

**ROLE OF MANAGEMENT SYSTEM VERIFICATION PROCESS IN
ISMS ENHANCEMENT**

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ABSTRACT

The DOE Richland Operations Office, as part of its own assessment prior to the formal ISMS verification at the Plutonium Finishing Plant (PFP), enhanced the verification process by conducting a pilot project that incorporated certain key attributes of the Management Systems Verification (MSV) process, which is a key aspect of the chemical manufacturing industry's Responsible Care initiative. The enhancement of ISMS verification consisted of a panel-to-panel dialogue process involving a panel of reviewers and various panels representing different levels of PFP management and workers. A public representative and a Hanford worker served as active members of the reviewer panel. The process focused on gauging management commitment and accountability, as well as on evaluating the benefits of direct worker and public involvement in verification. The results of this project show that the MSV process offers a potential tool to assist the DOE and its contractors in the continuous improvement or maintenance of their ISMS.

1. INTRODUCTION

The Plutonium Finishing Plant (PFP) at the Department of Energy's (DOE's) Hanford site is currently stabilizing plutonium-bearing materials for safe and stable interim storage. PFP is implementing the DOE's Integrated Safety Management System (ISMS), and the formal DOE verification of ISMS Phase I implementation at the facility was conducted in January 2000. Prior to the formal DOE review, the DOE Richland Operations Office (DOE-RL) line management undertook its own review to verify contractor's readiness for ISMS. The ISMS verification enhancement review discussed in this paper was a part of that overall internal verification effort.

The ISMS enhancement review was modeled after the Chemical Manufacturers Association's (CMA's) Management Systems Verification (MSV) process. The MSV process, which was developed by CMA's member chemical companies, specifically as a tool to assist in the continuous improvement of environment, safety, and health (ESH) performance, represents a commercial sector "best practice" for evaluating ESH management systems. The MSV process is, in turn, a key aspect of CMA's efforts to implement the Responsible Care initiative, whose focus is to continually improve the performance of the chemical industry in the areas of ESH stewardship and to be responsive to public concerns about the industry's overall management of chemicals.

In using the MSV process, DOE-RL's enhancement review for ISMS had the following additional objectives: (1) to reinforce the engagement of management, and to gauge management commitment and accountability; (2) to evaluate the "value added" benefit of direct public involvement; (3) to evaluate the "value added" benefit of direct worker involvement; (4) to evaluate the "value added" benefit of the panel-to-panel review approach; and (5) to evaluate the utility of the review's methodology and adaptability to periodic assessments of ISMS status.

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Information on the elements of Responsible Care, including MSV and examples of excellence, is available through CMA's website: <http://www.cmahq.com/>. The report on ISMS enhancement review of PFP is available at: <http://www.hanford.gov/docs/rl-2000-13/index.html>.

2. REVIEW APPROACH

Since the enhancement review was intended to complement RL's ISMS readiness review, the review criteria were selected from attributes that receive greater emphasis in the MSV process than in an ISMS verification review. For that purpose, a systematic comparison of the full sets of attributes and criteria used in ISMS and MSV review processes was performed.

The Responsible Care MSV process is built around a verification protocol or guidance document, which organizes the verification into a general sequence of steps that examine five core areas: (1) policy and leadership; (2) planning; (3) implementation, operation, and accountability; (4) performance measurement and corrective action; and (5) management review and reporting. These core areas are identical to the five identified for ISO 14000 and also incorporate the five core functions of the ISMS.

Sub-divided within the five core areas, the MSV delineates 35 attributes. These attributes are the necessary systems, organizations, policies, and programs that support each core area of the management system, and are the basis for the evaluation of the overall management system. Evidence of the existence of these attributes and their integration into the company's operations and culture are the focus of the MSV process.

The 35 attributes of the MSV process were compared [DOE/RL, 2000] with the ISMS Verification criteria (also commonly known as Criteria Review and Approach Documents, or "CRADs"). The results of this comparison showed that, in essence, the MSV attributes and the ISMS CRADs frequently matched with respect to the following areas: (1) systems for assessing hazards and risks; (2) review of contractor performance; (3) analysis of trends and performance; (4) training; (5) processes for reviewing regulations; (6) documentation of procedures; and (7) establishment of goals, objectives, and targets.

There was less frequent match of ISMS CRADs to the MSV attributes in the areas of (1) policy and leadership, and (2) management review and reporting. Finally, specific MSV attribute areas addressing stakeholder and public involvement were absent in the CRADs

Based on this comparison, the enhancement review criteria were selected, which specifically relating to the following:

- (1) Evidence of management commitment, accountability, and involvement
- (2) Demonstration of stakeholder (including worker) information and involvement.

3. ISMS ENHANCEMENT REVIEW

The review process followed the MSV protocol as much as practicable. The review was conducted on December 6-8, 1999, and involved the conduct of two-hour interviews with five separate panels of individuals with various management and operations responsibilities, all related to PFP, but at different levels. The five panels were each composed of typically 5 representatives from, respectively, DOE-RL management and oversight staff, the senior-level management of the managing and integrating contractor (Fluor Hanford, Inc.), senior-level management at PFP, middle-level managers and supervisors at PFP, and PFP workers.

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The reviewer panel was composed of five individuals, including a facilitator and a DOE-RL ESH program representative, both with considerable expertise in MSV. The other three members of the reviewer panel were a public participant, a health and safety representative of the workers' union, and a DOE-RL line manager (not involved with PFP). The reviewer panel conducted a semi-structured interview process with each of the five separate panels representing different levels of responsibilities relative to PFP. The reviewer panel directed generally open-ended questions to encourage discussions, while focusing their lines of inquiry towards the selected review criteria and to determine how the various PFP policies, procedures and practices were being implemented within the ISMS framework.

The purpose of a panel-to-panel dialogue approach was to better spotlight (1) the areas of mutual reinforcement and alignment that could serve as good examples of the management commitment and accountability aspects of ISMS implementation; and (2) the areas of potential gaps or discrepancies that could provide opportunities for improvement.

4. RESULTS AND CONCLUSION

The ISMS enhancement review found major strengths, including the following: (1) the use of multi-disciplinary project work teams to plan and perform work; (2) the availability and broad use of multiple tools to help with planning and integrating work; (3) senior management presence and accessibility; (4) the institutionalization of worker involvement; (5) encouragement of self-reporting and self-assessment by management; (6) the availability of multiple internal communication mechanisms; and (7) the existence of overall facility-wide safety management goals, as well as individualized project team goals.

Major opportunities for improvement identified by the review included the following needs: (1) enhancement of external communications; (2) institutionalization of ISMS-related performance agreements and incentives; (3) strengthening of feedback loops; (4) fine-tuning the use of work planning and integrating tools; and (5) formalization of good practices.

Each panel participant immediately following the two-hour interview completed an "Effectiveness Survey". The results of the Effectiveness Survey indicated that enhancement review was very effective in general, and especially effective for evaluating the overall sustainability of ISMS.

The review panel concluded that the enhancement review process was an effective and expeditious mechanism for gaining insights into the implementation and long-term sustainability of the ISMS safety culture. Furthermore, the review panel recommended that, at a minimum, this review process be conducted for a different facility, also scheduled for a DOE ISMS verification in the near future, whereby a full range of safety management questions could be discussed.

5. Reference

U.S. Department of Energy Richland Operations Office, "The Integrated Safety Management System Verification Enhancement Review of the Plutonium Finishing Plant," DOE/RL-2000-13, May 2000.
