



Department of Energy

Washington, DC 20585

March 16, 2000

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW
Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

Enclosed is the Department's response to your February 16, 2000, letter requesting additional information or clarification on presentations and material submitted at the Board's public meeting on January 20, 2000. If you have any questions concerning this information, please do not hesitate to contact me at (202) 586-1418.

Sincerely,

A handwritten signature in black ink, appearing to read "T. A. Wyka".

Theodore A. Wyka
Director, Safety Management
Implementation Team

Enclosure



cc:

Ellen Livingston, S-1
Mark Whitaker, S-3.1

BOARD QUESTIONS AND DEPARTMENT RESPONSES

ISM Topic Area: Facility Status

Q. *The Integrated Safety Management (ISM) Implementation Milestone Completion Status does not track ISM implementation for federal responsibilities. What is the status of ISM implementation for Department of Energy (DOE) offices?*

A. The current ISM Implementation Milestone Completion Status is attached for your information. Page 4 reports the current ISM implementation status of each major DOE operations and program office regarding their projected timeframe for declaring initial ISM implementation. In an October 25, 1999 memo to all DOE offices, the Deputy Secretary established his expectation that each DOE office will declare ISM implementation by September 30, 2000 and provided guidance for ISM declaration in the form of 7 ISM implementation criteria. Each DOE office understands these expectations and is currently managing toward meeting these expectations. DOE status information is obtained based on self-reporting by the various DOE headquarters and field offices.

The color codes for DOE status are consistent with the "general" color codes on the chart's Legend page, thus:

- Blue - ISM implementation complete.
- Green - ISM Implementation progressing satisfactorily; declaration of implementation expected before June 30, 2000.
- Red - ISM Implementation progress needs management attention; declaration of ISM Implementation expected after July 1, 2000.

The DOE ISM implementation status as reflected in the attached milestone charts is as follows:

- Implementation Complete: Savannah River Operations Office, Rocky Flats Field Office
- Implementation Expected by June 2000: Chicago Operations Office, Oak Ridge Operations Office, Ohio Field Office, Office of River Protection, Office of Energy Efficiency and Renewable Energy, Office of Fossil Energy
- Implementation Expected between June 2000 and September 2000: Albuquerque Operations Office, Nevada Operations Office, Oakland Operations Office, Idaho Operations Office, Richland Operations Office, Office of Defense Programs, Office of Environmental Management, Office of Science, Office of Civilian Radioactive Waste Management

All DOE field and program offices currently indicate that they will complete initial ISM implementation and declaration by September 30, 2000, consistent with the Secretary's goal. The SMIT maintains the ISM milestone charts through frequent interaction with DOE office representatives on the SMIT. These charts are updated at least monthly and are posted on the

ISM web-site (<http://tis.eh.doe.gov/ism>). These charts are also provided to the Deputy Secretary and Secretarial Safety Council on a monthly basis. On a case-by-case basis, the SMIT also follows the status of specific elements of DOE ISM implementation more closely; for example, the SMIT is closely following the status of DOE office revisions to DOE Functions, Responsibilities, and Authorities Documents, in accordance with the Deputy Secretary's November 15, 1999 direction. The SMIT also gathers more detailed status information through quarterly status calls with each DOE office; the next quarterly call is scheduled for May 2000.

- Q. *The Oak Ridge National Laboratory (ORNL) has elected not to perform verification reviews for its facilities including Building 3019. Explain why ORNL has elected not to follow the requirement to use the 'Grumbly Protocol' for ISM verification reviews.*
- A. The Oak Ridge National Laboratory (ORNL) operated by Lockheed Martin Energy Research Corporation (LMER) has completed successfully the system description phase of the DOE ISM verification. This first step of the verification followed the DOE protocol and satisfied the Office of Science (formerly, Energy Research) expectations, issued on April 3, 1998 (see enclosed). The DOE Manager of the Oak Ridge Operations Office (ORO) approved the ISM System Description for ORNL/LMER on December 16, 1999.

Continuing the verification for ORNL/LMER, the process is consistent with the DOE (Grumbly) Protocol, and is designed to measure the implementation of the described system throughout the Laboratory. The verification extends the protocol by integrating additional management improvement activities and concurrent look at contractual requirements. The SC approach samples the success of ISM through contractor self-assessment and the SC Headquarters and SC Operations Office operational awareness mechanisms.

SC Headquarters and SC Field staff will use this step to set an additional baseline for trending and continuous improvement, consistent with the Safety Management System Policy and with the Office of Science expectations, noted above. The continuing verification process is being led by an approved ISMS team leader with a team of qualified members, including DOE staff and DOE contractors. The process is an approved, documented process that was piloted and implemented as part of the development of the DOE Line ES&H Oversight Policy.

A report will be developed and briefed to ORO and ORNL senior managers. The verification team will submit the report to ORO line management for action. The verification team will use in an integrated way, the past and present activities that have provided and, continue to provide new information into the continuous improvement framework of the DOE ISM policy. Data relative to the effective implementation of ISMS throughout the laboratory is important to individual facilities including Building 3019 and will be taken into account by the verification team.

The verification team will determine the effective implementation of ISMS throughout all of the laboratory programs and facilities. Building 3019 will receive appropriate attention in the verification review in keeping with the intent of the ISM policy and the expectations of SC to tailor the implementation of ISM to the work and hazards.”

The Department will be happy to brief the Board members at their request on the details of the verification approach and address specific questions for ORNL Building 3019.

Q. *Have any other sites not used this protocol?*

A. No defense nuclear facilities are using a verification protocol that differs from the "Grumbly Protocol." The "Grumbly" protocol has been or is going to be used at all defense nuclear facilities and at the large majority of non-defense facilities.

ISM Topic Area: Performance Measures

Q. *All of the ISM effectiveness performance measures predate the ISM program and have been collected for several years under the DOE ES&H Performance Indicator program. Which of these proposed performance measures is geared to measuring the unique aspects of ISM that have been instituted in the recent past, and what is that measure intended to show? What is different from before? Are any changes being made to ISM based on any performance measure results you may have?*

A. December 1999, the Deputy Secretary of Energy established the following performance measures as the initial set for measuring and managing ISM effectiveness based on the recommendation of a SMIT-chartered group representing the entire complex:

- Total Recordable Case Rate,
- Occupational Safety Cost Index,
- Hypothetical Radiation Dose to the Public,
- Worker Radiation Dose, and
- Reportable Occurrences of Releases to the Environment.

This initial set of measures received extensive peer review, including by the Institute of Nuclear Power Operations (INPO), the Energy Facilities Contractors Group (EFCOG), and the National Laboratory Improvement Council (NLIC). All peer review panels agreed that this set was an adequate starter set, to begin DOE senior management dialogue on the measuring and managing of DOE corporate-wide performance on ISM. These groups also indicated the need to mature the set, based on experience and further study, to address production/mission issues and environmental efficiency measures.

Indeed, all of the ISM effectiveness performance measures predate the ISM program and therein lies the value of the set of measures selected. The existence of this data makes it possible to trend performance over a significant period of time such that the impact of ISM is discernable in some tangible manner. Trending over a multi-year period is important because the most significant changes wrought by ISM are cultural in nature and take a significant period of time to become embedded in an organization. The measures are intended to gauge the results of these changes in the form of sustained improvement in key outcomes.

What is different from before is that for the first time the DOE has a unified approach to safety management through ISM and this approach is flexible enough to accommodate site-specific needs and has obtained a high level of buy-in from line management. The Deputy Secretary established the ISM performance measures to focus DOE senior management attention. In establishing these measures, the Deputy recognized that achieving a mature set of useful performance indicators will require a continuing effort. The Deputy directed the SMIT to work with the Office of Environment, Safety and Health, the Lead Program Secretarial Offices, and the Field to bring this set of performance measures to maturity. This effort includes (1) resolution of any related process issues (e.g., reporting frequency, report format, roles and responsibilities, etc.) and (2) consideration for inclusion of other measures, with an eye toward piloting promising approaches at DOE facilities. In addition to receiving quarterly reports, the Secretarial Safety Council will review the set of ISM effectiveness measures and consider any proposed changes at least annually.

As far as changes to ISM based on results at hand on a complex-wide scale, it seems premature to make any changes to the Department-wide approach. The ISM systems at the sites need some time to mature and reliable trends need to be established. Initial complex-wide implementation of ISM is scheduled for completion in September 2000. In addition, there are data quality issues and other process issues that are being worked to ensure high quality measures, suitable for decision-making. Various sites have reported examples of improvements made to site-specific ISM systems as a result of site-specific performance measures.

- Q. *DOE Acquisition Regulations “Conditional Payment of Fee” clause also requires performance measures for contracting purposes. Does the draft guidance, recently sent out for comment, give contracting officers guidance on how they should use ISM performance measures in setting award fees? What is the schedule for issuing this guidance and how does DOE anticipate contracting officers will implement this guidance in a way that ensures consistency?*
- A. ISM performance measures are required by the DOE Acquisition Regulation 970.5204-2 “Integration of ES&H into work planning and execution.” This clause was added to all major DOE contracts by May 1998. This clause requires contractors to annually review and update, for DOE approval, its safety performance objectives, performance measures, and

commitments consistent with and in response to DOE's program and budget execution guidance and direction.

Although each contract most likely has a different approach for measuring ISM performance relative to mission objectives and other performance areas, in terms of consistency, it is probably most important to ensure that ISM performance be a significant factor in overall performance. The performance measures are intended to be metrics that gauge the success of *work* associated with one or all of the minimum performance requirements. As progress is achieved at each DOE site, one would expect the performance measures to change for continuous improvement. That is one reason the ES&H clause provides for the measures, as well as commitments, to be updated annually.

The Conditional Payment of Fee Clause (paragraph (a)) provides for the reduction of fee if a Contractor fails to achieve the 'minimum performance requirements' of the [safety management] system. The minimum performance requirements of the system are to be set forth in the approved Safety Management System, or similar document, such as the annual update of ISM performance objectives, measures and commitments. If the Contractor fails to achieve the minimum performance requirements, the DOE Operations/Field Office Manager may reduce any otherwise earned fees, fixed fee, profit or share of cost savings for the evaluation period by an amount up to the amount earned. In this way, the Conditional Payment of Fee Clause can indeed be used by Heads of Contracting Activities (HCAs) to establish ISM performance requirements and affect award fee.

While HCAs have responsibility and authority to establish ISM performance requirements, Chapter IV of the Safety Management System Guide (DOE G 450.4) which is expected to be issued within the next 30 days provides guidance on minimum performance requirements. These minimum requirements encompass: 1) compliance with applicable laws, regulations and DOE Directives; 2) implementation of and adherence to the contractor's Safety Management System; and 3) accomplishment of annual contractor safety performance commitments. HCAs and contractors may tailor their performance measures to their specific site situations. For example, a performance measure might be whether operations are conducted within the parameters delineated in an authorization basis. Another measure might be whether a clearly specified work scope with milestones is completed that substantially reduces site hazards or worker risk. In sum, the contractor's fee can be effectively linked to ISM performance through effective implementation of the Conditional Payment of Fee Clause by the HCAs.

This framework is discussed in the recently issued draft Reference Book for contracting officers. The Reference Book will be released by the end of May, 2000. Also, the Office of Management and Administration has issued guidance on the general topic of performance measures in the DOE Performance Based Contracting Guide, May 15, 1998. This framework is also outlined in the draft Chapter 4, ISMS Guide, which is currently being coordinated for final approval and issuance. The Office of Procurement and Assistant Management is planning several workshops, with EH participation, at field sites to explain fee policy including the Conditional Payment of Fee clause.

The Operations Office Managers are responsible for ensuring the contract terms and conditions discussed above are carried out fully and effectively. The SMIT and the Office of Environment, Safety and Health (EH) will continue to provide assistance to the Program and Field Offices to help ensure they understand the intent of the contract provisions. The SMIT and EH will continue to foster the sharing of experience among DOE sites.

Q. Who is coordinating development of site ISM performance measures with cognizant contracting officers to ensure that the measures are useful for feedback and improvement purposes and payment of award fees?

A. Each site is responsible for developing and implementing their own ISM performance measures, as called for by DEAR clause 970.5204-2 "Integration of ES&H into work planning and execution," implemented in all major DOE contracts since May 1998. Key lessons learned included: 1) performance measures must be meaningful to local managers to be used and useful; 2) linking performance measures to ISM is not a trivial matter; and 3) performance measures naturally evolve as experience is gained and as ISM implementation advances. Most sites now have a couple years of experience in implementing these measures and have evolved their measures based on this experience. In addition, the SMIT sponsored a one-day workshop on May 13, 1999 in Cincinnati, Ohio, to share experiences and lessons learned on these measures. Site experiences served as a critical input into the development of the initial set of DOE corporate ISM performance measures.

Q. Who is ensuring that site-level ISM performance measures are consistent from site to site across the defense nuclear complex, given differences in hazard and mission?

A. Consistency at the site level is not a goal. By their nature, to be effective these performance measures must be tailored to site-specific hazards and improvement needs. These differences establish site specific improvement goals, provide feedback that is deemed valuable by both DOE and site management, and enhance buy-in. The buy-in by local DOE and contractor management is of critical importance in achieving any real change. Because ISM is by intent tailored to each site, the suite of measures will differ from site to site and these differences are critical to further improving the safety management performance and culture at each site.

As with other field element responsibilities, the first check on effective fulfillment of assigned responsibilities is by line management oversight (that is, by the associated DOE headquarters program office). The Performance Measures Working Group, established by the Deputy Secretary under the coordination of the SMIT, will continue SMIT efforts to promote the sharing of information, experience, and lessons learned throughout the complex to continue to improve the quality of site-specific performance measures.

ISM Topic Area: ISM Implementation at Idaho Operations Office

Q. *It appears that Idaho has made significant progress over the last year in implementing ISM - to what do you attribute this success? How and to what extent has Idaho shared lessons learned? What problems have been encountered? How have these problems been overcome?*

A. While many factors have contributed to the progress made at the INEEL over the last year in the implementation of ISM, INEEL believes that the single most important factor has been, and will continue to be, senior line management advocacy for ISM. Senior management must proactively promote ISM in order to ensure that the workforce believes ISM will endure. Only then will the workforce support the ISM processes.

Key accomplishments that can be attributed to senior line management began with direction from senior DOE management to the previous M&O contractor to institute a line management organization on the INEEL, where all Site Area Directors (SADs) would report to one Site Operations Director (SOD). The SAD/SOD line management organization established line management ownership and accountability at the site area level, where the work is performed. The importance of establishing clear roles and responsibilities, delineating line management responsibility for safety, cannot be overstated.

Following in line with the ISM guiding principles, INEEL believes another important factor in its success is having line managers and staff with the competence commensurate with their responsibilities. BBWI has ensured the presence of senior managers with very strong operational background and leadership skills combined with a detailed understanding of ISM to continually direct, evaluate, and adjust ISM implementation activities for the entire site. These managers are empowered with the authority to make needed changes quickly and effectively. Additionally, INEEL has used subcontractor support with a strong background in requirements for successful ISM implementation, to accelerate INEEL's progress.

Another key factor to our success thus far, has been the use of a project approach to implement ISM. Project management provides the tools to clearly identify responsibilities, track progress, identify deficiencies, provide corrective actions for deficiencies, and attain accountability. Partnering between the DOE and BBWI projects has ensured a consistent approach to ISM implementation, and a consistent message to the workforce. The project established a phased approach to ISM implementation, beginning with pilot sites, where new ISM processes such as requirements roll-down and SME checklist, could be tested, allowing INEEL to learn as it went through the implementation process while providing a manageable scope of implementation. Key to the success at the pilot sites was the use of internal and external self-assessments to determine state of readiness for ISM verification, and to bolster readiness with corrective actions taken to close assessment findings.

Finally, the exceptional worker involvement on the INEEL, driven by the workforce and advocated by senior DOE and BBWI management, has been critical to the INEEL success.

INEEL efforts in the Voluntary Protection Program (VPP), including worker involvement safety initiatives and partnering between management and union, will engrain ISM into INEEL work. For example, VPP representatives are present at each site area/facility Plan of the Week meeting to share activity-level ISM status as well as take information from the meetings to the work force representatives on the respective Employee Safety Team(s). Employees have seen senior management commitment to ISM, and they are responding with their support.

In the area of sharing lessons-learned at the INEEL, BBWI instituted a Lessons Learned Workshop for DOE and Contractor management and staff to help the balance of INEEL (other than 5 pilot facilities) gain better understanding of ISM implementation process and needs. Outside the INEEL, contractor workers and support program personnel have attended several ISM lessons learned workshops in ORNL to share lessons learned with counterparts from across the complex. Additionally, Dave Fox, a utility operator, and Doc Detonencour, president of a local union, attended the ISM Workshop entitled "Making ISM a Reality," in Knoxville in November 1999. Dave also presented a paper entitled "Worker Perspectives on ISM," at WM-2000 in Tucson. Other activities completed which share lessons learned include DOE-ID and contractor participation on other site Phase I/II verification teams; INEEL VPP processes shared at regional and national VPP conferences; and VPP processes shared at Battelle Hanford, Idaho Steel, Walker Farms, City of Idaho Falls, and local school districts.

While much success has been realized on the INEEL, there is still much to do and problems to overcome. Although the acceptance of ISM has been overall positive, it remains a difficult task to permeate the ISM functions, principles and processes throughout the entire work force. With such a large and diverse work force on the INEEL, education and behavior change will require a significant amount of management attention and support, as well as worker involvement, for success. Another potential conflict with ISM implementation is the desire by BBWI to make changes to support new management initiatives, related to the new contract, within the constraint imposed by DOE-ID to minimize impact on existing ISM processes so as not to invalidate Phase I verification.

Clear direction from DOE and BBWI senior management on the need to support and maintain the current ISM System has helped maintain progress. By DOE requiring the new contractor to continue to implement the established INEEL ISMS through contractor transition, and continued emphasis on ISM after contractor transition and the first Phase II verifications, impacts to the progress of INEEL ISM implementation have been minimal. Senior management ISM briefings and workshops to educate and respond to questions regarding ISM implementation and ISM System flexibility with regard to change, and use of an appropriate change process, have prevented changes to support new management initiatives from derailing ISM progress. The result has been a strong desire by management to work within the existing ISM System, where possible, and minimize change to only that necessary to support new missions and critical outcomes. When change is required, it is implemented

through change control processes to minimize impact on worker safety and environmental protection capability.

- Q. *ISM implementation at the Idaho Nuclear Technology and Engineering Center (INTEC), one of Idaho National Engineering and Environmental Laboratory's most complex sites, is still ongoing with the Phase II verification scheduled for February. What are the largest impediments to ISM implementation at INTEC and what is being done to address them?*
- A. As stated in the question, based on size alone INTEC represents a significant challenge to the implementation of ISM. INTEC consists of approximately 1100 employees in a diverse and somewhat fragmented organizational structure, with numerous facilities of various hazard categories. Several key missions, such as fuel storage and waste disposition, research and development, construction, and NRC regulated activities, challenge an integrated approach for implementing ISMS. Couple this complexity and diversity with INTEC's long history as a separate site with unique approaches to conducting business, and one can understand the somewhat provincial culture that resulted, which now must change. Complicating the change is a resistance in shifting from the established expert-based processes, to the ISM standards-based process.

Recent changes in senior management at INTEC to a more experienced manager, and the use of a subcontractor familiar with ISM implementation requirements to reinforce and assist INTEC management and staff in the implementation of ISM, will accelerate the change in the existing culture at INTEC. As stated previously, senior line management advocacy for ISM, and competence commensurate with responsibility will be key to success at INTEC. Senior DOE and BBWI management expects rigorous and unequivocal adherence to procedures, and will hold those responsible for compliance, accountable. Although INTEC has been somewhat isolated from common INEEL processes, the BBWI management team has emphasized integration of all processes across the INEEL, not just ISM, and INTEC will be fully integrated into BBWI processes just like any other INEEL facility.

To further enhance ISM implementation, INTEC adopted a project approach for ISM implementation, making personnel reassignments and performing gap analysis to form a Work Breakdown Structure (WBS) and schedule. As mentioned before, the use of a project approach is a lessons learned at the five INEEL pilot facilities. The WBS provides a common tool to ensure processes such as Conduct of Operations and Configuration Management are implemented consistently throughout INTEC's organizations. Through this process, a management team that was once specifically project/mission oriented is now integrated and has successfully created a program resulting in consistent standards and expectations throughout INTEC.

Other significant challenges for ISMS implementation that INTEC still faces include balancing priorities to accomplish operational imperatives and ensuring that the commitment to ISMS functions and principles are demonstrated, communicated, and accepted by the workforce.

DOE-ID closely monitors BBWI's actions to properly balance priorities, using established change control processes. As for ensuring commitment to ISM, INTEC is using a worker-led team to accelerate transmission of ISM communications to the INTEC work force. Upon execution of the ISMS plan, INTEC will be able to provide significant lessons learned from an organizational standpoint that may be used to further evaluate and supplement other DOE facilities of this magnitude.

The recent decision to move INTEC's Phase II verification to May (to coincide with the existing schedule for the balance of INEEL site areas/facilities) will allow additional time for new processes and new management initiatives/philosophies to further mature in the relatively large management and work force complement at the facility. The need to allow more time for maturation of ISM at INTEC was identified by BBWI-initiated assessments of ISM implementation at INTEC. Continued use of focused internal/external assessments will occur to identify weaknesses in the implementation of ISM in time to allow corrective actions to take effect and show progress prior to Phase II verification.

Q. *On January 11, 2000 the Board sent a letter to the Idaho National Engineering and Environmental Laboratory (INEEL) regarding the implementation of Integrated Safety Management Systems at the activity level. What actions are being taken by INEEL regarding this letter?*

A. DOE-Idaho appreciated the input from the January 11, 2000 memorandum from the Board regarding ISM implementation at the activity level on the INEEL. While the Board noted recent significant improvement in ISM at the activity level, there were numerous specific observations made that have helped INEEL focus on individual processes. These are discussed below. The Board also noted in the cover letter that management attention and resources are needed to resolve a long-standing problem with conduct of operations at INTEC. As stated in the response to the first question above, subsequent to the Board's visit, BBWI has made management changes and supplied additional resources to INTEC, which DOE-Idaho believes will help resolve the historic conduct of operations problem at INTEC.

In the area of maintenance and construction work, the Board noted that their review of STD-101 application in the field revealed a number of areas that needed clarification and improvement, and that a revision to STD-101 to incorporate these enhancements was planned for the near future. BBWI issued a revision to STD-101 in early December that corrected the known clarification issues and provided several improvements, which have been noticeably effective thus far. A specific comment the Board made was that there was a need to evaluate ways to improve the process of selecting jobs that require hazard analysis. The Board's comment was received early enough to allow BBWI to incorporate this issue directly into the revision to STD-101. Changes were added to identify specific criteria for planning mid-level work orders that would trigger a requirement for an integrated job hazards analysis to be performed.

Another comment the Board made concerning STD-101 is that the work controls process did not line controls contained in work permits to the work being performed. The specific observation concerned a Radiological Work Permit (RWP) that would have allowed the work to be completed in an 800 millirem per hour field, while the work was actually planned for a 100 millirem per hour field. Independent of the Board staff concern, the BBWI ESH&QA Branch had also determined that the adequacy of the INEEL multi-permit process and some specific permits in controlling hazards, and the linkage of the permit requirements to the work documents, required improvement. Additionally, during the ISMS Internal Assessment at INTEC, the Radiological Control Director identified that radiological conditions were too generically defined in RWPs and that RWPs used the same electronic dosimeter alarm settings regardless of the specified actual radiological conditions as a site-wide issue.

In order to address both the ESH&QA Branch concerns with the permit/work document process and the Radiological Control Director's concern with the controls in the permit being too generic to sufficiently address the actual radiological conditions, an ICARE Deficiency Report (DR11067) was submitted. Actions planned to resolve the DR include revising the RWP process to ensure that the controls specified in the RWP, such as electronic dosimeter alarm settings, are based on the actual radiological conditions vice pre-established generic settings. In addition, a working group chaired by the Radiological Control Director will determine site-wide improvements to ensure that health and safety controls specified in permits are better linked to the task being performed. The first meeting of this committee was held on February 10, 2000. Attendees included Safety Director, Radiological Control Director, and the Site Operations Maintenance Director. The committee agreed to pursue revision of the Maintenance and Operations Planners Guides to require incorporation of all controls into the body of the line-level working documents. Additional committee action is required to define the process and implementation approach.

Another observation the Board made was that an improved [MCP 3571] process for conducting work in a research and development environment was needed. Based on the out-briefing from the Board visit, it was recommended that INEEL contact LANL for insight into their R&D review process. BBWI contacted Ross Lemons at LANL to "walk through" their system. Follow-up discussions with Mr. Ray Daniels and Mr. Dan Burnfield on this topic confirmed that INEEL had contacted the correct person at LANL, and confirmed INEEL's understanding of the concern. INEEL has since met with Mr. Ray Daniels concerning the MCP 3571 process, and at the conclusion of the meeting, Mr. Daniels indicated that he had no further concerns about the MCP 3571 process. INEEL will also arrange a meeting with Mr. Burnsfield when he returns in May 2000 to walk through the MCP 3571 process, and ensure that any remaining concerns he may have are resolved.

ISM Topic Area: ISM Implementation at Albuquerque Operations Office

Q. *The Pantex schedule for ISM implementation continues to slip to the right. Can you explain why ISM implementation at Pantex has been so difficult and what is being done to meet the Secretary's September 2000 implementation goal?*

A. The ISM verification performed by the Department in July-August, 1998, identified a number of Pantex processes and responsibilities requiring further definition, especially as related to nuclear explosive operations. In November 1998, the Board issued recommendation 98-2, which dealt with accelerating safety improvements in nuclear explosive operations at the Pantex Plant, and included a number of sub-recommendations that paralleled the earlier ISM review findings. In response to Board recommendation 98-2, the Department has altered a number of nuclear explosive processes related to project team leadership, hazard analyses, nuclear explosive safety reviews, and readiness reviews through revision of the governing directives. The extent of changes made by the Department increased the complexity of required corrective actions by the Pantex Plant operating contractor. Therefore, the Department afforded the Pantex Plant operating contractor some additional time to implement the necessary changes. This led to deferring the scheduled repeat of the ISM verification review. The Department has scheduled a repeat of the Phase I verification review for April 3-14, 2000, and the Phase II review for June 19-30, 2000. This schedule is intended to afford the Pantex Plant operating contractor some additional time to correct any remaining deficiencies and still meet the September 2000 implementation goal established by the Secretary.

Q. *What is the Albuquerque DOE Office doing to implement the federal responsibilities for ISM?*

A. Based on a decision by the DOE Office Manager, and in preparation for ISM declaration as directed by the Deputy Secretary in October 1999, Albuquerque DOE Office is preparing an ISM System Description that will describe how Albuquerque DOE Office is implementing the federal ISM responsibilities associated with the following four Core Expectations referenced in the ISM Verification Team Leader Handbook:

- 1) DOE effectively translates mission into work, sets expectations, provides for integration and prioritizes and allocates resources,
- 2) DOE processes for approval of contractor work are clearly defined and interface efficiently and effectively,
- 3) DOE ISM procedures and mechanisms ensure that work is formally and appropriately authorized and performed safely. DOE line managers are involved in the review of safety issues and concerns, and have an active role in authorizing and approving work and operations,
- 4) DOE ISM procedures and mechanisms ensure that hazards are analyzed, controls are developed, and that feedback and improvement are in place and effective.

Through various iterations of defining safety roles and responsibilities throughout the recent years, DOE-AL has acknowledged that the five ISM Core Functions, tailored specifically for the M&O contractor (those closest to the work and the hazards if safety is not integrated properly into day to day work) do not translate directly to the DOE Federal (at AL and area offices) contribution to safety. Rather than documenting every existing AL management system and staff function under a Core Function, AL's description will focus on the fundamental and important role AL provides to the Nuclear Weapon Complex: making decisions. For example, AL makes safety management decisions on whether an M&O has adequate safety basis (safety basis authorization), whether or not a facility/operation is ready to begin/restart, whether the appropriate priority is applied, etc... These decisions, and others associated with the above-mentioned Core Expectations, have a direct impact to the M&O ISM and its mission.

AL is also taking advantage of this process to identify opportunities for improvement on the decision making process. This may lead to identification of opportunities, with plans of action, in the system description.

- Q. *According to the presenter at the public meeting, Albuquerque is developing its own ISM description that will provide a vision of where the Albuquerque Office wants its ISM program to be. However, ISM descriptions are normally not vision statement documents, but rather a description of the existing ISM program and the mechanisms that make up the program. Please elaborate on the structure of the Albuquerque document and how it will address the interfaces with its area offices and the Functions Responsibilities and Authorities document.*
- A. The AL ISM system description will be a brief summary of how AL fulfills its safety management responsibilities. In some cases, AL's safety management process will reflect changes based on analysis and introspection, and in other cases, the current functioning processes will be described. The ISM system description will differ from the FRAM in that the description will focus on "how" ISM is implemented whereas the FRAM focuses on "who" implements the various ISM functions and responsibilities. The two documents will be complementary.

The ISM system description will provide a single over-arching process road-map that describes how the various safety management processes function and inter-relate. The system description will point to vital, more detailed safety management documents such as the FRAM and/or Area Office/Project Office/Divisional ISM system descriptions (e.g., Amarillo Area Office, Grand Junction Project Office, and Transportation Safeguards Division will have their own ISM system descriptions). The roles of individuals in the decision process will be reflected in the FRAM. It is envisioned that during development of the AL ISM system, the content of the FRAM and the extent of Area Office/Project Office/Division procedures will be reviewed and questioned to ensure Federal interface responsibilities with the Contractor are clear and complete.

The contents of the system description have not been finalized, but it is anticipated that the ISM system description will capture:

- AL's role in the Nuclear Weapons Complex
- Purpose of the AL ISM System Description
- AL Safety Management Decision Processes (For ease of understanding our approach, AL is 'mapping' the federal product = a decision, and ensuring applicable ISM core functions are addressed).
- Identification of key ISM implementation procedures, guidance, and interface documents.

The AL ISM system description is currently scheduled to be completed by August 2000.

Q. What specific aspects of the request for proposal for the re-competition of the Pantex contract are intended to ensure progress toward the objectives of ISM and Recommendation 98-2 are sustained after the new contract is awarded? How, specifically, does DOE expect these provisions to work?

A. The request for proposal includes a provision that affords the selected Pantex Plant operating contractor 45 days to evaluate the previous contract requirements. At the end of that time frame, the contractor must identify to DOE any requirements they would propose to not accept. These requirements include the ISM system, environment, safety and health standards and requirements identification documents (S/RID), and authorization agreements for operation of the Pantex Plant nuclear and nuclear explosive facilities. All of these except for the ISM system have already been approved by DOE and are part of the existing Pantex contract. As discussed above, the Department anticipates having completed an ISM verification review at the Pantex Plant prior to award of a new management and operating contract. Therefore, the request for proposal includes provisions intended to ensure continuity if a contractor transition period is required. After award of the new contract, the performance evaluation management plan (PEMP) for fiscal year 2001 at the Pantex Plant will include criteria designed to measure contractor performance related to both ISM and Board Recommendation 98-2. The request for proposal also includes a provision whereby the Department will conduct a Special Assessment of the contractor's overall performance against established performance standards following completion of the second full Fiscal Year of the contract term. If performance does not meet established expectations, the Contracting Officer may terminate the contract.

ISM Topic Area: Recommendation 98-1

Q. The 98-1 Implementation Plan states "The initial focus of this process will be the management of safety issues and corrective actions resulting from Office of Oversight assessments. However, consistent with the June 3, 1998, feedback and improvement plan of action, it may be beneficial to expand this process at some point to address other assessment

issues. . . .” What is being done to look at expanding this process to deal with other safety significant issues?

- A. The Corrective Action Management process developed under the 98-1 implementation plan is currently being verified. Further, potential improvements to the Corrective Action Tracking System (CATS) have been identified and are being evaluated. DOE senior management has currently identified two additional sets of assessment and corrective action data to be added to the CATS in the near term: self-assessment reports and corrective actions on critical safety, and self-assessment reports and corrective actions on High Efficiency Particulate Air (HEPA) filters. Addition of further sets of data to the CATS is judged to be premature at the time.

The Integrated Corrective Action Management Team (I-CAM) expects to turn its attention to this matter in the near future and develop a Department position no later than September 2000. The I-CAM is developing a process by which the Department can assess other (than Office of Oversight, EH-2) data sets to determine whether the Department is better served by including them in the formal Corrective Action Management process and the associated CATS database tool.

- Q. *At the February 3, 1999, Recommendation 95-2 public meeting the Board was told that tracking systems to deal with non-DOE EH-2 identified issues were being worked in conjunction with the tracking system designed to meet 98-1 commitments. Although the Corrective Action Tracking System (CATS) has been developed to track EH-2 issues, what is being done with the other systems, including the DOE Field Office tracking systems?*
- A. Most of the I-CAM’s focus for consideration of additions to the Corrective Action Management process are DOE corporate-wide feedback mechanisms and systems. In addition to these, Field Offices and some Headquarters offices operate their own systems to track corrective actions at appropriate levels. The CATS was designed to allow the Field Offices to continue using their home-grown systems while ensuring data entry into CATS. In fact, CATS provides for electronic up-link of information from site-specific systems. The Department does not intend the CATS (which was designed for high-level status tracking) to replace local lower-level systems. The I-CAM intends to consider under what conditions it might be appropriate to elevate some site-level corrective actions to the attention of headquarters managers. However, the main focus remains on empowering the line to effectively track and manage its own corrective action feedback and improvement processes.
- Q. *What organization has been assigned the responsibility to monitor and report to the proper authority the performance of the CATS system on timely (a) entry of issues identified by EH-2 which require Corrective Action Plans (CAPs) and (b) development of the CAPS and entry of the corrective actions.*

- A. The CATS is a status tracking tool, and, by definition, lags the actual production of reports, Corrective Action Plans (CAPs), and corrective action status. EH-2 is responsible for entering the issues from their reports expeditiously, but CAP development in the field begins immediately upon receipt of the final report and does not depend on entry of the issues into CATS to start development. Line managers are responsible to develop CAPs and enter CAP data into the CATS in a timely manner. As with other line responsibilities, the first point for checking that this is being performed is line management oversight. In addition, EH-2 is charged with monitoring the timeliness and adequacy of corrective action development and implementation.

The I-CAM has overall process owner responsibilities to ensure that the corrective action process and the CATS are meeting DOE needs. The I-CAM prepares and presents the Secretary's Quarterly Report, which provides information directly to the responsible line managers and also raises issues of timeliness (for CAP development and CAP implementation) directly to the Office of the Secretary and the Secretarial Safety Council for line management action. The I-CAM reports to the Deputy Secretary of Energy, through the Director, Safety Management Implementation Team. Ultimate responsibility for this central coordination function, after the I-CAM achieves its objectives, has not been determined. However, the SMIT Director will ensure that this central coordinating role is institutionalized and remains institutionalized to ensure the corrective action process functions as intended.

- Q. *Approval of the CAP for the Emergency Management oversight review is 17 months overdue. What has led to this delay? In October 1998, EH-2 issued a report on Site Safety Performance accompanied by 18 topical area reports on a wide range of topics covering areas in which DOE is still encountering operational problems. These reports have not yet found their way into the CATS. What is the basis for this long delay? Based on these delays, is there a need to modify the 98-1 process to ease the approval process for CAPs affecting multiple Program Secretarial Officers (PSOs)?*
- A. Responsibility for the Corrective Action Plan to address ten Department-wide emergency management issues was assigned to the Office of Nonproliferation and National Security on March 26, 1999. As a result of the May 1999 Departmental reorganization, the Office of Security and Emergency Operations (SO) assumed responsibility for the Corrective Action Plan. Subsequently, the Office of Emergency Operations (SO-40) assumed specific responsibility for the Corrective Action Plan. Re-organizations, changes in management, and new administrative processes have each contributed to the slow development and approval of the Corrective Action Plan. The Corrective Action Plan is expected to be approved by the Deputy Secretary before the end of March 2000, approximately one year after responsibility for the plan was assigned. The delays in approving this Corrective Action Plans are not attributable to the 98-1 process.

During its development in June and July 1999, the CAP was extensively coordinated with Headquarters and Field element emergency management points of contact. In this time frame,

the Field Management Council was established. On August 4, 1999, the Corrective Action Plan was circulated for formal comment through the Field Management Council. The roles and responsibilities for implementing the emergency management corrective actions had to be revised to be consistent with those described in the Deputy Secretary's August 19, 1999, memorandum which addressed "Roles and Responsibilities Guiding Principles." During the comment resolution process, the Office of Emergency Operations (SO-40) was officially established on September 26, 1999, with new management and direction.

As new organizations have been established, new procedures added, and new roles and responsibilities described, the Corrective Action Plan has been delayed. Each delay forces changes in the dates for actions to be completed. The Corrective Action Plan was under virtually continuous review and revision from September 1999 until the Director, Office of Security and Emergency Operations approved the Corrective Action Plan on December 14, 1999, and forwarded it to the Deputy Secretary for approval and implementation.

The Field Management Council Secretariat then proposed further revisions to the Corrective Action Plan and directed a second review through the Field Management Council, which commenced on February 15, 2000. All comments will have to be addressed before the Corrective Action Plan can be submitted for Deputy Secretary approval. This approval is currently expected by the end of March 2000.

In Attachment A to the 98-1 Implementation Plan, the Department forwarded a listing of those legacy reports which would be addressed through the corrective action process and subsequently entered into the CATS. The October 1998 report on Site Safety Performance was not included on this list, and therefore was not identified for inclusion in the CATS. Within the past several years the analysis of the Department's safety management system and various safety programs by the Office of Oversight has identified generic concerns that when corrected would cause measurable safety improvement throughout the Department. These generic concerns are documented in the Site Safety Performance and Topical area reports. Collectively, these analyses provide significant insights into our operations. A hallmark of an effective self-assessment process is the ability to apply generic findings to one's own specific activities. As such, the Department's Office of Oversight intends to require that each site review future reports to determine the applicability to its operations and whether a need for corrective actions exists at the different sites. If corrective actions are needed then the line will be expected to submit these actions for inclusion in the Corrective Action Tracking System.

There is no indication that a weakness in the corrective action process caused any of the delays associated with the Emergency Management CAP. The CAP was developed in a timely manner, and the corrective action process has helped to keep attention on the CAP and maintain progress toward implementation.

Q. *For issues that involve multiple PSOs, what is the process used to decide which PSO is the lead and how the issue will be assigned once it is entered into CATS?*

A. If an assessment report contains findings directed at multiple CSOs, the CSOs determine which of them is the appropriate lead organization for preparation of a single, unified CAP. The Deputy Secretary as Chief Operating Officer is the ultimate decision authority should there be disputes regarding the lead. The lead CSO will assign Cognizant Line Managers (CLM) who will complete appropriate portions of the CAP and forward them to the lead CSO for integration into an aggregate CAP.

Q. *Describe the nature and source of guidance for the various kinds of reports now being produced for the different levels of management in both the field and headquarters for monitoring performance in completing identified actions.*

A. The Secretary of Energy requires quarterly status updates on CAPs responding to identified Office of Oversight issues. The Secretary's Quarterly Report is compiled by the CATS, under the direction of the I-CAM, and is distributed to all CSOs and Field Element Managers for their use. Other ad-hoc reports from the CATS are available to managers at all levels to help them identify which CAPs or specific corrective actions warrant additional management attention

Q. *Describe how the current CATS is being used by the Field Managers, PSOs, and the Deputy Secretary to monitor performance in developing CAPS and in completion of the indicated actions.*

A. The CATs provides for multiple report formats, as needed by CATS users. Reports can be generated based on a flexible query structure to meet user's needs.

In addition, information from CATS is submitted quarterly to the Office of the Secretary (the Secretary's Quarterly Report). This document provides the Deputy Secretary, the CSOs, and the Field Element Managers a status account of Cognizant Line Manager performance regarding new CAPs in development, CAP approval, and overdue CAPs. This report is used to query responsible line managers to ensure that senior management is aware of the issues effecting timely completion of CAPs.

Q. *Describe the level of acceptance and the use of the CATS across the DOE complex by various levels of management.*

A. The DOE CATS is transparent to most levels of management in the complex. CLMs, their direct reports, and their supervisors can use the CATS to highlight corrective actions that

warrant additional management attention. Senior management uses information derived from the CATS in the Secretary's Quarterly Report as described in the answer above.

ISM Topic Area: 98-1 Implementation Verification Plan

Q. Describe how the Team proposes to verify that the DOE system is effectively addressing those safety issues that cut across multiple sites and multiple PSO programs identified by Independent Oversight.

A. The Verification Team, in its review plan, has identified several reports by the Office of Oversight (EH-2) that identify safety issues applicable to multiple sites and program offices. To include a representative sample of safety issues, the team is selecting at least one of these reports, and will verify that each field and program office have performed their relative functions in developing, implementing, and validating the corrective actions.

Resolution of safety issues that are applicable to more than one site and/or program office may require coordination among multiple program offices to ensure compatibility in guidance and consistency of the corrective actions with the Departmental policies. The team will verify that appropriate coordination between the program offices has taken place and conflicting guidance has not been provided

Furthermore, the team will verify that EH-2 (and, if applicable, other offices at HQ) has performed its functions of reviewing the adequacy and timeliness of corrective actions-and/or reporting of status to senior management.

The Team, however, will not conduct an assessment of the adequacy or effectiveness of the corrective actions. Line management and/or EH-2 would more appropriately perform such an assessment in subsequent field assessments or evaluations.

Q. The Office of Oversight (EH-2) plays a critical role after issues have been identified, in entering the issues in the CATS, and reviewing corrective action plans in a timely manner. Describe how the Team is looking at those elements as part of implementation verification?

A. The Office of Oversight performs an important role in reviewing the timeliness and adequacy of corrective action plan development and implementation, and in elevating unresolved issues to senior management, as necessary. Entering of Reports and safety issue data into the CATS is also an important administrative function of EH-2 as this is the data upon which the line will build its inputs to the CATS. Therefore, the review team has included EH-2's role in this regard within the scope of its review. Similar to the reviews to be conducted of field and program office roles, the team will verify whether the role of EH-2 has been delineated in appropriate directives and/or EH's internal documents and whether the functions are, in fact, being performed effectively.

ISM Topic Area: Lessons Learned

Q. *Although the Board is aware that there are more than 30 DOE directives that call for using lessons learned to improve operations, is there a DOE policy that describes the structure for the overall program?*

A. In accordance with the *Safety Management Functions, Responsibilities, and Authorities Manual (FRAM)*, DOE M 411.1-1-1A, Program Secretarial Officers and Field Element Managers are responsible to ensure the establishment and continued operation of a lessons learned program. DOE Standard 7501-99, *The DOE Corporate Lessons Learned Program*, describes the local and corporate infrastructure and provides common formats for sharing lessons among DOE organizations. The program is summarized in the lessons learned flow chart in the Standard's Appendix B and is summarized as follows:

- Lessons Learned Coordinators are designated at DOE Sites to help operators or managers write up lessons arising from site operations or observations. These lessons are distributed locally.
- If the lesson is considered of value off the site, the Lesson is rapidly shared with the DOE Complex via e-mail on the Lessons Learned List Server.
- A searchable database of archived lessons maintained jointly by the Office of Environment, Safety and Health and the Society for Effective Lessons Learned Sharing. The database is accessible via the Internet.
- Analysts in the Office of Environment, Safety and Health review events within and outside the DOE for applicability and write up lessons in the *Operating Experience Summary* for electronic distribution.
- A searchable archive of *Operating Experience Summary* articles is maintained by the Office of Environment, Safety and Health and accessible via the Internet.
- Electronic collections of lessons are also maintained locally by many DOE site organizations.
- Notwithstanding the electronic sharing, less formal horizontal sharing is encouraged. In this context, horizontal sharing includes the sharing of lessons within peer groups, colleague to colleague, safety councils, and the like, both on site and complex wide.

Q. *Describe the operations of the Lessons Learned Program, how it is coordinated, how it is monitored for effectiveness in dissemination and use of all parts of the database by all sites.*

A. The Lessons Learned Program is described in DOE-STD-7501-99, *The DOE Corporate Lessons Learned Program*. The Lessons Learned Coordinators, designated at each site, participate in conference calls and meetings, and communicate regularly within the DOE Society for Effective Lessons Learned Sharing. DOE managers in Program Offices and Field Offices are responsible for monitoring lessons learned utilization and system effectiveness as part of the DOE management oversight function. The Standard includes guidance in measuring lessons learned program effectiveness.

Q. *Describe the analyses and by whom they are carried out for all Lessons Learned in the Complex.*

A. Many people analyze items as potential lessons, and many people analyze lessons for applicability at their site. Each DOE organization has lessons learned coordinators that assist operators and managers in the preparation of lessons and who review incoming data for applicability at their site. At DOE Headquarters, the EH Office of Operating Experience Analysis analyzes events for DOE-wide distribution via the *Operating Experience Summary*. This report is issued on a bi-weekly basis via the Internet (http://tis.eh.doe.gov/web/oeaf/oe_analysis.html).

Q. *How does DOE Headquarters measure the effectiveness of the Lessons Learned program on the individual sites and across the complex? In what office is this responsibility placed?*

A. Line management has the primary responsibility for implementing the Lessons Learned program. As such, monitoring of lessons learned effectiveness at DOE sites is a line responsibility vested in Headquarters Program Offices that own sites. Line management oversight, consistent with DOE Policy 450.5, Line Environment, Safety and Health Oversight, is the first method for checking on program effectiveness. Lessons learned programs are also evaluated for line managers through Integrated Safety Management verifications. In addition, DOE's Office of Oversight reviews the effectiveness of lessons learned during their assessments.

Q. *Have any surveys been taken to evaluate the user friendliness of the software being used to collect, analyze, and make accessible the information in the database?*

A. No formal surveys were taken, but frequent users were asked for their impressions, suggested improvements and ideas during the recent program development for database improvements. Users were generally favorable, and their ideas were incorporated into the system. The Internet site has a mechanism for users to submit comments, of which several spontaneous congratulatory messages from users within and outside the Department have been received. A

user survey is planned after sufficient experience has been obtained with the new database and Standard.

The lessons learned database has attracted the attention of several major private sector corporations. Motorola and Eaton Controls have asked DOE for copies of the database structure and Internet user interface so they could implement the same database and user interface for their organizations. Discussion for similar sharing is in process with Colonial Pipeline, the Port of Seattle, and the J.M. Huber Corporation.

Q. Is there any program in place to determine the value of Lessons Learned in other relevant industrial situations or other government agencies? Are mechanisms in place for exchange of Lessons Learned with these agencies? Describe the nature and current status of such programs if they exist.

A. DOE participates in GIDEP, the Government-Industry Data Exchange Program, and INPO. Lessons from these sources are reviewed for applicability to DOE. The EH Office of Operating Experience Analysis also reviews Nuclear Regulatory and Consumer Product Safety Commission information for applicable lessons. The Department does not have direct links to private industry outside these venues. The EH Office of Operating Experience Analysis has found its lesson sharing process is more open than most corporations and other government agencies. Most other lessons learned collections are available only to persons within that company or agency. The EH Office of Operating Experience Analysis investigated military lessons learned systems, but most of the content was so narrowly focused that there was little applicable to DOE operations, even when the agencies had their own industrial operations.

Q. Independent Oversight has developed reports on the status of DOE's activities in at least 21 different and vital topical areas such as fire protection, radiation protection, etc. What steps have been taken to relate the application of Lessons Learned in these different areas to ensure the same mistakes are not repeated in safety and operations? Where is this effort centered? What are the results of such efforts?

A. No specific lessons learned have been developed from these documents to date. The Department's Office of Environment, Safety and Health plans to review these documents and others to determine whether they contain valuable lessons learned that need to be added to the database. The database can contain appropriate keywords, work/functions, hazards, and ISM categories along with short summaries and hyperlinks so they will be returned as search results. The EH Office of Operational Experience Analysis has already done this with some other documents such as the reports of lessons learned on HEPA filters and Waste Vitrification.

Integrated Safety Management Implementation Milestone Completion Status

**(Based on Field Self-Reported Data Collected by the
Safety Management Implementation Team)**

March 13, 2000



Director, SMIT

Milestone Key

General			
■	• Complete.	■	• In progress.
■	• Management attention needed.	NA	• Not applicable.

Specific			
Line Self-Assessment	P 450.5 <i>Line Environment, Safety & Health Oversight</i> requires line management self-assessment of Integrated Safety Management System (ISMS) implementation.	Phase I	Phase I Validation – complete when contractor’s ISMS description approved by DOE field office. Deadline is 9/99 for Priority Facilities, and 9/00 for Remaining Facilities.
■	• Line management self-assessment system implemented & functioning.	■	• Phase I ISMS description approved by field office.
■	• Line management self-assessment system formalized.	■	• Phase I ISMS description field office review in progress.
■	• Line management self-assessment system under development.	■	• Phase I ISMS description not submitted, not reviewed, or not approved by field office.
Phase II	Phase II Verification – complete when contractor’s ISMS is verified. Deadline – 9/99 for Priority Facilities, and 9/00 for Remaining Facilities.	Authorization Agreement	Agreement between DOE & contractor to operate high-hazard (category 1 & 2) facility for defined scope of work.
■	• Phase II verification complete.	■	• Authorization agreement issued.
■	• Phase II verification scheduled or in progress.	■	• Authorization agreement field office review in progress.
■	• Phase II verification milestone exceeded, or verification review scheduled within 3 months of deadline, e.g., within 3 months of 9/99 for Priority Facilities, or within 3 months of 9/00 for Remaining Facilities.	■	• Authorization agreement not submitted, not reviewed, or not approved by field office.

DEPARTMENT OF ENERGY OFFICES

**Progress Toward Implementation of
INTEGRATED SAFETY MANAGEMENT**

By the September 2000 Milestone Date

Department of Energy Offices

Progress Toward Implementation of ISM by September 2000

Defense Programs		Environmental Management	
Albuquerque Operations Office		Idaho Operations Office	
Nevada Operations Office		Office of River Protection	
		Ohio Field Office	
Science		Richland Operations Office	
Chicago Operations Office		Rocky Flats Field Office	
Oak Ridge Operations Office		Savannah River Operations Office	
Oakland Operations Office		Fossil Energy	
Energy Efficiency & Renewable Energy		Civilian Radioactive Waste Management	

PRIORITY FACILITIES

Progress Toward Implementation of

INTEGRATED SAFETY MANAGEMENT

By the September 2000 Milestone

PRIORITY FACILITIES

LEAD PROGRAM SECRETARIAL OFFICE – DEFENSE PROGRAMS

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
ALBUQUERQUE OPERATIONS OFFICE					
LANL, TA-55 Facility	■	■	■	■	<ul style="list-style-type: none"> ■ Combined Phase I / II verification was completed October 22, 1999, combined with an "off ramp" review. Corrective actions are in progress. SMS Description was approved January 5, 2000. Partial LANL Phase II re-verifications are scheduled for June / July 2000 at selected facilities, possibly including TA-55.
LANL, TA-3 Facility (CMR)	■	■	■	■	<ul style="list-style-type: none"> ■ Combined Phase I / II verification was completed October 22, 1999, combined with an "off ramp" review. Corrective actions are in progress. SMS Description was approved January 5, 2000. Partial LANL Phase II re-verifications are scheduled for June / July 2000 at selected facilities, possibly including CMR.
PANTEX	■	■	■	■	<ul style="list-style-type: none"> ■ Repeat Phase I verification scheduled for April 3-13, 2000. Phase II verification scheduled for June-July 2000.

LEAD PROGRAM SECRETARIAL OFFICE – SCIENCE

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
OAKLAND OPERATIONS OFFICE					
LLNL Bldg. 332 ("Superblock")	■	■	■	■	<ul style="list-style-type: none"> Combined Phase I / II Verification completed September 24, 1999. SMS Description approved September 30, 1999. [Superblock's SMS Description may have to be reconciled with LLNL's Site-wide SMS Description, following its approval.]
OAK RIDGE OPERATIONS OFFICE					
LMES, Y-12 Plant	■	■	■	■	<ul style="list-style-type: none"> ■ DOE Oak Ridge Order 450 Chap. IV, ES&H Oversight Program, was issued in December 1999. A site-wide self-assessment against this Order's requirements is ongoing.

LEAD PROGRAM SECRETARIAL OFFICE – ENVIRONMENTAL MANAGEMENT

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
RICHLAND OPERATIONS OFFICE (RL) // OFFICE OF RIVER PROTECTION (ORP)					
River Protection Project (ex-"TWRS")[ORP]	■	■	■	■	ISM milestones complete.
Spent Nuclear Fuel Project (ex-"K-Basins")[RL]	■	■	■	■	■ Phase I & II verifications were completed November 22, 1999. Under a modified Richland verification strategy, a Fluor Hanford Inc. (FHI) site-wide Phase I verification (including the SNF Project) will be conducted April 17-28, 2000. A Phase II verification is scheduled for June 2000.
ROCKY FLATS FIELD OFFICE					
Bldg. 771	■	■	■	■	ISM milestones complete. On January 31, 2000, the Manager, Rocky Flats Field Office, declared ISM implementation complete at Rocky Flats.
Bldg. 371/374	■	■	■	■	ISM milestones complete. On January 31, 2000, the Manager, Rocky Flats Field Office, declared ISM implementation complete at Rocky Flats.
SAVANNAH RIVER OPERATIONS OFFICE					
F- and H-Canyons	■	■	■	■	ISM milestones complete. On December 29, 1999, the Manager, Savannah River Operations Office, declared ISM implemented at SRS.

REMAINING FACILITIES

Progress Toward Implementation of

INTEGRATED SAFETY MANAGEMENT

By the September 2000 Milestone

REMAINING FACILITIES

LEAD PROGRAM SECRETARIAL OFFICE – DEFENSE PROGRAMS

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
ALBUQUERQUE OPERATIONS OFFICE					
Carlsbad -- Waste Isolation Pilot Plant	■	■	■	■	ISM milestones complete.
Los Alamos National Laboratory	■	■	■	■	■ Combined Phase I / II verification was completed October 22, 1999. SMS Description was approved January 5, 2000. Partial Phase II verifications of selected facilities, focusing on 3 core expectations not met, will be conducted in the June/July 2000 time frame.
Sandia National Laboratory	■	■	■	■	ISM milestones complete. Site-wide Combined Phase I / II verification was completed November 28, 1998.
NEVADA OPERATIONS OFFICE					
Bechtel Nevada Contract (PBMC)	■	■	■	■	Phase I verification scheduled to commence April 10, 2000. Phase II verification scheduled for July 2000.
Device Assembly Facility, Area 6	■	■	■	■	Phase I verification scheduled to commence April 10, 2000. Phase II verification scheduled for July 2000.
Waste Management Facilities	■	■	■	■	Phase I verification scheduled to commence April 10, 2000. Phase II verification scheduled for July 2000.
U1a Complex	■	■	■	■	Phase I verification scheduled to commence April 10, 2000. Phase II verification scheduled for July 2000.

LEAD PROGRAM SECRETARIAL OFFICE – ENVIRONMENTAL MANAGEMENT

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
IDAHO OPERATIONS OFFICE					
INEEL-Stage 1: ATR, CFA Big Shop, RWMC, etc.	■	■	■	■	Completed Phase I Verification April 1999. Completed Phase II Verification September 1999. One Phase II objective to be re-examined at RWMC during INEEL Stage 2 verification, May 15-26, 2000.
INEEL-Stage 2: SMC, IFF, RWMC (1 Obj.)	■	■	■	■	Completed Phase I Verification April 1999. Phase II Verification rescheduled for May 15-26, 2000.
INEEL-Stage 3: INTEC, Test Area North, Balance of INEEL Facilities	■	■	■	■	Completed Phase I Verification April 1999. Phase II Verification scheduled for May 15-26, 2000.
OHIO FIELD OFFICE					
West Valley Demonstration Project	■	■	■	■	ISM milestones complete.
Fernald Environmental Mgmt. Project	■	■	■	■	ISM milestones complete.
Mound Environmental Mgmt. Project	■	■	■	■	Phase II verification scheduled for May 2000.

LEAD PROGRAM SECRETARIAL OFFICE – ENVIRONMENTAL MANAGEMENT

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
RICHLAND OPERATIONS OFFICE					
Pacific Northwest National Lab.	■	■	■	■	ISM milestones complete.
Environmental Restoration Contract (BHI)	■	■	■	■	Combined Phase I / II verification commenced February 28, 2000, scheduled to complete March 23, 2000.
Fluor Hanford, Inc. (FHI) Management Contract	■	■	■	NA	First Phase I verification was completed in October 1999. Overall Richland verification strategy was modified March 1, 2000 to implement a Fluor Hanford Inc. (FHI) site-wide SMS Description, to include the PFP, SNF, River Corridor, Waste Mgt., FFTF, and "FHI Balance of Site" Projects. A site-wide Phase I verification will be conducted April 17-28, 2000. A site-wide Phase II verification is scheduled for June 2000.
Nuclear Mat'l Stabilization Proj. (ex-"PFP")	■	■	■	■	Combined Phase I / II verification was conducted January 10-28, 2000. Team determined that PFP was not ready to conduct Phase II until several recent management changes have an opportunity to take hold. Under the modified Richland verification strategy, an FHI site-wide Phase I verification (including PFP) will be conducted April 17-28, 2000. A Phase II verification is scheduled for June 2000.
FHI "Balance of Site"	■	■	■	■	Includes the Waste Management Project, the River Corridor Project, and FFTF. Under the modified Richland verification strategy, an FHI site-wide Phase I verification will be conducted April 17-28, 2000. A Phase II verification is scheduled for June 2000.

LEAD PROGRAM SECRETARIAL OFFICE – ENVIRONMENTAL MANAGEMENT (continued)

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
ROCKY FLATS FIELD OFFICE					
Bldg. 559 (Analysis Lab) & Bldg. 707	■	■	■	■	ISM milestones complete. On January 31, 2000, the Manager, Rocky Flats Field Office, declared ISM implementation complete at Rocky Flats.
Bldg. 774 Waste Processing & Bldg. 776	■	■	■	■	ISM milestones complete. On January 31, 2000, the Manager, Rocky Flats Field Office, declared ISM implementation complete at Rocky Flats.
SAVANNAH RIVER OPERATIONS OFFICE					
All Site Facilities	■	■	■	■	ISM milestones complete Site-wide – Canyons; HB-Line; 235-F Vault; DWPF; WTP; HLW Tank Farms; RBOF; L-Basin; K-Basin; Tritium Facilities. On December 29, 1999, the Manager, Savannah River Operations Office, declared ISM implemented at SRS.

LEAD PROGRAM SECRETARIAL OFFICE – SCIENCE

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
CHICAGO OPERATIONS OFFICE					
Ames Laboratory	■	■	■	NA	Combined Phase I / II verification completed November 1999. Corrective actions associated with 1 of 13 areas examined (the Radiation Protection Program) are expected to be completed, with SMS Description approval following, in May 2000.
Argonne Nat'l Laboratory (East & West)	■	■	■	■	Combined Phase I / II verification was completed February 18, 2000. Verification findings are in the process of being addressed by the Laboratory's management.
Brookhaven National Laboratory	■	■	■	■	Combined Phase I / II verification scheduled for May 1-12, 2000.
Environmental Measurements Laboratory	■	■	■	NA	Combined Phase I / II verification scheduled for June 2000.

LEAD PROGRAM SECRETARIAL OFFICE – SCIENCE (continued)

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
CHICAGO OPERATIONS OFFICE (continued)					
Fermi Laboratory	■	■	■	NA	ISM milestones complete.
New Brunswick Laboratory	■	■	■	■	Combined Phase I / II verification scheduled for June 2000.
Princeton Plasma Physics Laboratory	■	■	■	NA	ISM milestones complete.
OAKLAND OPERATIONS OFFICE					
LLNL Bldg. 331	■	■	■	■	Combined Phase I / II verification completed September 24, 1999. Corrective actions in progress.
LLNL Bldg. 334	■	■	■	■	Combined Phase I / II verification completed September 24, 1999. Corrective actions in progress.
LLNL Site	■	■	■	NA	Site-wide Phase IA / IIA verification completed December 10, 1999. Remaining portions of the Site-wide verification are scheduled for May 1-12 and June 18-30, 2000.
Lawrence Berkeley Nat'l Laboratory	■	■	■	NA	ISM milestones complete.
Stanford Linear Accelerator	■	■	■	NA	ISM milestones complete.

LEAD PROGRAM SECRETARIAL OFFICE – SCIENCE (continued)

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
OAK RIDGE OPERATIONS OFFICE					
Bechtel Jacobs Company LLC	■	■	■	■	Combined Phase I / II verification was completed February 18, 2000. Veriification findings are in the process of being addressed by the company's management.
BNFL, Inc. – 3 Bldg D&D at ETTP	■	■	■	■	Combined Phase I / II verification scheduled for June 5-30, 2000.
DRS – Bldg. K-1420	■	■	■	NA	Combined Phase I / II verification scheduled for April 3-7, 2000.
East Tenn. M&EC Bldg. K-1200	■	■	■	NA	Combined Phase I / II verification scheduled for April 24-28, 2000.
ETMC Water Treatment Plant	■	■	■	NA	Verification planned for June 2000, following the Water Treatment Plant's transfer to the City of Oak Ridge (now estimated to occur on May 1, 2000).
Foster-Wheeler ENC: TRU Plant	■	■	■	NA	Plant being constructed at ORNL. Verifications will commence in June 2000 and be performed at each phase of the project (design, construction, operation, D&D)
LMER - ORNL (incl. Bldg. 3019)	■	■	■	■	Phase II scheduled for completion by March 31, 2000.
MK-Ferguson WSSRAP	■	■	■	NA	Combined Phase I / II verification completed February 26, 1999.
ORAU – ORISE	■	■	■	NA	Phase I verification completed November 19, 1999. Phase II verification scheduled for completion by March 31, 2000.
SURA – T.J. National Accelerator Fac.	■	■	■	NA	Phase I verification completed in March 1999. Phase II verification is being accomplished by ongoing operational awareness reviews by the DOE Site Office and Oak Ridge Operations.

LEAD PROGRAM SECRETARIAL OFFICE – ENERGY EFFICIENCY

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
National Renewable Energy Lab.	■	■	■	NA	ISM milestones complete.

LEAD PROGRAM SECRETARIAL OFFICE – FOSSIL ENERGY

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
Nat'l Energy Technology Lab (prev., "FETC")	■	■	■	NA	Combined Phase I / II verification scheduled for June 5-9, 2000.
Strategic Pet. Res. Proj. Mgt. Off. (SPRPMO)	■	■	■	NA	ISM Milestones complete. On November 23, 1999, the Project Manager, Strategic Petroleum Reserve, declared ISM implemented at all SPR sites.
Albany Research Center (ARC)	■	■	■	NA	Combined Phase I / II verification scheduled for April 17-21, 2000.
National Petrol. Technology Office (NPTO)	■	■	■	NA	Combined Phase I / II verification scheduled for June 2000.
Naval Petrol. & Oil Shale Resvs. --CO, UT, WY	■	■	■	NA	Combined Phase I / II verification scheduled for June 2000.

LEAD PROGRAM SECRETARIAL OFFICE – RADIOACTIVE WASTE

Site/Facility	Management Self-Assessment System	Phase I	Phase II	Authorization Agreement	Notes
Yucca Mtn. Site Characterization Project	■	■	■	NA	■ Combined Phase I / II verification scheduled for July 17-27, 2000.

memorandum

DATE: April 3, 1998
REPLY TO:
ATTENTION OF: Energy Research
SUBJECT: Energy Research Guidance for Integrated Safety Management Systems
TO: Distribution

During the development, implementation, and maintenance of Integrated Safety Management Systems (ISMS) at its laboratory sites and facilities, the role of Office of Energy Research (ER) is to:

- Provide Headquarters guidance for development and implementation of ISMS at ER Laboratories.
- Coordinate the involvement of multiple Headquarters Program Offices in ISMS at ER multi-program laboratories.
- Participate in verifying the description and implementation of ISMS at ER laboratories.
- Maintain operational awareness of ISMS implementation and effectiveness at ER laboratories.

The purpose of the attached guidance is to communicate the basic expectations of the Office of Energy Research as field managers and contractors embark on the development and implementation of site-specific ISMS and capitalize on the opportunities these actions represent to the conduct of world-class science.

Energy Research remains committed to the successful integration of ES&H into its world class research programs, and ready to provide value-added assistance upon request as these activities are performed. If you have questions, please contact Dr. Charlie Billups at 301-903-4097 or Dr. DeVaughn Nelson at 301-903-5608.



Martha A. Krebs
Director
Office of Energy Research

Attachment

Distribution

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GUIDANCE FOR INTEGRATED SAFETY MANAGEMENT SYSTEMS Office of Energy Research

In DOE P 450.4, *Safety Management System Policy*, the Department of Energy (DOE) has adopted a complex-wide approach which requires the integration of environment, safety, and health (ES&H) into the planning, execution, and measurement of work performed at its sites and facilities. In adopting this approach, and in accordance with DEAR contract clauses, the Office of Energy Research (ER) encourages ER field elements and contractors to:

- Utilize the Work Smart Standards process to identify those laws and standards to be incorporated into contract lists A and B, where it would add value. Not only is this an effective way to match requirements to the work performed at a site, but it also effectively sets the stage for attainment of Integrated Safety Management Systems (ISMSs).
- Develop and effectively use performance metrics to measure success of ES&H and work performance. These metrics should be reflected in the contractual agreement.
- Use successful programs and activities that already exist and incorporate those systems into the ISMS, coupled with a gap analysis of existing programs against the safety management functions and principles to assure full coverage at a laboratory.

ER EXPECTATIONS FOR INTEGRATED SAFETY MANAGEMENT SYSTEMS

1. Approach

- a. Integrated Safety Management (ISM) is simply a common-sense approach to managing all facilities and activities in a safe, disciplined, and integrated manner. ISM at ER laboratories will include the following key concepts:

Integration - Functionally, ISM includes the integrated management of science, ES&H, and infrastructure in terms of the ER commitment to excellence, relevance, and stewardship. Organizationally, integration includes a vertical component (from upper management through the line to the worker) and a horizontal component (across the organization to involve the right departments or units).

Partnership - The approach should reflect a partnership between ER, other DOE-HQ programs, DOE Field elements, and contractors. This partnership should be based on trust and cooperation, and focused on the identification and efficient solution of problems that may arise during development and implementation of ISMSs.

Oversight - This partnership should emphasize an integrated, performance-based approach to oversight in accordance with the DOE Policy 450.5, *Line Environment, Safety and Health Oversight*. An effective and efficient oversight program relies on a vigorous contractor self-assessment program. DOE oversight

should include operational awareness and emphasize ES&H performance, rather than focus on isolated, single-discipline reviews of compliance with requirements.

- b. The approach to ISM should be consistent with the Department's policy on Integrated Safety Management (DOE P 450.4) and with the DEAR Clause in 40 CFR 970.5204-2. Use of the Work Smart Standards Process should be consistent with the Department's Work Smart Standards policy (DOE P 450.3).
- c. The scope, complexity, and level of documentation of each ISMS should be tailored to the size, mission, hazards, and complexity of each laboratory.

2. Content of ISMS Descriptions

- a. The Description is a "Corporate Level" or site-wide document, intended to ensure that ISMS is implemented at the corporate level. It may describe organizational responsibilities and ISM mechanisms at lower levels of the organization in situations where the management approach is decentralized. It should reference, rather than include, implementing procedures.
- b. The Description should identify the contractor management systems and organizational structure that are essential to the effective functioning of the ISMS.
- c. The Description should illustrate how the five functions and seven principles are addressed by the ISMS. This illustration may reference corporate and/or site-level implementing procedures, but should not reference work instructions.
- d. The Description should be concise and brief, and should focus on processes rather than specific technical content and details.
- e. Consistent with DEAR Clause 970.5204-2, the Description should include ES&H performance objectives, performance measures, and commitments and should be updated annually.

3. ISMS Verification

- a. Verification refers to the DOE review and approval of the ISMS Description in accordance with DEAR requirements.
- b. A team should be formed to support the Contracting Officer (CO) in the review and approval actions identified in the DEAR Clause.

- c. The team leader should be appointed by the CO, in consultation with the DOE field office manager. The team should be composed of management professionals, including, but not limited to, ES&H management professionals, with appropriate experience, knowledge, and training. The use of outside experts is encouraged to provide for peer review by others doing similar work at other Federal and private laboratories. Where availability of qualified resources permit, the team should include a member from the responsible Operations Office, the Office of Energy Research, and other Program Offices with activities at the Laboratory. Members of the Convened Group from a Work Smart Standards Process, if used at the laboratory, may be suitable for the team.
- d. The verification should assure that the contractor's organizational structure is described, and how vertical and horizontal integration is achieved; that sufficient corporate or laboratory policy and procedures (as well as senior management knowledge and support) are present throughout the laboratory to support an effective ISMS; and that management systems and processes integrate ES&H into work planning, execution, and evaluation.
- e. The verification process should be conducted according to a site-specific plan. The plan should be approved by the CO.

4. ISMS Validation

- a. Validation is the process of evaluating whether the ISMS is effectively implemented and performs as intended. This process is a continuing activity as part of the feedback function, contributing to continuous improvement of the ISMS. It includes vigorous self-assessments by contractors at the activity, facility, and institutional levels. This process continues through DOE oversight activities and operational reviews in accordance with DOE P 450.5. Validation is not accomplished through performance of a one-time review or assessment following, or concurrent with verification of the ISMS Description (e.g., functional or Operational Readiness Reviews).
- b. Validation should be accomplished using management professionals with appropriate experience, knowledge, and training, similar to the team member qualifications for ISMS verification described above. The use of outside experts is encouraged to provide for peer review by others doing similar work at other Federal and private laboratories.
- c. The validation team should use the Standards Process Action Team (SPAT) 12 Report entitled, "Attributes of Effective Implementation" (February 1997) as a tool to evaluate the success of ISMS implementation.