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REVISION / REVIEW LOG**SECTION 1 – INTRODUCTION**

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SIGN-OFF RECORD

The Environment, Safety, Health and Assurance Program Manual has been reviewed and approved as documented below:

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Note: Original Sign-off Record with signatures is on file with ESH&A

1.0 INTRODUCTION**1.1 DIRECTOR'S STATEMENT*****Ames Laboratory Integrated Safety Management System******Policy Statement***

(Policy 10200.010, Revision 2)

The Ames Laboratory has a firm commitment to the safety and health of each Laboratory employee and associate. The Laboratory is equally committed to preventing accidental loss of resources and assets, and protecting the general public and the environment, through the prevention of pollution, damage to the environment, or property loss. It is our goal to eliminate foreseeable hazards, and maintain a safe and healthful workplace through continuous improvement. Compliance with applicable Laboratory Contract requirements, DOE Orders and regulatory standards is a prerequisite for conducting Ames Laboratory business, and is the responsibility of every Laboratory worker.

The Laboratory has incorporated the principles of Integrated Safety Management (ISM) and the practices of an Environmental Management System (EMS) into an Integrated Safety Management System (ISMS). Our Integrated Safety Management System provides mechanisms to ensure that we incorporate safety and environmental management into all aspects of our work, from planning to completion.

Every Laboratory worker must comply with the Laboratory's ES&H requirements. Each level of line management has the responsibility to consider the impacts of its activities on every other level, on the environment and the workplace, and to support the continuous improvement of our safety and environmental practices. A team effort is necessary to achieve a safe, productive and excellent research laboratory.

*Alexander H. King, Director
The Ames Laboratory*

1.2 ENVIRONMENT, SAFETY, HEALTH & ASSURANCE PROGRAM MANUAL

The Environment, Safety, Health & Assurance (ESH&A) Program Manual incorporates the requirements of environmental, safety and health standards referenced in the Ames Laboratory contract with the requirements for quality assurance and training. The ESH&A Program Manual serves as the Laboratory's "Safety Manual". Major topical divisions of this manual are referred to as Sections. This manual is divided into ten sections.

1.0 INTRODUCTION: The Introduction includes a statement by the director, the organizational design of the manual, an explanation of Integrated Safety Management System (ISMS) and Worker Safety and Health Program, a description of the Laboratory's safety coordinator and representative program, an overview of the Safety Review Committee and readiness reviews, and information regarding the reporting of events.

2.0 QUALITY ASSURANCE: The Quality Assurance Program establishes an effective management system by ensuring that senior management provides planning, organization, direction, control, and support to achieve DOE objectives and minimize environment, safety, and health risks and impacts. Systems are continually reviewed and enhanced in the areas of management, training, quality improvement, documents & records, work processes, design, procurement, inspection & acceptance testing, and assessments.

3.0 TRAINING PROGRAM: The Training Program provides employees with the training necessary for the safe and productive completion of their work responsibilities. A primary emphasis is placed on the fulfillment of Environment, Safety, and Health (ES&H) training requirements. The Training Program focuses on the following core activities: needs assessment; institutional training courses (General Employee Training; Visitor Training; Emergency Awareness Training, etc); job (activity) specific training; course development; training record keeping; training coordination and performance reporting.

4.0 INDUSTRIAL HYGIENE (IH) PROGRAM: The Industrial Hygiene section describes the components of the Laboratory's Industrial Hygiene Program, including hazard communication, chemical hygiene, respiratory protection, bloodborne pathogens, non-ionizing radiation including lasers, asbestos, lead and ergonomics.

5.0 INDUSTRIAL/GENERAL SAFETY PROGRAM: The Industrial/General Safety Program section includes regulatory requirements for both industrial and general applications relating to specific activities such as walking and working surfaces, personal protective equipment, machine guarding, scaffolding, confined space entry, lockout/tagout, etc. These requirements are primarily derived from 29 CFR 1910 (General Industry) and 29 CFR 1926 (Construction Standards).

6.0 ENVIRONMENTAL PROTECTION PROGRAM: This program encompasses the general overriding environmental protection requirements that apply at Ames Laboratory. It refers to specific policies and procedures for protecting all environmental media.

7.0 RADIOLOGICAL PROTECTION PROGRAM: The Radiological Protection Program is designed to promote the safe use, handling, storage, receipt, shipping, transferring, and disposal of radioactive materials, and the safe use of analytical X-ray systems. The program is based on standards which have been developed for the safe use of ionizing radiation.

8.0 FIRE PROTECTION PROGRAM: The Fire Protection Program provides an overview of fire safety concerns and procedures to be used at the Laboratory. Hot work (torches, etc.), flammable chemical storage, and employee response to fire situations are discussed.

9.0 EMERGENCY PREPAREDNESS AND SITE SECURITY: The Emergency Preparedness and Site Security Program provide descriptions of employee responses to emergency situations, severe weather, fire alarms, and security incidents.

10.0 ASSESSMENT PROGRAM: The Assessment Program describes the Laboratory's efforts to identify and correct deficiencies through a broad scope program. Elements include employee observations, manager observations and independent walk-throughs.

Where necessary, the major topical divisions are organized into sub-sections. Sub-sections are organized under the following general headings.

x.x. "SUB-SECTION HEADING"

APPLICABILITY STATEMENT

A brief statement designed to assist the user in determining the applicability of the sub-section to assigned work responsibilities.

x.x.1 REFERENCES

A listing of standards and local documents applicable to the topic.

x.x.2 BACKGROUND

A statement addressing the scope, historical practices, and/or source of the requirements related to the topic of the subsection.

x.x.3 PROGRAM INFORMATION

Information regarding the requirements related to the sub-topic area.

x.x.4 TRAINING

A list of relevant training courses.

x.x.5 PERFORMANCE CHECKLISTS

Brief statements of specific responsibilities for various levels of line management and safety coordinators and representatives.

1.3 INTEGRATED SAFETY MANAGEMENT SYSTEM (ISMS) AND WORKER SAFETY AND HEALTH PROGRAM

Applicability Statement: This section applies to all employees. This section also applies to the Environment, Safety, Health & Assurance (ESH&A) office, which is charged with administering the Laboratory's Integrated Safety Management System and the Worker Safety and Health Program.

1.3.1 REFERENCES

Ames Laboratory Contract No DE-AC02-07CH11358
Ames Laboratory Contract, Clause I.103, DEAR 970.5223-1 *Integration of Environment, Safety and Health into Work Planning and Execution (DEC 2000)*
DOE P 450.4, Safety Management System Policy
DOE P 450.7, Department of Energy Environment, Safety and Health (ES&H) Goals
10 CFR Part 851 Worker Safety and Health Program
Policy 10200.010 Integrated Safety Management Policy
Plan 10200.016 Integrated Safety Management System (ISMS) and Worker Safety and Health Program Description
Manual 10200.002 ESH&A Program Manual, Section 2 – Quality Assurance Program

1.3.2 BACKGROUND

The Laboratory's Integrated Safety Management System is required by Clause I.103 of the Ames Laboratory Contract (DEAR 970.5223-1 *Integration of Environment, Safety and Health into Work Planning and Execution (DEC 2000)*). The Laboratory's safety programs, policies, procedures, and practices are the mechanisms through which the Laboratory's Integrated Safety Management System is implemented. These mechanisms ensure that safety considerations are integrated into all aspects of the Laboratory's work, from planning to completion.

Ames Laboratory is required to prepare a written worker safety and health program by 10 CFR Part 851 *Worker Safety and Health Program*. The program must describe how the requirements of the rule are integrated with other related site-specific worker protection activities and with their Integrated Safety Management System (ISMS). Ames Laboratory has implemented an effective ISM System which is also integrated with the requirements of the rule. The Laboratory performed a compliance analysis of the requirements of the rule versus the Laboratory's existing processes. Identified gaps have been addressed and the essential program elements are documented.

1.3.3 PROGRAM INFORMATION

1.3.3.1 ISMS OBJECTIVE AND DOCUMENTATION

Ames Laboratory integrates safety into management and work practices at all levels so that its mission is accomplished while protecting workers, the public, and the environment. This objective is fulfilled through a system of programs, policies, procedures and practices based on the guiding principles of Integrated Safety Management (ISM) and the Laboratory's Quality Assurance Program as detailed in Section 2 of this Manual and in Plan 10200.026 Quality Assurance Program Plan. The ISM guiding principles are: line management responsibility for safety, clear roles and responsibilities, competence commensurate with responsibilities, balanced priorities, identification of safety standards and requirements, hazard controls tailored to work being performed, and operations authorization. Ames Laboratory work activities that can potentially affect workers, the public or the environment are defined, analyzed, developed, performed and reviewed according to the Laboratory's ES&H programs and practices. These work activities are subject to the core functions of Integrated Safety Management with

the degree of rigor appropriate to address the type of work activity and hazards involved. The ISM core functions are: (1) define the scope of work, (2) analyze the hazards, (3) develop and implement hazard controls, (4) perform work within controls, and (5) provide feedback and continuous improvement.

Ames Laboratory has developed the *Integrated Safety Management System (ISMS) and Worker Safety and Health Program Description* (Plan 10200.016) to document its alignment with DOE's Policy 450.4 *Safety Management System Policy*, Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, and 10 CFR 851, *Worker Safety and Health Program*. The Laboratory's programs, policies, procedures, and practices are the mechanisms through which the ISM core functions are implemented. These mechanisms assure compliance with standards described in the Ames Laboratory contract. The Laboratory's programs, policies, procedures and practices also define responsibilities and provide implementation guidance according to and sufficient with the hazards associated with the work activity being performed.

1.3.3.2 EMPLOYEE INVOLVEMENT

Ames Laboratory and Iowa State University recognize that a successful Environment, Safety, and Health (ES&H) program is only possible when every employee in the organization is fully empowered to be a participant. The Laboratory's Integrated Management System is founded on the fundamental principles that line management is directly responsible for the protection of the public, the workers, and the environment, and safety and protection of the environment are fully integrated into research and support activities. These principles are critical to Ames Laboratory achieving its mission as a DOE national laboratory. Participation in the ES&H Program is not only encouraged but required as part of employees' job responsibilities.. Employee responsibilities include being mindful of work conditions that may impact safety, assisting each other in preventing unsafe acts or behaviors, and reporting unsafe work conditions to their supervisor or the Environment, Safety, Health and Assurance (ESH&A) office. Information regarding employee responsibilities related to specific ES&H subject areas is detailed in the ESH&A Program Manual (Manual 10200.002), and employees are responsible for reading and understanding pertinent sections of the program manual. Employees' participation in safety activities, such as reading safety and operational documents, attending training, and conducting workplace observations is a fundamental part of their job responsibilities, and it is the policy of Ames Laboratory that all employees shall be allowed to conduct such activities on official time.

1.3.3.3 ROLES AND RESPONSIBILITIES

The following comments detail the roles, responsibilities, and expectations of Ames Laboratory in support of effective and efficient fulfillment of the *Ames Laboratory Integrated Safety Management System Policy Statement* (Policy 10200.010).

Laboratory Director and Deputy Director: The Laboratory director is ultimately responsible for assurance that a safe and healthful workplace is provided for employees, to protect the environment and the public, to minimize or eliminate hazards to government property, and to comply with applicable ES&H regulations. The director has delegated ES&H responsibilities to the line organization through program directors and department managers and, in turn, to group / section leaders. The director also has assigned staff, policy, and advisory functions related to ES&H to the Environment, Safety, Health and Assurance (ESH&A) office.

Program Directors / Department Managers: Program directors / department managers have responsibility for assuring the implementation of program / department ES&H processes under their authority. Program directors / department managers shall assure that group / section leaders implement, maintain, and document appropriate ES&H program activities within each group. Program directors / department

managers are responsible for appointing a safety coordinator, who serves as a liaison between the program and ESH&A and also serves as a resource for ES&H information to departmental personnel.

Group / Section Leaders: Group / section leaders function as first line managers responsible for day-to-day operational oversight of safety in their areas. Group / section leaders are responsible for implementing the programs described in the *ESH&A Program Manual* (Manual 10200.002) by:

- Identifying which requirements apply to their activities within the "applicability statements,"
- Understanding and implementing the "program information,"
- Completing the appropriate "training," and
- Completing the tasks listed in the "performance checklist."

Group leaders receive additional awareness of their roles and responsibilities via training courses. Group / section leaders ensure that all employees are properly trained in accordance with the provisions of each subject area and have supporting training documentation that is retained for five years after employment. Group / section leaders may designate a safety representative to assist with ES&H program implementation.

Employees: Employees are responsible for:

1. Following established standard operating procedures (SOPs) when performing their work;
2. Completing group / activity-specific training with the supervisor or designee prior to conducting any work at Ames Laboratory;
3. Asking questions about SOPs until they understand them; and
4. Reporting unsafe work conditions to their supervisor or ESH&A, as appropriate.

Information regarding employee responsibilities for specific ES&H subject areas are detailed in the *ESH&A Program Manual*, and employees are responsible for reading and understanding pertinent sections of the program manual. Employees are also responsible for ensuring the safety of visitors to the Laboratory. Whenever possible, visitors should be excluded from areas of potential hazard. Visitation discussions should be held in offices or conference rooms.

Line Management: Line management is defined as any management level within the Laboratory, including program directors, department managers, group / section leaders and supervisors that are responsible and accountable for directing and conducting work. Integrated Safety Management performance expectations for line management are defined as follows.

Define the Scope of Work

- Identify new or significantly modified activities during the planning of work associated with unified field budget call, preliminary proposal process, and service order requisitions (SORs).
- Utilize position descriptions, Hazard Inventory forms (HIs), Training Needs Questionnaires (TNQs), or other documentation to define significant safety roles, responsibilities and expectations for new and significantly modified job assignments.

Analyze the Hazards

- Identify hazards associated with new or significantly modified activities via the Readiness Review process and review these hazards with safety coordinators and representatives, and ESH&A in accordance with the requirements developed by the Safety Review Committee (SRC).
- Develop and maintain the skills necessary to analyze hazards associated with work tasks through participation in related safety training.

- Utilize HIs and TNQs or other documentation to analyze the safety hazards related to roles, responsibilities and expectations for new and significantly modified job assignments.

Develop and Implement Hazard Controls

- Develop and implement hazard controls to assure work is performed safely and is consistent with the Ames Laboratory safety policies, procedures, and requirements, including controls required as part of readiness review or identified deficiencies.
- Assure workers have received appropriate safety and awareness training before performing work.
- Utilize supervisory relationships, such as mentoring, and/or develop job / activity specific requirements to assist employees with control of hazards.

Perform Work Within Controls

- Utilize the Readiness Review process and the Service Order Requisition (SOR) process to document line management's approval of activities.
- Perform work within the controls developed during activity reviews, written procedures and group / department requirements.
- Use employee training profiles (ETPs) to assure appropriate training has been completed for the performance of work within controls.

Feedback and Continuous Improvement

- Promote worker identification and prompt correction of safety deficiencies.
- Develop, promote, and participate in program / department walk-throughs.
- Promote an open and effective environment for expression and resolution of employee safety concerns.
- Cooperate with independent and external walk-throughs and assessments.
- Review employee safety performance and discuss safety expectations during annual performance reviews.
- Report accident, incidents, and injuries, and cooperate with related investigations.
- Promote the distribution of safety related lessons learned.
- Support the Laboratory's contract performance measures.

1.3.4 TRAINING

Specific training for Integrated Safety Management is provided via the following institutional training course:

INTEGRATED SAFETY MANAGEMENT		AL-143
<i>Intended Audience:</i>	<i>Mandatory for all employees</i>	
<i>Course Format:</i>	<i>Provided as a component of General Employee Training</i>	
<i>Associated Retrain Period & Format:</i>	<i>No retrain</i>	

GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES		AL-001
<i>Intended Audience:</i>	<i>Mandatory for all employees</i>	
<i>Course Format:</i>	<i>Classroom instruction, reviews administrative policies, general safety, emergencies, industrial hygiene program, environmental protection program, and radiation safety</i> <i>Estimated Completion time: 1.5 hours</i>	
<i>Associated Retrain Period & Format:</i>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's annual retrain mailing, which covers, Fire Safety, Cyber Security, Physical Security, informational updates and policy reminders</i>	

AMES LABORATORY GROUP LEADER TRAINING		AL-198
<i>Intended Audience:</i>	<i>Mandatory for Ames Laboratory Group Leaders</i>	
<i>Course Format:</i>	<i>Web-based training. Estimated completion time: 0.5 hours</i>	
<i>Associated Retrain Period & Format:</i>	<i>No retrain</i>	

1.3.5 PERFORMANCE CHECKLIST

Supervisors / Group / Section Leaders / Department Managers / Program Directors shall:

- Promote and comply with the principles and functions of the Laboratory's Integrated Safety Management Program.

Safety Coordinators and Representatives shall:

- Promote the principles and functions of the Laboratory's Integrated Safety Management Program.

Environment, Safety, Health & Assurance (ESH&A) shall:

- Administer the Laboratory's Integrated Safety Management System and maintain related processes and appropriate documentation.

1.4 SAFETY COORDINATORS AND REPRESENTATIVES

Applicability Statement: *This section applies to all group leaders / department managers and to employees designated as safety coordinators or representatives; it also applies to the Environment, Safety, Health & Assurance (ESH&A) office which administers the safety coordinator and representative program.*

1.4.1 REFERENCES

Plan 10200.009, Safety Coordinator and Representative Program

1.4.2 BACKGROUND

The purpose of the safety coordinator and representative program is to provide an additional network (other than group leaders / department managers) by which relevant ES&H information is disseminated to Ames Laboratory employees. Safety coordinators and representatives serve as liaisons between employees and supervisory personnel and frequently interact with the ESH&A office on safety issues. Coordinators and representatives provide program directors / department managers or group / section leaders information on the status of safety conditions in the program or group. Coordinators and representatives receive regular information on safety issues such as lessons learned information, requests for information on chemical usage and requests for assistance with remediation of safety discrepancies.

1.4.3 PROGRAM INFORMATION

The basic elements of the program are safety coordinators (designated by program directors or department managers) and representatives (designated by group leaders or department managers), training, and roles and responsibilities. Detailed programmatic information can be found in the document "Safety Coordinator and Representative Program" (Plan 10200.009).

1.4.4 TRAINING

Specific training for safety coordinators and representatives is provided via the following institutional training courses:

HAZARD IDENTIFICATION		AL-130
Intended Audience:	<i>Mandatory for safety coordinators and representatives; strongly recommended for group leaders / department managers or other personnel wishing to increase hazard identification skills.</i>	
Course Format:	<i>Computer-based training. Estimated completion time: 1.5 hours.</i>	
Associated Retrain Period & Format:	<i>No retrain.</i>	

SAFETY COORDINATOR & REPRESENTATIVE ORIENTATION		AL-031
Intended Audience:	<i>Mandatory for safety coordinators and Representatives.</i>	
Course Format:	<i>Computer-based training, Estimated completion time: 1.0 hour.</i>	
Associated Retrain Period & Format:	<i>No retrain.</i>	

MACHINE SAFEGUARDING		AL-131
Intended Audience:	<i>Mandatory for safety coordinators and</i>	

	<i>representatives, and all employees who perform service and/or maintenance of equipment utilizing hazardous energy (belts/pulleys, moving, rotating shafts, gears, chains, nip points, etc).</i>
Course Format:	<i>Classroom training, Estimated completion time: 1.0 hour.</i>
Associated Retrain Period & Format:	<i>5-year retrain.</i>

Group/activity-specific training shall be given to each employee designated a safety coordinator or representative that details specific roles and responsibilities. This training shall be documented by the group leader / department manager and the records maintained for a period of 5 years.

1.4.5 PERFORMANCE CHECKLISTS

Program Director/Department Manager shall:

- Appoint a safety coordinator for the program.
- Notify ESH&A in writing of the person appointed to be the safety coordinator (also when changes are made).
- Assure that the group safety coordinator has a clear understanding of roles and responsibilities and has attended required training.
- Request information from the safety coordinator on the status of safety activities in the group.

Group / Section Leaders shall:

- Appoint a safety representative for the group.
- Notify ESH&A in writing of the person appointed to be the safety representative (also when changes are made).
- Assure that the group safety representative has a clear understanding of roles and responsibilities and has attended required training.
- Request information from the safety representative on the status of safety activities in the group.

Safety Coordinators and Representatives shall:

- Attend Ames Laboratory "Hazard Identification (AL-130)" training, "Safety Coordinator & Representative Orientation (AL-031)" training, and "Machine Safeguarding (AL-131)" training.
- Attend other training as indicated by supervisory personnel and ESH&A.
- Serve as a liaison between group members and supervisory personnel and / or the ESH&A office.
- Provide information on the status of safety activities to program directors / department managers or group / section leaders.

Environment, Safety, Health & Assurance (ESH&A) shall:

- Administer the safety coordinator and representative program by maintaining policies and procedures, conducting meetings, maintaining databases, and disseminating relevant ES&H information.

1.5 SAFETY REVIEW COMMITTEE AND READINESS REVIEWS

Applicability Statement: This section applies to all groups leaders / department managers and to all activities of Ames Laboratory. This section also applies to the Environment, Safety, Health & Assurance (ESH&A) office which is charged with administering readiness reviews.

1.5.1 REFERENCES

ALARA Committee Charter
Electrical Safety Committee (ESC) Charter
Fire Safety Committee Charter
Laser Safety Committee Charter
Safety Review Committee (SRC) Charter
10 CFR 835, Occupational Radiation Protection
Form 10200.003, Activity ES&H Hazard Identification Checklist
Form 10200.004, Readiness Review Activity Approval Form
Plan 10202.004, Radiological Protection Program (RPP)
Procedure 10200.010, Readiness Review Procedure

1.5.2 BACKGROUND

The Safety Review Committee was established by the Ames Laboratory director in 1992. It serves in an advisory capacity to the director, recommending policy and procedures related to safety issues and the readiness review of research and operational activities. The specific responsibilities of the SRC include:

- to appoint and oversee sub-committees for the study of safety issues,
- to prepare and seek approval of policies and procedures for the review of activities, and
- to facilitate the timely and orderly review of activities.

The membership of the SRC includes three representatives of the research division and one representative each from Engineering Services, Facility Services and Environment, Safety, Health and Assurance.

1.5.3 PROGRAM INFORMATION

Ames Laboratory management has identified the space, activities, and personnel for which programs / departments have management responsibilities. Programs / departments, in turn, have assigned responsibilities to group / section leaders. The group / section leaders closely monitor and manage the day-to-day performance of activities and therefore are best suited to identify and manage the hazards associated with the activities for which they are responsible.

1.5.3.1 READINESS REVIEWS

Identification of Activities

Group / section leaders shall identify activities for which they have management responsibilities and clearly assign authorities, responsibilities, and accountabilities to other members of the group/section. An activity is one or several action(s), process(es), and/or equipment, coordinated to perform a task. Actions are the manner, method, or act of performing a task.

Additional information relating to the identification of activities is included in the procedure for Readiness Review (Procedure 10200.010).

Activity Hazard Identification and Categorization

Ames Laboratory activities are classified as laboratory / industrial type and office type. Examples of laboratory / industrial type activities include: experimental research, applied research, production, maintenance, fabrication, construction, hazardous waste handling, and warehouse shipping and receiving activities. Examples of office type activities include: theoretical research, computational, design, and administrative activities.

The identification of ES&H hazards associated with activities is accomplished by utilizing a checklist of potential environmental, safety, and health concerns, the Activity ES&H Hazard Identification Checklist (Form 10200.003). The identification of hazards should be undertaken without consideration of the administrative and physical controls used to mitigate hazards. A description of the identified hazards and the administrative and physical controls associated with the management of the concerns shall be documented. All activities are categorized into one of three ES&H hazard levels. The three levels are defined as:

ES&H Hazard Level I:

Hazard Level I activities have hazards similar to those encountered and/or accepted by the general public in an office environment. These hazards involve limited risk to (1) the health or safety of workers or the public, (2) the environment, or (3) the facilities or mission of the Laboratory. These hazards have minimal scope and magnitude.

ES&H Hazard Level II:

Hazard Level II activities have hazards similar to those encountered in a typical industrial / laboratory environment. These activities involve hazards whose scope may involve significant risk (1) to the health and safety of workers involved in the activity or those working within the same room in which the activity is being performed, (2) of short-term localized environmental impacts, or (3) of minimal and localized damage to facilities or negative impacts on the performance of program or Laboratory functions.

ES&H Hazard Level III:

Hazard Level III activities have hazards that involve a larger scope than impacts upon a single work site or laboratory area. These activities involve hazards whose scope may involve (1) significant risk to the health or safety of the public or on-site personnel who are not involved in the activity, (2) significant risk of widespread or lasting environmental effects, or (3) significant risk of damaging facilities or impeding the mission of the Laboratory.

Readiness Review

All laboratory / industrial type activities shall undergo a readiness reviews and be approved: (1) before acquisition, fabrication, or testing; and, (2) before operation. Approvals and reviews shall be documented by the Activity ESH&H Readiness Review Approval Form (Form 10200.004), in accordance with the procedure for Readiness Review (Procedure 10200.010). All laboratory / industrial type activities shall be approved by the group / section leader, the program director / department manager, and the ESH&A Office. Hazard Level II and Hazard Level III activities require additional approval by the Safety Review Committee (SRC).

Activities which undergo a modification will also be subject to a readiness review if the modification significantly alters the hazards associated with the activity or if the risk associated with a particular hazard is increased. Activities in which the hazards have changed may be identified by reviewing the Activity ESH&A Hazard Identification Checklist (Form 10200.003). An example where the risk associated with a hazard has increased is the scale-up of an activity where larger quantities or a different class of hazardous chemical are to be used. Office-type activities are not required to undergo readiness reviews in addition to reviews by the group / section leader. Additional [readiness review formation](#) is available on the Ames Laboratory webpage.

All activities are reviewed five (5) years after the last approval date. The readiness review procedure is used for these 5-year reviews, as well.

1.5.3.2 SAFETY REVIEW COMMITTEE (SRC) SUBCOMMITTEES

Electrical Safety Committee (ESC)

The Laboratory director established the Electrical Safety Committee (ESC) in 1993. The ESC reports to the Safety Review Committee (SRC) and to the Ames Laboratory director through the SRC. The ESC establishes policies and procedures related to electrical safety issues in research and operational activities, and develops and maintains the Laboratory's Electrical Safety Program and the Ames Laboratory Electrical Safety Manual. The ESC is the authority having jurisdiction (AHJ) for the interpretation and the implementation of the National Electric Code (ANSI/NFPA70); Occupational Safety and Health Act (OSHA 29 CFR 1910, Subpart S, and 29 CFR 1926, Subpart K); and/or other applicable federal, state, and local codes/standards. The ESC includes a chairperson and five voting members appointed by the Ames Laboratory director: one representative of SRC; two representatives of the research division; two representatives of the Technical and Administrative Services Division (TASD); one representative from Environment, Safety, Health and Assurance (ESH&A); and two nonvoting ex officio members, and one technical advisor from Engineering Services.

Fire Safety Committee (FSC)

The Ames Laboratory director established the Fire Safety Committee (FSC), as a standing subcommittee of the Safety Review Committee in 1999. The committee is comprised of a technical specialist from each of the following organizations: Environment, Safety, Health & Assurance (ESH&A); Facilities Services (FS); and Engineering Services (ES). The committee is the local authority having jurisdiction (AHJ) for fire safety issues. The FSC utilizes applicable standards, such as: the requirements of the pertinent US Department of Energy directives, Occupational Safety and Health Administration regulations, National Fire Protection Association standards, American National Standards Institute standards, and other applicable state / local codes. The FSC is established to develop, document and implement the Ames Laboratory Fire Safety Program. The committee is charged with advising the managers of ESH&A, FS, and ES regarding fire safety systems, requirements and actions, as well as the SRC and the director.

As Low As Reasonably Achievable (ALARA)

ALARA is an acronym which means as low as reasonably achievable, and refers to keeping doses from ionizing radiation as low as reasonably achievable. The ALARA committee serves as the governing body for all aspects of ionizing radiation protection within the Laboratory and reports to the Safety Review Committee (SRC). The ALARA committee is charged with oversight of all activities involving ionizing radiation to ensure that any radiation doses from the use of these sources at Ames Laboratory are maintained ALARA. The ALARA committee ensures that all possession, use and disposition of sources of ionizing radiation by Ames Laboratory personnel complies with the requirements of 10 CFR 835, Occupational Radiation Protection and the Ames Laboratory Radiological Protection Program (RPP) (Plan 10202.004), and that all concomitant radiation exposures are maintained ALARA. The ALARA committee is composed of individuals who represent the various uses of ionizing radiation within Ames Laboratory and are knowledgeable and experienced in the safe use of ionizing radiation sources, as well as individuals representing administrative and service functions. Representatives of Occupational Medicine and of Ames Laboratory management are required to serve on the committee. The Radiation Safety Officer is an ex officio member of the committee.

Laser Safety Committee (LSC)

The Ames Laboratory Laser Safety Committee was established in 2005. The specific responsibilities of the LSC include advising the SRC on adequacy of laser safety policies and procedures, and advising ESH&A on programmatic aspects of laser safety at Ames Laboratory with an emphasis on a sound assessment process. Membership of the LSC includes: three representatives from the research division, and one representative each from ISU Environmental Health & Safety (EH&S) and Environment, Safety, Health and Assurance (ESH&A). The ESH&A Industrial Hygienist serves as the chairperson of the LSC.

1.5.4 TRAINING

GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES AL-001	
<i>Intended Audience:</i>	<i>Mandatory for all employees.</i>
<i>Course Format:</i>	<i>Classroom instruction, reviews administrative policies, general safety, emergencies, industrial hygiene program, environmental protection program, and radiation safety. Estimated Completion time: 1.5 hours</i>
<i>Associated Retrain Period & Format:</i>	<i>Retrain is required if an employee has been terminated from the Laboratory for more than a one-year period. All Ames Laboratory employees receive the Laboratory's annual retrain mailing, which covers, fire safety, cyber security, physical security, informational updates and policy reminders.</i>

1.5.5 PERFORMANCE CHECKLISTS

Group Leaders / Department Managers shall:

- Identify activities and associated hazards and submit activities for readiness review.
- Comply with the recommendations of readiness review.

Safety Coordinators and Representatives shall:

- Review ES&H Hazard Identification checklists.

Program Directors / Department Managers shall:

- Promote readiness review with group / section leaders.

Environment, Safety, Health & Assurance (ESH&A) shall:

- Administer the readiness review processes and maintain appropriate documentation and database information.

1.6 REPORTING OF EVENTS

Applicability Statement: *This section applies to all employees. This section also applies to the Environment, Safety, Health & Assurance (ESH&A) office, which is charged with administering the Laboratory's investigation and reporting efforts.*

1.6.1 REFERENCES

DOE Manual 231.1-1A, Environment, Safety and Health Reporting Manual
DOE Manual 470.4-1, Safeguards and Security Program Planning and Management
Plan 10200.020, Ames Laboratory Lessons Learned Implementation Plan
Plan 40000.001, Event Reporting Plan
Procedure 10200.038, Accidents, Incidents & Employee Safety Concerns: Classification & Investigation
Procedure 10200.039, Corrective Action Plan Development
Procedure 10200.041, Trend Analysis of ES&H Concerns

1.6.2 BACKGROUND

Effective response to environmental, safety and health events requires timely notification of the appropriate organizations. Ames Laboratory has numerous reporting responsibilities related to environmental, safety and health events. These requirements include: Occurrence Reporting and Processing of Operations Information, as per DOE M 231.1-2; reporting of radiological incidents (Price-Anderson Act Amendments reporting); reporting of injuries and illnesses to the Computerized Accident/Incident Reporting System (CAIRS) as required by DOE Manual 231.1-1A, Environment, Safety and Health Reporting; and reporting of incidents of security concern as per DOE Manual 470.4-1, Safeguards and Security Program Planning and Management.

1.6.3 PROGRAM INFORMATION

Event Notification of Ames Laboratory Personnel

Timely notification of events shall be given to supervisors, group / section leaders, Occupational Medicine and the Environment, Safety, Health and Assurance office. Employees are required to notify supervisors and group / section leaders of all work related injuries and illnesses. Injuries and illnesses requiring first aid or treatment from a trained medical provider shall be reported to Occupational Medicine. All other events require notification of supervisors, group / section leaders and the Environment, Safety, Health and Assurance office. In addition, security related events shall be reported to the appropriate safeguards and security personnel. The Plant Protection Section (PPS) is available for notification at all hours by calling 4-3483.

Emergency events shall be reported by calling 911.

Group / section leaders shall ensure timely notification of Occupational Medicine, the Environment, Safety, Health and Assurance office and the appropriate safeguards and security personnel.

Near Misses

Experience in both the Department of Energy (DOE) and in industry show that accidents that claim a life or result in serious personal injury or environmental damage are often preceded by precursor or near miss events. Simply stated, a near miss is when an otherwise reportable event, such as an injury or release, was avoided by only a single barrier or when all of the conditions necessary to cause an event existed (i.e., when all barriers were compromised). The capture and dissemination of information from near miss events should provide a better chance of avoiding serious injuries, fatalities, or environmental impacts from future events.

Investigation of Events

Incident and accident information is developed according to the requirements of the procedure, Accidents, Incidents & Employee Safety Concerns: Classification & Investigation (Procedure 10200.038).

Corrective Action Development and Tracking

Corrective actions are developed and assigned as needed according to the results of the event investigation. The ESH&A office is responsible for the tracking and closeout of safety related corrective actions. Significant institutional issues derived from Type A and B investigations, from DOE program initiatives and from DOE surveillance activities are addressed by corrective action plans developed according to the requirements of Corrective Action Plan Development (Procedure 10200.039).

Lessons Learned

Lessons learned from internal and external events are distributed by the ESH&A office according to the elements of the Lessons Learned Implementation Plan (Plan 10200.020).

Trend Analysis

Information from investigations of events will be incorporated by the ESH&A office into the annual trend analysis according to Procedure 10200.041, Trend Analysis of ES&H Concerns.

Reporting

Reporting is achieved according to the Event Reporting Plan (Plan 40000.001).

1.6.4 TRAINING

GENERAL EMPLOYEE TRAINING (GET) FOR NEW EMPLOYEES AL-001	
<i>Intended Audience:</i>	<i>Mandatory for all employees.</i>
<i>Course Format:</i>	<i>Classroom instruction, reviews administrative policies, general safety, emergencies, industrial hygiene program, environmental protection program, and radiation safety. Estimated Completion time: 1.5 hours</i>
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1.6 PERFORMANCE CHECKLISTS

Employees shall:

- Report all incidents, accidents, injuries and abnormal events in a timely fashion.
- Cooperate with all investigative and corrective efforts related to incidents, accidents, injuries and abnormal events.

Supervisors / Group / Section Leaders / Department Managers / Program Directors shall:

- Ensure that all incidents, accidents, injuries and abnormal events are reported in a timely fashion.
- Cooperate with all investigative and corrective efforts related to incidents, accidents, injuries and abnormal events.

Safety Coordinators and Representatives shall:

- Support investigative efforts related to accidents, injuries, illnesses, near misses and abnormal events.

Environment, Safety, Health & Assurance (ESH&A) shall:

- Administer the Laboratory's efforts for reporting and investigation of incidents, accidents, injuries, and abnormal events, and maintain related processes and appropriate documentation.