

Introduction to Integrated Safety Management at the Accelerator Technology and Applied Physics Division

Integrated Safety Management (ISM)

ISM is a system developed by the U.S. Department of Energy (DOE) and implemented by its contractors to integrate environmental management and worker health and safety requirements into the planning and execution of work at all levels.

DOE has defined **seven Guiding Principles** that are the fundamental policies for DOE and its contractors to use in the management of Environmental Safety and Health (ES&H), described in detail in **ES&H Manual, Section 1.6**. They are:

- 1) Line Management Responsibility and Accountability for ES&H;**
- 2) Clear Roles and Responsibilities;**
- 3) Competence Commensurate with Responsibilities;**
- 4) Balanced Priorities;**
- 5) Identification of ES&H Standards and Requirements;**
- 6) Establishment of Hazard Controls; and**
- 7) Work is Authorized.**

In addition, the LBNL ISM process includes:

- 8) Subcontractor Flow-Down of Safety and Health Requirements; and**
- 9) Requesting a Variance from LBNL Safety Policy.**

DOE has defined the following **five Core Functions** for integrated ES&H management that make up the underlying process for any work activity that could affect the public, the workers, and the environment:

- 1) Define the Scope of Work.** Missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated.
- 2) Analyze the Hazards.** Hazards and environmental impacts associated with the work are identified, analyzed, and categorized.
- 3) Develop and Implement Hazard Controls** (including environmental controls). Applicable standards and requirements are identified and agreed upon, controls are established to prevent and/or mitigate hazards, environmental impacts are identified and evaluated for reduction, the ES&H envelope is established, and controls are implemented.
- 4) Perform Work within Controls.** Readiness is confirmed and work is performed within the ES&H envelope established.
- 5) Provide Feedback and Continuous Improvement.** Feedback information on the adequacy of controls is gathered, the efficiency of reducing environmental impacts is researched, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight are conducted, and, if necessary, regulatory enforcement actions occur.

LBNL's ISM system is described in greater detail in the **Integrated Safety Management Plan for Berkeley Lab**. Each LBNL division has its own ISM Plan to describe how ISM is tailored and implemented for the division's work and hazards.

ISM at the Accelerator Technology and Applied Physics Division (ATAP)

ATAP conducts basic and applied research and development in all areas pertaining to the physics and technology of beams. In addition, it operates major LBNL facilities that exploit accelerated beams for use in basic and technological research. Divisional activities encompass the conception, design, construction, and operation of accelerators and storage rings for scientific and technological research, for fusion-energy experimentation, and for industrial and medical applications, as well as the development of superconducting magnets, beamlines, and other components for use in such machines. Current ATAP operations include particle beams, superconducting and normal conducting magnets, lasers, laboratories, machine and electronics shops, fabrication areas, storage space, and office spaces.

Some ATAP personnel conduct work at the Advanced Light Source, Rutherford Backscattering Spectroscopy system, 88-Inch Accelerator, and other LBNL facilities. ATAP personnel may also work on the University of California campus and at other off-site locations. Personnel from other organizations, including affiliates (visitors, guests, and students) work at ATAP facilities.

The hazards associated with operations at ATAP are described in the LBNL **Hazards Management System** (HMS) database. The HMS database is one of the tools used by ATAP for describing its authorized scope of work and for identifying the hazards associated with its work activities.

It is the policy of ATAP to conduct all of its operations in a manner that protects the health and safety of employees and the general public and that does not endanger the environment, as defined by the Laboratory's Environment, Health & Safety (EH&S) policies and requirements contained in the **Requirements and Policies Manual (RPM)**, **Environment Safety & Health Manual (ES&H Manual)**, and the **Berkeley Lab Integrated EH&S Management Plan**.

The ATAP ISM Plan has been established to assist in ensuring that the Division's Environment, Safety & Health (ES&H) objectives are met. The ATAP ISM Plan has been divided into modules by topic, to be posted on the ATAP Safety Website for easy access and use. Modules may contain links to key LBNL reference documents and websites. The ISM Plan also includes the ATAP Self-Assessment Plan. All modules were reviewed and updated in November 2014. LBNL is in the process of transitioning to a new Work Planning and Control system and many changes to the ES&H Manual are anticipated. There have also been Division Management changes that will require new MOUs. It is expected that there will be frequent updates to the ATAP ISM Plan this year to implement the changes. The February 2015 update incorporates changes to the Self-Assessment Plan to evaluate anticipated impacts of electrical safety requirements.

ATAP ISM Plan Website Contents

1. Introduction to ISM at ATAP

2. Your ISM Responsibilities

All ATAP Personnel
Division Director and Deputies
Program Heads
Supervisors and Principal Investigators
Work Leads, Project Leads and Activity Leads
Shop Managers
Electrical Safety and Lockout /Tagout
Chemical Owners
Hazardous Waste Generators
Emergency Response
Building Managers and Emergency Teams
Area Safety Leaders
Matrixed Personnel and Shared Spaces
MOU Between ATAP and Engineering*
MOU Between ATAP and ALS*
MOU Between ATAP and MSD*
MOU Between ATAP and NSD*
Students and Work at UC
Work Off-Site
ES&H Operations Committee
ES&H Coordinator
Program ES&H Coordinators
Safety Advisory Committee Representative

* Previous MOUs are not valid due to Division Management and EHS Policy changes. New MOUs will be added when available.

3. ATAP Work, Hazards, and Controls

Integrated Work Planning
Transition to Work Planning and Control
Work Planning and Control Process
Other Safety Evaluations and Work Authorizations
Subcontractor and Vendor Oversight
Hazards, Equipment, and Authorizations Review Form
Hazard Level 3 Activity On-Site Review Form

4. Funding & Resources

5. ATAP Self-Assessment Systems

Focus Area Self-Assessments
QUEST
QUEST Team Roster
QUEST Meeting Report
QUEST Concerns Report
QUEST Checklist for Offices
QUEST Checklist for Labs
QUEST Checklist for Shops
BELLA Center Accelerator Safety Self-Assessment
Electrical Work Discussion Guide and Feedback Report
