

Los Alamos National Laboratory -- *Innovative Tools and Approaches for Environmental Management Systems (EMS) Implementation at LANL*

Point of Contact: Dennis Hjeresen
Los Alamos National Laboratory
MS M992
Los Alamos, NM 87545
Phone: (505) 665-7251
Fax: (505) 606-0503
E-Mail: dlh@lanl.gov

Award Category: Environmental Management Systems (EO 13148)

Nominee: Team Nomination: EMS Core Team – LANL

Dennis Hjeresen
Libby Chaplin
Pat Gallagher
James Biggs
Alicia Pope
Paula Bertino
Susan Ramsey
Ann Sherrard
Randy Johnson
Ben Poff
Holly Wheeler-Benson

Nomination Abstract:

Los Alamos National Laboratory implemented a prevention-based Environmental Management System founded on the International Organization for Standardization 14001 standard. To effectively integrate the EMS throughout LANL, the EMS Core Team developed and used innovative approaches.

Nomination Description:

LANL implemented a prevention-based Environmental Management System (EMS) founded on the International Organization for Standardization 14001 standard. To effectively integrate the EMS throughout LANL, the EMS Core Team developed and used innovative approaches. Key approaches were:

- Implementing the EMS at the institutional and division level
- Actively involving divisions in developing, testing, and implementing the EMS

- Developing an EMS Toolkit as a step by step guide to deploy the EMS at the division level, and
- Integrating the EMS into Integrated Work Management
- Keeping a pollution prevention focus

The successes are receiving an outstanding Appendix F rating (LANL's performance measure) in FY 05 from the Department of Energy. All divisions developed Environmental Action Plans as part of the EMS requirements, resulting in 592 division-level environmental improvement actions for FY 06-07 and identification of several institution-wide issues that will be addressed in FY 06. Deployment of the EMS at DX Division received positive feedback from the DOE OA Audit in the Fall of 2005.

The deployment of the LANL EMS will continue to rely on division contacts to assure relevance to operations and development and deployment success.

LANL's EMS Core Team developed a site-wide approach and framework for the EMS. This Team has more than 45 active participants from 14 divisions, including support services and the main experimental and manufacturing operations. This Team developed and tested the EMS before deploying it at the division level. The Team played a critical role in ensuring that LANL's EMS is appropriate and easy to implement for divisions. Each division (34 total) implemented the system within their organization and ensured internal systems are appropriate and tailored to their specific functions. The EMS Core team supported divisions by facilitating meetings, providing standard procedures, tools, environmental subject matter expertise, and delivering training as needed. The aim was to make use of existing procedures and systems as much as possible. Overseeing the EMS is the EMS Steering Committee with representatives from senior management across LANL.

EMS Tool Kit

The EMS Core Team developed an EMS Toolkit to provide step-by-step guidance on EMS implementation at the division level. The structure of the Toolkit reflects the auditable components of an ISO 14001 EMS. By following the step-by-step guidance outlined in each "suggested process", the Divisions completed the tasks necessary for the Laboratory to attain ISO 14001 certification. The EMS Toolkit is provided on a Laboratory website so that the Toolkit Resources (TR) - forms, agendas, presentation, and supporting information can easily be adapted to suit Division specific needs.

Each division identified its own significant environmental aspects and developed specific objectives and targets for improvement as part of their Environmental Action Plans. This information was used by the EMS Core Team to develop the FY 06 Institutional Objectives and Targets for the Laboratory. Many pollution prevention opportunity assessments were included in divisions' action plans, reflecting the prevention nature of the EMS. Several divisions identified common issues including materials and equipment management and chemical management. Other institutional issues identified the need for improvements in project reviews, and improvements in how environmental requirements

were included in contract language and communicated to subcontractors. Institutional improvement initiatives were developed in FY 06 to address them. A key part of the improvement process is that these institutional issues are being addressed by the key division contacts in collaboration with the regulatory oversight divisions to ensure that improvements meet the needs of the operating divisions and that they will be accepted and implemented at the operations level.

Integrating EMS into Integrated Work Management (IWM)

LANL's objective was to make use of existing procedures and systems as much as possible. For this reason, the EMS was integrated into IWM. Five main methods were used for this integration:

- Inclusion of the EMS in the Integrated Safety Management (ISM) Description Document
- Inclusion of EMS in the ISM Five Step Process
- Development of new procedures and integration into existing procedures
- Inclusion of EMS in the Integrated Work Management for Work Activities procedure, and
- Incorporation of EMS into new project review and work activity control tools such as Permits and Requirements Identification System and the Job Hazards Analysis Tool.

The Laboratory has established an EMS that is deployed at the division level with an institutional structure to support improvements. The participatory approach used to develop and deploy the EMS ensures that it is relevant to divisions to the worker level and that divisions have a sense of ownership of the system. As the EMS matures, it will continue to use cross functional, division-based teams to analyze problems and develop solutions. One measure of the EMS's success is in the request for pollution prevention funding: over \$3.2 million dollars in improvement project funding was requested or FY 06.