

Sandia National Laboratories

Integrating EMS with ISMS



Bob Brandhuber

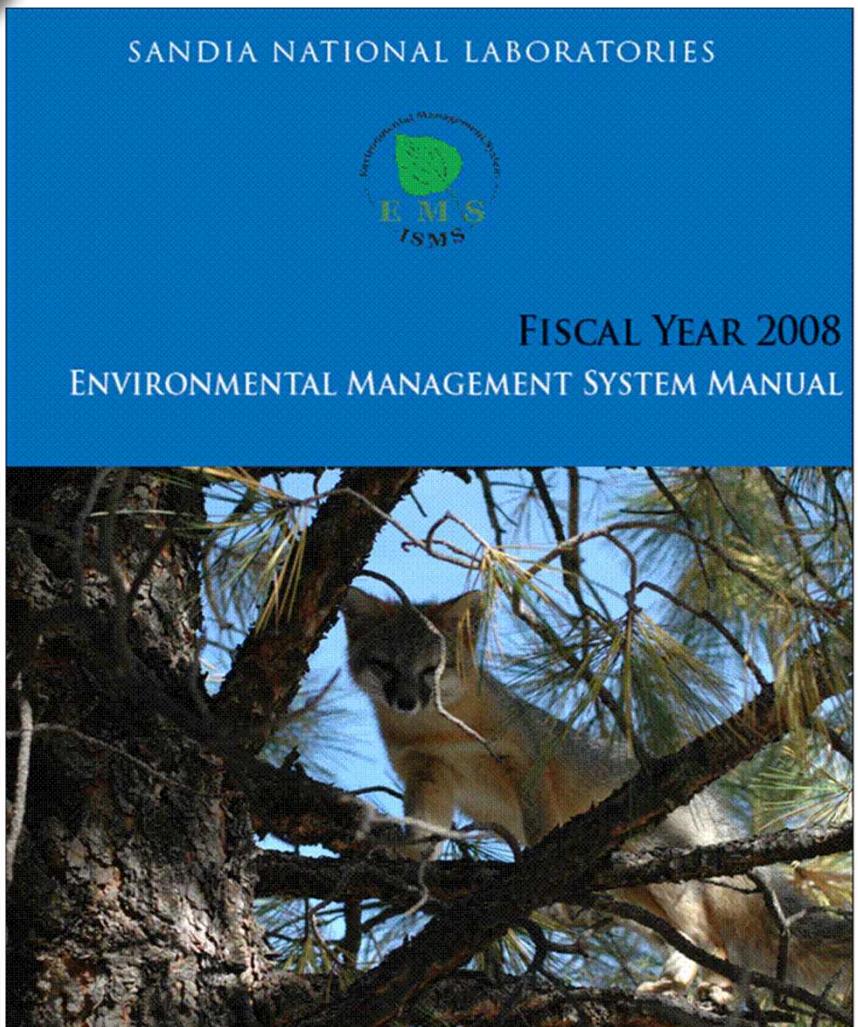
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Sandia National Laboratories
FY 2008 EMS Manual Approval

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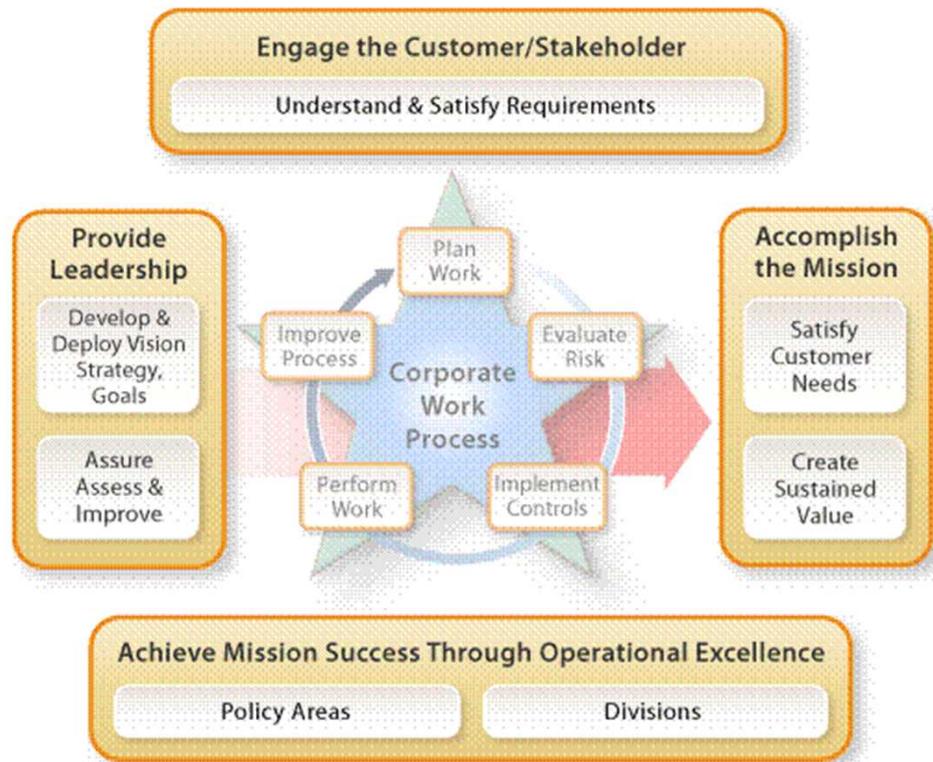
<i>Author: How frequently does this document need to be reviewed and/or revised?</i>	Annually
<i>Manager: Does this document need to be tracked?</i>	Yes No



Sandia's Implementation of EMS



- Element of the Integrated Laboratory Management System (ILMS)
- Implemented through the Integrated Safety Management System (ISMS)
- Executed through the following:
 - Division EMS Team
 - Environmental Programs
 - the EMS Core Team
 - The EMS Staff





Environmental Programs



- Terrestrial Surveillance
- Environmental Compliance Coordinators (ECC)
- Meteorology
- Energy Management
- Storm Water
- Groundwater Monitoring
- Safe Drinking Water Protection
- Oil Storage
- Waste water Discharge
- Ecology
- Fleet Services
- National Environmental Policy Act (NEPA)
- Pollution Prevention (P2)
- Air Quality Compliance
- Surface Discharge
- Rad National Emission Standards for Hazardous Air Pollutants (NESHAPs)
- Long Term Environmental Stewardship (LTES)
- Hazardous Waste Permitting & Compliance
- Sustainable Design



Integration with ISMS



- EMS description is included and integrated with the ISMS description.
- ISMS lead is a member of the EMS Core Team
- Synergy with Safety and Industrial Hygiene in mitigation of hazards
- Dashboard tracks ES&H metrics
- Division integration is implemented through ISMS and EMS reports and integrated with the MAR, an integrated ES&H report



ISMS Core Function	Environmental Activity
	Complete NEPA reviews
	Complete PHS (Preliminary Hazard Analysis)
Plan Work	Complete and annually update Environmental Program Plans
	Review and update the ES&H Manual, ISMS Description, Operating Procedures, & Quality Control Plans

NEPA and PHS modules are part of ISMS (web-based) software



ISMS Core Function

Analyze Hazards

Environmental Activity

Obtain and maintain environmental permits

Complete division and corporate aspects and impacts analysis

Monitor environmental conditions using calibrated monitoring equipment

Conduct environmental baseline studies

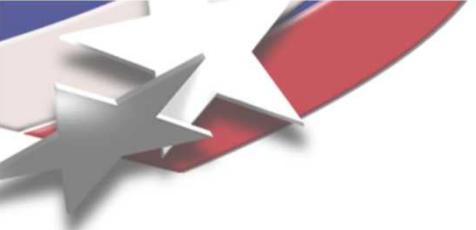
Conduct Pollution Prevention Opportunity Assessments



ISMS Core Function	Environmental Activity
	Develop Technical Work Documents (TWDs) and operating procedures to control environmental hazards
Control Hazards	Review aspects and impacts, set objectives and targets for improvement
	Substitute chemicals for less hazardous alternatives



ISMS Core Function	Environmental Activity
	<p>Comply with requirements outlined in the ES&H Manual</p>
Perform Work	<p>Implement environmental program plans and division EMS plans</p>
	<p>Perform work following guidance in TWDs and operating procedures</p>



ISMS Core Function

Feedback and Improve

Environmental Activity

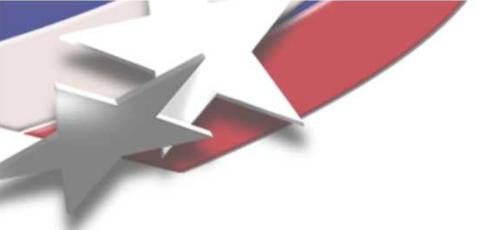
Identify effectiveness of environmental controls and mitigation techniques (waste minimization, chemical substitutions, water and energy conservation)

Use Lessons-learned and Corrective Action programs (ES&H Manual, Chapter 22)

Complete self-assessments

Quarterly track progress in meeting division and corporate EMS targets

Review waste generation and environmental monitoring reports



Challenges and Planned Improvements



- **CHALLENGE:** Full integration is difficult given the fact the Safety and Environmental programs have separate regulatory drivers, professionals with different education and technical skills and separate budgets.
- **ES&H Dashboard** will be improved to track EMS Objectives and Targets
- Full integration of environmental considerations into the Work Planning and Control process