
U. S. Department of Energy

Project Execution Plan To Improve Oversight of Nuclear Operations

*(In response to Defense Nuclear Facilities
Safety Board Recommendation 2004-1)*



Washington, D.C. 20585

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Approved:



Bruce Carnes, Responsible Manager

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1.0 BACKGROUND AND PURPOSE

The Defense Nuclear Facilities Safety Board (Board) issued its Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*, on May 21, 2004. In its recommendation, the Board noted concerns regarding a number of safety issues, including delegations of responsibility, technical capability, central technical authority, nuclear safety research, lessons learned from significant external events, and integrated safety management. The Board has provided additional information and expectations regarding this recommendation as follows:

- Board Technical Report DNFSB/TECH-35, *Safety Management of Complex, High-Hazard Organizations*, transmitted to the Department on December 12, 2004.
- Board letter, dated February 14, 2005, providing feedback and additional expectations.
- Board presentation, dated March 16, 2005, providing input on Central Technical Authorities and nuclear safety research.

The Department of Energy (DOE or Department) has revised its implementation plan (IP) based on this additional information, and to reflect actions completed. The implementation plan defines the actions that the Department will take in response to this recommendation.

This Project Execution Plan (PEP) is a management tool that sets forth DOE's intended approach to manage the implementation of the IP, and to assist the Responsible Manager with the control and management of the IP. The PEP shall be updated as required. The PEP and associated project schedule will be used for tracking Board Commitments, interim milestones, and related tasks. This PEP supercedes the "*Project Management Plan for Implementation of Board Recommendation 2004-1*" dated December 2004.

2.0 PROJECT DESCRIPTION

This project is described in detail in the Department's 2004-1 IP. This project defines and implements the Department's path forward in three areas critical for the continuance of Department's strong record in protecting the health and safety of the public and its workers. The three focus areas or themes of this project are as follows:

- **Strengthening Federal Safety Assurance** – the structure, practices, and methods by which the Department's federal technical personnel ensure safety by defining clear safety expectations, monitoring performance, and obtaining effective implementation and continuous improvement.
- **Learning from Internal and External Operating Experience** – the practices by which the Department and its contractors learn from their own operating

experience as well as that from others, particularly from the recent NASA Columbia accident and from the Davis-Besse nuclear plant vessel head corrosion incident.

- **Revitalizing Integrated Safety Management Implementation** – a set of actions the Department will pursue to re-confirm that ISM will be the foundation of the Department’s safety management approach and to address identified weaknesses in implementation.

To resolve the identified issues within these areas, the Department has established a number of end-state commitments, described in the IP, including the following:

- Two Central Technical Authorities (CTAs) with adequate technical support.
- Strengthened DOE Oversight Model.
- Nuclear safety research function.
- Technically qualified Federal safety assurance personnel.
- Formal safety delegation process.
- DOE Operating Experience Program, an element of the ISM “feedback and improvement” function.
- Improved field focus on work planning and work control.
- Improved implementation of the ISM “feedback and improvement” function.

For each commitment, the Department has identified intermediate milestones necessary to achieve the end-state commitments, as well as verification activities to ensure that actions taken are effective to resolve the original issues.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

3.1 Organizational Structure

Overall execution of the Implementation Plan is the responsibility of the 2004-1 Responsible Manager. The 2004-1 Responsible Manager has been appointed by the Secretary and the Secretary will approve any changes.

The 2004-1 Project Team was established in February 2005, and is charged with instituting the IP and meeting the Board Commitments. The 2004-1 Project Team consists of 4 core members (Project Core Team) from NNSA, EM, DR, and EH, and additional members bringing field experience, technical experience, and continuity from the 2004-1 plan development effort. The team has established points of contact at each affected program office and site office. A Project Team Lead has been designated. The Responsible Manager will approve any changes to the Project Team or to the designation of the Project Team Lead.

3.2 Responsibilities and Authorities of the 2004-1 Responsible Manager

The 2004-1 Responsible Manager will oversee the project and provide senior management attention and direction as required to maintain project schedule. The Responsible Manager will be responsible to the Department leadership and to the Board for ensuring the commitments made in the IP are effectively implemented. The 2004-1 Responsible Manager may organize and manage the 2004-1 Project Team as needed to accomplish the project.

3.3 Responsibilities and Authorities of the 2004-1 Project Team

The 2004-1 Project Team is responsible for the following:

- Develop and maintain the DOE's 2004-1 Project Execution Plan (this plan) and the Project Schedule using the guidance of DOE M 413.3, *Project Management for the Acquisition of Capital Assets*.
- Keep the Responsible Manager informed of overall plan performance and any issues that need senior management attention and direction.
- Monitor all plan commitments and interim milestones, and provide assistance and feedback to keep plan commitments on schedule and consistent with the planned objectives.
- Complete commitments assigned to the Project Team, working with line organizations and obtaining line concurrences from affected program offices.
- Review all 2004-1 IP deliverables for completeness and consistency, and provide input and recommendations to the Responsible Manager.
- Communicate regularly with program and site offices regarding the status of plan activities and expectations for near-term activities in support of plan implementation.
- Identify and resolve crosscutting issues affecting plan implementation.

4.0 PROJECT SCHEDULE

The Project Team will maintain a Project Schedule to assist with tracking the status of activities, milestones, and Board Commitments; and with identifying potential impediments towards completing these activities.

4.1 Baseline Schedule

A schedule of actions and Board Commitments defined in the IP will be established in project scheduling software (MS Project or similar). When appropriate, the individuals designated as “Lead” for each action will define interim milestones or activities which logically lead to completion of each Board Commitment. These steps will allow for more effective monitoring of progress and better assurance of compliance with IP commitments. The Leads will provide the Project Team Leader with these interim milestones/activities, the duration of these activities, the completion date, and the required resources (by name or group). A Commitment Description Form is provided for this data. These interim milestones/activities will be included in this Plan. This information will be loaded into the schedule by the Project Team. When satisfactory data is received from each Lead, the schedule will be “frozen” as an IP Schedule Baseline.

4.2 Schedule Change Control

Per Section 6.1 of the IP:

“Complex, long-range plans require sufficient flexibility to accommodate changes in commitments, actions, or completion dates that may be necessary due to additional information, improvements, or changes in baseline assumptions.

The Department’s policy is to: (1) provide prior written notification to the Board on the status of any plan commitment that will not be completed by the planned milestone date, (2) have the Secretary approve all revisions to the scope and schedule of plan commitments, and (3) clearly identify and describe the revisions and bases for the revisions. Fundamental changes to the plan’s strategy, scope, or schedule will be provided to the Board through formal revision and re-issuance of the plan. Other changes to the scope or schedule of planned commitments will be formally submitted in appropriate correspondence approved by the Secretary, along with the basis for the changes and appropriate corrective actions.”

Changes to the IP Schedule fall within one of three general categories:

1. Changes to interim milestone/activities which do not change completion dates of Board Commitments in the IP,
2. Minor changes to Board Commitment dates or actions, or
3. Fundamental changes to the strategy, scope, or schedule committed to in the IP.

Type-1 changes will be proposed by the activity Lead for approval by the Project Team Leader. The proposal will contain what changes are proposed, the reasons why the change needs to be made, and the impact on milestones and commitments. The schedule will be updated when approved by the Project Team Leader.

Type-2 changes will be proposed as above, but will include a draft letter to the Board. The Project Team Leader must concur with this change and obtain approval from the IP Responsible Manager. The schedule will be updated when the Secretary approves the letter to the Board.

Type-3 changes will be initially proposed by memo explaining the new approach to addressing the issues associated with Board Recommendation 2004-1 and why the change is necessary or desirable. The Project Team Leader must concur with this change and obtain approval from the IP Responsible Manager. The changes will be discussed with the Board staff prior to revising the IP and routing for approval. The schedule will be updated when the approved IP revision is issued.

The Project Team Leader will maintain a file of schedule change requests.

4.3 Schedule Maintenance

During the first six months of implementation the Project Core Team will review near-term scheduled activities at least every two weeks. After that point reviews will be held at the discretion of the Project Team Lead. The Core Team will discuss activity status based upon their knowledge of the activities underway throughout the Department. If necessary, additional individuals will be requested to participate in this review.

At least once per month, the entire Project Team will review and status the schedule.

Lead individuals will keep the Project Team Leader informed of activity completion and significant status. Documentation of completed commitments listed in the IP will be forwarded to the Project Team Leader who will maintain a file of completed actions.

5.0 COMMUNICATIONS STRATEGY

5.1 Project Team Communications

The 2004-1 Project Team is in place and functioning. The team consists of representatives from NNSA, EM, EH, DR, OA, SC, NE and field representatives. The team will meet at a minimum of once per month. Meeting minutes will be distributed with action items, a responsible person, and due dates.

5.2 Other DOE Communications

Information on 2004-1 activities will be available on a knowledge portal website www.2004-1.org. The IP and PEP will be published on this website.

Communication to DOE senior managers will be provided at a minimum of once per month. The managers will be informed of overall IP progress and pertinent issues will be highlighted.

5.3 Board Communications

The Board will be briefed per the IP commitment.

Commitment leads will be the primary points of contact for DNFSB staff. The project team lead will be kept informed of major activities for each commitment. DR staff will be kept informed of meetings, conference calls, and emails with the DNFSB staff.

6.0 IP COMMITMENTS

All Board Commitments listed in the 2004-1 Implementation Plan, with Related Tasks, are included in the project schedule (Attachment 1). These activities will be managed as described in this PEP.

7.0 QUALITY ASSURANCE

Not applicable.

8.0 TRAINING

Not applicable.

9.0 HEALTH AND SAFETY

Not applicable.

10.0 DOCUMENTATION

Correspondence with the Board shall be handled in accordance with DOE M 140.1-1B.

11.0 REFERENCES

- (1) Board recommendation 2004-1, May 21, 2004.
- (2) Department response to 2004-1, July 21, 2004.
- (3) Board Technical Report DNFSB/TECH-35, *Safety Management of Complex, High-Hazard Organizations*, transmitted to the Department on December 12, 2004.
- (4) DOE Implementation Plan for Board Recommendation 2004-1 dated December 2005.
- (5) Board letter, dated February 14, 2005, providing feedback and additional expectations.
- (6) Board presentation, dated March 16, 2005, providing input on Central Technical Authorities and nuclear safety research.
- (7) DOE Implementation Plan for Board Recommendation 2004-1, Revision 1 dated June 2005.
- (8) DOE M 140.1-1B, *Interface with the Defense Nuclear Facilities Safety Board*.

ATTACHMENT 1: PROJECT EXECUTION PLAN SCHEDULE

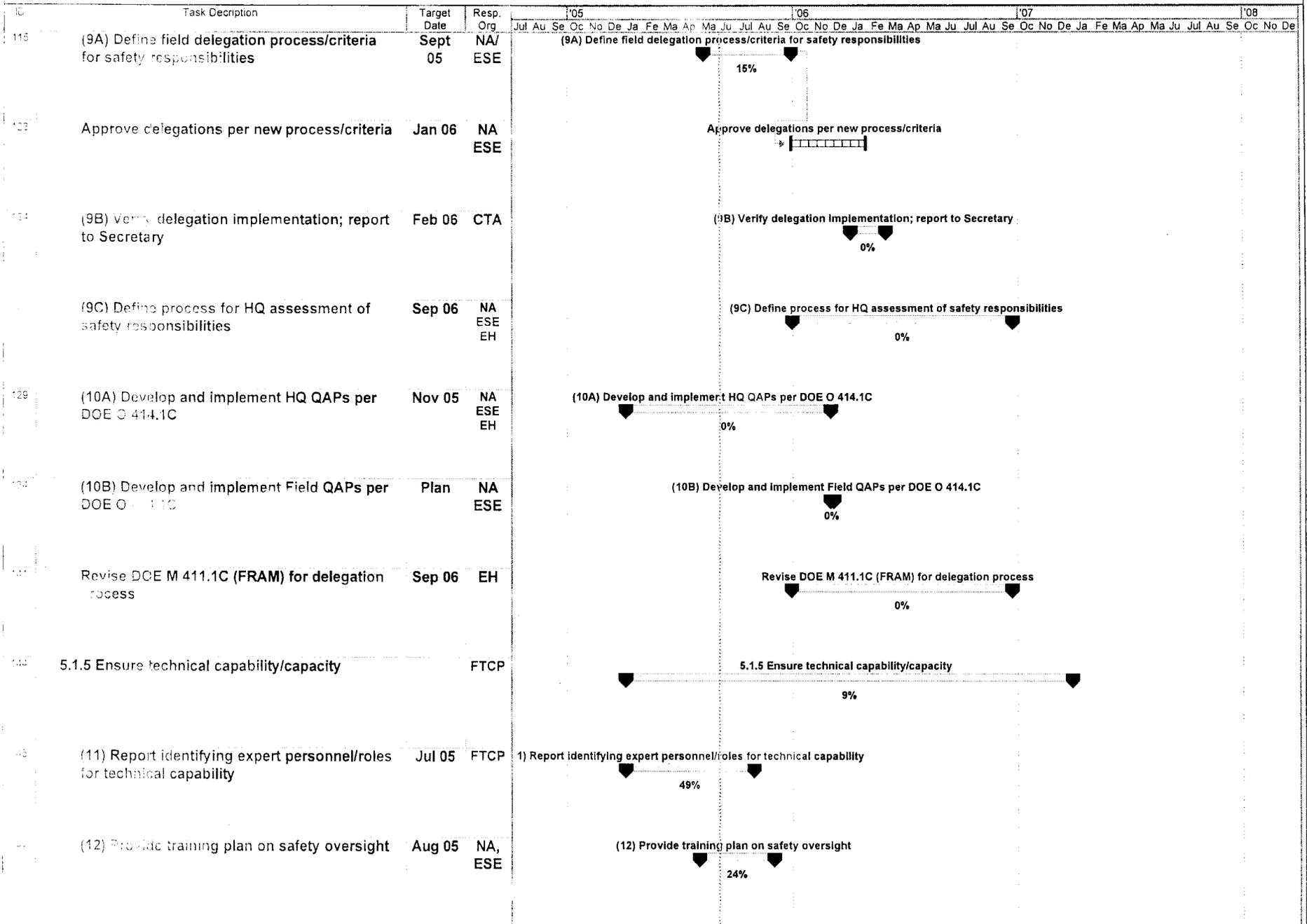
Board Recommendation 2004-1 Project Schedule (Level 2)

Task Description	Target Date	Resp. Org	'05												'06												'07												'08											
			Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec						
5.1 Strengthening Federal Safety Assurance		S-1	5.1 Strengthening Federal Safety Assurance																																															
			12%																																															
5.1.1 Institute two CTA Offices		S-1	5.1.1 Institute two CTA Offices																																															
			9%																																															
(1) Formally establish the CTAs	Comp	S-1	(1) Formally establish the CTAs																																															
			100%																																															
Revise DOE M 411.1C (FRAM) for CTA R&Rs	Apr 06	EH	Revise DOE M 411.1C (FRAM) for CTA R&Rs																																															
			> [Progress Bar]																																															
(2.1) Provide adequate technical support for CTA - NNSA	Jan 06	NA	(2.1) Provide adequate technical support for CTA - NNSA																																															
			17%																																															
(2.2) Provide adequate technical support for CTA - ESE	Apr 06	ESE	(2.2) Provide adequate technical support for CTA - ESE																																															
			15%																																															
(3.1) Fully implement the CTA function-NNSA	Jan 07	NA	(3.1) Fully implement the CTA function-NNSA																																															
			7%																																															
(3.2) Fully implement the CTA function-ESE	Apr 07	ESE	(3.2) Fully implement the CTA function-ESE																																															
			3%																																															
5.1.2 Provide effective fed oversight		ME	5.1.2 Provide effective fed oversight																																															
			30%																																															
(4A) Issue DOE Policy on Oversight (226.1)	Jun 05	ME	(4A) Issue DOE Policy on Oversight (226.1)																																															
			[Progress Bar]																																															

Board Recommendation 2004-1 Project Schedule (Level 2)

ID	Task Description	Target Date	Resp. Org	'05												'06												'07												'08											
				Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De						
81	(4B) Issue DOE Oversight Order	Jun 05	OA	(4B) Issue DOE Oversight Order																																															
				31%																																															
82	(5A) Draft DOE Safety Oversight Manual	Jul 06	EH	(5A) Draft DOE Safety Oversight Manual																																															
				14%																																															
88	(5B) Issue DOE Safety Oversight Manual	Sep 06	EH	(5B) Issue DOE Safety Oversight Manual																																															
				0%																																															
91	5.1.3 Institute Nuclear Safety Research Function		EH	5.1.3 Institute Nuclear Safety Research Function																																															
				22%																																															
92	(6) Formally establish the nuclear safety research function	Comp	EH	(6) Formally establish the nuclear safety research function																																															
				100%																																															
	Revise DOE M 411.1C (FRAM) for Nuclear Research R&Rs	Apr 06	EH	Revise DOE M 411.1C (FRAM) for Nuclear Research R&Rs																																															
				[Progress bar]																																															
93	(7A) Adequate processes are in place for Nuclear Safety Research	Oct 05	EH	(7A) Adequate processes are in place for Nuclear Safety Research																																															
				0%																																															
101	(7B) Adequate Technical Support in place for the Nuclear Safety Research Function	Jan 06	EH	(7B) Adequate Technical Support in place for the Nuclear Safety Research Function																																															
				42%																																															
102	(8) Fully implement the Nuclear Safety Research Function	Jan 07	EH	(8) Fully implement the Nuclear Safety Research Function																																															
				13%																																															
104	5.1.4 Establish roles/responsibilities/ authorities		S-1	5.1.4 Establish roles/responsibilities/ authorities																																															
				1%																																															

Board Recommendation 2004-1 Project Schedule (Level 2)



Board Recommendation 2004-1 Project Schedule (Level 2)

ID	Task Description	Target Date	Resp. Org	'05												'06												'07												'08											
				Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
207	(17) Consolidated dept-wide C/DB Action Plan approved by Dep. Sec.	Jul 05	EH	(17) Consolidated dept-wide C/DB Action Plan approved by Dep. Sec.																																															
208	Implement actions delineated in C/DB action plan	Plan	EH																																																
209	5.2.2 Implement Operating Experience Program (OPEX)		EH																																																
210	(18) Develop comprehensive DOE OPEX Program	Jan 06	EH																																																
216	Implement DOE OPEX Program	Plan	EH																																																
217	(19) Demonstrate performance of DOE OPEX Program	Jul 07	NA ESE																																																
221	5.2.3 Verify Implementation of Operating Experience Program		OA																																																
222	(20) Verify effectiveness of DOE OPEX - IP Section 5.2	Plan	OA																																																
225	5.3 Revitalizing ISM Implementation		NA																																																
227	5.3.1 Enhance ISM Implementation		NA																																																

Board Recommendation 2004-1 Project Schedule (Level 2)

Task Description	Target Date	Resp. Org	'05												'06												'07												'08											
			Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au	Se	Oc	No	De						
257 (21A) Statement on HRO attributes	Comp	PT																																																
258 (21B) Issue letter regarding complimentary ISM Policy or Notice	Jul 05	PT																																																
259 (22A) Set of ISM Expectations for HQ/Field	Comp	NA ESE																																																
260 (22B) Issue new DOE ISM Manual	Dec 05	EH																																																
261 (22C) Approved DOE ISM System Descriptions - HQ and field	Aug 06	NA ESE EH																																																
262 Review need for revisions to ISM Policy, Guide, Handbook, DEAR Clause	Aug 07	PT																																																
263 5.3.2 Work Planning and Control Processes - Activity Level		NA ESE																																																
264 (23) Develop Site Action Plans for Work Planning/ Control	Feb 06	NA ESE																																																
WP&C Action plans implemented at sites	Apr 07	NA ESE																																																
267 (24) Perform HQ line oversight on Work Planning/ Control	Aug 07	NA ESE																																																

Board Recommendation 2004-1 Project Schedule (Level 2)

Task Description	Target Date	Resp. Org	'05												'06												'07												'08											
			Jul	Aug	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Aug	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Aug	Se	Oc	No	De	Ja	Fe	Ma	Ap	Ma	Ju	Jul	Aug	Se	Oc	No	De						
5.3.3 Integration & Use of Feedback Mechanisms to Produce Improvement		NA ESE	5.3.3 Integration & Use of Feedback Mechanisms to Produce Improvement																																															
			0%																																															
(25) Develop Site Action Plans for Work Planning/ Control Core Element	Feb 06	NA ESE	(25) Develop Site Action Plans for Work Planning/ Control Core Element																																															
			0%																																															
F&I Action plans implemented at sites	Feb 07	NA ESE	F&I Action plans implemented at sites																																															

(26) Review F&I implementation -Report/ Mid-course Correction	Mar 07	NA ESE	(23) Review F&I implementation -Report/ Mid-course Correction																																															
			0%																																															
5.3.4 ISM Verification		NA	5.3.4 ISM Verification																																															
			0%																																															
(27) Complete 2 comprehensive Site ISM Reviews - Schedule remainder	Jul 06	NA ESE	(27) Complete 2 comprehensive Site ISM Reviews - Schedule remainder																																															
			0%																																															
6.0 Organization and Management		PT	6.0 Organization and Management																																															
			0%																																															
6.2 Reporting		PT	6.2 Reporting																																															
			0%																																															
(28) Provide periodic DNFSB Briefings	Sep 05	PT	(28) Provide periodic DNFSB Briefings																																															

(29) Annual summary of activities per 2004-IP	Jul 06	PT	(29) Annual summary of activities per 2004-																																															
