attention… the experience level of our people. We will review the Integrated Project Teams, especially projects requiring nuclear facility expertise, to assure they are appropriately staffed with sufficient expertise in areas such as engineering and quality assurance.	J. Rispoli written statement to the Board, 8th § J. Rispoli written statement to the Board, 10th §	PSOs		
48.	[DOE] technical expertise needs to equal or exceed that of its contractors.	J. Rispoli question response	PSOs		
49.	EM ongoing technical skills gap analysis will look at projects currently using contracted resources.	J. Rispoli question response	EM		
50.	The resources (time, people and expertise) applied to the evaluation of changes to analysis, design, and procurement specifications and to physical construction deviations are sufficient to identify and resolve issues that can adversely affect the safety of the final facility or activity.	J. Paul written statement to the Board, 3rd § 4th o J. Paul verbal testimony	PSOs		

Integrated Project Team (IPT) -- (Also see CTAs, CNS, and CDNS)

Follow Up Actions From the December 7, 2005 DNFSB Safety in Design Public Meeting

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
51.	The IPT must possess the requisite skills for safety basis authorization, which could be vested in the Federal project Director himself or one or more of the IPT members.	J. Rispoli written statement to the Board, 7th §	OECM		See item 10.c OECM resolve need to revise Order and/or Manual.
52.	There are two key areas in need of immediate attention… the experience level of our people. As we put certified Federal project Directors in place, the certification process will assure that each individual has the specific training and experience requirements.	J. Rispoli written statement to the Board, 8th § J. Rispoli written statement to the Board, 10th §	PSOs		See item 10.c
53.	…the Federal project Director and one or more members of the IPT must have the requisite safety management experience to execute complicated projects with significant nuclear safety implications.	J. Paul written statement to the Board, 3rd § 1st o J. Paul verbal testimony	PSOs		See item 10.c OECM resolve need to revise Order and/or Manual.
54.	…our IPTs require access to needed experts in a wide variety of disciplines, including project management, safety basis development, and specific scientific and engineering functions.	J. Paul written statement to the Board, 3rd § 1st o J. Paul verbal testimony	PSOs		See item 10.c OECM resolve need to revise Order and/or Manual.
55.	We expect that the IPT members will be actively involved with project deliverables as the project proceeds and will work with their contractor counterparts to ensure that project	J. Paul written statement to the Board, Last page item #1.	NNSA		See item 10.c OECM resolve need to revise Order and/or Manual.

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	deliverables properly integrate safety into design				
56.	Ensure that NNSA project managers and IPT members have the appropriate training. ...we will ensure that Federal Project Directors and IPT personnel have adequate training to understand the principle of integrating safety into design.	J. Paul written statement to the Board, Last page item #3. J. Paul verbal testimony	OECM		
CTAs, CNS, and CDNS					
57.	Chiefs of Nuclear Safety will: a. Provide effective oversight on the selection of safety requirements and standards for design and construction, and translation of expectations into contract requirements. b. Review project team make-up and contractor oversight. c. Sample safety hazards analyses, facility hazard classification, safety analyses, safety system identification and performance categorization, and resolution of design and construction safety issues so that they can provide feedback and input to their Central Technical Authority regarding whether they have confidence that the project teams have effectively	C. Sell 12-5-05 memorandum Program Weaknesses #3. C. Sell written statement to the Board, Program Weaknesses # 3. C. Sell verbal testimony	CNS/CDNS		

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No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	integrated safety considerations into design and construction work activities.				
58.	I expect that the Chiefs of Nuclear safety will provide safety oversight during the design, construction, and testing phases of our projects.	C. Sell 12-5-05 memorandum – Expectations # 4. C. Sell written statement to the Board, Expectations # 4. C. Sell verbal testimony	CNS/CDNS		
59.	For all nuclear projects, NNSA CTA via the Chief of Defense Nuclear Safety, will review and offer counsel on the composition of the IPT that is approved by the Site Manager. The CTA review will validate that the federal personnel assigned to the IPT are appropriately qualified and that the level of effort expected from them is appropriate	J. Paul written statement to the Board, Last page item #1 J. Paul verbal testimony	CDNS		
60.	In response to a J. Bader question regarding whether the $400,000 threshold would be reduced for CD-2 and CD-3 EIRs, R. McMullan	R. McMullan question response	OECM/EH		

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No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	replied: We have discussed how we can ensure that we have properly addressed the safety aspects of our projects. And we believe that the increased focus on and involvement of the Chiefs of Nuclear safety as well as the Office of Environment, Safety and Health, we would like to see how that works.				
External Oversight Reviews					
61.	Need better funding source for External Independent Reviews (EIRs). Working with CFO to determine if EIRs can be funded from working capital funding.	C. Sell question response R. McMullan written statement to the Board 11th § R. McMullan verbal testimony	OECM		
62.	We will continue to increase our focus on the safety aspects of EIRs to better ensure the incorporation of safety systems. We will also emphasize that the review of start-up testing plans include an assessment of whether the safety is adequately addressed in the start-up tests to be performed, as well as whether the Performance Baseline includes	R. McMullan written statement to the Board Ideas and Actions for Improvement 2nd § R. McMullan verbal testimony			

No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
	sufficient costs and schedule for conducting these tests.				
Oversight					
63.	Goal - Continue to institutionalize [DOE] oversight.	C. Sell verbal testimony C. Sell question response	PSOs/Office and Site Managers		
64.	Implement planned improvements in HQ oversight.	C. Sell verbal testimony	PSOs		
65.	We are also looking for enhancements to the mechanism/processes used to ensure technical competence of Federal staff who oversee project management activities.	J. Rispoli written statement to the Board, 10th §	PSOs		
66.	DOE oversight must be present throughout an entire project using qualified and technically competent personnel.	J. Rispoli written statement to the Board, 11th §	PSOs		
Lessons Learned, Continuous Improvement, & NNSA Pilot Effort					
67.	e. Need real time feedback of lessons learned	J. Rispoli verbal testimony	OECM		
68.	I expect that we will learn effectively from our project experience so that future projects are more likely to be completed on time and on budget	C. Sell 12-5-05 memorandum – Expectations	EH(?)		See item 10.h

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	with all mission and safety objectives satisfied.	# 6. C. Sell written statement to the Board, Expectations # 6. C. Sell verbal testimony			
69.	Goal – Establish a system on continuous improvement	C. Sell verbal testimony C. Sell question response	EH (?)		See item 10.h
70.	Perform a lessons learned review of previous projects to better understand how/why decisions were made so as not to repeat the same mistakes	A.J. Eggenberger recommendation during R. McMullan testimony	PSOs		
71.	If a lessons learned review is performed look at 5 nanophase labs lessons learned.	J. Bader recommendation during R. McMullan testimony	PSOs		
72.	Lessons learned from prior experience and the experiences of others are reflected in systematic improvements to processes and procedures for designing and constructing defense nuclear facilities	J. Paul written statement to the Board, 3rd § 5th o J. Paul verbal	PSOs		

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No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
		testimony			
73.	...training should include case studies where nuclear safety issues were not addressed in a timely manner in an effort to ensure we learn from our past. An existing training module on this topic in the NNSA Project Management Career Development Program will be considered as a prospective template for the content of the requisite training.	J. Paul written statement to the Board, last page item #3. J. Paul verbal testimony	OECM		See item 10.c
74.	EM developing a set of lessons learned.	J. Rispoli verbal testimony (during J. Paul testimony)	EM		
75.	...finally I would add to my list based on some of the comments I heard earlier, a commitment on our part to consider some form of a lessons learned project.	J. Paul verbal testimony	NNSA		
76.	Pilot an effort to improve the implementation of existing guidance by focusing on a document titled "Project Management Practices," and subtitled "integrated Safety." NNSA will share the result of our pilot project with the other program offices and will use our experience to suggest further improvements in the directives	J. Paul written statement to the Board, last page item #2. J. Paul verbal testimony	NNSA		

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No.	Action Description	Source	Responsible Org./Mgr	Completion Date	Remarks
Integrated Safety Management					
77.	The Department has strong Integrated Safety Management systems implemented at our facilities... We need to build on this program and better understand how to apply it to design and construction phases.	C. Sell written statement to the Board, Program Strenghts # 5	Office and Site Managers		
78.	Goal – Strengthen safety culture of DOE.	C. Sell verbal testimony	PSOs/Office and Site Managers		
79.	DOE Order 413.3...does not provide specific requirements for applying integrated safety management principles to the design and construction process. The staff believes that correction of this fundamental problem requires the development of more specific requirements and guidance based on DOE and industry experience and practice.	R. Kasdorf opening remarks	OECM		The theme of developing more specific requirements is repeated throughout R. Kasdorf's remarks.