

HEP Division: ISM review. Introduction

Harry Weerts, Division Director

July 14, 2008



ISM = Integrated Safety Management

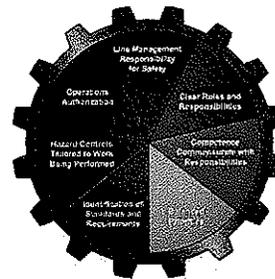
Introduction

Argonne's Integrated Safety Management (ISM) program is a formal approach to integrating safety into all aspects of the work process in the lab and in the HEP division.

Five Core Functions

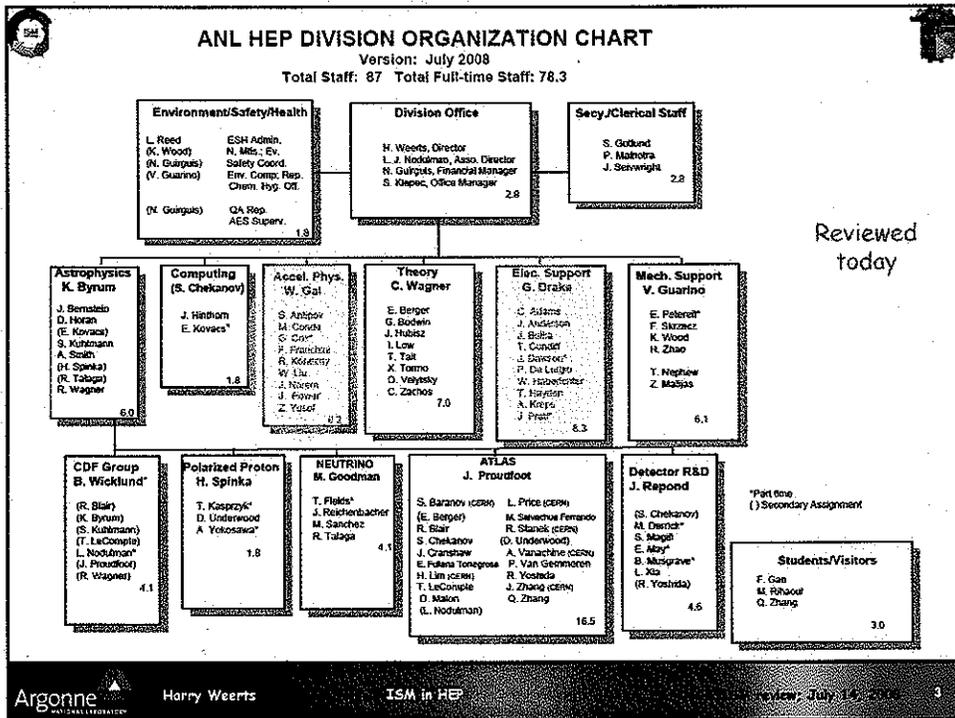


Seven Guiding Principles



In HEP: We have a strong safety culture and have rather well developed work planning practices in the division.

Safety is important at Argonne, in HEP. Safety is important to me. I am responsible for my safety and others.



Work & experiments we do

General: Typically we do development of detector systems at Argonne, build parts of detectors/experiments at Argonne, BUT the experiments take place somewhere else. Typically they are very **LARGE**

Examples

ATLAS at CERN

ZEUS at DESY

CDF at Fermi

MINOS at Soudan

Argonne National Laboratory Harry Weerts ISM in HEP July 14, 2008 4

**ES&H INFORMATION
AND HEP Division**
July 2003

Division Director Hendrik Weerts	X-8831
ES&H Coordinator Leon Reed	X-4478
Area Emergency Supervisors Amy Harris (B362, Rm. F349)/Brian Wozny (B362/Rm. F363) X-0484/7659 Kenneth Wood (B366 - HEP)..... X-3971 Frank Skrzecz (B366 - Alternate)..... X-3971	
HEP Environmental Compliance Rep., Nuclear Mats. Custodian & Chemical Hygiene Officer Leon Reed	X-4478
HEP Quality Assurance Representative Nahed Gutgus	X-6203
Alternate: Leon Reed	X-4478
HEP Safety Committee Gary Drake Vic Guarino Tom Kasprzyk Richard Konecny	Leon Reed (Chairman) Rich Talaga Ken Wood Gary Dykacz
Laser Safety Officer Richard Konecny	X-6597
Sealed Source Custodian Pat De Lurgio	X-9511
362 Bldg. Administrator Felicia King	X-3724
368 Bldg. Administrator Ken Wood	X-3971

Working Alone ANL Answering Service Phone #: 830-252-1911
Plus remember that YOU are responsible for your own ESH performance.

Review: July 14, 2003 6

Specific ES&H information.

Posted around Division

Posted on the WEB.

In general we attempt to keep all ES&H/ISM information on our Web site.

Leon T. Reed
ltr@hep.anl.gov

High Energy Physics Division
Argonne National Laboratory

HEPD Operations Manual (OPM)

Environmental Safety & Health Compliance Activities

ASSESSMENTS & SAFETY REVIEWS		
HEPD	Assessments	Reviews
AWA	Assessments	Reviews
TRICE	Assessments	Reviews
NOvA	Assessments	Reviews
Electronic Support	Assessments	Reviews
Mechanical Support	Assessments	Reviews

Management Scheduled "Walkthrough" for all HEP Division areas

Office Safety Checklist (Submitted Checklists)

Required Integrated Safety Management (ISM), ANLHEP_644 Scope of Work Form for Experiment and Non-Experimental Work

A look at Inside Argonne, Information 4 New Employees

Report and Exploring "Lessons Learned"

Listing of significant Laboratory operating occurrences, ORPS

HEP ES&H page

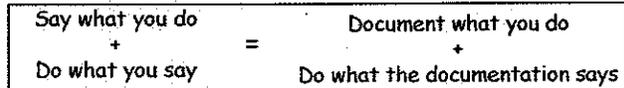
Attempt: everything is on the WEB. Need to make it easy to find.

Review: July 14, 2003 6

Status of ISM implementation in HEP

Even though we have done/do work planning in our division rather well (especially when it comes to large projects), ISM requires:

- To learn a new language (speak the right language to others)
- Know the principles/core functions
- Document every step of the way



Implementation status:

Emphasis has been on providing clear rules, procedures, forms etc. to division for implementing Argonne ISM.
 Be in line with Argonne guidelines, but adopt (where necessary) to HEP specific needs.
 Have struggled (still are) with some definitions and implementations
 This process has started, is well along, but not completed yet.

Long term goal: Make this an integral part of work planning/execution process in division with input from everybody in the division.
 (not just top down, but bottoms up)

Work categories in HEP

Work being done in HEP falls in four categories:

1. Office work Defined JHQ, training & Office Safety Check list
 2. Skill of Trade { Defined by Job description and JHQ
Ultimate decision by supervisor/group leader.
In principle: all design, assembly & construction work
- ↓ *All other work fill out ANL 644 (on WEB)* ↓
3. Non-experimental work { Depending on scope of work (*ANL644*),
group leader/PI in consultation with ES&H
Coordinator will decide whether work is in
3) or 4).
 4. Experiments { Both need authorization to start.

The definition of items 3) and 4) is our decision i.e. HEP

1. Office Work

Defined JHQ, training & Office Safety Check list

Responsibilities of employee/supervisor:

- Fill out Office Safety Check List → on ES&H WEB page Update once/year automatically recorded
- Ensure training is up to date
- Job Hazard Questionnaire (JHQ) is up to date

If responsibilities change/environment changes → update

[Link to ES&H page.](#)

Argonne NATIONAL LABORATORY Harry Weerts ISM in HEP Review: July 14, 2008 9

2. Skill of Trade

Defined by Job description and JHQ
 Ultimate decision by supervisor/group leader
 In principle: all design, assembly & construction work

Skill of Trade: Includes many day-to-day activities in the division
 Reflected by JHQ (update if necessary) Electronics, mechanical, scientific/research expertise
 Obtained by training/expertise
 Research expertise: accelerators, physics requirements

Be sure that: Familiar with work being performed Use it and Wear it
 Know what PPE (Protective Personal Equipment to use)
 Supervisor has approved the work
 Take training where required (crane , radioactive materials, etc)

Examples: Design work
 Mechanical Machine shop work (be authorized to use machines)
 Using the crane (crane operations)
 Assembling, constructing pieces of equipment
 Testing/repairing equipment

No WEB info

Ultimate decision whether "Skill of Trade" or not: Group Leader/Supervisor

Argonne NATIONAL LABORATORY Harry Weerts ISM in HEP Review: July 14, 2008 10

Work beyond "Office Work" and/or "Skill of Trade"

Depending on scope of work (ANL644), group leader/PI in consultation with ES&H Coordinator will decide whether work is in 3) or 4). Both need authorization to start.

1. Define the scope of work
2. Fill out ANL 644 (on the WEB), *scope of work part only*

EXPERIMENT AND NON-EXPERIMENTAL SCOPE OF WORK FORM, ANLHEP_644

Date of Submission: New Revised Supplemental Change

Division:	Dept./Section:	Div. Ref. #:
Project Title:		
Location (Building/Room, etc.):		
Project dates:	Start:	End:
Designated Project Manager:		

The Project Manager / Principle Investigator must be familiar with the responsibilities and the requirements of the experiment safety review in the ESH Manual, Section 21.2.

Steps to be taken:

3. Submit 644 and discuss with ES&H coordinator; consult Div. Dir. if necessary
4. PI and ES& coordinator decide whether work is "non-experimental" or "experimental".

[Link to ES&H page.](#)

Argonne NATIONAL LABORATORY
Harry Weerts
ISM in HEP
REVIEW: July 14, 2009 11

Work examples in HEP

Examples of "non-office work"

<u>Skill of Trade</u>	<u>Non-experimental</u>	<u>Experiments</u>
<ul style="list-style-type: none"> • Assembling detector or equipment • Power supply testing (ATLAS) • Nova gluing/operation 	<ul style="list-style-type: none"> • DC calibration system • Laser Test-stand • SIPM testing • Ge electronics development 	<ul style="list-style-type: none"> • AWA operation • Photo-cathode deposition system operation • Nova "load" test(past)
<p>Non-experiment: Development, trying out of equipment, first time use of assembled structures or complicated hardware</p>		
<p>Experiment: Verifying a hypothesis or determining a quantity (you measure something), often repeatedly</p>		

If there are "grey" areas, decision made by ES&H coordinator/Div. Dir.

Argonne NATIONAL LABORATORY
Harry Weerts
ISM in HEP
REVIEW: July 14, 2009 12

3. Non-experimental work

ES&H Manual Section 21.1 lab-wide guidelines

1. Defined the scope of work; refine
2. Identify and Analyze Hazards
3. Establish controls hazards/mitigate them

EXPERIMENT AND NON-EXPERIMENTAL SCOPE OF WORK FORM
ANLHEP_644

Date of Submission New Renewal Supplemental Change

Division:	Dept./Section:	Dir. Ref. #:
Project Title:		
Location (Building/Room, etc.):		
Project Start:	Start:	End:
Designated Project Manager:		

The Project Manager / Principal Investigator must be familiar with the responsibilities and the requirements of the experiment safety review as the ESH Section 21.1.

All done on ANL-644

4. Get approval to perform the work; signatures required
5. Workers on project, familiarize with work, hazards and controls for hazards. Sign 644.
6. Perform the work

[Link to ES&H page.](#)

Harry Weerts
ISM in HEP
Review: July 14, 2010 13

4. Experimental Work

ES&H Manual Section 21.2 lab wide guidelines

1. Defined the scope of work; refine
2. Identify and Analyze Hazards
3. Establish controls hazards/mitigate them

EXPERIMENT AND NON-EXPERIMENTAL SCOPE OF WORK FORM
ANLHEP_644

Date of Submission New Renewal Supplemental Change

Division:	Dept./Section:	Dir. Ref. #:
Project Title:		
Location (Building/Room, etc.):		
Project Start:	Start:	End:
Designated Project Manager:		

The Project Manager / Principal Investigator must be familiar with the responsibilities and the requirements of the experiment safety review as the ESH Section 21.1.

All done on ANL-644

4. Appoint and charge Safety Review with appropriate expertise
5. Perform Safety review; address any deficiencies & questions
6. Write Standard Operating Procedures (SOP)
7. Get approval to perform the work; signatures required
8. Workers on project, familiarize with work, hazards and controls for hazards. Sign 644.
9. Perform the work

[Link to ES&H page.](#)

Harry Weerts
ISM in HEP
Review: July 14, 2010 14



Some Guidelines (from Div. Meeting)



ES&H/ISM assumes a pro-active attitude

If you observe something unsafe, bring it to attention of person responsible

Do **not** wait

If necessary stop work

Feedback is an essential ingredient in ISM

ES&H/ISM assumes a positive attitude

Help each other accomplish our goals. We can only do it together.

If somebody points out deficiencies/unsafe conditions respond positively

ES&H/ISM should never be used against others



Summary



Work in HEP division driven by HEP programmatic needs.

ES&H/safety is a key and integral ingredient from the planning phase of any activity to the running of an experiment in HEP.

Future: ISM is integral part of division operation

Looking forward to feedback from review to improve ISM implementation.