

HANFORD MISSION SUPPORT CONTRACT

Industrial Hygiene Program Requirements

MSC-PRAC-30502

Revision 0

Effective Date: January 15, 2010

Topic: Safety and Health

Industrial Hygiene Program Requirements

PURPOSE

This practice identifies key aspects of the Mission Support Alliance (MSA) Safety and Health (S&H) industrial hygiene (IH) program, and establishes the requirements for anticipating, recognizing, evaluating, and controlling exposure to chemical, physical, and biological agents in the work place.

The IH program is established to safeguard employee health and well-being by ensuring that exposures to harmful chemical, physical, and biological agents and ergonomic stresses are within regulatory limits.

SCOPE

This practice includes the following major sections:

- General Requirements
- Responsibilities
- Industrial Hygiene Programs
- Purchased and Rental Equipment
- Chain of Custody

The requirements of this practice are consistent with the requirements published in the *Mission Support Contract Safety and Health* virtual manual.

APPLICATION

This practice applies to MSA Construction.

GENERAL REQUIREMENTS

Records generated during the performance of this activity are to be included in the Construction Work Package and will be managed in accordance with [MSC-PRAC-30374](#), *Construction Work Package* and [MSC-PRAC-30376](#), *Construction Document Control*.

Safety and Health and management share concurrent responsibility to identify and document existing and potential physical, chemical, and biological health hazards through the following:

- Knowledge and assessment of operations
- Periodic surveillance activities
- Review of material requisitions
- Independent IH document review
- An inventory or tracking system

When required, samples from personal exposure monitoring are analyzed by an accredited laboratory.

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RESPONSIBILITIES

Managers and Construction Supervisors/Superinten dents

Provide employees with hazard information and training necessary for them to perform their jobs in a healthful manner.

Ensure employees have the necessary medical clearances for their jobs and enforce medical work restrictions.

Prohibit the storage or consumption of food, beverages, or tobacco products where toxic materials are used or stored.

Promptly respond to Safety and Health's recommendations/requirements for necessary control measures.

Safety and Health

The S&H Group Lead (GL) ensures that IH assessments are conducted by qualified personnel.

Provide projects with professional and technical support in implementing IH program requirements.

Review and approve requisitions for purchase of hazardous materials (refer to practice [MSC-PRAC-30473](#), *Hazardous Materials and Flammable/Combustible Liquids*) and safety items procured according to OSHA/ANSI standards.

Provide assistance in identifying and documenting existing and potential health hazards in MSA-controlled operations.

Evaluate hazards identified to determine their magnitude and the degree of control measures.

Communicate hazard information to supervision/management.

Provide Employee Job Task Analysis to medical support organizations, so that physicians know the hazards that employees are/may be exposed to and the physical requirements for the various jobs/tasks performed.

Make provisions for the collection and analysis of IH samples.

Ensure IH instrumentation is properly tested, calibrated, and maintained.

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Interpret regulations and prescribed standards, and ensure that applicable requirements are integrated into the IH program.

Develop the IH program criteria and standards.

Review and approve project and work effort prejob safety plans and designs as applicable.

Review, evaluate, and approve employee information and training programs on IH-related hazards/issues.

Monitor compliance with IH program requirements, and evaluate overall effectiveness of the program.

Procurement

Assist Safety and Health in controlling the purchase and distribution of potentially hazardous materials/equipment.

Subcontract Specialist (SCS)/ Construction Supervisor/ Superintendent

Ensure that appropriate language is contained in contracts so that subcontractors and sub-tier contractors are notified of applicable IH requirements pertaining to the work scope.

Ensure that subcontractors and sub-tier contractors perform activities in accordance with contract specifications, prejob safety planning requirements, and other applicable standards.

Engineering

Use established, approved engineering procedures (through design) to minimize exposures to harmful environmental factors or stresses.

Notify Safety and Health when new operations or processes are to be introduced, so that potential hazards may be evaluated in the planning stage.

Obtain Safety and Health approval for new installations and equipment before initial use.

Training

Training organizations are responsible for developing and presenting appropriate training on S&H topics, as determined by Safety and Health.

Hazard Evaluation

Hazard evaluations performed by Safety and Health are forwarded to responsible supervisor/management for review and, as appropriate, are available for review by affected employees.

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Exposure Monitoring	The process and requirements contained in MSC-PRO-409 , <i>Industrial Hygiene Monitoring, Reporting and Records Management</i> are followed for collecting, documenting, and storage of records pertaining to personal and area exposure monitoring.
Hazard Communication	The hazard communication program helps ensure that employees are provided with product information that enables them to recognize hazards and take appropriate actions to ensure their own health/safety. The requirements and guidelines of practice MSC-PRAC-30509 , <i>Hazards Communication</i> are followed.
Directives Review and Assessment	To ensure compliance with statutory occupational health requirements, prescribed standards are reviewed to ensure that the relevant requirements are known and implemented.
Control Measures	<p>Safety and Health formally recommends, and responsible management/supervision promptly implements measures to eliminate or reduce employee exposures through implementing controls in the following hierarchy:</p> <ul style="list-style-type: none">• Substitution• Engineering• Administration• PPE <p>Personal protective equipment (PPE) is used when administrative and/or engineering controls are not feasible. Gloves, splash protection, coveralls and other kinds of non-respiratory type PPE may be routinely used.</p>
Employee S&H Training	Safety and Health assists supervisors and managers in training employees about potential health hazards requiring engineering controls, administrative controls, or PPE.
Medical Monitoring	Safety and Health assists supervisors and managers in collecting and collating employee exposure data. Safety and Health informs the occupational medical contractor of identified health hazards and provides other information needed for operation of the Occupational Medical program [refer to MSC-PRAC-30508 , <i>Occupational Medical Program</i>].

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Periodic Review

Safety and Health performs periodic surveys, inspections, program reviews, evaluations, and/or surveillances of work activities. Employees have access to the results of these reviews.

INDUSTRIAL HYGIENE PROGRAMS

Human Factors Engineering

Appropriate consideration is given to human factors in all stages of design development (with an emphasis on user operation/maintenance) to achieve a proper balance between reliability, cost, and other design criteria. Appropriate expertise in the area of human factors is obtained and utilized during design analysis and review.

Safety and Health assists with human factors input during the design of new MSA owned, leased, and/or operated systems and equipment, or modification of existing ones.

Computer terminals and other workstations are evaluated for appropriate human factors engineering and ergonomic considerations (refer to MSC-[PRAC-30513](#), *Occupational Ergonomics*).

Levels of illumination in work areas conform to American National Standards Institute/Illuminating Engineering Society (ANSI/IES) lighting standards.

Carcinogen Control

Occupational exposure to chemical carcinogens is maintained below applicable regulatory standards and guidelines. The primary objective is to prohibit or reduce the use of known or suspected carcinogens in the workplace.

Products containing carcinogens are used only when no other practical substitute can be found.

Any mixture is assumed to present a carcinogenic hazard if it contains a carcinogen in concentrations of 0.1 percent or greater (by weight or volume, as applicable).

Refer to MSA Requirements Document [MSC-RD-10994](#), *Occupational Carcinogen Control*, for specific requirements to be followed when working with carcinogens at the Hanford Site.

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Respiratory Protection

Respiratory protective equipment only is used where effective engineering controls are not feasible and/or when judgment and experience indicate there is a potential need for this protective equipment. The requirements of [MSC-PRAC-30510](#), *Respiratory Protection* are followed.

Asbestos Control

The requirements of [MSC-PRAC-30503](#), *Asbestos Control and Management* are followed.

Beryllium Control

The requirements of [MSC-PRO-6155](#), *Chronic Beryllium Disease Prevention Program (CBDPP)* and DOE-0342, *Hanford Site Chronic Beryllium Disease Prevention Program* are followed.

Control of Hazardous Materials

Hazardous material exposure is maintained below the OSHA Permissible Exposure Limits. Because of the broad definition of the term “hazardous,” a material should be considered to be hazardous in any given situation unless an individual has information that indicates how it can be used safely.

Radiation

Ionizing radiation is controlled in accordance with client and MSA radiation protection program procedures. Non-ionizing radiation sources (such as microwaves, lasers, or generators) are identified and evaluated in the prejob safety planning process to maintain exposures at as low as reasonably achievable (ALARA) levels.

Installation or modification of radio frequency, infrared, ultraviolet, or microwave sources (other than low-power sources) is approved by Safety and Health.

Procedures/plans are in place for the use and maintenance of devices that emit hazardous levels of non-ionizing radiation.

Proper warning symbols are displayed when required, or specified by Safety and Health.

Appropriate training is provided to employees working with, or performing maintenance on devices that emit non-ionizing radiation.

Microwave ovens are leak tested following repairs, or when oven-sealing problems are suspected.

Sanitation

Cross connections between potable and non-potable water sources are avoided.

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Backflow prevention assemblies are designed, installed, maintained, repaired, and tested in accordance with applicable standards.

Additionally, the requirements of [MSC-PRAC-30496](#), *Construction and Maintenance Eating and Sanitary Facilities* are followed.

Hearing Conservation

The requirements of [MSC-PRAC-30504](#), *Hearing Protection* are followed.

Heat Stress Control

The requirements of [MSC-PRAC-30505](#), *Heat Stress Program* are followed.

Ventilation

General dilution ventilation systems are adequate for offices, conference rooms, and work areas to promote occupant comfort, control odors, and provide protection from low concentrations of low-hazard airborne contaminants.

Local exhaust ventilation is required (as an engineering control) where feasible to maintain concentrations of hazardous and irritating air contaminants below allowable exposure limits. Such systems are evaluated by Safety and Health prior to the start of the work effort to ensure proper application. Such systems are inspected and tested at least annually to ensure proper operation.

Any exhaust or collection system that is capable of releasing toxic or hazardous materials is equipped with air cleaning devices that are installed, sampled and maintained in compliance with applicable federal, state, and county environmental regulations.

Showers and Eyewashes

The need for, and installation of, quick-drenching facilities (such as showers and eyewash stations) is evaluated according to work efforts [refer to [MSC-PRAC-30480](#), *Safety Showers and Eyewashes*].

Laser Safety

Class 1 and 2 lasers and laser systems are operated and maintained by qualified employees.

Class 3 and Class 4 lasers are not purchased or operated without permission of the Safety and Health Group Lead. A trained laser safety officer is required for all Class 3 and Class 4 laser work.

Inventories and maintenance records are maintained by the using organization.

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Projects conduct periodic assessments of lasers and laser systems under their control in accordance with ANSI Z136, "The Safety Use of Lasers."

Laser systems have warning labels using specific and required wording affixed to the laser housings.

Cold Stress

The need for special clothing and/or plans to protect against the effects of cold is evaluated by Safety and Health as part of the prejob safety planning process when the work involves continuous employee exposure to air temperatures below 4 °C (40 °F).

When work involves continuous employee exposure to an equivalent chill temperature below -4 °C (25 °F), the following safe work practices are observed:

Work is conducted using the "buddy system."

Workers are instructed in symptoms of frostbite and hypothermia, and appropriate preventive and first aid measures.

Heated warming shelters are conveniently available.

Nonemergency work is curtailed when the equivalent chill temperature in the work area is below -12 °C (10 °F).

Workers who experience symptoms of cold exposure (such as hypothermia) are immediately moved to a warm area, then examined by the occupational medical physician as a follow-up measure.

Hazardous Waste Operations

Hazardous waste operations are conducted in accordance with [Title 29 Code of Federal Regulations \(CFR\) 1926.65](#) requirements.

PURCHASED AND RENTAL EQUIPMENT

Safety and Health identifies to management and supervision examples of equipment that, if used, may be sources of potential physical, biological, and/or chemical hazards.

FORMS

None

RECORDS IDENTIFICATION

Records Capture Table

Name of Document	Submittal Responsibility	Retention Responsibility
None		

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REFERENCES

[Title 29 Code of Federal Regulations \(CFR\) 1926.65](#)

American National Standards Institute (ANSI)
ANSI Z136, *The Safety Use of Lasers*
ANSI/IES, *Illuminating Engineering Society*

[MSC-PRAC-30374](#), *Construction Work Package*

[MSC-PRAC-30376](#), *Construction Document Control*

[MSC-PRAC-30480](#), *Safety Showers and Eyewashes*

[MSC-PRAC-30496](#), *Construction and Maintenance Eating and
Sanitary Facilities*

[MSC-PRAC-30503](#), *Asbestos Control and Management*

[MSC-PRAC-30504](#), *Hearing Protection*

[MSC-PRAC-30505](#), *Heat Stress Program*

[MSC-PRAC-30508](#), *Occupational Medical Program*

[MSC-PRAC-30509](#), *Hazards Communication*

[MSC-PRAC-30510](#), *Respiratory Protection*

[MSC-PRAC-30513](#), *Occupational Ergonomics*

[MSC-RD-10994](#), *Occupational Carcinogen Control*

[MSC-PRO-409](#), *Industrial Hygiene Monitoring, Reporting and
Records Management*

[MSC-PRO-6155](#), *Chronic Beryllium Disease Prevention Program
(CBDPP)*

DOE-0342, *Hanford Site Chronic Beryllium Disease Prevention
Program*