



Course Objectives

Upon completion of this course, LANL employees and managers will:

- Be aware of environmental expectations, responsibilities and accountabilities
- Recognize *environmental risks* related to LANL operations in the context of LANL's Environmental Management System and how these risks are managed.
- Recognize the *tools and resources* available to help you meet environmental requirements.

Environmental Regulatory Drivers

There are many federal and state drivers for ensuring environmental performance and meeting environmental compliance requirements at the Laboratory. These include:

- CCA – Clean Air Act
- CERCLA/SARA – Comprehensive Environmental Response and Liability Act/Superfund Amendments and Reauthorization Act
- CWA – Clean Water Act
- FFCA – Federal Facilities Compliance Act
- HMTA – Hazardous Materials Transportation Act
- NEPA – National Environmental Policy Act
- RCRA – Resource Conservation and Recovery Act
- TSCA – Toxic Substances Control Act
- Others...

Additionally, DOE Order 450.1 states that LANL is required to implement an Environmental Management System (EMS). This Order specifies the required elements of the Environmental Protection Program.

Why Should You Care?

Planning for certain environmental requirements takes time, but considering these requirements in your work plans can prevent negative impacts on your work and the environment. In the past, work activities at LANL have been held up and have cost projects significant amounts of money because of failure to adequately plan for environmental requirements.

- You need to be aware of environmental requirements so your work can proceed without delays.
- You need to be in compliance with environmental regulations so that you don't have a negative impact on the environment.
- You can save money and time through waste minimization and other pollution prevention opportunities.



- You will help LANL continually improve its environmental performance by recognizing and minimizing the Laboratory's environmental risks from past, present and future operations.

Benefits of Meeting and Exceeding Requirements:

- Stay in compliance; avoid costly fines
- Reduce financial impacts on your programs
- Receive special funding to support certain pollution prevention initiatives
- Receive recognition for your efforts with a Pollution Prevention Award
- Foster good publicity for the Laboratory

Consequences of Not Meeting Requirements

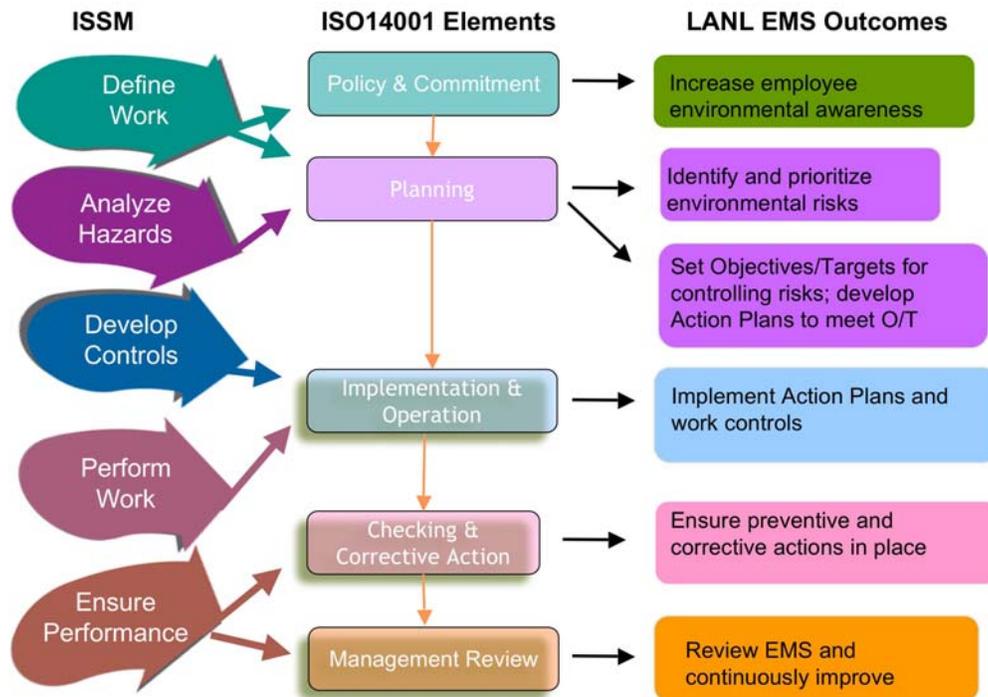
- By not complying with environmental requirements applicable to your work activity or project, you could be subject to:
 - Operational shutdown
 - Project delays
 - Unexpected significant costs to your program
 - Management time spent on accident response paperwork and corrective actions
 - Disciplinary action, including termination
 - Large amount of time correcting problems
 - Bad publicity for the Laboratory

ISO 14001 Industry Standard

LANL's Environmental Management System (EMS) meets all requirements under DOE Order 450.1, Environmental Protection Program, and is based on ISO 14001, the industry standard for implementing environmental management systems.



ISSM - ISO 14001 - EMS



LANL's EMS:

- Helps manage the environmental requirements processes
- Helps you identify your environmental requirements as a manager
- Is an ongoing improvement process in which you participate
- Consists of five simple ISO 14001-based EMS elements that are similar to and integrated with our safety and security systems

Identifying Environmental Impacts

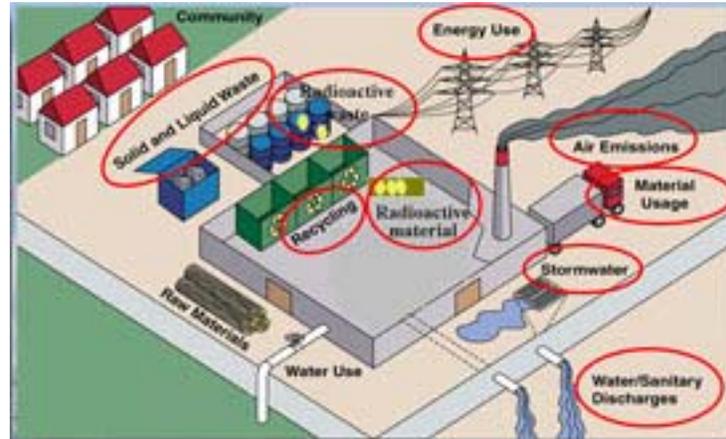
- LANL's EMS process has identified 20 ways our work could impact the environment
 - These are referred to as **environmental aspects** (in other words, what do we do that impacts the environment)
 - As defined by ISO 14001, "An Environmental Aspect is an element of activities, products, or services that can interact with the environment and that is under the influence and control of the organization."
- If these elements could potentially result in a significant environmental impact, we refer to them as "significant aspects." Addressing significant aspects is a key part of meeting your environmental requirements.



Example of Environmental Aspects

Energy use

- Depletes natural resources and therefore interacts with the environment, potentially resulting in a negative impact if the resources are non-renewable
- The impact may be positive such as recycling and thus, the aspect is positive



Five Basic Categories of Environmental Aspects Identified at the Laboratory

Category	Examples
<p>Air-related</p>  <p>Airnet station</p>	<ul style="list-style-type: none"> • Airnet stations used to measure ambient levels of radioactive particulates and tritium in the environment • Diesel generator (be sure to find out if you will need an air quality permit to operate) • Beryllium Test Facility stack (TA-3, Bldg-141) used for performance testing of stack systems • Air Curtain Destructors used for open burning of wood with minimal releases of smoke, e.g., during fire mitigation efforts following the Cerro Grande wildfire
<p>Water-related</p>  <p>Discharge to wastewater systems</p>	<ul style="list-style-type: none"> • Surface water and waste water (all water discharges from your site require a review and possibly a permit to discharge) • Hazardous chemicals (pouring chemical down drains can result in negative impacts to the ground water and be very costly to clean up) • Groundwater and wetlands – interaction of operations with drinking water supply; within or near floodplains or wetlands
<p>NEPA, Biological and Cultural-related</p>  <p>Endangered species</p>	<ul style="list-style-type: none"> • Wildlife and biological hazards (special provisions required when working near endangered species' habitat) • Species of ecological, social or cultural significance • Improperly secured trash attracts wildlife • Old buildings, historic sites • Visual impacts of structures, etc.



<p>Hazardous, Radiological and Chemical Materials</p>  <p>Low level rad waste</p>	<ul style="list-style-type: none"> • Packaging and transportation requirements • Chemical use and storage, and transportation of hazardous or radioactive materials and wastes in tanks
<p>Waste-related</p>  <p>Comprehensive waste management program</p>	<ul style="list-style-type: none"> • Controls to minimize amount of low level and mixed waste generated • LANL has met its waste generation goals for low-level, hazardous and mixed waste over the past 5 years • Solid or sanitary waste – LANL has a comprehensive waste management program to sort and properly dispose of sanitary waste.

Other categories requiring special permits include:

- Interaction with soil resources and contaminated sites
- Spark or flame producing activities
- Chemical use and storage

Surplus Properties and Materials Management

How much surplus material do you think LANL generates a year and can some of it be re-used? The Laboratory:

- Reissues about 2% of materials within LANL, PTLA and KSL
- Gives about 4% to area schools
- Transfers about 2% to other government and state agencies
- Destroys about 14% due to security, safety or environmental concerns
- Sells about 79% to the general public, generating income for the Laboratory

Use, Re-use, Recycle



Is your organization recycling as much as it could be? Re-use of materials save natural resources from being unnecessarily used and saves money.



Know Your Environmental Responsibilities

1. Be sure you understand the Laboratory Environmental Governing Policy
 - a. Manage and operate LANL in compliance with environmental requirements
 - b. Continually improve our processes to minimize environmental impacts
 - c. Prevent pollution
 - d. Increase our environmental knowledge
2. Be sure you understand which federal, state and local environmental regulations and other environmental contract requirements apply to your work activities
3. Participate in the EMS process
 - a. Understand how your work can potentially impact the environment and how to control and minimize those impacts
 - b. Conduct work in compliance with environmental requirements
 - c. Reduce waste through pollution prevention
 - d. Continually improve your environmental performance

Not Everyone Does Equivalent Work!

- Workers in construction or other outdoor activities may need to know more about the National Environmental Policy Act (NEPA).
- Workers generating or managing hazardous waste may need to know more about the Resource Conservation Act (RCRA) and other hazardous or radioactive waste management requirements.
- In-depth training on environmental issues and requirements specific to your type of work activity or work locations may be necessary.
- Even if you are doing indoor work, it doesn't mean you can't have outdoor impacts!

Environmental Requirements Tools and Resources

Need	Resource
Implementing the EMS (i.e., identifying aspects/impacts, setting Objectives/Targets, developing action plans, etc.)	<ul style="list-style-type: none"> • EMS website (http://ems.lanl.gov/) • EMS toolkit (http://ems.lanl.gov/source/orgs/env/ems/toolkit.shtml) • EMS management team (ems@lanl.gov) • Your Division's Environmental Action Plan (http://ems.lanl.gov/) • Your EMS point-of-contact (http://ems.lanl.gov/source/orgs/env/ems/Division_Documents/Div_Docs.shtml)
Understanding your environmental requirements, including controls, or other environmental assistance	<ul style="list-style-type: none"> • Your EMS Point-of-Contact (http://ems.lanl.gov/source/orgs/env/ems/Division_Documents/Div_Docs.shtml) • EMS toolkit (http://ems.lanl.gov/source/orgs/env/ems/toolkit.shtml)



	<ul style="list-style-type: none"> • EMS Toolkit Resource 3.16, “Aspects Requirements Matrix (http://ems.lanl.gov/source/orgs/env/ems/implementation.shtml) • Your Waste Management Coordinator • Your Environmental Generalist/Specialist • ES&H Training Regulations (http://int.lanl.gov/training/esh.shtml) • The Site Wide Environmental Impact Statement (http://library.lanl.gov/cgi-bin/getfile?LA-UR-05-6627.pdf)
Air Requirements (MAQ)	<ul style="list-style-type: none"> • Air Quality (http://airquality.lanl.gov/MAQ/index.shtml)
Ecology Requirements	<ul style="list-style-type: none"> • Ecology Group (http://ecologygroup.lanl.gov)
Solid Waste Regulatory Compliance	<ul style="list-style-type: none"> • RCRA (http://swrc.lanl.gov/index.shtml)
Pollution Prevention	<ul style="list-style-type: none"> • P2 (http://p2.lanl.gov)
Spark & Flame producing permit	<ul style="list-style-type: none"> • Emergency Response Division (http://int.lanl.gov/orgs/eoo/fire_protection/pdfs/1563.pdf)
Water	<ul style="list-style-type: none"> • Water Quality (http://waterquality.lanl.gov)
Environmental Characterization and Remediation	<ul style="list-style-type: none"> • (http://erinternal.lanl.gov)
Nuclear Waste and Infrastructure Services	<ul style="list-style-type: none"> • NWIS (http://nwo.lal.gov/nwo_do/html/do_home.htm#)
Aspect-specific contacts	<ul style="list-style-type: none"> • EMS Toolkit Resource 3.13 (http://ems.lanl.gov/source/orgs/env/ems/implementation.shtml)
Project planning	<ul style="list-style-type: none"> • Project Requirements Identification System (PR-ID) (http://zirk.lanl.gov/fme/Division/prid/index.html) • Excavation Permit Process (soil disturbance) (http://int.lanl.gov/safety/sdr/)
Work Execution	<ul style="list-style-type: none"> • Job Hazards Analysis (JHA)
Process Evaluation <ul style="list-style-type: none"> • Pollution Prevention Opportunity Assessments (PPOA's) • Alternatives to existing process, materials and chemicals 	<ul style="list-style-type: none"> • Contact the Pollution Prevention Team (http://p2.lanl.gov/)



Manager Responsibilities

If you plan, develop or implement programs and projects, it is important that you understand how to:

- Identify significant aspects
- Evaluate and prioritize risks; implement controls
- Communicate requirements and controls to workers
- Set Objectives and Targets to address and control risks
- Measure worker progress toward Objectives and Targets
- Implement corrective actions where necessary
- Review EMS components and performance regularly

The EMS Toolkit and other resources located at the EMS Website can help guide managers and employees through these requirements.

Program Manager Responsibilities

- Provide leadership and resources necessary to implement the LANL EMS
- Ensure that compliance with the LANL Environmental Governing Policy is included in agreements with customers and plans for structuring work

Division Manager Responsibilities

- Set Objectives and Targets to improve environmental performance that aligns with LANL Institutional Objectives and Targets (FY '06):
 - Comply with Environmental Regulations and Permits
 - Minimize environmental impacts
 - Use ISO 14001 prevention-based EMS to improve environmental performance
 - Effectively manage waste, excess materials and equipment generated during historical, current and future Laboratory operations

Refer to Section 2 “Planning” of the EMS Toolkit for guidance in setting Objectives and Targets (<http://ems.lanl.gov/source/orgs/env/ems/planning.shtml>).

- Ensure adequate funding and resources to meet Division’s Objectives and Targets
- Ensure workers are competent and accountable for implementing actions from the Division Action Plan using the Individual Performance Objectives (IPO) process and appropriate training; make workers a part of division action planning and aware of their part in the EMS.

Refer to Section 3 “Implementation/Operation” of the EMS Toolkit for guidance in setting IPO’s (<http://ems.lanl.gov/source/orgs/env/ems/implementation.shtml>)

- Track and report progress in meeting Objectives and Targets.



Refer to Sections 4 “Monitoring/Measurement” and 5 “Management Review” of the EMS Toolkit for guidance in tracking and reporting progress (<http://ems.lanl.gov/source/orgs/env/ems>).

Group Leader Responsibilities

Group Leader responsibilities are more directly linked to the actual work of their employees:

- Ensure significant environmental aspects are controlled
- Ensure environmental and waste management requirements and issues are addressed in nested safety meeting process
- Actively use EMS, ISM and IWM and other systems and tools to ensure work instructions and procedures result in environmentally compliant activities
- Ensure that works are competent, aware of roles and responsibilities, and accountable for implementation of specific actions in the Division Action Plan using the IPO process and appropriate training
- Ensure that all work integrates safety, security, environmental compliance, quality and contractor assurance
- Communicate the environmental impacts of the Group’s activities to employees
- Communicate the Division’s Objectives, Targets and Actions to employees at group meetings

Refer to Section 3 “Implementation/Operation” of the EMS Toolkit for guidance (<http://ems.lanl.gov/source/orgs/env/ems/implementation.shtml>).

Manager Review

Where Objectives and Targets have been set, responsible managers (i.e., Division Leaders, Group Leaders) must perform reviews to ensure that Objectives, Targets, Actions, and environmental requirements have been met. Refer to section 5 “Management Review” of the EMS Toolkit for guidance in performing management reviews (<http://ems.lanl.gov/source/orgs/env/ems/implementation.shtml>).

Fostering a Better Environment

- Everyone at the Laboratory must be able to recognize environmental risks associated with their work and how to control those risks.
- Managers and employees must know environmental requirements in order to keep the Laboratory in compliance, prevent pollution, be good stewards of our natural resources, and continually improve our environmental performance.
- Managers must address safety, security and environmental requirements of projects and communicate those requirements to employees.

Meeting your environmental requirements is the right thing to do, and doing so is the right way to build and sustain trust with our neighbors!



Training Acknowledgement

I certify I have read the Los Alamos National Laboratory’s Environmental Management System (EMS) Awareness Training. I understand that the contents of this training will be updated annually and that if I print this training for use throughout the year I am responsible for assuring I have the most current version. Credit will not be provided if the most current training content was not read. The last update of this training was January 2007.

Submit for Credit

OPTION 1 – Online

If you have a Cryptocard with administrative access you can submit for credit using the “Receive Credit” button below and your training record will be updated within the hour.



OPTION 2 – Fax or Mail

If you do not have a Cryptocard, you must submit this form for credit to the ENV-RRO Registrar. (Please allow up to 5 working days before credit will appear in the Employee Development System database if faxing or mailing this form.)

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Or mail to:
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Los Alamos, NM 87545

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