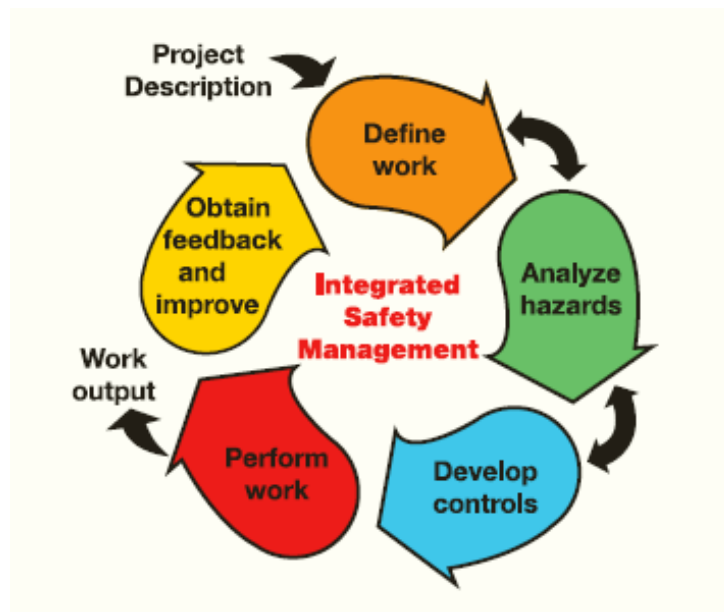


LBNL

Engineering Division (EG)

Integrated Safety Management Plan (ISM)



Original: May, 1998

Rev 1: Aug 1999	Rev 5: Jun 2003		
Rev 2: Jul 2000	Rev 6: Dec 2004		
Rev 3: Jun 2001	Rev 7: Feb 2005		
Rev 4: Jun 2002	Rev 8: Dec 2006		

Introduction

The LBNL Engineering Division is committed to continuously improving the working environment of our staff. We want to help create a safer and better workplace for the lab. Therefore, **safety is a core value of the Engineering Division**. Safety starts with every Engineering staff member when they consistently demonstrate safe planning and practice during the performance of their responsibilities.

The primary purpose of the Engineering Division (EG) is to design, engineer, build, test, maintain, and enhance the unique and innovative scientific apparatus essential to advance scientific research and discovery.

Safe planning and practice is essential to proper engineering design, and must be considered as such. This means that safe planning and practice must never be considered an add-on or simply a policy requirement.

All EG employees and participating visitors are expected to perform their responsibilities in a manner that will protect the health and safety of people as well as the environment.

The Integrated Safety Management plan (ISM) is the safety plan of the Engineering Division; it is the roadmap designed to guide employees in the performance of their duties.

The ISM Plan begins with YOU

To help understand the elements of ISM, the Engineering Division has translated the DOE and LBNL ISM language into five questions for **every** engineering staff member to ask and answer when making a decision, taking an action, or completing a task:

1. What will I be doing *or* assigning to a staff member?
2. Do I/my staff members know what the hazards, risks, and impacts are?
3. Do I/my staff members have everything needed to do the job safely: training, tools, time and authorization?
4. Am I/my staff members doing the job safely and as planned?
5. What are we doing to ensure we do the job better the next time?

The key elements of ISM are ...

Integration – Continuously fold safe planning and practice into all that we do

Safety – Planning and practicing safety is a core value

Management – Understand and execute our responsibilities in achieving safe practices and a safe workplace.

Engineering has created and provided an ISM badge to help remind each staff member of the questions they must ask and answer.

ISM BADGE

The badge is divided into two main sections. The left section features the Berkeley Lab logo and the text 'Engineering ISM'. Below this is a statement: 'Each employee is responsible for ensuring his or her own safety.' A circular diagram illustrates the 'Integrated Safety Management' process with five steps: 'Define work', 'Analyze hazards', 'Develop controls', 'Perform work', and 'Obtain feedback and improve'. The right section is titled 'ISM Checklist' and lists five questions: '1. What will I be doing?', '2. Do I know what the hazards are?', '3. Do I have everything I need to do the job safely: training, tools, time and authorization?', '4. Am I doing the job safely?', and '5. What can we do better?'. Below the checklist are two prompts: 'Have a safety question?' and 'Have an off-normal situation?', followed by contact information for Weyland Wong (x6045 / x4200). The badge concludes with the statement 'I am responsible for safety'.

Engineering ISM

Each employee is responsible for ensuring his or her own safety.

Integrated Safety Management

Project Description → Define work → Analyze hazards → Develop controls → Perform work → Work output → Obtain feedback and improve → Define work

ISM Checklist

1. What will I be doing?
2. Do I know what the hazards are?
3. Do I have everything I need to do the job safely: training, tools, time and authorization?
4. Am I doing the job safely?
5. What can we do better?

Have a safety question?
Have an off-normal situation?
Contact your supervisor **and** Weyland Wong (x6045 / x4200)

I am responsible for safety

Expectations and Actions For All Staff Members

All EG Staff Members are expected to take the following actions:

1. **Define** the work with your supervisor and share the plan with your team
 - a. **Identify and discuss** the scope, task sequence, and steps.
 - i. Plan for contingencies and re-evaluation
 - ii. Especially for “one-off” or unique jobs

2. **Perform** continuous **hazard/risk assessment** of task and scope. A critical element of ISM is figuring out what could go wrong. All work requires some form of hazard, risk, or impact analysis.
 - a. Pre-job and routine safety **walkarounds** and briefings are one way for every staff member to know and communicate what hazards, risks, and impacts have been identified – prior to beginning the job.
 - b. Things change constantly; therefore, habitually performing hazard, risk, and impact analysis is one way to identify and control risk
 - c. Keep **JHQ current**

3. **Control Hazards, risks, and impacts** - eliminate whenever possible.
 - a. For every hazard and risk that has been identified, action must be taken to eliminate or control the risk. Actions can include the use of **safety glasses**, equipment guards, interlocks, or use of a procedures **checklist**.
 - b. Keep **required training, certifications, and authorizations current**
 - i. The individual(s) performing the work must possess the requisite skills, training, experience, knowledge, and required certifications.
 - c. **Self-check** of personal physical and mental readiness to perform the work

4. **Perform** the work
 - a. Doing the work as planned and within controls
 - b. Continually monitor changes that may introduce a hazard or risk
 - c. **Stop work** at any time – especially if steps #1 through #3 have not been completed – or if circumstances change

5. **Ask for, and share feedback**
 - a. Identify procedures, practices, tools, or equipment that can be adjusted or improved
 - b. **Update and discuss** practices, procedures, controls

In addition to the above actions, line management, consistent with their supervisory role and management accountability, are to perform the following:

Expectations for Line Managers

1. Engineering line managers retain authority to assure their direct reports follow safe practice and procedures
2. Determine and authorize work.
3. Assign qualified personnel to perform work who have the appropriate skills, training, experience, and required certification.
 - a. Verify required safety training is identified (JHQ), completed, and current (training profile).
4. Perform hazards/risk/impact assessment of planned work as well as workplace conditions.
 - a. Perform routine safety walkarounds as appropriate to assess safety performance, while soliciting and providing feedback
6. Stop work if safety concerns arise; support the responsibility of employees to stop work
7. Within a matrix arrangement, the engineering line supervisor should review safety considerations with the matrix supervisor and engineering employee.

Additional Expectations for Deputy Division Directors

1. Use reasonable management judgment to assess the use of the ISM by line managers and employees [see the section “Evidence of ISM” below].
2. Advocate use of ISM within their management lines

Additional Expectations for the Division Director

1. Develop initiatives and expectations for each deputy that promote safety as a core value
2. Advocate use of ISM within the Division

ISM Resources for Staff Members

The EG Safety Coordinator organizes Division Safety initiatives to enable the effective and efficient execution of ISM by EG staff. The safety coordinator reports directly to the Deputy Division Director. The role of the coordinator include the following

- Assist staff in hazards/risks analysis
- Assist in fact finding reviews and root cause analysis
- Oversight of the division safety self-assessment program [including the quality control of formal documentation of safety deficiencies, corrective action-CATS], and lessons learned.
- Assist managers and PI's in the creation of formal safety authorizations
- Audit JHQ compliance and required safety-training completion.
- Help line supervisors or managers identify and resolve safety training needs

Engineering Human Resources is available to both line supervisors and EG staff members to develop strategies intended to improve performance related to ISM. A division manager or line supervisor may also consult with EG HR to ensure the development of appropriate, measurable and effective safety performance expectations.

EG EH&S Safety Liaison is the individual with professional safety expertise assigned from EH&S to support Engineering as a technical resource. Upon request, the EH&S Liaison provides professional expertise and safety-related guidance and direction to employees, line supervisors, the Division Safety Coordinator, and Division Management. Working through the EG Safety Coordinator, the EG EH&S Liaison helps Line Supervisors assure that ISM is consistently and effectively implemented.

Evidence of ISM

The results of **routine walkarounds** are one of the most important measures of the effectiveness of ISM in Engineering. Because personnel, external conditions, and internal constraints and opportunities change continually, routine walkarounds are essential in order to define the work, analyze hazards, develop controls, perform the work, and obtain feedback to improve.

Engineering supervisors and/or managers employ these measures *at any time* to gather evidence and assess the effectiveness of ISM:

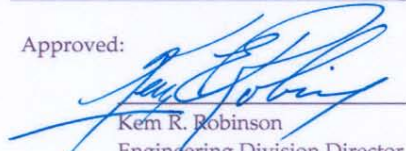
- (a) Perform additional Hazard analysis
- (b) Lead or authorize additional **walkarounds**
- (c) Keep **100% of JHQ's current** (within 12 months) for employees and guests
- (d) Keep **100% of Required Training** current or scheduled prior to the expiration date
- (e) Perform ongoing Ergo assessments and evaluations for positions with significant key board or computer use. Follow up and complete remediation in a timely fashion
- (f) Verify and maintain a chemical inventory that is both current and accurate
- (g) Close Safety CATs within the period established by EH&S
- (h) Verify and maintain compliance in all Satellite Accumulation Areas (SAAs) and Waste Accumulation Areas (WAAs) relative to LBNL Waste Management safety policy and procedure.
- (i) Schedule safety meetings to refresh, inform, or to plan new or unusual scope

LBNL
Engineering Division (EG)


Integrated Safety Management Plan
(ISM)

Signatures

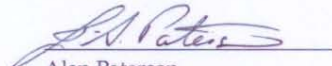
Approved:


Ken R. Robinson
Engineering Division Director
LBNL

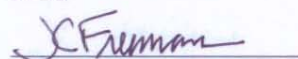
Date: 19 Jan 2007


Peter Denes
Engineering Deputy Division Director - ESIE
LBNL

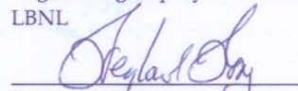
Date: 1/22/07


Alan Paterson
Engineering Deputy Division Director - ME
LBNL

Date: 19th Jan 2007


JC Freeman
Engineering Deputy Division Director - Operations
LBNL

Date: 12/22/06


Weyland Wong
Engineering Division Safety Coordinator
LBNL

Date: 01/19/07

See the ISM Plan Appendix for additional guidance regarding specific procedures and practices