



**U.S. Department of Energy  
Hanford Site**

**FEB 27 2013**

13-HAB-0020

Mr. S. E. Hudson, Chair  
Hanford Advisory Board  
Enviroissues Hanford Project Office  
713 Jadwin Avenue, Suite 4  
Richland, Washington 99352

Dear Mr. Hudson:

HANFORD ADVISORY BOARD (HAB) SEPTEMBER 7, 2012, CONSENSUS ADVICE #260, "INTEGRATED SAFETY MANAGEMENT"

Thank you for advice #260 on Integrated Safety Management (ISM). The U.S. Department of Energy (DOE) Richland Operations Office (RL) and the Office of River Protection (ORP) appreciate the effort and dedication of the Health, Safety and Environmental Protection committee to discuss, draft, and present this advice to the full HAB and DOE. DOE remains committed in our support for ISM as the Department's enduring framework for safely managing work planning and execution activities. Protecting our workers, the public, and the environment is a top priority for the Department.

Below are DOE's responses to the HAB's advice.

**Interface**

**Advice Point #1:** Ensure contractual requirements of all future facilities include a rigorous risk identification and mitigation analysis of future operation and maintenance activities (e.g. lifetime specifications of pumps in the WTP).

**Response:** The DOE now requires the use of DOE O 413.3B, "Program and Project Management for the Acquisition of Capital Assets" for all capital asset projects. This order specifies five critical decision (CD) points that serve as major milestones:

- CD-0, Approve Mission Need.
- CD-1, Approve Alternative Selection and Cost Range.
- CD-2, Approve Performance Baseline.
- CD-3, Approve Start of Construction/Execution.
- CD-4, Approve Start of Operations or Project Completion.

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As part of CD-1, capital asset projects must develop a Risk Management Plan (RMP) including a complete initial risk assessment of the recommended alternatives. This RMP evaluates the Safety-in-Design Strategy and includes Risk and Opportunity Assessments for input to the RMP. There are similar DOE mandated controls for non-capital projects including project management plans, design, and ALARA reviews. Risk management tools are used to ensure that designs will perform their intended function of protecting our workers, the public, and the environment in a cost-effective manner.

**Advice Point #2:** Ensure the facility representatives and other points of direct contact interface are sufficient in number, located properly, and adequately trained to recognize ISM deficiencies.

**Response:** All DOE field offices are required to perform an annual workforce analysis of their technical staffing, as per DOE O 426.1, "Federal Technical Capability." To comply with this order, each field office must determine if there are adequate numbers of both subject matter experts and facility representatives (FR). Both Hanford field offices perform this analysis against current high-risk project oversight needs, project schedules, funding projections, and staffing priorities. This data is used to evaluate technical staffing balanced against other staffing needs and staffing funding allocations. As a check and balance, these analyses are also presented directly to the Deputy Secretary, through the Federal Technical Capability Panel, with descriptions of field technical staffing shortfalls for his consideration.

DOE Standard 1063 describes an analytical process to determine FR staffing for all hazardous facilities at a site. The method provides a technical approach to determine the appropriate amount of FR oversight necessary for a facility given its hazard level, operational activity and complexity, and programmatic importance. This staffing approach is also designed to provide DOE with a common human capital strategy approach such that the DOE can objectively analyze, allocate, budget, and justify FR resources throughout the DOE Complex.

DOE O 426.1 defines the requirements and responsibilities for meeting the DOE commitment to recruiting, deploying, developing, and retaining a technically competent workforce that will accomplish DOE missions in a safe and efficient manner. The Department strives to recruit and hire technically capable people; continuously develop the technical expertise of its existing workforce; and, within the limitations of executive policy and Federal law, retain critical technical capabilities within the Department at all times.

FRs are required to qualify under a rigorous program that includes a demonstration of detailed knowledge of both the concepts and the implementation of an ISM system. As part of their contractor oversight function, the FR apply their knowledge of integrated management systems and report their observations and reviews in the context of core functions and/or guiding principles, as appropriate. However, it is important to note that the contractors are required to perform adequate oversight in all Environment, Safety and Health (ES&H) areas, whether or not DOE is present in the field.

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**Advice Point #3:** Examine each contractor's management structure (e.g. clear lines of authority and roles and responsibilities of management within the ISM hierarchy) to ensure it meets ISM standards and expectations.

**Response:** As required by DOE G 450.4-1C, "Integrated Safety Management System Guide," both Hanford field offices perform verifications of each contractor's ISM system. During the verification process, a verification sub-team is solely dedicated to the evaluation of the management structure and its leadership. The ISM verification team evaluates the contractor management team to ensure that roles and responsibilities are clearly defined to ensure satisfactory safety accountability and authority. The verification team also determines if line management is truly responsible for safety and if competence is commensurate with responsibilities.

The verification team also determines if the contractor management gathers information on Integrated Safety Management System (ISMS) effectiveness; that opportunities for improvement are identified and implemented; and that independent oversight is conducted and acted upon. In addition to the verifications described above, the DOE offices review and re-approve any ISMS that has substantially changed due to major modifications to the ISMS, such as management structure. As part of line management oversight, both field offices monitor the contractors' management structure to ensure that the ISM guiding principles are embraced and practiced.

**Advice Point #4:** Ensure the contractual language requires a strong contractor self-assessment program.

**Response:** Each Hanford contractor is contractually committed to the implementation of the Contractor Requirements Document portion of DOE O 226.1B, "Implementation of Department of Energy Oversight Policy," and has complied with the imbedded requirement to perform self-assessments. Contractors must monitor and evaluate all work performed under their contracts, including the work of subcontractors, to ensure work performance meets the applicable requirements for ES&H, including quality assurance and ISM; safeguards and security; cyber security; and emergency management.

### **Process**

**Advice Point #5:** The Board advises DOE to ensure that ISM training be focused on the level that is appropriate to the personnel being trained. It should include the strong message that all personnel are responsible for safety within their sphere of influence, and they share ownership of the ISM process (e.g. peer-led safety councils).

**Response:** The recent side-wide safety culture survey brought forth the issue that employees are receiving safety information that is not relevant to their work. The number one commentary from the workforce is the perception that safety procedures, "... are difficult to follow and understand, that are numerous and complex, and that vary among safety programs at Hanford" and that "Employees are receiving safety information that is not relevant to their work."

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Both DOE offices, and contractor ES&H leadership, are considering this feedback and have a consensus that the effectiveness of communicating safety management, and the associated program requirements, deserves attention. However, both offices must remain vigilant when addressing this issue in that any simplification of the communication processes does not result in a workforce that is not properly informed of the hazards and controls.

Both Hanford field offices, along with the prime contractors, will evaluate the effectiveness of current communications regarding safety management, and the associated program requirements. The context of the evaluation will focus on optimizing the communications and training tools to reduce the information "burden" while keeping the workforce well informed of the hazards and associated control mechanisms. As for specific ISM training, both DOE offices agree that ISM training should be tailored to the level of the employee in the organization. However, DOE believes that all employees should have some level of understanding of the concept of flow down of ISM from the institutional level to the activity level.

**Advice Point #6:** The Board advises DOE to verify that Enhanced Work Planning is working as designed and as expected and that it is not being mitigated and diluted in favor of cost and schedule priorities without adequate justification.

**Response:** The Enhanced Work Planning (EWP) Demonstration Project was initiated in November 1994 and was designed to change DOE's old, top-down approach to planning work from the safety and health (S&H) standpoint. Two sites were chosen for this pilot program, Rocky Flats and Hanford. The project was founded on four basic S&H principles:

1. Hazard identification
2. Hazard evaluation
3. Hazard and risk mitigation and/or elimination, and
4. Incorporation of hazard information into medical surveillance programs

The EWP pilot programs at Rocky Flats and Hanford proved to be highly successful. With the subsequent 1995 Defense Nuclear Facilities Safety Board (DNFSB) recommendation 95-2, "Safety Management," it became apparent that the merging of the DNFSB recommendation and the EWP principles was appropriate and the programs were mutually supportive. As a result of merging these two concepts, the current ISM guiding principles and core functions were standardized and became the foundation of the current ISM system expectations of DOE.

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Through our review, we have verified that the concept of EWP is well entrenched in both of the local DOE offices and DOE-Headquarters expectations. DOE continues to stress the ISM concept at both the project planning and activity planning levels. The balancing of production risks against ES&H risks is one of the DOE field office managers' principle duties and is an ongoing, daily function within the two local field offices.

**Advice Point #7:** The Board advises DOE to place a stronger emphasis on rigorous contractor self-assessment and on subsequent contractor corrective action plans.

**Response:** DOE shares the HAB's position that emphasis on rigorous contractor self-assessment programs and corrective action plans is imperative to a safe and productive site. Both DOE field offices place appropriate attention on these critical aspects and provide contractors feedback regarding their performance.

#### **Behavior**

**Advice Point #8:** The Board advises DOE to stress that future requests for proposals (RFPs) and the selection of new senior contractor leadership should emphasize the expectation of a strong safety culture orientation and behavior.<sup>1</sup>

**Response:** Consistent with DOE P 450.4A, "Integrated Safety Management Policy," the Department expects all organizations to embrace a strong safety culture where safe performance of work and involvement of workers in all aspects of work performance are core values that are deeply, strongly, and consistently held by managers and workers. The Department encourages a questioning attitude by all employees and a work environment that fosters such attitude.

**Advice Point #9:** The Board advises DOE to encourage the contractors to assess management behavior using an employee/peer feedback process (such as the 360° review) and to focus corrective actions on the small number of managers who do not demonstrate appropriate safety culture expectations.

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<sup>1</sup> Examples of techniques to test leadership include the Source Evaluation Board's table top exercise, and benchmarking the contractor selection processes used at Sellafield, England. During table top exercises, DOE presents a problem to be solved under strict time constraints and monitors the decision process to determine the leadership behavior of the proposed team. The Sellafield contractor selection process used new techniques to assess the principles of behavior of the proposed team and their parent corporations.

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**Response:** The detailed results of the recent safety culture survey have been distributed to the Hanford prime contractors. To-date, each contractor has committed to empower internal focus group(s) to provide the respective management teams an honest, straightforward evaluation of those areas of weaknesses revealed from the survey and recommend actions to improve the overall safety culture. This empowerment of the workforce through internal focus groups is expected to be effective in giving the safety culture survey a voice back to management. It is both field offices' expectations that the contract management act upon these recommendations, including action to improve specific areas of poor safety behaviors. This effort is expected to be a principle improvement expectation in 2013 for all contractors.

**Advice Point #10:** The Board advises DOE to augment the recent DOE list of "Safety Culture Associated Attributes" by adding caring for the welfare of fellow employees, open two-way communication on all issues with the employees and the externally interested public, and emphasizing the importance of continuous improvement and personal integrity.

**Response:** The current attributes that define DOE expectations for building a strong safety culture were developed through the groundwork of a joint Energy Facility Contractors Group and DOE team. This team gathered the best cultural development practices throughout the nuclear industry and aligned the current attributes with International Atomic Energy Agency, Institute for Nuclear Power Operations, Nuclear Regulatory Commission, and many other organizations.

The safety culture guidance contained in DOE G 450.4-1C, "Integrated Safety Management Guide," Attachment 10, address the HAB's advice. The safety culture attributes in the guide promote a shift from mere compliance toward excellence. The attributes emphasize continuous improvement and long-term performance, and they are entirely consistent with the original intents of ISM. Attachment 10 addresses the HAB's advice by stating the following:

1. Caring for the welfare of fellow employees:
  - "People and their professional capabilities, experiences, and values are regarded as the organization's most valuable assets."
2. Open two-way communication on all issues with the employees and the externally interested public:
  - "Open communications and teamwork are the norm."
  - "Individuals at all levels of the organization listen to each other and effectively engage in crucial conversations to ensure meaning, intent and viewpoints are understood; and that differing points of view are acknowledged."

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3. Emphasizing the importance of continuous improvement and personal integrity:

- “Managers set an example for safety through their personal commitment to continuous learning and by direct involvement in high-quality training that consistently reinforces expected employee behaviors.”
- “The organization values and practices continuous learning.”
- “The organization embraces feedback from peer reviews, independent oversight, and other external sources.”
- “Individuals are actively involved in identification, planning, and improvement of work and work practices.”
- “Design, analysis and continuous improvement of work practices and processes are valued as core organizational competencies; expertise in these competencies is evaluated and rewarded.”
- “Managers and line supervisors demonstrate integrity and adhere to ethical values and practices to foster trust.”

Thank you for your advice on the ISM and your ongoing commitment to worker health and safety. If you have any questions, please contact Tiffany Nguyen at (509) 376-3361.



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OCE:TLN

Enclosure

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