ORDER

3900.19B

FAA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

April 29, 1999

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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Initiated By:AEE-200

FOREWORD

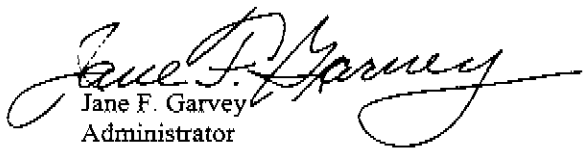
This order establishes the policy framework and assigns responsibility for an effective agencywide employee safety and health program. The goal of the program is to ensure that FAA employees are provided with places and conditions of employment that are free from recognized hazards that cause or are likely to cause death or serious physical harm.

In accordance with the terms agreed to during the 1994 realignment of the FAA occupational safety and health program, detailed implementation guidance will be provided separately by the Airway Facilities Service to serve the day-to-day management and operation of the program.

This order plus AAF-generated implementation guidance are intended to meet the requirements established by the Occupational Safety and Health Act, which was passed by Congress on December 29, 1970. The FAA Administrator is required by law to establish and maintain an agencywide occupational safety and health program that is consistent with the legal requirements of Public Law 91-596, Occupational Safety and Health Act of 1970; Executive Order 12196, Occupational Safety and Health Programs for Federal Employees; 29 CFR Part 1960, Basic Program Elements for Federal Employee Occupational Safety and Health Programs; and DOT Order M 3902.7B, Occupational Safety and Health Management Manual.

It should be noted that some of the procedures contained within this order may appear to be implementation guidance (e.g., paragraph 901, Employee Report of Hazardous Condition). However, 29 CFR Part 1960 requires that certain basic programmatic procedures be incorporated into any Federal agency occupational health and safety program as policy. Such procedures were added in this document to meet the Federal requirements.

If problems arise that may not be sufficiently described in this order, consult the FAA Office of Environment and Energy for further assistance.



Jane F. Garvey
Administrator

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CHAPTER 1. GENERAL

1. PURPOSE. This order establishes broad roles, responsibilities, and accountability for operating an Occupational Safety and Health (OSH) Program in the Federal Aviation Administration (FAA). This order assigns requirements of the Occupational Safety and Health Act, Public Law 91-596; Executive Order 12196, Occupational Safety and Health Programs for Federal Employees; and 29 Code of Federal Regulations Part 1960, Basic Program Elements for Federal Occupational Safety and Health Programs. This order implements DOT (Department of Transportation) 1000.17, Administrative Services Policy Functions.

2. DISTRIBUTION. This order is distributed to the director level in the Washington headquarters, regions, and centers; to the division level in the NAS Transition and Integration; to the division level in regional Air Traffic, Flight Standards, Human Resource Management, and Aviation Medical Divisions; to the branch level in the regional Airway Facilities Divisions; to the Environmental, Safety, and Emergency Management and Human Resource Management Divisions at the Aeronautical Center; and the Facilities Services and Engineering and Human Resource Management Divisions at the Technical Center; and a limited distribution to all field offices and facilities.

3. CANCELLATIONS.

a. Order 3900.6A, Occupational Safety Program for Airway Facilities Personnel, dated January 21, 1972.

b. Order 3900.14C, Safety Climbing Equipment at Existing NAS Facilities, dated February 23, 1972.

c. Order 3900.19A, Occupational Safety and Health, dated July 20, 1982.

d. Order 3900.23, Report of AF Occupational Safety Program, dated February 22, 1971.

e. Order 3900.24A, Accident and Fire Reporting, dated February 27, 1976.

f. Order 3900.49, Control of Hazardous Energy During Maintenance, Servicing, and Repair, dated July 17, 1992.

g. Order 3910.2A, Occupational Health Programs, dated January 5, 1973.

h. Order 3910.3A, Radiation Health Hazards and Protection, dated October 19, 1983.

i. Order 3910.5, Asbestos Control, dated February 19, 1986.

4. BACKGROUND. The occupational safety and health regulations of Federal, state, and local governments have become increasingly stringent over the past several years. Effective June 1993, the FAA Executive Board agreed to consolidate the occupational safety and health policy and implementation functions, with realignment of functions to the Office of Environment and Energy (AEE) and the NAS Transition and Integration (ANS).

5. EXPLANATION OF CHANGES. The order has been revised to include:

a. New roles and responsibilities to reflect the current FAA organizational structure and assignment of program responsibilities.

b. Updated chapters containing program elements necessary to the establishment and implementation of an agencywide occupational safety and health program in accordance with current standards and issuances of the Occupational Safety and Health Administration (OSHA). See paragraph 9, Standards.

c. Details on establishing and conducting an occupational safety and health committee have been removed and are now incorporated in a charter available through AEE. See paragraph 10a(2).

d. Authority for clearing changes or adding new chapters to this order. See paragraph 7.

e. Consolidation of previously separate occupational safety and health orders into this order. For example, FAA Order 3910.3A, Radiation Health Hazards and Protection, and FAA Order 3910.5, Asbestos Control, were canceled, the policies updated, and added to this order as chapters 14 and 15, respectively.

6. FORMS. FAA Form 3900-6, FAA Mishap Report, is included in Chapter 7, Accident Reporting and Investigation, as Figure 7-1.

7. AUTHORITY TO ISSUE CHANGES TO THIS ORDER. The Director of AEE has the authority to add new chapters or change existing chapters after appropriate coordination with stakeholder organizations. The Administrator reserves the authority to establish or change policy, delegate authority, or assign responsibility as necessary.

8. POLICY. This order sets the policy for the framework of the overall agency OSH program.

a. General. The FAA is committed to providing for the occupational safety and health of employees, preventing accidental loss of material resources, avoiding facility interruptions due to accident or fire, and enforcing a system of formal accountability. The FAA OSH program shall have top management commitment and support. The program shall integrate activities at all levels into FAA day-to-day operations.

b. Program Management. An OSH program must include, at a minimum, the following elements: program/project planning, forecasting requirements, budgeting, general and specific training, inspections and followup, including abatement, and developing evaluation standards to measure progress.

9. STANDARDS.

a. Occupational Safety and Health Standards. DOT and FAA have adopted the OSHA standards published in 29 CFR Part 1910, "Occupational Safety and Health Standards for General Industry," and 29 CFR Part 1926, "Safety and Health Regulations for Construction." The standards apply to FAA workplaces. Variances from OSHA standards may be sought, as covered in Chapter 2, Workplace Inspections, Abatement Programs, and Variances.

b. Existing FAA OSH Orders. This FAA OSH program and related FAA orders shall be periodically reviewed for currency with OSHA standards and FAA organizational changes. The FAA OSH Program Manager for Policy (OSHPM/P), located in the Office of Environment and Energy (AEE), shall conduct the review. Orders not meeting OSHA standards shall be revised or revoked. For FAA orders found to be inconsistent due to changes in OSHA standards, the most current OSHA standard shall apply.

(1) The OSHPM/P shall attempt to resolve any conflicts with standards of another agency/jurisdiction involving FAA employee operations.

(2) The FAA OSHPM/P shall elevate unresolved conflicts to the FAA's Designated Agency Safety and Health Official (DASHO), and finally to the appropriate DOT office for resolution.

c. Consensus Standards. FAA will apply OSHA standards and other non-FAA regulatory or current industry/consensus standards to equipment, operations, or workplaces. Non-FAA regulatory or consensus standards include, but are not limited to, those published by the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), DOT, Environmental Protection Agency (EPA), and National Fire Protection Association (NFPA).

10. OCCUPATIONAL SAFETY AND HEALTH PROGRAM REQUIREMENTS. The FAA OSH Program shall include the following:

a. Program Elements. The elements of an occupational safety and health program include:

(1) A safety and health organization encompassing a comprehensive headquarters, regional, and center program, consistent with this order and with OSHA regulations. (Chapter 3, Safety and Health Organization)

(2) Safety and health committees at the national, regional, and field level. Occupational Safety, Health, and Environmental Compliance Committees (OSHECCOM) were established by charter on March 17, 1996. These committees advise and assist management in implementing and monitoring safety and health programs and provide a forum for information exchange.

(3) Qualified safety and health professionals with equipment, competence, and training available to recognize and evaluate workplace hazards and to suggest means to abate those hazards. (Chapter 4, Professional Qualifications and Training of OSH Staff)

(4) A safety awards program aimed at promoting positive employee response and personal accountability in safety and health activities.

(5) Written policies, programs, and procedures that provide appropriate direction, guidance, and program requirements.

(6) Budgets and plans at each operating level, ensuring appropriate financial and other resources are requested for OSH program implementation and administration.

(7) A safety and health management information system to record and track accidents, injuries, and illnesses. (Chapter 5, Safety and Health Management Information System)

(8) A program to transmit information on pending safety and health legislation or new regulations to appropriate staff; e.g., use of intranet homepages.

b. Training. A comprehensive occupational safety and health training program shall be established to incorporate general and job-specific training based on an individual's duties and the workplace. (Chapter 6, Training and Awareness Programs)

c. Workplace inspection and abatement. Formal facility inspections and informal self-assessments will be conducted annually. Formal procedures for hazard abatement and accident investigations of injuries, incidents, and illnesses will be established. (Chapter 1, General; and Chapter 7, Accident Reporting and Investigation)

d. Measures of effectiveness. Measures to evaluate OSH program effectiveness will be established within the FAA. The OSH program will be audited and evaluated to track its success quantitatively and to identify areas requiring increased attention.

e. Dissemination of occupational safety and health program information. A copy of this order and related headquarters or region/center OSH orders and implementation guidelines shall be made available for inspection to each supervisor, OSHECCOM committee members, employee representatives, and employees. These shall also be made available to the Secretary of Labor or designee upon request.

11. DEFINITIONS.

a. Center refers to the Mike Monroney Aeronautical Center and the William J. Hughes Technical Center.

b. Designated Agency Safety and Health Official (DASHO) is the individual responsible for the management and administration of the safety and health program in the agency, as designated or appointed by the head of the agency. At the headquarters level, the DASHO is the Assistant Administrator for Policy, Planning, and International Aviation, API-1. In the regions and centers, the Regional Administrator or Center Director will appoint a Designated Region/Center Safety and Health Official (DR/CSHO) based on respective region/center needs and preferences.

c. Facility is a single physical location where agency business is conducted or where services or operations are performed. Where distinctly separate activities are performed at a single physical location, each activity shall be treated as a separate establishment. Typically, an "establishment" as used in this order refers to a field activity, regional office, center, installation, or site.

d. Management Representative is a supervisor or management official as defined in a labor management relations program.

e. Region/Center Occupational Safety and Health Manager (ROSHM/COSHM) is the technical person responsible for the employee safety and health program at the regional and center level. The ROSHM/COSHM serves as advisor to the RPMES and management on occupational safety and health issues and is a permanent voting member of the regional or center OSHECCOM.

f. Regional Program Manager for Environment and Safety (RPMES) serves as the regional and center associate program manager in performing the environmental compliance and occupational safety and health program implementation responsibilities and providing implementation guidance for compliance at regional division levels. The RPMES maintains copies of field OSHECCOM minutes and reports and is a permanent, voting member of the regional or center OSHECCOM.

g. Reprisal is any act of restraint, interference, coercion, or discrimination against an employee for exercising rights under E. O. 12196 and 29 CFR 1960 or for participating in the agency's safety and health program.

h. Technically Qualified Safety Personnel:

(1) OSH Professionals: safety specialists, safety managers, safety engineers, or industrial hygienists; or equally qualified agency, military, or non-Government personnel who meet the basic qualifications of the above classifications as defined by AHR standards and recommended by the region/center occupational safety and health manager.

(2) Collateral Duty Safety and Health (CDSH) Personnel: personnel having sufficient OSH training and experience to perform general workplace safety inspections.

12. RESPONSIBILITIES OF HEADQUARTERS OFFICES.

a. The Operations Center (ADA-30) in the Office of the Deputy Administrator shall notify the OSHPM/P within 4 hours of all incidents covered by OSHA reporting requirements. These incidents include fatalities and/or when three or more employees are involved in an accident and hospitalized on an in-patient basis.

b. The Assistant Administrator for Policy, Planning, and International Aviation (API) shall:

(1) Serve as the DASHO to assist the Administrator in ensuring a comprehensive OSH program for FAA employees.

(2) Develop agency OSH policies, issue directives, and make recommendations.

(3) Initiate programs and actions to ensure compliance with applicable standards, policies, and requirements.

(4) Serve as a member of the FAA National OSHECCOM as defined in the OSHECCOM Charter. Also, act for the Administrator in interdepartmental safety and health matters.

c. The Office of Environment and Energy (AEE) within API shall:

(1) Establish OSH program policies consistent with OSH regulations and standards.

(2) Review guidelines and directives produced by other FAA organizations to implement OSH policies.

(3) Serve as FAA's focal point for OSH policy issues for internal and external organizations, and provide OSH program liaison services for the FAA. Serve as the official point of contact for all OSH Freedom of Information Act (FOIA) inquiries. Provide these services for interactions with OSHA, National Institutes for Occupational Safety and Health (NIOSH), Environmental Protection Agency (EPA), the unions, and other regulatory or advisory agencies.

(4) Interpret OSHA regulations and industry/consensus standards.

(5) Conduct OSH program oversight assessments throughout the agency. (Chapter 8, Evaluation of the OSH Program.)

(6) Identify the training required to comply with all Federal Occupational Safety and Health and Environmental Compliance regulations, and provide a general definition of who should receive the training.

(7) Sponsor and oversee the FAA OSHECCOM as identified in the OSHECCOM Charter.

(8) Provide AEE budget needs to ANS and participate in budget discussions, as appropriate, to provide clarification of these needs for the national FAA Occupational Safety and Health Program.

(9) Develop and administer the FAA OSH Mishap Reporting and Safety Management Information System (SMIS), including trend analysis and data tracking.

(10) Track and initiate appropriate action for all employee allegations of discrimination, reprisal, or restraint as a result of his or her participation in the FAA Occupational Safety and Health Program.

d. The Office of the Chief Counsel (AGC) shall:

(1) Provide top management commitment and support of the OSH program per E.O. 12196.

(2) Determine the legal sufficiency of FAA occupational safety and health contracts, procedures, and correspondence.

(3) Provide legal advice and guidance on OSH implementation and compliance issues.

e. All Associate/Assistant Administrators shall:

(1) Provide top management commitment and support for the OSH program.

(2) Implement OSH policies within their respective organizations.

(3) Ensure that Washington headquarters and regional subordinate managers are aware of OSH requirements with which they must comply, and that they implement the agency OSH policies.

(4) Ensure adequate funds and resources are requested to comply with applicable OSH policies and regulations, such as training, travel, personal protective equipment (PPE), etc. These requests should be made according to the 2500 budget series orders.

(5) Ensure that their policies, procedures, and directives are updated as new occupational safety and health policies are issued.

(6) Designate an OSH person (as defined in paragraph 11h) for their respective line of business (LOB) who will serve as the point of contact to coordinate OSH issues with ANS and assist in the implementation of the agency OSH program.

(7) Ensure that OSH training needs are identified and addressed.

(8) Ensure that written procedures are in place to protect employees from discrimination, reprisal, or restraint as a result of their participation in the FAA Occupational Safety and Health Program.

f. The Assistant Administrator for Financial Services (ABA) shall ensure that the agency's budget request includes adequate funding for OSH program needs.

g. The Assistant Administrator for Human Resource Management (AHR) shall:

(1) Serve as the agency's focal point for the Office of Workers' Compensation Program (OWCP), including claims processing, case management, and reassigning workers on light duty assignments.

(2) Ensure that all FAA OSH policies, training, and procedures are compatible with established labor and employee practices and meet regulatory requirements.

(3) Ensure that all FAA OSH program policies are consistent with affirmative action employment programs for minorities, physically challenged, veterans, and other special emphasis groups.

(4) Ensure that OWCP information is coordinated with OSH program managers and the Federal Air Surgeon for the purpose of measuring program effectiveness for setting program priorities.

(5) Ensure that position descriptions and employment standards accurately and specifically reflect the use of PPE, training requirements, participation in medical monitoring programs, and an ability to perform safely those duties that could affect the employee's safety and health.

(6) Make hazardous duty pay and environmental differential pay determinations, in coordination with AEE, ANS, and AAM personnel, based on hazard assessment, AHR polices, OSHA standards, and OPM regulations (if applicable).

(7) Ensure that funds are requested to administer the Workers' Compensation Program.

(8) Ensure that management and supervisory position descriptions reflect safety responsibilities and that performance reviews measure performance in meeting occupational safety and health requirements in accordance with OSHA standards.

h. The Associate Administrator for Research and Acquisitions (ARA) shall:

(1) Ensure compliance with all standards, as identified in paragraph 9, in the design and acquisition of emerging and deployed systems/equipment and real property management.

(2) Develop procedures to incorporate the most current version of the standards referenced in paragraph 9 into the requirements documents, requests for offer, FAA acquisition management system documents, contracts, designs, and acceptance testing protocols. Integrated product teams (IPT) and product teams (PT) shall include ANS as an extended team member in their program plans.

(3) Ensure designs apply human factors, practices, and principles and reflect concerns such as, but not limited to, minimizing employee exposures, hazardous component disposal, and safe operations and maintenance by using a life cycle and systems safety approach.

(4) Establish agencywide procedures to include compliance with all standards as identified in paragraph 9 of this order.

(5) Identify and ensure correction of OSH issues and concerns for FAA's national headquarters [Federal Office Building (FOB 10A)] and coordinate with ANS as necessary.

(a) Appoint and train collateral duty safety personnel for FOB 10A to support the agency OSH program.

(b) Implement OSH policies within FOB 10A.

i. The Office of Aviation Medicine (AAM) shall:

(1) Provide medical evaluations, monitoring, and support as required by policy.

(2) Provide policy development technical support to the Office of Environment and Energy.

(3) Make recommendations on OWCP injury claims and light duty assignments.

(4) Develop procedures to maintain occupational safety and health medical surveillance records in accordance with OSHA regulations and FAA policy.

(5) Ensure that adequate funds are requested to administer the medical surveillance programs that are required by OSHA.

(6) Ensure that appropriate medical surveillance information is coordinated with OSH program managers.

j. The NAS Transition and Integration Program (ANS) within the Airway Facilities Service (AAF) shall:

(1) Manage, coordinate, and direct the implementation of the FAA OSH program across lines of business/staff office boundaries.

(2) Request, allocate, and budget for all prioritized Facilities and Equipment (F&E) OSH requirements necessary for program implementation and management. Include all areas appropriate for F&E funding across lines of business and staff offices in accordance with the 2500 budget series orders.

(3) Develop guidance and planning documents to implement the FAA OSH program.

(4) Identify and prioritize requirements for all FAA OSH training. Assist the Resources Management Program (AFZ) in developing training.

(5) Provide technical support to ensure that OSH considerations are included in the life cycle management process.

(6) Provide technical assistance as appropriate to appropriate AF organizations to ensure that OSH guidance is included in AF technical and maintenance orders and related publications.

(7) Provide technical support in the development of Acquisition Management System (AMS) implementation procedures to incorporate all standards into requirements documents, contracts (including pre-contract awards), designs, and acceptance testing protocols.

(8) Provide technical support in the development of AMS requirements documents that reflect concerns such as, but not limited to, minimizing employee exposures, hazardous component disposal, safe operations/maintenance, system safety, and human factors.

(9) Provide technical assistance as needed to all national headquarters, regional, and center organizations on OSH implementation issues.

(10) Provide periodic updates to national headquarters management on OSH program progress, potential problems, and trends.

(11) Provide technical assistance as needed to headquarters building management on matters dealing with the safety and health of headquarters personnel.

(12) Provide technical or programmatic advice and/or assistance to ARA for OSH issues related to FOB 10A as necessary.

k. The Spectrum Policy and Management Program (ASR) within AAF shall:

(1) Serve as the agency focal point for information about ionizing and nonionizing radiation emission characteristics of all FAA-owned or -leased equipment.

(2) Coordinate with ANS in evaluating potential health hazards associated with employee exposure to radiation emissions from FAA-owned or -leased equipment.

(3) Assist AEE in developing and revising policy on employee exposure to radiation hazards related to FAA-owned or -leased equipment.

(4) Incorporate radiation safety into frequency spectrum engineering practices and when developing telecommunications and network planning.

(5) Ensure funds are requested to conduct surveys, training, and special studies.

(6) Ensure Frequency Management Officers schedule periodic radiation surveys and coordinate the scheduled and special request surveys with the RPMES's and/or ROSHM's/COSHM's.

l. The Resources Management Program (AFZ) within AAF shall:

(1) Serve as the agency's primary focal point for development, execution, and tracking of centralized OSH training across the lines of business in accordance with priorities set by ANS.

(2) Ensure funds are requested for OSH training requirements.

13. RESPONSIBILITIES OF THE REGIONS AND CENTERS.

a. Regional Administrators, AXX-1; Director, Mike Monroney Aeronautical Center (AMC-1), and Director, William J. Hughes Technical Center (ACT-1) shall:

(1) Provide top management commitment and support for the OSH program, to include the enforcement of safety regulations.

(2) Ensure that the Centers' (AMC and ACT responsibility only) programs address OSH requirements in the planning, funding, and operation process.

(3) Incorporate applicable OSH requirements into specifications as well as contracts for inspection, construction, maintenance, and replacement of airway systems, facilities, and equipment; and acquisition of goods and services.

(4) Designate an executive level safety and health official as the DR/CSHO based on respective region/center needs and preferences.

(5) Ensure adequate funds and resources are requested to comply with applicable OSH policies and regulations like training, travel, and PPE. These requests should be made through the appropriate line of business and according to the 2500 budget series orders.

(6) Provide OWCP information to ROSHM's/COSHM's and regional flight surgeons for accident prevention purposes.

(7) Incorporate OSH requirements into existing and future technical training courses provided by the Aeronautical Center. (AMC responsibility only.)

b. Regional Airway Facilities Division Manager, AXX-400, Facility Management Program Director, AMP-1, and Facilities Services and Engineering Program Director, ACT-600 shall:

(1) Provide top management commitment and support for the OSH program.

(2) Manage and coordinate the implementation of the region/center OSH program across division/staff office boundaries to include planning and funding functions, as applicable.

(3) Assist division/staff offices in implementing the OSH program in their organizations.

(4) Ensure region/center resource requirements for OSH programs identified by all divisions are submitted to ANS.

(5) Provide an adequate number of technically qualified staff to support the region/center OSH program.

(6) Ensure procedures are in place to respond to employee reports of imminent danger or other immediate hazard concerns to protect employee safety. (Chapter 9, Reports by Employees on Hazardous Conditions)

(7) Ensure that written guidance and procedures are in place to expedite the notification of safety-related accidents, fatalities, and incidents to the emergency operations center or facility.

c. Regional Flight Surgeons (AXX-300) shall:

(1) Implement medical surveillance requirements in their region or center in accordance with this order and any written guidance provided by stakeholders; e.g., ANS.

(2) Ensure that funding for occupational medical services, including periodic medical monitoring, is addressed in the budgetary review process or elevated to the National Occupational Medicine Surveillance Program Oversight Team (NOMSPOT) in accordance with paragraph 1206.

(3) Ensure that occupational medical monitoring services are provided to all FAA employees who have been determined by AXX-400 as meeting regulatory requirements for inclusion in the region/center medical surveillance program. When there is a disagreement on the criteria or indications for examinations, the issue shall be resolved in accordance with the region/center OSH program and AAM guidance.

(4) Review available industrial hygiene exposure monitoring and/or related job hazard analyses prior to providing medical services.

(5) Coordinate changes to the region/center medical surveillance program with AAM and AXX-400.

(6) Provide AXX-400 with the results of employee medical monitoring for use in determining procedures to take to eliminate employee exposure to toxic and hazardous materials.

d. All Regional and Center Division Managers shall:

(1) Provide top management commitment and support for the agency OSH program.

(2) Implement OSH policies within their respective organization.

(3) Ensure that adequate funds and resources are requested in order to comply with applicable OSH policies and regulations like training, travel, and PPE. These requests should be made through the appropriate line of business and according to the 2500 budget series orders.

(4) Ensure all divisional programs and projects address current OSH requirements.

(5) Designate a representative as a contact point to work with the ROSHM/COSHM on OSH issues.

(6) Require supervisors to identify employee OSH training needs and provide input during the annual budget formulation.

(7) Provide appropriate representation and participation in the regional OSHECCOM.

(8) Appoint and train collateral duty safety personnel to assist in OSH program responsibilities.

14. RESPONSIBILITIES OF ALL FAA SUPERVISORS AND EMPLOYEES.

a. All Supervisors shall:

(1) Ensure that workplaces are inspected to identify and correct hazards and that completed job safety analyses (JSA) are available for appropriate work practices. Ensure that the results of the inspections and JSA's are documented and maintained in accordance with OSHA standards.

(2) Ensure that all employees are trained in safety awareness and in safety precautions appropriate for their assigned tasks. Ensure the training records are documented and maintained in accordance with OSHA standards.

(3) Enforce safety rules and regulations and require the use of PPE when its use is dictated by job requirements.

(4) Ensure that accidents are investigated and that reports are completed to determine why they occurred. (Chapter 7, Accident Reporting and Investigation)

(5) Utilize the safety committee, collateral duty, and other occupational safety and health personnel as a source of advice and assistance.

(6) Ensure that all work-related injuries and illnesses are reported in accordance with prescribed procedures.

(7) Ensure annual inspections are conducted and documented.

(8) Provide commitment to the safety and health program.

b. All FAA Employees shall:

(1) Observe safe work practices, including the use of PPE, and comply with FAA and OSHA safety and health policies and standards.

(2) Promptly report unsafe and/or unhealthful working conditions, situations, work-related injuries, illnesses, and accidents to supervisors. (Chapter 9, Reports by Employees on Hazardous Conditions)

(3) Attend applicable OSH-related training sessions and committee meetings and comply with medical surveillance requirements.

(4) Provide commitment to the safety and health program.

15-199. RESERVED.

CHAPTER 2. WORKPLACE INSPECTIONS, ABATEMENT PROGRAMS, AND VARIANCES

200. GENERAL.

a. Designated OSH personnel shall inspect all FAA workplaces at least annually to ensure safe and healthful working conditions. OSH workplace inspections shall occur at appropriate times and utilize methods that preclude or minimize disruption of the FAA's mission and operations.

b. Designated OSH personnel are:

(1) OSH Professionals: safety specialists, safety managers, safety engineers, or industrial hygienists; or equally qualified agency, military, or non-Government personnel who meet the basic qualifications of the above classifications as defined by AHR standards and recommended by the region/center occupational safety and health manager.

(2) Collateral Duty Safety and Health (CDSH) Personnel: personnel having appropriate OSH training and experience to perform general workplace safety inspections.

201. INSPECTION OF WORKPLACES. Each FAA facility, including offices, shall be inspected by technically qualified safety personnel, who possess appropriate equipment to recognize unsafe and unhealthful working conditions in that workplace. For an OSHA inspection, a "facility" is a single physical location where business is conducted or where services or operations are performed. Facility managers are responsible for ensuring each facility is inspected. Inspections may occur concurrently with regularly scheduled maintenance. Inspection findings shall be documented.

a. Workplaces and agency facilities shall be categorized as a general workplace or increased risk workplace based upon an evaluation of the operations by OSH professionals. A list shall be maintained of increased risk workplaces. For each of the increased risk workplaces, a list of associated facilities shall be identified; e.g., *facility (*ARTCC), *workplace* (battery room), *location or room number* (basement). The list shall be updated at least annually with the revision date documented. However, workplaces shall be added to the increased risk list as soon as it is indicated that conditions change and the risk increased; i.e., accident reports, medical monitoring results, construction projects, etc.

b. Increased risk workplaces shall be inspected at least twice a year by an OSH professional. Regions/centers shall follow implementation guidelines established by FAA headquarters for classification of increased risk workplaces.

c. Non-FAA workplaces in which FAA personnel are present for short duration; e.g., air carrier establishments, do not require annual OSH inspections. However, provisions will be made to ensure the safety and health of FAA employees while in the contractor facility. Annual inspections are required for workplaces not owned by the FAA, in which FAA personnel are assigned on a full-time basis, e.g., ATCT. OSH personnel will ensure inspections are conducted. The responsibilities and conditions for the inspections will be delineated in real property agreements.

d. Additional inspections may be conducted beyond those required above, in order to ensure program viability and the elimination of hazards. These inspections may be announced or unannounced.

e. Inspections shall be conducted in accordance with 29 CFR 1960 and in a manner to preclude unreasonable disruption of the operations of the workplace and shall be consistent with the established and written region/center OSH program.

f. Documentation will be prepared by the inspector for each workplace inspection and made available upon request by region/center, headquarters, or authorized employee representatives.

g. Documentation shall contain, at a minimum, date of inspection, deficiencies, applicable regulatory references, abatement plans, name of inspector, and any other information as required by the region/center OSH program. Inspectors are encouraged to document proactive initiatives. Inspections uncovering no findings will be documented with date of inspection and name of inspector. Electronic systems may be used as documentation to facilitate the recording of the inspection. Documentation shall be maintained in accordance with 29 CFR 1960.

h. Notices of Unsafe or Unhealthful Working Conditions will be prepared, issued, and posted in accordance with 29 CFR 1960 and consistent with the established and written region/center OSH program.

202. ABATEMENT OF UNSAFE AND UNHEALTHFUL CONDITIONS AND PRACTICES.

a. An abatement plan is required for all unsafe and unhealthful conditions found during an inspection, reported by employees, or identified through other means; i.e., accidents, construction activities, system safety analysis, etc., which cannot be corrected within 30 calendar days. Responsibilities for the abatement plan will be established by the region/center OSH program.

b. The abatement plan will contain at the least the following standard data:

(1) Date of hazard.

(2) Location of hazard.

(3) Description of hazard.

(4) Estimated hazard severity and accident probability.

(5) Interim control measures.

(6) Description of the abatement action, including estimated cost and completion date.

(7) Closeout statement, indicating completed abatement action, actual cost, and date of completed action.

c. Abatement plans will be reviewed and followed up per 29 CFR 1960.30 by designated OSH personnel and kept in a central location as stated in the region/center OSH program.

203. VARIANCES. Variances from accepted OSHA standards may be requested in certain cases. Variances must clearly demonstrate an equivalent or greater level of employee protection.

a. Variance requests shall be reviewed in accordance with the established region/center OSH program and forwarded to ANS for initial processing. The written request will include:

(1) Description of the adverse condition.

(2) Identification of the applicable safety and health standard.

(3) Rationale for noncompliance.

(4) Description of the proposed alternative action.

(5) Explanation of how the alternative action will provide equivalent or greater protection.

(6) Description of interim protective measures until a decision is made by Washington headquarters and the Secretary of Labor.

b. ANS will review the variance request for adequacy and recommend whether or not it should be forwarded to the Secretary of Labor. ANS will forward the request to AEE for review and approval by the DASHO and official transmittal to the Secretary of Labor.

c. Requests not meeting equivalent protection criteria shall be returned by the office denying the request to the originator with an explanation for nonapproval.

204-299. RESERVED.

CHAPTER 3. SAFETY AND HEALTH ORGANIZATION

300. GENERAL ORGANIZATION. An effective safety and health organization shall provide the roles, responsibilities, and authorities necessary to furnish each FAA worker with conditions of employment and a workplace free from recognized hazards. The organizational roles, responsibilities, and authorities shall be specified and implemented and periodically reviewed and revised as necessary.

a. Communications. Safety and health responsibilities must be defined in a formal statement and communicated so that managers, personnel, and safety and health staff understand their responsibilities.

b. Formal Organization Systems. Job descriptions of safety and health personnel shall clearly delineate responsibilities and reflect existing duties. Safety and health performance measures shall be job specific, and staff functional performance shall be evaluated during performance reviews.

c. Staffing. Full-time and collateral safety and health personnel shall be assigned to execute the safety and health program adequately. The operation unit's total safety and health mission, goals, and objectives must be considered in determining the required number of personnel.

301. REGION/CENTER SAFETY AND HEALTH PROGRAM. Each region/center organization's safety and health program will have standard safety and health program functions and tasks as part of the normal daily routine. The elements of a comprehensive safety and health program shall include:

a. Principal staff advisors, consultants, and coordinators for planning, organizing, directing, and evaluating region/center safety and health efforts.

b. Guidance for developing and implementing occupational safety and health plans and procedures according to OSHA regulations and FAA policy.

c. Policies and procedures to be used by regional and center managers and supervisors for unique activities.

d. Resources necessary to perform the OSH program.

e. Procedures to obtain professional assistance to eliminate unsafe or unhealthful conditions.

f. Procedures to assist supervisors in carrying out their safety and occupational health responsibilities.

g. Procedures for obtaining technical assistance in accident investigation and reporting according to FAA policy.

h. Accident data collection, analysis, and document preparation procedures.

i. A method to track completion of corrective measures or recommendations as appropriate to ensure a safe and healthful workplace.

j. Procedures to ensure safe practices and physical standards are incorporated into operating manuals, procedures, directives, and plans and that the documents are kept current.

k. Procedures for reviewing emergency plans.

l. Occupational safety and health training at all levels.

m. Close coordination with other FAA divisions and branches on safety-related issues.

n. Requirements for routine inspections and evaluations of safety programs and activities in accordance with chapter 1.

o. Procedures for performing planning and in-process engineering reviews for operations impacting worker OSH programs.

p. Liaison with counterparts in other Federal, state, or local agencies, ensuring cooperation on mutual interest issues.

q. Occupational safety and health reference material.

r. Requirements for membership on planning boards, ensuring existing and potential occupational safety and health issues are addressed.

302. POLICIES AND PROCEDURES.

a. The FAA employee safety and health program shall include clear written policies and procedures that provide appropriate direction and guidance. FAA policies and procedures shall be accessible to all personnel. Copies of safety and health standard operating procedures shall be available at each workplace, or, at a minimum, a central location, on the Internet, or on E-mail.

b. Routine procedural reviews shall be conducted as needed for changes in internal procedures or as a result of changes in safety and health regulations or FAA directives.

c. The FAA encourages the full support and participation of each employee in the Occupational Safety and Health Program. No employee shall be subject to discrimination, reprisal, or restraint as a result of his or her participation in the FAA Occupational Safety and Health Program.

303. PLANNING AND DECISIONMAKING PROCESS.

a. Each operating level shall systematically prepare budgets and financial plans to ensure appropriate financial and human resources are available to implement the OSH program.

b. Organizations shall conduct periodic safety and health reviews for all capital projects, research and development projects, and all major maintenance modifications.

304-399. RESERVED.

CHAPTER 7. ACCIDENT REPORTING AND INVESTIGATION

700. GENERAL. This chapter outlines FAA requirements that are based on 29 CFR 1960.29 and 29 CFR 1960.66 through 70. Refer to these sections of the OSHA regulations if clarification is needed. Region/center OSH programs shall provide all reports as referenced in this chapter to ANS and AEE upon request.

701. MISHAP INVESTIGATION.

a. Mishaps include reportable occupational injuries and illnesses (see paragraph 702, Reporting of Occupational Injuries or Illnesses) as well as other accidents that result in no injury or are limited to property damage.

b. All mishaps shall be investigated when the hazard presents the potential for a future injury or significant property loss.

c. The purpose of mishap investigation is to reduce the potential for future repeats. All cause factors must be determined and fully explored.

d. The supervisor directly responsible for the operation, material, or persons(s) involved in the accident shall investigate and provide a written report of the results using Figure 7-1, FAA Form 3900-6, FAA Mishap Report. Guidance and consultation will be provided by the OSH professionals as designated by the region/center OSH program.

e. Form 3900-6 (or succeeding form) shall be forwarded to the OSH professional as designated by the region/center OSH program.

702. REPORTING OF OCCUPATIONAL INJURIES OR ILLNESSES.

a. Process.

(1) Employees shall notify supervisors of mishaps as soon as possible.

(2) Supervisors shall complete reports as indicated in paragraph 702b.

(3) Supervisors shall determine the mishap classification; e.g., injury, illness, or property damage.

(4) Supervisors shall require an entry be made on the OSHA Log 200 (or successor) when the mishap involves:

(a) Death

(b) An injury resulting in 1 or more days of lost time

(c) Loss of consciousness

(d) Bodily restriction or loss of motion

(e) Transfer to another job or light duty

(f) Medical treatment beyond first aid, or

(g) An occupational illness

(5) OSH professionals shall ensure that FAA Form 3900-6 reports are sufficiently complete to facilitate hazard identification and trend analysis.

b. Reports.

(1) After employee notification, supervisors shall contact the OSH professional as designated by the region/center OSH program so the OSHA reporting requirements can be met. Supervisors shall complete FAA Form 3900-6 for all occupational injuries and illnesses and either CA-1 (for injuries) or CA-2 (for illnesses).

(2) Form 3900-6 shall be forwarded to the OSH professional as designated by the region/center OSH program.

(3) Forms CA-1 and CA-2 shall be forwarded to the FAA Workers' Compensation Specialist if the injury or illness results in lost time or medical expenses (actual or anticipated).

c. Timelines.

(1) Mishap and Workers' Compensation forms shall be forwarded when all information has been obtained, but in no case later than 30 days after the date of notification.

(2) Supervisors shall notify the OSHA area office of any death or the in-patient hospitalization of three or more employees involved in one incident within 8 hours after the incident. In addition, supervisors shall also notify the OSH professional as designated by the region/center OSH program as soon as possible, and the OSH professional shall make a report to ANS and AEE within 24 hours. AEE will formally report to OSHA.

703. RECORDKEEPING. Facility managers shall maintain the OSHA Log 200 (or successor) for a period of 5 years.

704. FATAL AND CATASTROPHIC ACCIDENTS.

a. Supervisors shall complete a CA-6 form for all deaths and forward through the appropriate AHR office to OWCP.

b. The AXX-400, AMP-1, or ACT-1 shall appoint an investigation team when an on-duty death or the hospitalization of three or more employees occurs as the result of a single accident.

(1) The team will prepare a written report and forward it through the OSH professional as designated by the region/center OSH program to ANS and AEE within 15 days after completing the investigation.

(2) Procedures to be used by the investigation team will be developed by the region/center OSH program, depending on the type of accident.

c. Investigation reports shall include appropriate documentation, photographs, employee interviews, witness reports, measurements, and other pertinent information. A checklist of items to be covered in the narrative report is shown as Figure 7-2, Checklist of Information to be Included in the Accident Investigation Report.

d. Report copies will be provided to the facility supervisor or manager, the appropriate OSH committee, AXX-400, regional administrator, center director, and national headquarters. Appropriate distribution will be made in accordance with the region/center OSH program. If requested, the report shall be available to the Secretary of Labor or his/her representative.

705-799. RESERVED.

Figure 7-1. FAA Form 3900-6, FAA Mishap Report

FAA Mishap Report

Incident Description: _____
OSHA Recordable? Yes ☐ No ☐
Incident Date: _____ MM/DD/YY

Incident Information

Who

Employee: _____
Social Security # _____
Office Symbol _____
Facility Type: _____
Job Title: _____

What

Incident Type: Illness ☐ Injury ☐ Property Damage ☐ Motor Vehicle ☐
General Task: _____
Specific Activity: _____

Where

General Location: _____
Specific Location: _____
On Premises: ☐

Injury/Illness Information

Description of Injury/ Illness: _____
Injury Type: _____
Body Part: _____
Injury Source: _____
Event: _____
Illness Type: _____
Physician (optional): _____
Hospital (optional): _____
Medical Treatment? Yes ☐ No ☐
Days Lost: _____ End Date: _____ MM/DD/YY
Restricted Days: _____ End Date: _____ MM/DD/YY
Fatality: ☐ Date of Death: _____ MM/DD/YY

Claims Information

Claim Number: _____
Attorney: _____
City/State/Zip: _____
Insurance Company _____
City/State/Zip: _____
Name of Witness: _____
Claim Type: Medical☐ Indemnity☐ Litigated☐ Rehab☐ Possible Fraud☐

FAA FORM 3900-6 (9/98)

Figure 7-1. FAA Form 3900-6, FAA Mishap Report, contd.

FAA Mishap Report

Claims Information (continued)

FAA Property Damage: _____

Non-FAA Property Damage: _____

Additional Information

Years of FAA Employment: _____Years

Years of Skill in Occupation: _____Years

Employee Category: _____

Performing Usual Job? ☐

Usual Occupation: ☐

Working Alone? ☐

Crew Size: _____

Time of Incident: _____

Shift: _____

Supervisor's Name: _____

Supervision Provided? _____

Secondary Source of Injury: _____

Hazard Source: _____

Property Damage: Yes ☐ No ☐ _____

Vehicle Damage: Yes ☐ No ☐ Vehicle Damage Cost _____

Vehicle Make _____ Vehicle Model _____ Tag ID _____ State _____

Incident Type: First Aid ☐ Near Miss ☐ Illness ☐ Injury ☐

Additional Incident Description

_____

_____

_____

Additional Injury Illness Description

_____

_____

_____

Additional Claim Description

_____

_____

_____

FAA FORM 3900-6 (9/98)

Figure 7-2. CHECKLIST OF INFORMATION TO BE INCLUDED IN THE ACCIDENT INVESTIGATION REPORT

When preparing the narrative investigation report of the accident/incident, the following should be considered for inclusion:

_____ Region, Organizational Routing Symbol
_____ Unit Name
_____ Location of Accident/Incident
_____ Date and Time of Accident/Incident
_____ Name of Individual(s) Involved in Accident/Incident
_____ SSN, Age, Sex
_____ Grade and Job Title
_____ Task assigned during incident (if applicable)
_____ Total experience in the field
_____ Experience in this area
_____ Nature of Injury/Illness
_____ Part of body affected
_____ Severity
_____ Narrative of events, including cause. Also include or consider:
- _____ Facility Type
- _____ Equipment Involved
- _____ Contaminants (if applicable)
- _____ Weather (if applicable)
- _____ Phase of Operation
- _____ Seat belt used? (If applicable)
- _____ Was personal protective equipment used? (if applicable)
- _____ Was fatigue a factor?
- _____ Were drugs or alcohol involved?
- _____ Any other human behavior factors involved?
- _____ Number of personnel exposed (if applicable)
- _____ Did injured party attend safety training? If so, when?
- _____ Name of individual operating equipment/vehicle other than injured party
- _____ Operator's total experience
- _____ Operator's total experience with type of equipment/vehicle
- _____ Actual Days Off
- _____ Actual Days Restricted
- _____ Were Forms CA-1, CA-2, and CA-6 completed and processed?
- _____ Personnel costs
- _____ Government property involved (ID/serial number) and estimated damages
- _____ Additional property involved (ID/serial number) and estimated damages
- _____ Liability Claimed
- _____ Operational days lost
- _____ Corrective Action Taken or Planned
- _____ Name and Title of individual preparing the report
- _____ Report Date

CHAPTER 9. REPORTS BY EMPLOYEES ON HAZARDOUS CONDITIONS

900. GENERAL. This chapter is a condensed version of 29 CFR 1960.28. Refer to this CFR section if clarification is needed. Employee reports are designed to identify the existence of, or potential for, unsafe or unhealthful working conditions expeditiously. Once identified, the corrective action can be taken and completed. These reports are not to be used as grievances, nor should any employee fear any retribution from filing a legitimate report. Employees who believe an unsafe or unhealthful condition exists in their workplace are encouraged to report these conditions to their supervisor or to the appropriate safety and health official, and to request a workplace inspection. Employees who make a report may request their name be withheld.

901. EMPLOYEE REPORT OF HAZARDOUS CONDITION. Employees may report unsafe or unhealthful conditions either orally or in writing.

a. Process.

(1) The initial report shall be submitted to the immediate supervisor.

(2) The supervisor will notify the OSH professional as designated in the region/center OSH program.

(3) The OSH professional will ensure the report is written and entered into an appropriate log. The log will be provided to AXX-400, AMP-1, or ACT-600 for inclusion in the region/center OSH program documentation.

b. Reports.

(1) Initial report by employee shall contain the following information:

(a) Description of the hazard (include equipment name and system name, if applicable).

(b) Location of the reported unsafe or unhealthful condition.

(c) The employee name or name of the representative of the employee (the report may be submitted anonymously).

(d) Date and time when condition was found.

(e) Other information as deemed appropriate (e.g., suggested corrective action).

(2) Supervisor's Report.

(a) At a minimum, the initial report from the employee.

(b) Approximate number of employees affected.

(c) Date reported to the supervisor.

(d) Suggested corrective action.

(e) Actions taken/status.

(3) OSH Professional's Report.

(a) Indicate on the supervisor's report whether the condition is imminent danger, serious, or other.

(b) Assign a log number to the report.

(4) Log Report.

(a) A file or reference number.

(b) Date and time of receiving a complaint.

(c) Location of the alleged hazardous condition; e.g., facility name, city, and state.

(d) A brief description of the alleged condition.

(e) Hazard classification; e.g., imminent danger, serious, other than serious.

(f) Date and nature of action taken.

c. Timelines.

(1) Imminent danger and serious conditions will be reported immediately.

(2) All others will be reported as soon as possible.

(3) Inspections and employee notification will be performed in accordance with the requirements set in 29 CFR 1960.28. These include the following:

(a) The ROSHM will inspect the workplace within 24 hours for reports of imminent danger conditions; within 3 working days for potentially serious conditions; and within 20 working days for other than serious safety and health conditions. An inspection may not be necessary if, through normal management action, the identified hazardous condition can be abated immediately.

(b) An employee reporting unsafe or unhealthful conditions shall be notified in writing within 15 calendar days if it is determined that no hazards exist and no inspection is planned based on the report. A copy of the notification will be provided to the field OSHECCOM committee. If an inspection or investigation is performed, the results shall be made available to the employee making the report within 15 calendar days after completion of the inspection for safety violations, or within 30 days for health violations.

(c) A copy of the employee reports of hazardous conditions logs for each facility shall be collected by each regional division manager and forwarded to the ROSHM, who shall forward the logs to ANS and AEE by January 15 of each year.

902. ALLEGATIONS OF REPRISAL All employees are protected from coercion, discrimination, or reprisals for filing a report of an unsafe or unhealthful working condition; for participation in the FAA OSH program; or for declining to perform his or her assigned task because of a reasonable belief the task poses an imminent risk of bodily harm or death (see 29 CFR 1960.46(a)). Employees may report allegations of reprisal orally or in writing to the ROSHM (Washington headquarters employees should file reports with ARA). The ROSHM will investigate these allegations and initiate appropriate action in accordance with procedures in the region/center OSH program. A copy of the investigation will be furnished to AEE within 30 days after completion of the investigation for forwarding to the Secretary of Labor.

903-999. RESERVED.

CHAPTER 10. FALL PROTECTION PROGRAM

1000. GENERAL. The purpose of a fall protection program is to protect employees working at elevated heights from injuries or death due to a fall. The Department of Labor lists falls as one of the leading causes of traumatic occupational death, and OSHA estimates that there are at least 68,000 fall-related injuries annually in the construction industry alone. Fall protection standards are outlined in OSHA General Industry Standards under 29 CFR 1910.23 - 1910.29 and in OSHA Construction Standards under 29 CFR 1926, Subpart M, Fall Protection, 29 CFR 1926.104, Safety Belts, Lifelines, and Lanyards, 29 CFR 1926.105, Safety Nets, and 29 CFR 1926.106, Working Over or Near Water. National consensus standards also provide guidelines for technical issues related to fall protection and elevated work surface exposures and associated controls. Figure 10-1, Cross References to OSHA and national consensus standards, contains a cross reference of applicable American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) standards to OSHA.

1001. SCOPE. This chapter applies to all FAA personnel. This includes, but is not limited to, personnel performing work on elevated work sites, personnel involved in design and acquisition, etc.

1002. DEFINITIONS.

a. Competent person. A person who, because of training and experience, is capable of providing program oversight. This includes identifying hazardous conditions in personal fall arrest systems or any component thereof as well as in their application and use with related equipment. This person is considered an expert climber, and has a potential exposure to falls due to the complexity of work being performed at these heights.

b. Ladder safety system. An assembly of components whose function is to arrest the fall of a user, including the carrier and its associated attachment elements (brackets, fasteners, etc.), safety sleeve, body support and connectors, wherein the carrier is permanently attached to the climbing face of the ladder or immediately adjacent to the structure.

c. Personal fall arrest system. A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

d. Qualified person. An individual with a recognized degree or professional certificate and extensive knowledge and experience in the subject field, who is capable of design, analysis, evaluation, and specifications in the subject work, project, or product (e.g., structural engineers, designers). This person must be an expert climber if job duties require climbing.

e. Qualified climber. An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs standard structures that meet OSHA standards and are equipped with appropriate fall protection to perform routine tasks, and the climber is constantly protected by attachment to a ladder safety device or by a guardrail. This person performs construction activity using ladders and scaffolds below 10 feet.

f. Expert climber. An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs standard structures that are not equipped with climbing safety devices; performs work at elevated sites (i.e., platforms, antenna cross members, top or back of radar antennas, etc.) that do not meet OSHA standards for walking/working surfaces; or is required to perform construction activity above 10 feet (i.e., use of portable ladders or scaffolds). This person is considered a qualified climber.

1003. PROGRAM ELEMENTS. All FAA regions and centers, the NAS Implementation Engineering Center and Service Centers, and other region and center headquarters organizations who have employees exposed to fall hazards shall develop a fall protection program that includes the following elements:

a. Identification of Fall Hazards. Surveys of facilities shall be conducted and documented to identify fall hazards associated with all elevated work areas by persons who have received training and are qualified to identify and recognize such hazards.

b. Hazard Evaluation and Control.

(1) Existing and potential hazards of each elevated work surface shall be identified and procedures established by a competent person to ensure safe working conditions.

(2) Written fall protection procedures shall be developed to address non-routine (based upon employee risk and familiarity with operations) climbing operations or when the use of conventional fall protection systems are not feasible or create a greater hazard in use (e.g., during construction or modification of elevated work areas). The plan shall address applicable procedures like one-person and multi-person climbing operations, requirements for radio and/or telephone communications, special logistics for remote locations, and emergency rescue procedures. Fall protection procedures for construction-related activity must conform with the requirements of 29 CFR 1926.502.

c. Engineering Assessments. All elevated work surfaces shall be designed, constructed, and maintained to ensure that they support their maximum intended load. When surveys identify potential deficiencies with a structure or system, a determination shall be made by a qualified person to ensure that the surface has the strength and structural integrity to support employees working on them. When exposure to a fall hazard cannot be prevented through engineering controls (e.g., platforms, guardrails) or the use of elevated work platforms, fall arrest equipment shall be used. A qualified person shall evaluate modifications or installations of fall arrest systems to elevated work structures to ensure that the fall arrest systems perform as intended.

d. Selection of Equipment.

(1) Selection of fall protection equipment shall be approved by a competent or qualified person. All equipment shall meet applicable OSHA and ANSI standards and must be suitable for the work intended.

(2) Cages and wells. On fixed ladders installed later than 1 year following the effective date of this order, cages and wells are prohibited on fixed ladder installations over 20 feet in length, unless it can be shown by a competent person that they are the only feasible means of protection.

(3) Personal Fall Arrest System (PFAS). Personal fall arrest systems shall meet applicable OSHA and ANSI requirements and shall be selected by competent persons to match the particular work conditions and environment. Full body harnesses shall be worn unless alternative protection is approved by a competent person. Body belts are not acceptable as part of PFAS.

(4) The following factors shall be considered when selecting equipment and systems:

(a) Maintenance requirements.

(b) Performance specifications.

(c) Ease of use and worker productivity.

(d) Environmental conditions.

(e) Installation (e.g., anchorage points, structural integrity).

e. Maintenance and Inspection.

(1) All equipment and systems shall be inspected and maintained in accordance with manufacturer's specifications and OSHA and ANSI standards.

(2) Any PFAS with signs of damage, impact loading, or significant component defect shall be withdrawn from service immediately and evaluated for serviceability by a competent person or replaced.

(3) Maintenance and inspection activities shall be documented.

(4) All equipment and systems should be thoroughly inspected before each use.

f. Training and Qualifications.

(1) Employees shall receive training to recognize the hazards associated with elevated work surfaces and fall hazards in their area of operation and the procedures to follow to minimize these. Training shall be conducted by a competent person in accordance with OSHA regulations, ANSI requirements, and the manufacturer's instructions. The level of training shall be consistent with an employee's job assignment as a qualified climber, expert climber, competent person, or qualified person. Figure 10-2, FAA Elevated Work Surface Job Categories, summarizes requirements for each level of climber.

(2) Refresher training shall be conducted whenever an employee who has already been trained does not have the understanding or demonstrated skill required by this chapter (e.g., due to changes in the workplace or changes in the types of fall protection systems or equipment to be used).

(3) All training shall be properly documented in the agency's official training information system. Documentation shall include a written certification record that contains the name or other identifier of the employee trained, the date(s) of the training, and the signature of the competent person who performed the training.

(4) Employees shall be physically capable of performing assigned job duties and shall receive medical evaluations consistent with AAM guidance.

g. Emergency Rescue Procedures. Emergency and rescue procedures, consistent with the nature of the operations and the conditions of the elevated space, shall be established to rescue an employee should an emergency occur. Procedures shall include methods for summoning rescue and emergency services, for rescuing employees from heights, and for providing necessary medical services in a timely fashion.

h. Facilities, Systems, and Equipment Acquisitions. Fall protection requirements shall be incorporated as early as possible in all design, construction, renovation, maintenance, and other projects and programs. New facilities shall have fall protection meeting OSHA requirements built in to the system (e.g., approved tie-off points are permanently identified prior to commissioning). A qualified person or a competent person and, as appropriate, planners and engineers shall ensure designs and plans properly indicate location and type of fall arrest systems to be installed and that approved tie-off points are permanently identified prior to commissioning.

i. Contracts.

(1) All contracts issued for work involving elevated surfaces must contain a provision that contractors must have a fall protection program in accordance with OSHA and state requirements. Safety programs shall be submitted in accordance with contract requirements.

(2) Contractors must provide their own appropriate fall arrest equipment and training. FAA will not issue fall protection equipment to contractors.

1004-1099. RESERVED.

Figure 10-1. CROSS REFERENCES TO OSHA & NATIONAL CONSENSUS STANDARDS

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Ladders	1910.25 Portable Wood Ladders 1910.26 Portable Metal Ladders 1910.27 Fixed Ladders	ANSI A14.1, Safety Requirements for Portable Wood Ladders ANSI A14.2, Safety Requirements for Portable Metal Ladders ANSI A14.3, Safety Requirements for Fixed Ladders ANSI A14.4, Safety Requirements for Job-Made Ladders ANSI A14.5, Safety Requirements for Portable Reinforced Plastic Ladders
Step Bolts and Manhole Steps	1910.27 Fixed Ladders	ASTM C478, Specifications for Precast Reinforced Concrete Manhole Sections ASTM A394, Specifications for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners
Stairs	1910.24 Fixed Industrial Stairs	ANSI A64.1, Requirements for Fixed Industrial Stairs
Ramps and Bridging Devices	1910.30 Other Working Surfaces 1910.37 Means of Egress, General	ANSI MH14.1, Industrial Loading Dock Levelers and Dockboards
Work Surfaces	1910.23 Guarding Floor and Wall Openings and Holes	ANSI A58.1, Minimum Design Loads for Buildings and Other Structures ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards
Scaffolds	1910.29 Manually Propelled Mobile Ladder Stands and Scaffolds (towers) 1910.28 Safety Requirements for Scaffolds	ANSI A92.1, Manually Propelled Mobile Ladder Stands ANSI A10.8, Safety Requirements for Scaffolds
Mobile Elevating Work Platforms, Mobile Ladder Stands, and Powered Industrial Truck Platforms	1910.66 Powered Platforms for Building Maintenance 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms	ANSI A92.3, Manually Propelled Elevating Work Platforms ANSI A92.1, Manually Propelled Mobile Ladder Stands

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Fall Protection Systems	1926 Subpart M, Parts: 1926.500 Scope, Application, and Definitions 1926.501 Duty To Have Fall Protection 1926.502 Fall Protection Systems Criteria and Practices 1926.503 Training 1926.105 Safety Nets 1926.106 Working Over or Near Water 1910 Standards: 1910.23 Guarding Floor and Wall Openings and Holes 1910.24 Fixed Industrial Stairs 1910.27 Fixed Ladders 1910.28 Safety Requirements for Scaffolding 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms 1910.268 Telecommunications	ANSI A10.11, Construction and Demolition Operations - Personnel and Debris Nets ANSI A10.14, Requirements for Safety Belts, Harnesses, Lanyards, Lifelines, and Drop Lines for Construction and Industrial Use ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards ANSI A39.1, Safety Requirements for Window Cleaning ANSI Z359.1, Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components

Figure 10-2. FAA ELEVATED WORK SURFACE JOB CATEGORIES

How to use this table: Read down the duties column and then select the category furthest down the table in which the employee has one or more duties. That is the minimum level of job category to which the employee must be trained.

CATEGORY	DUTIES	PREREQUISITES
Qualified Climber: Is a person who performs any of the duties specified for this category and has successfully completed the Qualified Climber training	Climbs structures that are 50 feet or less in height. Structures meet OSHA standards. Maintenance tasks performed. Climber always be protected by attachment to a ladder safety device or guardrail.	
Expert Climber: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Expert Climber training. Note: He/she may also be assigned duties specified for the Qualified Climber.	Maintenance tasks performed. Structures more than 50 feet in height. Structure may not meet OSHA standards. Performs construction work, if job duties require regardless of height. Conducts basic elevated work surface inspections, if job duties require.	Physically capable Has successfully completed Qualified Climber training
Competent Person: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Competent Person training. He/she may also be assigned duties specified for the Qualified and/or Expert Climber categories.	Provides program oversight, if job duties require. Selects equipment and systems, if job duties require. Inspects fall protection equipment and systems, if job duties require. Heavy exposure to falls; majority of work performed at heights, if job duties require.	Physically capable Has successfully completed Qualified Climber training Has successfully completed Expert Climber training, if job duties require climbing
Qualified Person: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Qualified Person training. He/she may also be assigned duties specified for the Qualified Climber and/or Expert Climber and/or Competent Person categories.	May have program oversight, if FAA employee. Degreed (i.e., structural or equivalent engineering degree) or holds professional certification in fall protection-related disciplines. Extensive knowledge. Capable of design, analysis, and evaluation. Develops specifications related to work on elevated surfaces and the associated fall protection systems.	Physically capable Has successfully completed Qualified Climber training Has successfully completed Expert Climber training, if job duties require climbing Has successfully completed Competent Person training

CHAPTER 11. CONFINED SPACE ENTRY PROGRAM

1100. GENERAL. The purpose of a confined space program is to prevent injuries to personnel who must enter confined spaces to work. Practices and procedures to protect employees from the hazards of entry into confined spaces are covered under the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA*), Permit-Required Confined Spaces*, 29 CFR 1910.146. The FAA Confined Space Entry Program (CSEP) is designed to enable employees to operate in and maintain a safe confined space work environment. All confined spaces are considered potentially hazardous. Employees will not enter confined spaces until the space has been evaluated by a qualified person to establish the appropriate safety precautions.

1101. SCOPE. This chapter applies to all FAA personnel and contractors. This includes, but is not limited to, personnel performing work in confined spaces, personnel involved in acquisition, design, and construction, etc.

1102. DEFINITIONS.

a. Alternate entry procedures. Procedures utilized for entry when the only hazard or potential hazard presented by the confined space is atmospheric and may be eliminated by the use of continuous forced air ventilation.

b. Confined space. A space that is large enough and so configured that an employee can bodily enter and perform assigned work, has limited or restricted means for entry or exit, and is not designed for continuous employee occupancy. Examples of such spaces include storage tanks, pits, boilers, fuel cells, sewers, underground utility vaults, tunnels, cooling towers, and manholes. Once a known or potential hazard is identified with a confined space, it becomes a permit-required confined space (PRCS).

c. Hazardous atmosphere. An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit (PEL) is published in 29 CFR 1910, Subpart G, "Occupational Health and Environmental Control," or in 29 CFR 1910, Subpart Z, "Toxic and Hazardous Substances," and which could result in employee exposure in excess of its dose or PEL.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

(6) NOTE: FAA policy requires personnel to use OSHA PEL's. Where there are no OSHA PEL's, airborne limits shall not exceed American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values-Time Weighted Averages (TLV-TWA), NIOSH Recommended Exposure Limits (REL), or other published sources, such as material safety data sheets (MSDS), whichever is the more stringent, when making decisions related to personnel exposure to air contaminants.

d. Permit-Required Confined Space (PRCS). A confined space that has one or more of the following characteristics:

(1) Contains or has a potential to contain a hazardous atmosphere.

(2) Contains a material that has the potential for engulfing an entrant; or has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.

(3) Contains any other recognized serious safety or health hazard.

1103. PROGRAM ELEMENTS. The following elements must be developed and implemented.

a. Program Management. A confined space program manager (CPSM) shall be designated to manage the Region/Center Confined Space Program.

b. Written Program. A written confined space entry program (CSEP) must be developed and implemented in accordance with the requirements of 29 CFR 1910.146. The entry program must be made available for inspection by employees and their authorized representatives. The written CSEP must contain the following elements:

(1) Identification of Confined Spaces.. A survey of facilities shall be conducted and documented to identify and classify all confined spaces (permit and non-permit required) that could be entered by employees. A current inventory of spaces shall be maintained for each facility.

(2) Comprehensive Hazard Evaluation and Control. Existing and potential hazards of each space shall be identified and evaluated, and procedures and practices established by which the confined spaces can be entered safely.

(3) Prevention of Unauthorized Entry. Responsible supervisors shall prevent unauthorized entry through such measures as training and by posting signs and barriers, as necessary. The employer shall inform exposed employees by posting danger signs or by any other equally effective means of the existence of and location of the danger posed by the permit spaces.

(4) Permit System. If FAA employees will enter permit-required confined spaces, a written permit system shall be developed in accordance with 29 CFR 1910.146. Prior to entry into any PRCS containing a potentially hazardous atmosphere, the space shall be tested for oxygen content and the presence of toxic or flammable/explosive constituents. During the PRCS entry operation, the permit shall be clearly posted at the site.

(5) Entry Into Confined Spaces. Employees shall ensure that they follow FAA confined space entry procedures whenever entering non-FAA owned spaces.

(6) Entry Procedures. If the hazard cannot be eliminated, but is reduced so that only continuous forced air ventilation is required to permit safe entry, and no other potential hazard may be present, the space may be designated as an alternate entry procedure space and eliminate the requirement for attendants and rescue provisions. PRCS procedures must be followed until the entry supervisor certifies that all alternate entry procedures have been met. The entry shall be documented in accordance with requirements as listed in 29 CFR 1910.146 (c)(5).

(7) Employee Information and Training. All FAA employees who work in or near confined spaces must be properly trained on the hazards likely to be encountered and appropriate safety measures necessary to protect themselves before being assigned to work in accordance with 29 CFR 1910.146(g). Training shall include procedures specific to the employees' job duties and responsibilities (e.g., CSPM, authorized entrant, attendant, entry supervisor, and rescue personnel). All training shall be properly documented. Refresher training will be required whenever there is a change in operation that presents a hazard about which the employee has not been previously trained; and whenever the supervisor believes there have been deviations from entry procedures or there is inadequate knowledge of procedures; or whenever evaluation determines inadequacies in the employee's knowledge.

(8) Emergency Rescue Procedures. Emergency and rescue procedures must be consistent with the nature of the operations and the conditions within the confined space. A written emergency plan, approved by the CSPM, shall be developed and implemented for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary medical services to rescued employees, and for preventing unauthorized personnel from attempting rescue. Emergency rescue teams shall be trained and shall conduct annual permit space rescue drills in accordance with 29 CFR 1910.146(k). Additionally, rescue equipment like tripod, harness, cable, and lift crank shall be provided, as appropriate.

(9) Equipment. Supervisors shall ensure that equipment necessary for safe entry is provided, including calibrating, testing, monitoring, and personal protective equipment, and that it is properly used and maintained.

(10) Contractor Operations. 29 CFR 1910.146 assigns specific responsibilities to both host employers and contractors. FAA contracts shall require contractors to comply with confined space standards and all other applicable Federal, state, and local safety and health regulations.

(a) When contractors perform work that involves entry into FAA-owned permit spaces, FAA contracting representatives shall provide information to the contractor on the FAA confined space program and the hazards associated with the confined space and ensure contractor compliance with 29 CFR 1910.146. FAA contractors performing work in non-FAA-owned spaces, are required to comply with requirements of OSHA and the property owner (e.g., local Port Authority).

(b) During construction work by contractors, consideration shall be given to the creation of confined spaces that FAA personnel may have to enter. Contracts shall require these spaces to be labeled to warn entrants of potential hazards.

(c) FAA personnel shall not permit contractors to use Government-owned equipment to evaluate confined spaces.

c. Facilities and Systems. Confined space requirements shall be considered and incorporated as early as possible in all design, construction, operation, and other projects and programs. Planners and engineers shall ensure all renovations and new designs and plans properly indicate the location of all confined spaces. All new confined spaces must be labeled prior to acceptance and operation.

d. Annual Program Evaluation. An evaluation of the CSEP shall be conducted annually, or whenever the CSPM has reason to believe that the measures taken under the permit program may not sufficiently protect employees, to validate compliance with this chapter. The program shall be revised to correct deficiencies found to exist before additional entries are authorized.

1104-1199. RESERVED.

CHAPTER 12. OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAM

1200. GENERAL. Where the Occupational Safety and Health Administration (OSHA) requires the implementation of medical surveillance of FAA employees, the FAA shall conduct medical surveillance. This chapter establishes the elements of an FAA Occupational Medical Surveillance Program (OMSP), which includes requirements for medical surveillance and industrial hygiene surveillance in FAA workplaces and organizational responsibilities.

1201. BACKGROUND. A relatively small proportion of OSHA regulations include medical surveillance requirements. FAA is committed to identifying the OSHA regulations that apply to its workplaces or work tasks and to provide the requisite employee medical physicals. FAA may also provide additional medical monitoring where OSHA medical surveillance requirements are absent.

1202. GOALS AND OBJECTIVES. The goal of the OMSP is to safeguard employees' health by anticipating and identifying physiological changes in employees related to workplace exposures so that preventive measures can be taken, as well as identifying occupationally induced diseases prior to incapacitating illness.

1203. SCOPE. This chapter applies to all FAA employees whose work duties and/or work environments may expose them to certain occupational hazards that OSHA has identified as requiring medical surveillance. Not included in this program are medical examination requirements for certification of pilots and medical clearance of air traffic controllers. These certification requirements are covered in other organizations' orders and policies.

1204. DEFINITIONS.

a. Allied safety officer. An allied safety officer is an FAA employee who has been assigned full-time or collateral duty safety and health responsibilities, not including the Regional or Center Program Manager for Environment and Safety, Regional or Center Occupational Safety and Health Manager, or FAA headquarters safety and health staff. Examples include Safety and Environmental Compliance Managers (SECM), designated facility safety officers, and safety committee members.

b. American Industrial Hygiene Association (AIHA). The American Industrial Hygiene Association (AIHA) is a membership organization for industrial hygienists. AIHA manages an accreditation program designed for laboratories involved in analyzing samples for the purpose of evaluating workplace exposures.

c. Industrial hygiene surveillance. Industrial hygiene surveillance is performed by a qualified safety and health professional and includes evaluation of employee work practices and work environments with emphasis on identifying occupational health hazards, as required by OSHA regulations and FAA policy.

d. Job hazard analysis. Job hazard analysis is a tool for identifying safety and health hazards associated with specific job tasks. The analysis includes a review of job tasks and of workplace environments as possible contributors to health and safety hazards.

e. Medical surveillance. Medical surveillance is performed under the supervision of a qualified physician and includes periodic medical screening and/or medical monitoring of FAA employees as required by OSHA regulations and FAA policy.

f. National Institutes for Occupational Safety and Health (NIOSH). The National Institutes for Occupational Safety and Health (NIOSH) is a Federal agency under the Department of Health and Human Services. The agency conducts research on health and safety concerns and develops analytical methods for the analysis of air samples collected for determination of employee exposure.

g. Occupational hazard. An occupational hazard is any combination of environmental and/or human factors that can cause sickness, impaired health, or significant discomfort in workers. Examples may include chemicals in solid, liquid, or vapor form; physical agents like noise, ionizing and non-ionizing radiation, temperature and pressure extremes, and vibration; biological hazards like bloodborne pathogens; and ergonomic hazards.

1205. KEY PROGRAM ELEMENTS. FAA shall:

a. Investigate health hazards affecting FAA employees and determine which employees shall be included in or removed from the agency's medical surveillance program as required by OSHA regulations. OSHA standards may require the employer to provide medical surveillance for anticipated excessive exposure to occupational hazards without requiring prior exposure monitoring (e.g., 29 CFR 1910.120). Examples of occupational hazards for which OSHA requires medical surveillance are provided in Figure 12-1, Examples of OSHA Regulations That Include Medical Surveillance Requirements.

b. Ensure that medical evaluations are tailored to specific groups of employees and their exposures and that medical testing is supervised by a qualified physician.

c. Provide the required medical examinations and furnish results to appropriate recipients in a coordinated, timely manner.

d. Maintain a secure, confidential repository of all employee medical records and ensure that employees have access to their records as needed for personal medical care.

e. Review the medical surveillance program and update it based upon changes in regulations, consultation with site management and employees, exposure data, and medical monitoring test results.

1206. NATIONAL OCCUPATIONAL MEDICINE SURVEILLANCE PROGRAM OVERSIGHT TEAM (NOMSPOT).

a. Purpose. NOMSPOT shall provide a mechanism for consultation, technical assistance, quality assurance, and as a central point of contact for FAA region or center medical surveillance issues.

b. Membership. Core membership will include representatives from the Office of Aviation Medicine (AAM), Airway Facilities Service (AAF), and the Office of Environment and Energy (AEE). Names of contact persons will be announced at the national OSHECCOM committee meetings. Non-member participants at meetings may include FAA region or center safety and health professionals and bargaining unit representatives.

c. Frequency. Meetings will be held as needed to resolve medical surveillance-related issues and occur as teleconferences, videoconferences, or as panels at mutually agreed-upon locations.

d. Initiation of Request for Review. The initiator of a request to review a medical surveillance-related issue must send to AEE a memorandum describing the nature of the concern. AEE will notify sender of arrival of memorandum within 5 work days of receipt.

e. Resolution of Issue. Every effort will be made to handle medial surveillance-related issues expeditiously. Issues having little or no budgetary impact may be handled within 30 work days; otherwise, they may require a longer review.

1207. RESPONSIBILITIES. In addition to the responsibilities described in chapter 1, the following program-specific responsibilities apply.

a. AEE shall:

(1) Update, as necessary, program elements and responsibilities for AAM to the Regional Flight Surgeon level and responsibilities for AAF to the AXX-400 level.

(2) Coordinate all changes relating to the OMSP with appropriate organizations and bargaining groups.

(3) Review AAM and NAS Implementation and Integration (ANS) guidance prior to field distribution to ensure that they contain procedures that support the key program elements in this chapter.

(4) Provide oversight of the OMSP to ensure that all program elements established by AEE policy and by AAM and ANS implementation guidance are effective in documenting, assessing, preventing, minimizing, or mitigating occupational illness arising from workplace hazards.

(5) Support the NOMSPOT for the purpose of providing a national forum for communication on medical surveillance and/or industrial hygiene surveillance issues when needed.

b. AAM shall:

(1) Support the agency OMSP through the provision of occupational medical services through the provision of medical consultation, advice, examinations, and monitoring as required by OSHA regulations and agency policy.

(2) Ensure that funding for medical services, including periodic medical monitoring, is addressed in the budgetary review process.

(3) Develop written implementation guidance in accordance with Federal mandates that detail procedures to be followed when providing medical monitoring services to FAA employees; and provide a copy of this guidance and any subsequent changes to AEE and ANS prior to distribution to the field.

(4) Ensure that all medical records are maintained in a secure location; ensure accessibility by employees in accordance with 29 CFR 1910.1020, "Access to employee exposure and medical records."

(5) Communicate with ANS, AEE, and other agency organizations, as appropriate, trends in medical monitoring examinations.

c. ANS shall:

(1) Implement the agency OMSP through the provision of industrial hygiene surveillance and job hazard analyses.

(2) Develop written implementation guidance that includes procedures for performing industrial hygiene surveillance and job hazard analyses, and provide AEE with a copy of the guidance prior to distribution to the field.

(3) Serve as budget advocate by requesting adequate F&E funding to implement industrial hygiene surveillance (including an exposure monitoring program) and job hazard analyses; to purchase and maintain appropriate industrial hygiene monitoring equipment; and to fund industrial hygiene laboratory support.

(4) Ensure that the exposure monitoring program is overseen by an industrial hygienist certified by the American Board of Industrial Hygiene; that appropriate OSHA or NIOSH sampling and analytical methods are used; and that any laboratory analyses are performed by an AIHA-accredited laboratory, or equivalent.

(5) Identify and prioritize the requirements for training in support of the OMSP.

(6) Ensure that all exposure monitoring records are maintained and made available to employees in accordance with appropriate OSHA regulations, including 29 CFR 1910.1020, "Access to employee exposure and medical records."

d. Regional Airway Facilities Division (AXX-400), Environmental, Safety, and Emergency Management Division (AMP-100), and Facilities Services and Engineering Division (ACT-600) shall:

(1) Support the OMSP in their region or center in accordance with this chapter.

(2) Ensure that job hazard analyses and/or industrial hygiene surveillance procedures are used to identify FAA employees whose job tasks expose them to occupational hazards.

(3) Ensure that funding for industrial hygiene surveillance/exposure monitoring and job hazard analyses of workplaces is requested in the budgetary review process.

(4) Ensure coordination with the Regional Flight Surgeon (RFS) or the Aeronautical or Technical Center equivalent when results of job hazard analyses and/or industrial hygiene monitoring indicate the need to include an employee in or remove an employee from the OMSP; and that the medical officer is provided copies of all documentation supporting this determination for inclusion in, or removal from, the OMSP.

(5) Ensure that employees have an avenue for requesting a job hazard analysis of their workplace and/or work tasks.

(6) Ensure that a current listing of all employees who are included in the OMSP is maintained and is provided to the RFS or the Aeronautical and/or Technical Center equivalent.

(7) Ensure that all individuals identified in paragraph 1207d(6) are informed and trained in the hazards of their job and the relevance of industrial hygiene surveillance and medical monitoring; and that this training is documented.

(8) Ensure that occupational safety and health managers and allied safety officers and any other appropriate personnel receive training needed to evaluate workplace hazards properly, and ensure that all training is documented.

(9) Ensure that the required medical examinations are provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(10) Ensure annual reviews of employees' work tasks and/or work environments to identify new operations or modifications to the work space environment; and ensure these reviews are documented. Inform ANS and the RFS of any new occupations or job tasks or environmental hazards that should be covered in the OMSP.

e. The Regional Aviation Medical Division (AXX-300); and the Occupational Health Division (AAM-700) shall:

(1) Implement the OMSP in their region or center in accordance with this chapter and written guidance provided by AAM.

(2) Ensure that occupational medical monitoring services are provided to employees who have been determined by AXX-400, AMP-100, and ACT-600 as meeting regulatory requirements for inclusion in the OMSP. When there are issues regarding criteria or indications for examinations, they shall be forwarded to NOMSPOT for resolution.

(3) Review available industrial hygiene exposure monitoring and/or related job hazard analyses prior to commencement of medical services.

(4) Coordinate changes in region or center implementation of the OMSP with region or center headquarters AAM and AXX-400, AMP-100, and/or ACT-600.

(5) Ensure, consistent with established privacy procedures, that AXX-400, AMP-100, and ACT-600 are provided aggregate results of employee medical monitoring that will enable AXX-400, AMP-100, and/or ACT-600 to evaluate exposure controls in their respective occupational safety and health program.

(6) Communicate with NOMSPOT and AAM trends and sentinel events noted in medical monitoring examinations, as appropriate.

f. The Assistant Administrator for Human Resource Management (AHR), the Office of Human Resource Management at the Aeronautical Center (AMH), and the Regional Human Resource Management Divisions (AXX-10) shall:

(1) Assist as necessary to ensure that this chapter is addressed in human resource management/services programs and policies, as appropriate.

(2) Assist NOMSPOT in resolving concerns of mutual interest. Examples include Workers' Compensation claims; requests for hazardous duty pay; work limitations; and union coordination.

g. The Training Division (AFZ-100) shall serve as the agency's primary focal point for development, execution, and tracking of centralized OSH training across the lines of business in accordance with priorities set by ANS; and shall ensure that funding is requested for OSH training requirements.

h. All FAA managers shall assist wherever possible in the identification of FAA employees whose job tasks or work environments expose them to OSHA-recognized occupational hazards. Contact the FAA region, center, or Washington headquarters safety office or a local safety and health professional/allied safety officer for assistance in the identification of workplace hazards.

1208-1299. RESERVED.

FIGURE 12-1. EXAMPLES OF OSHA REGULATIONS THAT INCLUDE MEDICAL SURVEILLANCE REQUIREMENTS

This figure contains brief overviews of pertinent medical surveillance requirements that are enforced by OSHA. Detailed guidance for performing job hazard analyses, industrial hygiene surveillance, and medical surveillance for each of these areas shall be provided by ANS and AAM.

1. Asbestos. The OSHA asbestos standards, 29 CFR 1910.1001 (29 CFR 1926.1101 for construction) require full medical monitoring for asbestos workers, including operations and maintenance workers whose job tasks entail the disturbance of asbestos-containing materials for 30 or more days each year. Asbestos workers must wear respiratory protection and must have had respirator clearance examinations prior to use.

2. Noise. The OSHA standard 29 CFR 1910.95 requires that workers exposed to noise levels over 85 decibels on the A-weighted scale (dBA) as an 8-hour time weighted average (TWA) must be included in a hearing conservation program. This includes preplacement and annual audiometric examinations. FAA workers who may be candidates for the program include a) employees who routinely work in airport operating areas, including AF technicians, Flight Standards, and Security; b) AF technicians who maintain and operate emergency engine generators and building heating, ventilation, and air conditioning equipment; c) Field maintenance personnel who operate machinery and road equipment; d) Flight Standards employees who inspect and fly in aircraft; and e) certain employee groups like metalworkers at the Aeronautical and Technical Centers. The FAA has published a hearing conservation order (Order 3910.4, Hearing Conservation Program) that details the elements of a comprehensive hearing loss prevention program.

3. Lead. The OSHA standards for lead (29 CFR 1910.1025 for general industry and 1926.62 for construction) require that medical surveillance be provided to all employees exposed to levels over the action level of 30 micrograms per cubic meter of air (ug/m^3) calculated as an 8-hour TWA for more than 30 days per year. The paint used on outdoor steel support structures for the radar and antenna systems usually has a high percentage of lead. Disturbance of steel structures through cutting, burning, or drilling has the potential to cause lead dust and fume exposures in excess of the OSHA action level. In those regions and regions where FAA workers perform lead-based paint removal or other activities that disturb lead-based paint and who may be exposed to lead in excess of the OSHA limits, the employee must be included in a medical surveillance program.

4. Bloodborne Pathogens (BBP). The OSHA BBP Standard (29 CFR 1910.1030) includes medical surveillance requirements for employees potentially exposed to bloodborne pathogens. Materials considered potentially infectious are unfixed human tissue and body fluids, e.g., blood, semen, pericardial fluid, peritoneal fluid, fluid visibly contaminated with blood and cerebrospinal fluid. FAA employee categories who fall under the BBP requirements include aircraft accident investigators, health care workers, laboratory technicians, and designated first aid/emergency healthcare responders.

5. Clearance for Respirator Use. OSHA's respiratory protection standard 29 CFR 1910.134 (29 CFR 1926.103 for construction) mandate that workers wearing any type of respirator must receive medical approval prior to issuance of the respirator and annually thereafter. Factors to be considered in medical approval include the circumstances of respirator use, i.e., frequency and duration of use, the type of respirator required, and the workers' baseline medical condition (including review of employee's medical history). The examination should investigate the following factors: Pulmonary effects from respirator use including increased resistance to breathing and decrease in ventilation due to respirator dead space, cardiovascular effects related to increased work, facial deformities, perforated eardrum, psychological factors, and dermatological effects from local skin irritation. FAA workers who may be required to wear a respirator include asbestos operations and maintenance workers, workers disturbing or removing paint containing lead, aircraft painters and aerospace engineering technicians, hazardous waste and emergency response workers, and possibly others identified during industrial hygiene surveillance of work tasks.

6. Hazardous Waste or Emergency Response Workers. The OSHA Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120) requires that hazardous waste workers receive medical surveillance examinations when exposed to hazardous substances or wear a respirator 30 or more days per year. Emergency response/HAZMAT team members must receive an annual medical examination without regard to frequency of exposure. All hazardous waste workers and emergency responders must wear protective equipment including respirators, chemical protective suits, and gloves. Respirator clearance medical examinations are required in accordance with 29 CFR 1910.134. Note: For the purposes of this chapter, HAZMAT team refers to emergency responders, not persons responsible for conducting regulatory inspections to determine compliance with regulations on the safe transport of hazardous materials.

CHAPTER 13. HAZARDOUS ENERGY CONTROL PROGRAM (LOCKOUT/TAGOUT)

1300. GENERAL. This chapter establishes FAA policy and minimum requirements for locking out and/or tagging out sources of energy to equipment or systems under the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA) *Control Of Hazardous Energy (Lockout/Tagout)* Standard, 29 CFR 1910.147. The FAA Hazardous Energy Control (Lockout/Tagout) Program shall be used to control hazardous energy during installation, servicing, modification, and maintenance work. Following the practices in this chapter will help prevent injuries and property damage due to unexpected energization, startup, release of stored energy, and sudden movement of equipment components.

1301. SCOPE. This chapter applies to all FAA personnel. This includes, but is not limited to, employees involved in design, acquisition, installation, modification, alteration, maintenance, and service work on machines, equipment, and systems. FAA contractors and subcontractors must comply with the requirements of this chapter.

1302. POLICY. It is the policy of the FAA that before any employee performs any servicing, modification, alteration, or maintenance on a machine or equipment where the unexpected energizing, startup, or release of stored energy could occur and cause injury, the machine or equipment shall be isolated and rendered inoperative through the use of a lockout device whenever the machinery or equipment is capable of being locked out. If an energy-isolating device is not capable of being locked out, a tagout procedure consistent with the requirements of this chapter shall be utilized that provides full employee protection equivalent to that of a lockout procedure. Lockout/tagout shall only be performed by authorized employees. All new equipment designed, ordered, and installed and any replacement or major repair, modification, alteration, or renovation to existing machines or equipment must be equipped with the capacity for lockout.

1303. DEFINITIONS.

a. Affected employee. An FAA employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed. Affected employees who are not directly involved in but are present during maintenance or service activities shall be verbally notified of lockout/tagout procedures and their significance.

b. Authorized employee. An FAA employee who locks out or tags out machines or equipment to perform servicing, modification, alteration, or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance as defined in paragraph 1303k. In general, all technicians, mechanics, aircraft maintenance technicians, aerospace engineering technicians, etc., or any persons authorized to service and/or certify equipment may be authorized employees.

c. Capable of being locked out. An energy-isolating device is capable of being locked out if it has a device, hasp, or other means of attachment to which or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy-isolating devices are capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

d. Energized. Connected to an energy source or containing residual or stored energy.

e. Energy-isolating device. A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a line valve; a block; and disconnects, gate valves, gas regulators, and any similar device used to block or isolate energy. Push buttons, selector switches, and other control circuit-type devices ARE NOT energy-isolating devices.

f. Energy source. Any source of energy, several of which are: electrical, mechanical, hydraulic, kinetic, pneumatic, ionizing or non-ionizing radiation, chemical, thermal, gravitational, or other energy.

g. Hasp. A metal piece fitted over a staple and fastened as by a bolt or padlock.

h. Lockout. The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

i. Lockout device. Hardware that utilizes a positive means like a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

j. Normal production operations. The utilization of a machine or equipment to perform the intended function(s).

k. Servicing, modification, alteration, and/or maintenance. Workplace activities like constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy. Note: Minor tool changes and adjustments and other minor servicing activities, which take place during normal production operations, are not covered if they are routine, repetitive, and integral to the use of the equipment for production, provided that the work is performed using alternate measures that provide effective protection.

l. Tagout. The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

m. Tagout device. A prominent warning device, capable of withstanding environmental stresses, such as a tag and a means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

1304. KEY PROGRAM ELEMENTS.

a. Documented Program. A documented lockout/tagout program must be developed and implemented in accordance with 29 CFR 1910.147 whenever installation, maintenance, modification, alteration, or servicing of machines, equipment, or systems will be accomplished by FAA employees. The documented program must contain each of the key elements specified in paragraph 1304.

b. Designated Program Manager. A lockout/tagout program manager shall be appointed and documented to coordinate overall implementation and oversight of the region/center Lockout/Tagout Program.

c. Lockout/Tagout Procedures. Procedures shall be developed, documented, and utilized for the control of potentially hazardous energy in accordance with 29 CFR 1910.147, whenever FAA employees are engaged in servicing, modification, alteration, or maintenance of machines or equipment, except for those situations specifically excluded in paragraph (i), "Exceptions to Lockout/Tagout Requirements." The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for lockout/tagout and the means to ensure compliance, including:

(1) Specific procedural steps for starting-up, shutting down, isolating, blocking, securing, and tagging out all machines or equipment to control hazardous energy and verifying each step.

(2) Specific procedural steps for the placement, removal, and transfer of lockout devices or tagout devices and the responsibility for them. If an energy-isolating device is not capable of being locked out, the device will be modified when possible. If the device cannot be modified, then and only then will tagout procedures be allowed.

(3) Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

(4) Specific procedures for locating and contacting employees who have left the job site without properly removing their locks/tags, and for documenting those attempts. The documentation will be sent to the second line supervisor for review. If the authorized employee cannot remove the lock/tag for any reason, the only other person that can do so will be the authorized employee's supervisor.

d. Training and Communications.

(1) All affected and authorized personnel, and their supervisors, shall receive training on the contents of the FAA Lockout/Tagout Program consistent with the requirements of 29 CFR 1910.147. Retraining shall be provided for all authorized and affected employees whenever there is a change in job assignments, a change in machines, equipment, processes, or systems that present a new hazard, when there is a change in the FAA lockout/tagout procedures, or whenever inadequacies are discovered in the performance of lockout/tagout. FAA supervisors shall certify that employee training has been accomplished, has been documented, and is kept up-to-date.

(2) Procedures for lockout/tagout shall be included in all training courses for equipment and facilities, including FAA Academy courses, where it is necessary to control hazardous energy for maintenance, modification, alteration, or service activities.

(3) All training shall be properly documented in the agency's official training information system. Documentation shall include a written certification record that contains the name or other identifier of the employee trained, the date(s) of the training, and the signature of the competent person who performed the training.

e. Protective Materials and Hardware. All protective materials and hardware used must meet the requirements of 29 CFR l9l0.l47. Additionally:

(1) Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided only to authorized FAA employees for isolating, securing, or blocking machines or equipment from energy sources.

(2) Lockout devices and tagout devices shall be singularly identified; shall be the only device(s) used for controlling energy; shall not be used for other purposes; and shall be durable, substantial, and identifiable, i.e., the lock or an attached tag shall indicate the identity of the employee applying the device(s).

(3) Locks shall be a personal issue item (i.e., issued to a single individual as personal property).

f. Group Lockout. When servicing and/or maintenance is performed by more than one person, a procedure shall be provided that affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. When an energy-isolating device cannot accept more than one single lock, a multiple lockout/tagout device will be used. Primary responsibility shall be assigned to an authorized employee who shall be designated to coordinate affected work forces and ensure continuity of protection. Specific procedures shall be provided for shift personnel to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout devices between off-going and oncoming personnel, to minimize the possibility of unexpected energization, start-up of the machine or equipment, or release of stored energy.

g. Periodic Inspections and Reviews.

(1) Periodic inspections of a facility's energy control procedures shall be conducted at least annually, in accordance with OSHA requirements in 29 CFR 1910.147, by an authorized employee (other than the authorized employee utilizing the energy control procedures being inspected), and after any incident involving the unexpected release of hazardous energy. Authorized employees conducting inspections shall document compliance and non-compliance with the requirements of the OSHA standard. Where lockout or tagout is used for energy control, the periodic inspections shall include a discussion between the reviewer and affected and authorized employees of their responsibilities under the energy control procedure being reviewed.

(2) Managers shall review facilities or areas under their control at least annually for overall compliance with facility lockout/tagout requirements and certify that the periodic inspections have been performed. Reviews shall be documented and include identified deficiencies, trends, corrective actions required, and tracking for abatement.

h. Requirements for Contractors or Other Outside Personnel.

(1) All contracts issued for work involving hazardous energy control (lockout/tagout) procedures must contain a provision that contractors must have a hazardous energy control (lockout/tagout) program in accordance with OSHA and state requirements. Contractor hazardous energy control (lockout/tagout) programs shall be submitted in accordance with contract requirements.

(2) Contractors must provide their own appropriate hazardous energy control (lockout/tagout) equipment and training, and the contractor is responsible for ensuring that all subordinate contractor personnel understand and comply with the lockout/tagout program and procedures. The FAA shall not issue locks, tags, or other equipment to contractors and shall not train contractor personnel.

(3) Whenever contractors or other outside servicing personnel (e.g., Port Authority or telephone company personnel) are engaged in work covered by 29 CFR 1910.147, the responsible management officials of the outside organization and the FAA shall provide each other with their respective lockout/tagout programs prior to the commencement of work. A copy of the contractor's/company's lockout/tagout program shall be provided to the contracting officer's technical representative (COTR) for coordination with the appropriate FAA personnel.

i. Exceptions to Lockout/Tagout Requirements.

(1) The FAA's Hazardous Energy Control Program provides for certain exceptions to lockout/tagout. Exceptions include, but are not limited to:

(a) Electrical equipment whose maximum voltage is less than 50 volts to ground, provided there will be no exposure to electric burns or explosions.

(b) Routine production operations where workers are not required to remove or bypass a guard or other safety device, or are not required to place any part of their bodies into an area of the machine or equipment where work is actually performed upon the material being processed (point of operation).

(c) Electrical equipment that can be de-energized by unplugging; the person performing the maintenance has exclusive control of the plug.

(d) Hot tap operations as defined by 29 CFR 1910.147.

(2) Under certain conditions energy may be isolated by other devices to prevent the release of hazardous energy. The devices, such as blanks, blocks, line valves, etc., do not require locks or tags, but must prevent the release of the stored energy. Mechanical or electrical items like push buttons, selector switches, or other circuit control devices are not considered to be energy-isolating devices.

(3) Troubleshooting, testing, and/or diagnostics on electrical or electronic equipment may not be able to be performed using lockout/tagout. In such cases, qualified employees are permitted to perform these functions, under the requirements of 29 CFR 1910, Subpart S, and 29 CFR 1910.331-.335. Procedures must be developed to protect FAA employees adequately from the electrical hazard when testing, troubleshooting, and/or performing diagnostics on equipment that is not de-energized.

j. Design and Acquisition.

(1) An assessment to determine application of 29 CFR 1910.147 is required whenever new equipment is designed, acquired, and installed or whenever replacements are made in existing systems. In existing systems, an assessment shall be done on major replacement equipment at the time of installation, for consideration of equipment requirements and impact on the entire system. Upon completion of the assessment, lockout capability must be designed into the equipment, if required, and installed prior to delivery or installation and use by FAA employees.

(2) All contracts issued for work involving hazardous energy control (lockout/tagout) procedures must contain a provision that contractors must have a hazardous energy control (lockout/tagout) program in accordance with OSHA and state requirements. Safety programs shall be submitted in accordance with contract requirements.

(3) Contractors must provide their own appropriate hazardous energy control (lockout/tagout) equipment and training. FAA will not issue locks, tags, or other equipment to contractors.

(4) All equipment installed after January 2, 1990, must accommodate the use of a lock.

(5) The written lockout/tagout program must include a process to evaluate the requirements for energy-isolating devices whenever major replacement, repair, renovation, alteration, or modification of machines, equipment, or systems is performed and whenever new equipment is designed and installed.

1305-1399. RESERVED.

CHAPTER 14. RADIATION SAFETY PROGRAM

1400. GENERAL. All FAA employees shall be protected from exposure to hazardous electromagnetic radiation and fields in the workplace. This shall be accomplished through a comprehensive agency Radiation Safety Program (RSP). The FAA shall adopt the most current employee exposure safety criteria published by the American Conference of Government Industrial Hygienists (ACGIH) as well as criteria for Radiofrequency (RF) radiation published jointly by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE). Key program elements and responsibilities are included in this chapter. Additional implementation guidance will be developed by responsible organizations to support this chapter, and shall be followed.

1401. BACKGROUND.

a. The existing OSHA regulation pertaining to nonionizing radiation, 29 CFR 1910.97, is based on outdated exposure safety standards. Therefore, for controlled environments (defined in paragraph 1405e), the FAA adopts current ACGIH consensus occupational exposure safety standards for nonionizing radiation (NIR) and fields (*1998 TLVs and BEIs-Threshold Limit Values for Chemical Substances and Physical Agents)*, including: Radiofrequency (RF) and Microwave radiation; Sub-radiofrequency (SRF, 30 kHz and below), which includes the Extremely Low Frequency (ELF, 3-3000 Hz) and static electric and magnetic fields (EMF); and laser radiation.

b. The ACGIH employee exposure safety standards for RF and Microwave radiation referred to in paragraph 1401a are identical to the controlled environment maximum permissible exposure levels (MPE) published in ANSI/IEEE C95.1-1991, *Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.* These standards will be applied to FAA employees who routinely work in, and are aware of, environments having potential for radiation hazards (controlled environments). To ensure the safety of all other workers, such as office workers and general maintenance personnel, the FAA adopts the more stringent ANSI/IEEE MPE's for *uncontrolled* environments. Uncontrolled environment exposure safety standards will be used as "action levels" (see paragraph 1405a) for any area with high power radiation emitters within the FAA, where individuals who are unaware of a potential radiation hazard might enter. Every effort shall be made to maintain RF and Microwave radiation from FAA sources to the lowest feasible level. See definitions in paragraph 1405 for additional clarification of controlled and uncontrolled environments.

c. The existing OSHA regulation for ionizing radiation, 29 CFR 1910.1096, is also outdated. For example, it does not specifically address protection of pregnant workers. Current ACGIH 1998 safety standards for ionizing radiation are adopted, including new ionizing radiation terminology, exposure units (dose and dose-rate), and exposure safety guidelines (Table 1, *ibid*.), as relevant to FAA workplace environments. However, OSHA's safety program elements for ionizing radiation (e.g., labeling, personal monitoring triggered by a certain radiation level, reporting, and recordkeeping) shall be preserved, as well as the ACGIH-endorsed ALARA (as low as reasonably achievable) principle to keep radiation exposure levels below the recommended guidelines in the workplace.

d. Commercial products and unintentional sources of workplace radiation (such as office computers and video display terminal (VDT) units, cellular and satellite telephones, microwave ovens, and personnel security screening systems) are not included in the RSP. These are covered by other applicable public safety and health radiation emissions standards and regulations of the Federal Communication Commission (FCC) and the Food and Drug Administration's (FDA) Center for Devices and Radiological Health (CDRH). However, radiation safety for FAA users of such devices shall be assured by requiring manufacturer data and proof of compliance with applicable safety standards (see paragraph 1410(d)(3)).

e. FAA's adoption of ACGIH guidelines for human exposure safety in controlled environments and ANSI/IEEE MPE's for uncontrolled environments is consistent with Public Law 104-113, the *National Technology Transfer and Advancement Act of 1996.* This law directs Federal agencies to adopt or adapt technical and safety standards developed by voluntary consensus standards-setting organizations, such as ANSI/IEEE, as well as consult and participate with such bodies in the development of technical standards. (Note: ACGIH is not a consensus standards-setting organization, but a professional society whose membership includes occupational safety and health professionals from national and international government, academia, and industry. The ACGIH "Physical Agents TLV Committee" is dedicated to the control of workplace health hazards and annually reviews and adopts the most recent and best available consensus human exposure safety standards, such as the ANSI/IEEE, International and National Commissions for Radiation Protection (ICRP and NCRP) radiation safety guidelines.)

f. As shown in 29 CFR 1910.100, Standards Organizations, OSHA accepts, endorses, and recommends the use of ACGIH TLV's as safety guidelines. The FAA, through DOT/OST, notified OSHA of its intent to adopt current ACGIH and ANSI/IEEE radiation exposure safety guidelines, in accordance with the notification requirements of 29 CFR 1960. In August 1998, DOT and FAA received verbal approval of the RSP as contained in this chapter, and the specific adopted radiation safety exposure standards and guidelines. A formal, written endorsement from OSHA is shown in Figure 14-1, OSHA Response Concerning FAA's Adoption of Consensus Radiation Safety Standards. OSHA has indicated that it will use this RSP as the basis for future inspections.

1402. RELATED PUBLICATIONS.

a. The American Conference of Governmental Industrial Hygienists (ACGIH) 1998 *TLVs and BEIs - Threshold Limit Values for Chemical Substances and Physical Agents.* A current edition may be purchased from ACGIH, Kemper Woods Center, 1330 Kemper Meadow Drive, Cincinnati, OH 45240-1634. See also http://www.acgih.org for ordering information.

b. ANSI/IEEE C95.1-1991 *Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.* A current edition may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. See also http://www.ansi.org for ordering information.

1403. GOALS AND OBJECTIVES. The goal of the RSP is to safeguard employees' safety and health in the FAA workplace by: setting the agencywide policy framework based on adoption of the most recent, scientifically credible safety standards and guidelines, and by delineating a comprehensive radiation safety program with clear organizational roles and responsibilities for its timely implementation through communication, training, radiation environment characterization, exposure prevention and documentation, and oversight for safety assurance.

1404. SCOPE. This chapter applies to all FAA employees whose work duties and/or work environments may expose them to radiation and fields generated by FAA facilities. It is limited to the identification of the radiation exposure safety criteria that shall be used and to stating the RSP program elements and organizational responsibilities necessary for its successful implementation. The RSP will protect FAA workers from any unsafe radiation and fields emitted from FAA sources in FAA-owned or -leased Airway Facilities (including GSA-controlled buildings and/or facilities occupied by FAA).

1405. DEFINITIONS. To conserve space, definitions used here are limited to nontechnical or frequently used terms in this chapter. Please consult the resources listed in the ACGIH and ANSI/IEEE publications for definitions and explanations of other radiation terminology.

a. Action levels. Action levels are those employee exposure levels that trigger the implementation of this chapter and related program guidelines. When these levels are exceeded, protective steps will be initiated to ensure the safety of employees, such as: increased employee awareness of radiation hazards (through improved communications or updated training), additional radiation measurements, labeling and signage, and/or initiation of controls to reduce exposure to below the action levels. (For the purpose of this chapter, the ANSI/IEEE C95.1 uncontrolled environment MPE's will serve as action levels. See paragraph 1407b.)

b. Allied safety officer. An allied safety officer is an FAA employee who has been assigned full-time or collateral duty safety and health responsibilities, not including the regional or center program manager for environment and safety, regional or center occupational safety and health manager, or Washington headquarters safety and health staff. Examples include Safety and Environmental Compliance Managers (SECM), designated facility safety officers, and safety committee members.

c. American Conference of Governmental Industrial Hygienists (ACGIH). The American Conference of Governmental Industrial Hygienists is an organization devoted to developing and improving worker health protection standards. As a professional society, it includes members from Federal safety and health agencies, as well as public health experts from industry and academia and the international OSH community. It annually publishes up-to-date voluntary occupational safety standards for exposure to chemical and physical agents in the workplace in "*Threshold Limit Values for Chemical Substances and Physical Agents*," commonly referred to as the "TLV booklet" by OSH personnel.

d. American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE). These two voluntary standards-setting organizations came together after 1988 when the ANSI accredited standards committee C95 was converted to standards coordinating committee (SSC) 28 under the sponsorship of the IEEE standards board. Future C95 standards will be developed and issued by IEEE, who will submit them to ANSI for recognition. The scope of the SSC 28 is to develop standards "for the safe use of electromagnetic energy in the range of 0 Hz to 300 GHz relative to the potential hazards of exposure to man, volatile materials, and explosive devices to such energy." ANSI/IEEE C95.1-1991 *Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz* (or most recent update) provides the rationale for using controlled and uncontrolled environment MPE's for controlling FAA employee exposures to nonionizing (RF and microwave) radiation.

e. Controlled environment. ANSI/IEEE defines controlled environments as locations where access is restricted and that are occupied only by individuals who are aware of the potential for exposure as a concomitant of employment. In the FAA, such individuals may include the following personnel trained in, or cognizant of, the presence of radiation hazards and exposure prevention and controls: radar and/or environmental technicians, certain members of the FAA Academy and the FAA Technical Center, safety professionals and allied safety officers, and other cognizant individuals. The MPE's for controlled environments were adopted by ACGIH as TLV's for workers and carry a smaller protection factor than MPE's for uncontrolled environments.

f. Electromagnetic Radiation. Electromagnetic (EM) radiation is the radiant electromagnetic energy characterized by its power density (energy radiated per unit area per second), and frequency (or wavelength). The EM spectrum ranges from nonionizing radiation (NIR)- that includes sub-radiofrequency (SRF), radiofrequency (RF) and microwave (MW) radiation through infrared, visible and ultraviolet frequencies, and extends into the ionizing radiation range (including x-rays and gamma rays). This EM spectrum and related TLV's addressed by ACGIH for workplace exposure safety are depicted in the TLV booklet (1998, p. 143).

g. Ionizing radiation. Ionizing radiation is either particulate or electromagnetic radiation that is sufficiently energetic (more than 12.4 electron-volts (eV)) to ionize the matter absorbing it. It includes subatomic particles (such as electrons, protons, neutrons, or energetic alpha particles and heavier ions), and electromagnetic radiation (x-rays and gamma rays).

h. Maximum Permissible Exposure (MPE). The term maximum permissible exposure is the ANSI/IEEE designation for a human safety exposure limit to RF radiation. MPE's are provided in ANSI/IEEE C95.1-1991 for both controlled and uncontrolled environments (see definitions in this chapter and original reference). Note: When ACGIH adopted the controlled environment MPE's, the MPE's were redesignated as TLV's. Because ACGIH did not adopt the uncontrolled environment MPE's, these standards should continue to be called MPE's in the RSP.

i. Nonionizing radiation (NIR). Nonionizing radiation applies to electromagnetic radiation with photon energies less than 12.4 eV, which cannot ionize atoms and molecules. It includes all frequencies at and below the ultraviolet (UV) portion of the spectrum, namely:

(1) Sub-radiofrequency (SRF) radiation, defined by ACGIH-98 as radiation with frequencies below 30 kHz. SRF limits (TLV's) on magnetic and electric fields include the extremely low frequencies (ELF) electromagnetic fields (EMF) 3 Hz < f < 3 kHz. ELF/EMF also include magnetic fields at power frequency (60 Hz) and its harmonics (up to 300 Hz), whose potentially adverse health effects are still under active investigation.

(2) Static magnetic and static electric fields, which may pose electromagnetic interference (EMI) hazards to medical device wearers and may also be of concern in the proper operation of tools and instrumentation.

(3) RF (30 kHz - 300 MHz) and microwaves (MW, 300 MHz - 300 GHz) radiation where the specified TLV's limit either the radiation power density or the corresponding electric or magnetic field components. Radiation might be emitted as periodic pulse trains (pulsed) or as continuous waves (CW). The quantity of interest to exposure safety is the time-averaged power density, or corresponding magnetic and /or electric field strengths, as specified in the standards as a function of frequency.

(4) Optical radiation, with wavelengths longer than 100 nm and shorter than 1 mm, including infrared, visible, and ultraviolet ranges. Of special concern for the workplace are the laser safety standards, given the growing use of lasers (both pulsed and CW) by the FAA.

j. Radiation Protection Officer (RPO). The Radiation Protection Officer is the FAA official charged with serving as the principal point of contact and coordinator for employee ionizing and nonionizing radiation exposure issues. This individual is qualified by education, training, and/or experience to evaluate the potential for short- or long-term health effects associated with use of components generating NIR and ionizing radiation in FAA workplaces (see para. 1410b(3) for RPO responsibilities).

k. Threshold Limit Value (TLV). A Threshold Limit Value is an ACGIH term for occupational exposure limits adopted following extensive review of supporting documentation from standard-setting consensus organizations, research laboratories, and epidemiological data in the published literature. TLV's represent the level of exposure ACGIH has determined to which workers may be exposed during a normal 8-hour workday in a 40-hour work week over a working lifetime without adverse effect.

l. Uncontrolled environment. ANSI/IEEE defines uncontrolled environments as locations where individuals may be exposed to radiation who have no knowledge, control, or expectation of potential for radiation exposure. In the FAA, this would include any location with high power emitters where there is a possibility of access by persons unaware of the radiation hazard. ANSI/IEEE C95.1 provides MPE's for uncontrolled environments and states that individuals may be exposed to these levels without harmful effect and with an acceptably high safety factor. See definition for *action level*.

1406. KEY RADIATION SAFETY PROGRAM ELEMENTS. FAA shall:

a. Adopt the most current ACGIH (1998 or as applicable) occupational exposure safety guidelines for physical agents, specifically the sections identified as Ionizing Radiation; Lasers; and Nonionizing Radiation and Fields. Also adopt the most current ANSI/IEEE C95.1 recommended RF radiation exposure safety standards for uncontrolled environments as "action levels" (see 1405a and 1407b(1) for definition). (*Note: ACGIH 1998 TLVs and BEIs and ANSI/IEEE C95.1-1991 shall serve as the baseline for 1998, the year of this chapter's initial issue.)*

b. Ensure that timely and specific implementation guidance of the RSP is developed and issued by the responsible FAA organizations. (See paragraph 1410.)

c. Ensure that appropriate radiation safety training materials are developed in a timely manner, in coordination with current and documented RSP guidance and safety information; and that responsible FAA staff (e.g., safety and health managers and allied safety officers, appropriate spectrum engineering, and technical maintenance and operations staff) receive appropriate initial and continuing training needed to prevent, evaluate, measure, control, and mitigate potential radiation exposure hazards in the FAA workplace.

d. Ensure that baseline radiation surveys, commissioning, modifications, and other radiation safety assessments are conducted as needed, or as requested, in a timely manner. The goal is to document, evaluate, control, and mark, by posted warnings or restricted access to, areas where employee exposures could exceed recommended exposure limits from a single source or multiple radiation sources. (Baseline surveys of ELF/EMF and static magnetic and electric fields will be performed only on an as-needed basis.)

e. Ensure that no FAA employee shall handle, maintain, test, and operate radiation emitting components, or perform duties in areas where there is a potential radiation hazard, without first being made aware of the radiation hazard potential, and receiving information or appropriate training in radiation hazards prevention and control appropriate to his/her job tasks. The employee shall be made aware of radiation potential hazards identification, safe work procedures, and strategies for preventing, controlling, and mitigating unnecessary or excessive personnel exposures.

f. Ensure that informative reading materials on potential radiation hazards shall be maintained by Washington headquarters, regions, centers, and field offices, and shall be made available to concerned employees on request.

g. Ensure that all existing radiation and high fields sources are inventoried, and that measured radiation emission levels are archived by facility type, source type, configuration, location, and date. Where employee exposures to these sources have been measured (i.e., dosimetry), the appropriate employee job classification numbers and job task descriptions shall also be archived.

h. Ensure that specifications for and acceptance testing of new equipment, subsystems, and systems to be developed or acquired under the NAS Facilities Modernization and/or as part of the NAS System Architecture complies with applicable radiation safety standards and guidelines.

i. Maintain a centralized RSP resource file and data base to include: work area radiation hazard measurements and estimates of radiation hazard by type, radiation survey data at typical facilities, and for representative sources, employee exposure and source(s) of exposure; also, results of baseline and periodic employee workplace radiation surveys and hazard assessments, and results of both scheduled or planned and on-request or unplanned investigations.

j. Ensure that all radiation emissions survey data and employees' exposure records and related health or medical evaluations shall be maintained for the duration of employment plus 30 years in accordance with 29 CFR 1910.1020, *Access to employee exposure and medical records.*

k. Investigate and document all alleged workplace exposure incidents and levels that exceed the adopted exposure criteria, and recommend prevention and mitigation strategies; or medical treatment and/or inclusion in a medical surveillance program, if recommended by AAM.

l. Require that all commercially acquired FAA equipment that are unintentional radiation sources (such as microwave ovens, computer, communication, and display devices, physical security screening equipment), have evidence of manufacturer or supplier compliance with applicable FCC or FDA/CDRH radiation safety standards.

1407. NIR EMPLOYEE EXPOSURE CRITERIA. Following is a brief overview of the criteria for the different radiation frequency bands. Consult the appropriate current version of the TLV booklet and/or ANSI/IEEE C95.1 for the actual criteria.

a. SRF limits for electromagnetic radiation with frequencies (f) below 30 kHz, including ELF/EMF power frequencies and harmonics (f < 300 Hz). These TLV's include both electric and magnetic fields down to static (f = 0) electric and magnetic fields. Special warnings and more stringent TLV's are noted for workers wearing electronic implants, such as pacemakers, susceptible to electromagnetic interference (EMI) from NIR sources.

b. RF radiation with 30 kHz < f < 300 MHz and MW radiation with 300 MHz < f < 300 GHz. These TLV's are identical to the controlled environment electric and magnetic fields, or equivalent power density limits, in ANSI/IEEE C95.1-1991, "*Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*," and are applicable only to experienced, trained personnel, such as radar and/or environmental technicians, certain members of the Academy, safety professionals and allied safety officers, and other cognizant individuals . The ACGIH also adopted the C95.1-1991 controlled environment limits on RF-induced and contact (shock and RF burn limits) for whole body and partial body currents and on pulsed, multi-frequency or multiple-source radiation that requires summation, as well as spatial and time averaging to ensure exposure safety.

(1) Action Levels. MPE's for uncontrolled environments shown in ANSI/IEEE C95.1-1991 are applicable to most FAA workplaces, and shall be used as *action levels* for implementing this chapter and program guidance to control employee exposure to RF and MW radiation.

(2) Representative baseline surveys shall be conducted in accordance with program guidance to identify controlled and uncontrolled environments, and to demonstrate that *action levels* are not exceeded.

c. Laser safety. ACGIH-98 adopts appropriate technical standards for safe use of lasers in the workplace, as a function of wavelength, power, beam crossection, exposure type (both pulsed and continuous wave, CW), duration of exposure, and body crossection exposed (ocular or skin).

1408. IONIZING RADIATION EMPLOYEE EXPOSURE CRITERIA. The ACGIH 1998 TLV's for ionizing radiation include specific occupational exposure safety guidelines to limit exposures to ionizing radiation, including particulates (e.g., inhaled radon) and electromagnetic (e.g., x-rays from radars and VDTs). These guidelines are based on the most recent guidance from the National Council for Radiation Protection and Measurements (NCRP) and the International Commission on Radiological Protection (ICRP). The ACGIH also endorses the ALARA (as low as reasonably achievable) principle for minimizing workplace exposures. Special radiological protection guidance is given to minimizing exposures for declared pregnant employees, so as to limit the *in utero* dose. The existing OSHA standard for ionizingradiation, 29 CFR 1910.97, is outdated and does not specifically protect pregnant workers; however, the standard's program elements (e.g., labeling, warning signs, personal monitoring in special cases, reporting, and recordkeeping) shall be followed in this chapter.

1409. RADON EXPOSURE CRITERIA. The ACGIH-98 includes recommended occupational TLV's for radon daughters of 4 working level months (WLM) per year. This is approximately equivalent to an annual exposure to an average of 16 picocuries of radon per liter of air (pCi/l). The FAA adopts this guideline for exposure to indoor radon in FAA-controlled occupational environments.

1410. RESPONSIBILITIES. In addition to the responsibilities described in chapter 1, the following program-specific responsibilities apply.

a. AEE shall:

(1) Develop policy for the RSP, including exposure criteria and organizational responsibilities to the AXX-400 level.

(2) Provide oversight of the RSP to ensure all program elements established by AEE and implemented by AAF are effective in identifying, measuring, evaluating, preventing, minimizing, controlling, mitigating, documenting, or assessing potential radiation hazards to employees at FAA facilities, or as a result of FAA activities.

(3) Coordinate any policy changes relating to the RSP with all affected organizations.

(4) Review RSP implementation guidance and data products to ensure that all elements of this chapter are adequately addressed and implemented in a timely manner.

b. AAF shall:

(1) Administer the RSP and ensure that written implementation guidance is developed and applied in accordance with this chapter; proposed guidance shall be coordinated with AEE prior to distribution to the field.

(2) Provide adequate resources as required for the effective management of the RSP.

(3) Provide a Radiation Protection Officer (RPO) function with the responsibility to serve as the agency focal point for all employee radiation health and safety issues. RPO responsibilities shall include:

(a) Serve as the headquarters focal point for employee concerns relating to alleged radiation hazard from FAA existing and developmental communication, navigation and surveillance (CNS) facilities, systems, and components, when these complaints cannot be resolved at the regional level.

(b) Develop or review data to assess employee radiation exposure levels and implement procedures to protect employees from potential FAA radiation hazards.

(c) Evaluate and respond to employee requests for potential radiation hazards health interpretations of radiation emissions measurements and exposures that cannot be handled at the regional level; forward requests for medical interpretation to AAM.

(d) Review and evaluate proposed nonroutine tasks of trained workers to ensure that exposure does not exceed adopted limits.

(e) Collaborate with appropriate AAF and employee representative organizations in acquiring measurement data for potential radiation hazards, as needed.

(f) Assist in development of required radiation assessment audits.

(g) Assist AEE upon request as co-liaison with Federal worker protection and environmental safety and health regulatory agencies (OSHA, NIOSH, FDA/CDRH, FCC, EPA) and with other professional radiation health societies (ACGIH, ANSI/IEEE, NCRP), whose missions are to develop standards and guidelines to protect workers from radiation hazards.

(4) Coordinate with appropriate organizations as required to secure their support for RSP implementation. Specifically:

(a) Coordinate with AAM when seeking additional health or medical interpretation of any radiation measurement data.

(b) Ensure that annual field safety assessments of employee work tasks and/or work environments are conducted to identify employees for inclusion in the RSP; to identify new operations or modifications to the workspace environment that may increase the potential for radiation exposure hazard; and ensure that these assessments are supported by radiation emission and/or exposure measurements, if needed. All assessments shall be documented.

(c) Ensure all radiation exposure records are maintained in accordance with 29 CFR 1910.1020, *Access to Employee Exposure and Medical Records.* All radiation exposure hazard assessments shall be documented and archived.

(d) Provide technical assistance to the regions and the two centers for radiation hazard prevention, control, and/or mitigation strategies upon request or as needed.

(e) Implement initial and periodic radiation hazard evaluation training; and document all such training and maintain training records for a minimum of 3 years for the following employee groups:

i. Safety and health professionals and staff, who must perform baseline and periodic workplace radiation hazard assessments.

ii. Employees who must perform work tasks or work in environments where potential exists for exposure above adopted TLV's.

iii. Spectrum engineering staff in the performance of occupational radiation hazard measurements and evaluations of compliance with FAA adopted standards.

(f) Collect or develop and provide informational resources on radiation safety to concerned employees upon request.

(g) Provide technical assistance as appropriate to appropriate AF organizations to ensure that the employee safety paragraphs in radar maintenance orders (6000-series) and related publications are revised to include this chapter, and that safety information is available, current, and sufficient to the needs of the users.

(h) Provide Regional Frequency Management Offices (FMO) and the Mike Monroney Aeronautical Center and the William J. Hughes Technical Center counterparts with equipment and/or technical support required for emissions measurement and exposure assessment and for identification of uncontrolled and controlled environments.

(i) Maintain and annually update the radiation measurement equipment inventory and ensure that equipment calibrations are maintained in accordance with manufacturer recommendations.

(j) Periodically update Order 6050.32, Spectrum Management Regulations and Procedures Manual, and/or other written procedures consistent with this RSP policy, and update FMO training materials to ensure compliance with current standards.

(k) Maintain a centralized Spectrum Engineering data base or management information system of official records to log and track representative hazard measurements data. The repository should include baseline and periodic radiation hazard measurements for representative radiation sources and facilities, calculated estimates of exposure for representative employee classifications and/or job tasks, and data arising from all planned or unplanned investigations relating to possible potentially hazardous radiation exposures.

c. AAM shall:

(1) Provide medical interpretation of radiation exposure estimates for FAA employees upon request by the RPO and consult with outside specialists deemed appropriate to evaluate measurements collected by AAF.

(2) Develop written guidance for the regional flight surgeons related to employee radiation exposures and provide a copy to AEE and AAF for review prior to distribution.

(3) Maintain medical records of employees with documented exposure to radiation above the adopted FAA radiation exposure standards, and ensure accessibility to employees in accordance with 29 CFR 1910.1020, *Access to Employee Exposure and Medical Records.*

(4) Recommend an appropriate medical surveillance strategy when an employee has received an accidental or routine radiation exposure in excess of the adopted TLV's.

d. ARA shall:

(1) Coordinate with AAF early in the planning and design phase of prototype equipment that may generate radiation in excess of the adopted MPE's, as established for uncontrolled areas in ANSI/IEEE C95.1-1991.

(2) Ensure that all designs, acquisition, and acceptance testing plans are reviewed by the RPO for potential radiation hazards. This review shall be documented.

(3) Ensure that manufacturers and suppliers of FAA-purchased equipment containing radiation sources provide appropriate radiation source identification, emissions data, and potential hazard warning labels that demonstrate compliance with RSP standards and guidelines.

(4) Develop written procedures for review and evaluation of potential radiation hazards during planning, siting, acquisitions, construction, maintenance, modifications, upgrades or modernization, and all other phases of life-cycle management for real property (i.e., environmental assessment reviews). The procedures (and subsequent revisions) shall be reviewed by AEE and AAF prior to distribution.

(5) Provide to the RPO radiation safety information for new FAA equipment, systems, and facilities as needed to ensure compliance with the RSP and AAF guidance.

(6) Ensure, with technical assistance from AAF, that emerging or planned NAS systems and components or modifications to existing systems are evaluated for possible radiation and fields hazards in all phases of acquisition and life-cycle management.

e. AHR shall assist as necessary to ensure that the RSP policy is addressed in employee programs and policies, with special attention to employee categories identified as having potential for exposure to radiation. Examples of programs include Workers' Compensation claims for workers alleging excessive exposure to radiation; siting and construction of child care centers (see Figure 14-2, Evaluation of Potential Radio-Frequency (RF) Radiation Hazard at Planned and Existing Child Care Centers); and affirmative action programs for pregnant women or workers with pacemakers or other medical implants.

f. Regional Airway Facilities Division (AXX-400), Environmental, Safety, and Emergency Management Division (AMP-100), and Facilities Services and Engineering Division (ACT-600) shall:

(1) Implement the RSP in their region or center in accordance with this chapter and written guidance provided by AAF.

(2) Ensure that the request for resources for implementation of the RSP is addressed in the budgetary review process.

(3) Ensure that regional (or center) employees have clear procedures for requesting assistance in the identification of and resolution of concerns of potential and alleged radiation hazards.

(4) Ensure that all appropriate FAA personnel potentially exposed to radiation above adopted TLV's are informed and/or trained in safe work practices and radiation exposure prevention, and that such training is documented.

(5) Ensure that the Regional Occupational Safety and Health Manager (ROSHM) and/or allied safety officers and/or the FMO's receive training and adequate resources needed to identify, measure, evaluate, control, and mitigate radiation hazard risks in the workplace, and that the training is documented.

(6) Ensure that records of employee radiation exposure measurements, including calculated estimates of exposure, are maintained for each employee for the duration of employment plus 30 years. If these records are archived at a storage facility, ensure that they are properly catalogued and readily accessible.

(7) Inform employees that records are available to them and on how they can obtain such records, in accordance with 29 CFR 1910.1020, *Access to Employee Exposure and Medical Records*.

g. All FAA managers shall assist wherever possible in the identification of FAA employees whose job tasks or work environments expose them to radiation hazards, or who are at special risk (e.g., pregnant employees or those with medical electronic implants). Contact the FAA region, center, or Washington headquarters safety office or a local safety and health professional/allied safety officer for assistance in the evaluation of workplace radiation hazards.

1411-1499. RESERVED.

Figure 14-1. OSHA RESPONSE CONCERNING FAA's ADOPTION OF CONSENSUS RADIATION SAFETY STANDARDS

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Repl;y to the Attention of

SEP 21 1998

The Honorable Melissa J. Spillenkothen
Assistant Secretary for Administration
Department of Transportation
M-1, Room 10314
400 7th Street S.W.
Washington, D.C. 20590

Dear Ms. Spillenkothen:

The Occupational Safety and Health Administration (OSHA) has reviewed your document entitled Chapter 28; Radiation Safety Program," and believes that when implemented this doc-ument will provide equal or greater protection than 29 CFR 1910.97. Thus OSHA agrees that the Federal Aviation Administration (FAA) may use this standard in place of 29 CFR l9l0.97 to regulate occupational exposure to radiation.

The exposure limits selected by FAA are well recognized and supported by the safety and health community as well as OSHA by reference (e.g. ACGIH TLV's and ANSI). Although more restrictive than the OSHA standards, complying with the selected consensus standards is feasible and will provide a more protective workplace. The selection of the more restrictive public exposure limits from the current ANSI C95.l standard as an "action level" which determines when an RF Safety Program is necessary is particularly useful. Most importantly, the adoption of the most recently published ACGIH TLV's will ensure that the FAA program is not locked into outdated standards, in that limits are automatically updated with each update to the TLV's. Of course, full implementation of this program is key to providing the worker protection described.

Accordingly, the FAA is permitted by 29 CFR 1960.16 to prescribe and enforce more stringent permissible exposure levels or threshold limit values and may require more frequent monitoring of exposures without recourse to the approval procedures for alternate standards described in 29 CFR 1960.17. OSHA believes that the radiation program proposed by the FAA is more protective than the 1910 standard and agrees that FAA should adopt this as its radiation standard. Additionally OSHA will use this proposed standard to determine worker exposure to radiation and will not measure compliance against 29 CFR 1910.97.

Figure 14-1. OSHA RESPONSE CONCERNING FAA's ADOPTION OF CONSENSUS RADIATION SAFETY STANDARDS, contd.

2

Please advise this office when full implementation is expected, so that we can apprise our compliance inspectors.

Sincerely,

Emzell Blanton, Jr.
Deputy Assistant Secretary

Figure 14-2. INTERIM POLICY #AEE097-02, EVALUATION OF POTENTIAL RADIO FREQUENCY (RF) RADIATION HAZARD AT PLANNED AND EXISTING CHILD CARE CENTERS, DATED APRIL 21, 1997

Memorandum

U.S. Department
of Transportation
Federal Aviation
Administration

Subject: ACTION: Interim Policy Memo AEE097-02: Evaluation of Potential Radio Frequency (RF) Radiation Hazard at Planned And Existing Child Care Centers Date:

From: Acting Assistant Administrator for Policy, Planning, and Planning, and International Aviation, API-1 Reply to Attn. of:

To:

BACKGROUND

The FAA has sited day care centers on or near the grounds of certain FAA facilities in order to improve productivity and efficiency of employees by providing safe, high-quality, and affordable child care during extended hours in locations where such care is not available in the community. FAA Order 3910.3A, Radiation Health Hazards and Protection (1983), requires that FAA workplaces be protected from potential radio frequency radiation (RFR) exposure hazards, but does not include guidelines for controlling potential exposure to children occupying FAA-sponsored child care centers (CCC). To meet this need, we are issuing interim policy for requiring RFR hazard evaluations when siting CCC in the vicinity of FAA radar and communication facilities or when planning modifications to existing CCC. The Office of Environment and Energy (AEE) is currently updating Order 3910.3A, which is planned for release in September 1997. It will include this interim policy.

PURPOSE

This memorandum provides interim policy to facilitate the acquisition of RFR hazard evaluation data for inclusion in proposals for siting new CCC, or when making facility modifications which could increase the potential for hazardous RFR exposure to occupants of existing CCC.

AUTHORITY

AEE has policy and oversight responsibility for FAA employee occupational safety and health programs.

NAS Transition and Implementation (ANS) has broad responsibility for implementation of safety and health programs. Policy regarding the construction of CCC at the approved location/facility resides with ANS and is based on logistical parameters such as existing space, location of radars, etc.

The Office of Spectrum Policy and Management (ASR) has responsibility for performing RFR measurements at FAA sites, or where FAA personnel are employed, and providing technical analysis and interpretation of the RFR measurements.

Figure 14-2. INTERIM POLICY #AEE097-02, EVALUATION OF POTENTIAL RADIO FREQUENCY (RF) RADIATION HAZARD AT PLANNED AND EXISTING CHILD CARE CENTERS, DATED APRIL 21, 1997, contd.

The Office of Human Resource Management (AHR) is the program office responsible for programmatic policies for the establishment and management of FAA CCC. This role includes review of competing proposals for siting of new CCC and determining which proposals to fund, based on regional needs and available resources. AHR, at the national level, is not involved with the proposal development process; instead, proposal development, including necessary environmental assessments (including potential radiation hazard), is initiated at the field level.

FAA Directive 1100.2C, Organization - FAA Headquarters, is being revised to incorporate the organizational functions and responsibilities consistent with the FAA Notice N 1100.234, dated December 12, 1994. This interim policy memorandum specifies what must be done and who is responsible for evaluating potential radiation hazard at proposed and existing CCC sites. Details of how the interim policy will be implemented are the responsibility of ANS and will be addressed separately.

RF EVALUATION CRITERIA

Compliance with American National Standards Institute/Institute of Electrical and Electronics Engineers (ANSI/IEEE) standards and FAA directives is required. Until FAA Order 3910.3A is updated, the criteria to be used for evaluation of potential RFR hazard to children will be the maximum permissible exposures (MPE) provided for “uncontrolled areas” in the current version of the ANSI approved ANSI/IEEE C95.1-1991, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," dated April 27, 1992. RFR hazard evaluations will be obtained using one or both of the following two approaches:

(1) Use of actual field measurements made at other similar facilities or sites which are representative of the facility or site under consideration, and/or

(2) Calculations of RFR exposures based on current specifications or RFR emissions data for the radar/communications systems in use at the location.

RESPONSIBILITIES

a. AEE shall:

(1) Establish policy for ensuring that siting of new CCC and/or modifications of existing CCC receive appropriate evaluation for possible RFR hazard.

(2) Provide oversight to verify that this evaluation is being accomplished in an appropriate manner.

b. ANS shall:

(1) Administer the implementation of this policy (relative to design and construction) to ensure that occupants of future and existing FAA-sponsored CCC are not exposed to RFR in excess of ANSI/IEEE criteria.

(2) Develop and implement guidelines to ensure that future and existing CCC receive evaluation of possible RFR hazard prior to commencement of construction activities.

Figure 14-2. INTERIM POLICY #AEE097-02, EVALUATION OF POTENTIAL RADIO FREQUENCY (RF) RADIATION HAZARD AT PLANNED AND EXISTING CHILD CARE CENTERS, DATED APRIL 21, 1997, contd.

(3) Provide for adequate funding for the effective implementation of the guidelines.

(4) Coordinate with ASR in all phases of implementation.

(5) Review technical RFR hazard evaluation reports and collaborate with ASR in providing technical recommendations to the field AHR office for the selection of a location for a CCC.

(6) Provide for the timely resolution of any deficiencies found by the RFR hazard evaluations.

(7) Coordinate with field personnel to ensure their support for the implementation of this interim policy.

c. ASR shall:

(1) Provide support as needed to ensure that future and existing CCC receive proper evaluations of RFR hazard prior to commencement of construction activities.

(2) Ensure that personnel designated to carry out RFR measurements follow current, peer-approved techniques and standards for calculating estimates for exposure and for obtaining field measurements.

(3) Ensure that properly functioning and calibrated equipment is provided to perform the field measurements.

(4) Review technical RFR hazard evaluation reports and collaborate with ANS in providing technical recommendations to the field AHR office for the selection of a location for a CCC.

(5) Coordinate with the regional Frequency Management Office (and center equivalents) to ensure its support of this program.

d. The Regional Airway Facilities Divisions (AXX-400), the Office of Facility Management (AMP-1), and the Facilities Management Division (ACT-400) shall:

(1) Administer the implementation of this policy in the regions and centers to ensure that occupants of future and existing FAA-sponsored CCC are not exposed to RFR in excess of ANSI/IEEE criteria.

(2) Ensure that funding is requested to provide for the acquisition of RFR measurements and for any remedial action(s) that might be required.

(3) Ensure that the regional Frequency Management Office (or center equivalent) coordinates with ASR in all matters involving CCC.

(4) Ensure that actual field measurements are performed following construction or modifications of CCC in order to verify pre-construction calculated estimates of exposure.

Figure 14-2. INTERIM POLICY #AEE097-02, EVALUATION OF POTENTIAL RADIO FREQUENCY (RF) RADIATION HAZARD AT PLANNED AND EXISTING CHILD CARE CENTERS, DATED APRIL 21, 1997, contd.

(5) Ensure that the potential for radiation hazard from nearby utility transmission lines, transformers, power conditioning and generation units, or other possible sources of RFR is considered when actual field measurements are performed.

(6) Ensure that technical RFR hazard evaluation reports are reviewed and that technical recommendations are provided to the regional and center AHR office for the selection of a location for a CCC.

(7) Ensure that necessary controls and/or mitigation measures are implemented in a timely manner if a RFR hazard to occupants of CCC is identified.

e. The regional Human Resource Management Division or center equivalent shall request assistance from the regional Airway Facilities Divisions (AXX-400), the Office of Facility Management (AMP-1), or the Facilities Management Division (ACT-400), as appropriate, when RFR hazard evaluation data are needed in connection with new or existing CCC.

If you have questions concerning this policy, please contact Jeanne Kosch, Occupational Safety and Health Program Manager for Policy, AEE-200, at (202) 267-9719.

CHAPTER 15. ASBESTOS CONTROL PROGRAM

1500. GENERAL. This chapter covers the establishment and maintenance of a Federal Aviation Administration (FAA) asbestos control program, whose purpose is to ensure the protection of FAA employees at FAA facilities from exposure to airborne asbestos fibers in excess of workplace standards. This shall be accomplished through proper management of asbestos-containing materials (ACM) and materials presumed to contain asbestos (PACM) in all FAA-owned or -leased buildings and/or facilities and all General Services Administration (GSA)-controlled buildings and/or facilities occupied by FAA.

a. The FAA shall comply with asbestos regulations promulgated by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA), any other applicable Federal, state, and local laws and regulations, and with all contractual requirements.

b. Asbestos-related work performed by FAA employees shall be limited to Class III and IV work, as defined in paragraph 1505i. Class I and II work shall be performed by qualified asbestos abatement contractors with qualified, competent third party oversight. Prior to working with ACM and/or PACM, FAA employees shall be trained in accordance with paragraph 1506e.

1501. BACKGROUND. In February 1986, the Office of Aviation Medicine, which at that time was the office of primary interest for all occupational health policy, published Order 3910.5, Asbestos Control. In June 1986, OSHA issued two revised standards for asbestos, one governing occupational exposure in general industry, the other applicable to construction workplaces. Both standards reduced the 8-hour time weighted average (TWA) permissible exposure limit (PEL) to 0.2 f/cc from 2 f/cc, and provided an action level of 0.1 f/cc. In August 1994, OSHA again revised the two standards, and reduced the 8-hr TWA to 0.1 f/cc and eliminated the action level. OSHA worked closely with EPA during the 1994 revision so that the regulations of both agencies are compatible to the extent OSHA's mandate allows. In May 1995, the Airway Facilities Service published Order 1050.20, Airway Facilities Asbestos Control, delineating procedures for the management of ACM in FAA facilities. This chapter replaces Order 3910.5 and complements Order 1050.20 at the agencywide level.

1502. GOALS AND OBJECTIVES. The goal of this FAA asbestos control program is to provide for a strong network of programs and procedures that will ensure that ACM and/or PACM are maintained in good condition, thus ensuring the protection of FAA employees, contractors, and visitors.

1503. SCOPE. This chapter provides coverage for all FAA employees who work in, maintain, operate, or otherwise occupy FAA-owned or -leased buildings and/or facilities and GSA-controlled buildings and/or facilities. It also applies to FAA employees who may be working in buildings and facilities not already identified in this chapter, such as those controlled by the Department of Defense.

1504. STANDARDS.

a. Federal, state, and local governments have promulgated regulations concerning asbestos. FAA is interested in regulations addressing employee exposure to asbestos fibers during construction, maintenance, and custodial operations, and the performance of contract asbestos abatement workers who work with ACM and/or PACM in FAA buildings and facilities. The following Federal regulations are concerned directly with asbestos:

29 CFR 1910.1001	OSHA General Industry Asbestos Standard
29 CFR 1910.134	OSHA Respiratory Protection Standard
29 CFR 1926.1101	OSHA Construction Asbestos Standard
40 CFR 61 Subpart M	National Emission Standard for Asbestos

40 CFR 763 Subpart E	Asbestos-Containing Material in Schools (EPA regulation pursuant to AHERA)
40 CFR 763 Subpart E Appendix C	Asbestos Model Accreditation Plan, as amended for ASHARA (Asbestos School Hazard Abatement Reauthorization Act)

b. Amendments to these regulations are published in the *Federal Register*. It is important for users to ensure that they have all the latest amendments and interpretations. Users also should ensure that they have all current applicable state, local, and host country regulations.

c. FAA employees performing asbestos-related work, and their supervisors, must be familiar with AAF implementation guidance that pertains to the operations they perform. Other suggested reference documents include: Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024, June 1985; and Managing Asbestos in Place, EPA 20T-2003, July 1990.

d. In addition to the requirements of the regulations contained in paragraphs 1504a, 1504b, and 1504c, adherence to the provisions contained in applicable collective bargaining agreements concerning asbestos is required.

1505. DEFINITIONS.

a. Aggressive sampling. An air sampling technique whereby air samples are collected while fans or air circulating devices are operated in a work area, and while floors, walls, and other structural surfaces are sufficiently agitated using a device such as a leaf blower to entrain any particles that may be present. Aggressive sampling is used at the completion of abatement, after an area has been thoroughly cleaned.

b. Air monitoring. The process of measuring the airborne fiber content of a specific volume of air in a stated period. Air monitoring shall be performed in accordance with OSHA asbestos standards.

c. Area air sample. An air sample obtained by using a stationary air pump, with a sampling cassette in-line, to monitor air contaminants within contained or ambient air environments.

d. Asbestos. A class of magnesium-silicate minerals that includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

e. Asbestos abatement. Procedures to control fiber release from ACM and/or PACM in a building or to remove it entirely. These procedures may involve removal, encapsulation, repair, enclosure, encasement, and operation and maintenance programs.

f. Asbestos containing material (ACM). Any material that has been sampled, analyzed by an accredited laboratory, and confirmed to contain more than 1.0 percent asbestos of any type or mixture.

g. Asbestos Control Plan (ACP). A comprehensive written plan including policy and procedures for effective asbestos management, and covering at least the following areas: oversight of Class I and II asbestos abatement contracts; routine inspections and assessment of ACM/PACM; area sampling, exposure monitoring, and clearance determination; Class III and IV operations and maintenance (O&M) work performed by FAA employees, including an O&M Plan and related standard operating procedures (SOP); a facility asbestos abatement contingency plan for unanticipated releases of asbestos fiber in buildings and facilities during contracted Class I and II abatement projects; signage procedures; medical surveillance; training; recordkeeping; and quality control.

h. Asbestos fiber. A particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

i. Asbestos work.

(1) Class I asbestos work: Activities involving the removal, for abatement purposes, of thermal system insulation (TSI) and surfacing ACM and/or PACM.

(2) Class II asbestos work: Activities involving the removal, for abatement purposes, of ACM that is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

(3) Class III asbestos work: Repair and maintenance operations where ACM, including TSI and surfacing ACM and/or PACM, may be disturbed. Class III work includes maintenance work for which a small amount of ACM and/or PACM must be cut away to access mechanical or structural components of buildings. In order to qualify as Class III work (rather than Class I or Class II work), the amount cut away must be less than the amount that can be contained in a standard sized glovebag or waste bag (60" x 60").

(4) Class IV asbestos work: Maintenance and custodial activities during which employees contact but do not disturb intact ACM and/or PACM, and clean-up activities that take place in an area after a Class I, II, or III job has been completed. Class IV work may include tasks like buffing and polishing ACM and/or PACM flooring and vacuuming the dust on consoles. Class IV asbestos work does not include picking up and bagging asbestos waste and debris during Class I, II, and III work.

j. Baseline level sampling. Area air sampling that is performed prior to the onset of asbestos abatement work, and may be referred to as the background level.

k. Breathing zone. A hemisphere forward of the shoulder with a radius of 6 to 9 inches from the worker's nose. Employee exposure sampling must take place within this zone.

l. Building/facility owner. The legal entity that exercises control over management and recordkeeping functions relating to a building and/or facility in which activities covered by this chapter take place. For example, the FAA is the legal entity for all buildings and/or facilities owned by the FAA. GSA is the legal entity for GSA-controlled buildings and facilities occupied by FAA employees. For buildings and/or facilities leased to the FAA, the building/facility owner is the legal entity.

m. Center. Refers to the Mike Monroney Aeronautical Center and the William J. Hughes Technical Center.

n. Certified Industrial Hygienist (CIH). A person who has been certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

o. Clearance sampling. The practice of using air monitoring in order to approve an area for reoccupancy after an asbestos abatement project.

p. Competent person. A person who meets the intent of the definition in 29 CFR 1926.32(f) and who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them. Additionally, for Class I and Class II work, whose training meets the criteria in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C) for supervisor, or its equivalent. For Class III and Class IV work, a competent person who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(2). See 29 CFR 1926.1101(o)(1) for further clarification.

q. Comprehensive asbestos inspection. A building- or facility-wide inspection by an EPA-accredited asbestos inspector in current standing and whose training meets the criteria in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C) for inspector; and who is experienced in collecting bulk and area air samples in accordance with Asbestos Hazard Emergency Response Act (AHERA) regulations and EPA guidance. This inspection shall be performed in accordance with 40 CFR 763, Subpart E.

r. Containment. Isolation of the work area from adjacent areas or surrounding areas to prevent escape of asbestos fibers.

s. Critical barrier. One or more layers of plastic sealed over all openings from a work area, or any other similarly placed physical barrier sufficient to prevent airborne asbestos fibers in a work area from migrating to an adjacent area.

t. Disturbance. Activities that disrupt the matrix of ACM or PACM, that crumble or pulverize ACM or PACM, or that generate visible debris from ACM or PACM. Disturbance also includes drilling through ACM or PACM, or cutting away small amounts of ACM or PACM, no greater than the amount that can be contained in one standard-sized glovebag or waste bag (not exceeding 60 inches in length and width), in order to access a building component.

u. Employee exposure. That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

v. Facility asbestos abatement contingency plan (FAACP). An FAA document that details oversight and response procedures to be followed by facility management, employees, any FAA "competent person(s)," and the independent third party CIH during a Class I or II asbestos abatement project performed by a contractor (see paragraph 1506i).

w. Friable. Capable of being crumbled, pulverized, or reduced to powder by hand pressure when dry, resulting in a release of airborne fibers.

x. Glovebag. An impermeable plastic bag-like enclosure affixed around an asbestos-containing material (often TSI), with glove-like appendages through which material and tools may be handled so that the material may be removed while minimizing release of airborne fibers to the surrounding atmosphere.

y. High Efficiency Particulate Air (HEPA) filter. A filter capable of trapping and retaining 99.97 percent of all mono-dispersed particles (i.e., particles that are uniformly distributed within a volume of air) which are greater than 0.3 microns in diameter. A HEPA filter will capture asbestos fibers in ambient air.

z. Industrial hygienist. A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

aa. Intact. ACM that is not crumbled, pulverized, or otherwise deteriorated, so that the asbestos fibers are still bound with its matrix .

bb. Medical surveillance. A multi-disciplinary team activity requiring collaboration of FAA management and employees, industrial hygienists, health physicists, engineers, safety professionals, statisticians, nurses, and physicians to maintain and improve the health of the work force. The objective of medical surveillance of workers is to reduce occupational morbidity and mortality.

cc. Operations and Maintenance (O&M) Plan. A subset of the overall Asbestos Control Plan, which provides work practices that will maintain ACM in good condition, ensure proper responses to minor asbestos releases, prevent further releases of asbestos, and monitor the condition of ACM.

dd. Periodic monitoring. Area air monitoring that is performed to determine if there is a change in the concentration of airborne fibers.

ee. Permissible exposure limit (PEL).

(1) an 8-hour time-weighted average (TWA) airborne concentration of asbestos not in excess of 0.1 fiber per cubic centimeter of air, as determined by the method prescribed in Appendix A of the OSHA asbestos standard, or by an equivalent method, or

(2) an airborne concentration of asbestos not in excess of 1.0 fiber per cubic centimeter of air as averaged over a sampling period of 30 minutes, as determined by the method prescribed in Appendix A of the OSHA asbestos standard, or by an equivalent method.

ff. Personal air sample. An air sample obtained by having the worker wear a sampling pump in train with a sampling line and a cassette. The cassette is positioned in the breathing zone of the wearer (not inside a respirator, if worn).

gg. Presumed asbestos containing material (PACM). Thermal system insulation and surfacing material found in buildings constructed before 1981. For the purpose of this chapter, PACM may also include other types of materials (such as flooring, roofing, siding, and transite) determined by the FAC as having the potential to contain asbestos.

hh. Regulated area. An area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and other work areas within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the PEL.

ii. Removal. All operations where ACM and/or PACM is taken out or stripped from structures or substrates, including demolition operations.

jj. Surfacing material. Material that is sprayed on, troweled on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes.

kk. Thermal system insulation (TSI). Insulation applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain or water condensation.

ll. Work area. The area where asbestos-related work or removal operations are performed, which is defined and isolated to prevent the spread of asbestos dust, fibers, or debris, and to prevent entry by unauthorized personnel. The work area is a regulated area as defined in 29 CFR 1926.1101(b).

1506. KEY ASBESTOS CONTROL PROGRAM ELEMENTS.

a. Written Asbestos Control Plan (ACP). Each region and center (see definition of center, paragraph 1505m) shall develop and implement a written asbestos control plan (ACP) which includes, at a minimum, the key asbestos control program elements (sub-paragraphs b through l) identified in this paragraph, and also outlines how the region or center will comply with the regulatory requirements cited in paragraph 1504 and FAA Order 1050.20. The ACP shall cover all buildings and facilities within the region's or center's jurisdiction, and shall be made available for inspection by employees and their authorized representatives. The ACP shall be reviewed annually and updated as necessary.

b. Facility Asbestos Coordinator (FAC). A FAC shall be designated to manage the asbestos control program at a facility. One person may serve as the FAC for more than one local facility. This individual shall meet OSHA's requirement for "competent person" by maintaining current standing as an accredited asbestos supervisor in accordance with the criteria specified in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C).

c. Asbestos Inspection and Abatement Procedures. The ACP shall include procedures for obtaining and maintaining information about the presence, location, and condition of ACM and/or PACM in all buildings and facilities occupied by FAA employees, including those that are FAA-owned or -leased and those controlled by GSA. Procedures shall include, at a minimum, the following:

(1) All FAA-occupied buildings and facilities constructed prior to 1981 shall be presumed to contain ACM and be treated accordingly. The FAC shall assess whether there is ACM and/or PACM in buildings and facilities constructed in 1981 or later on a case-by-case basis.

(2) Prior to commencement of a renovation or demolition project, the affected facility or the part of the facility where the work will occur shall be thoroughly inspected for the presence of asbestos by the FAC or by a person meeting OSHA’s definition of “competent person.”

(3) All FAA-occupied buildings and facilities identified as containing ACM and/or PACM shall be visually inspected at least annually by the FAC or another employee designated by the FAC and trained in accordance with paragraph 1506e(2)(b), to assess the condition of the ACM and/or PACM, and to determine if correction is needed. The FAC shall determine the necessity for bulk sampling or area air monitoring during these inspections.

(4) For O&M jobs involving disturbance of PACM building materials, the FAC shall determine whether to implement the controls outlined in the OSHA asbestos standard for construction or to have the building materials analyzed by a qualified laboratory in order to rebut the presumption of ACM.

(5) When a potential health hazard to building occupants exists due to the presence of damaged or friable ACM and/or PACM, abatement procedures shall be initiated as soon as possible.

d. Labels and Signs.

(1) Asbestos warning signs shall be posted at all regulated areas. Signs shall be posted at such distance from a regulated area so that an employee can see them and take protective steps to avoid entering the area marked by the sign.

(2) Signs shall be posted at the entrance to mechanical rooms/areas containing ACM and/or PACM into which employees can reasonably be expected to enter. Signs shall direct employees to the proper protocols document that includes the material that is present, its location, and appropriate work practices to ensure that ACM and/or PACM will not be disturbed.

(3) Where feasible, warning labels shall be affixed to previously identified thermal insulation or surfacing that is ACM and/or PACM, i.e., in areas where routine maintenance takes place and/or where there is reasonable likelihood of contact with these materials. Labels must be attached where they will be clearly visible to employees entering the area, such as at the entrance to a mechanical room. Signs may be posted in lieu of labels if they contain required labeling information.

(4) All signs and labels must be placed or affixed by an EPA-accredited inspector in collaboration with the FAC.

e. Training and Communications.

(1) The appropriate level of asbestos training, as described below, shall be provided at no cost to all FAA employees.

(2) FAA employees required to perform Class III or Class IV work shall be trained as follows:

(a) For FAA employees who will do general Class III work in which ACM is only "disturbed" (see definition of "disturbance" in paragraph 1505t), OSHA requires training equivalent to the EPA Operations and Maintenance course for maintenance and custodial workers, described in 40 CFR 763.92(a)(2). This training requires a minimum of 16 hours and must include hands-on training. In addition, as specified in 29 CFR 1926.1101(k)(9)(v), if the FAC determines that the EPA curriculum does not adequately cover the training needed to perform a given activity, additional training shall be given, including the elements outlined in 29 CFR 1926.1101(k)(9)(viii) and hands-on training related to that activity. Initial training must be completed before the worker's activity begins, and at least annually so long as the worker is involved with ACM and/or PACM.

(b) Maintenance and custodial workers who will only come into contact with ACM and/or PACM, but will not disturb it (Class IV), shall receive training in accordance with 29 CFR 1926.1101(k)(9)(vi). The training is at least 2 hours, and is equivalent to the EPA awareness course for maintenance and custodial workers, described in 40 CFR 763.92(a)(1). Initial training must be completed before the worker's activity begins, and at least annually so long as the worker is involved with ACM and/or PACM.

(3) All building/facility occupants and others (e.g., janitorial service employees) who regularly are in the building or facility containing ACM and/or PACM shall be informed about its presence in the building and shall be cautioned against disturbing these materials by, for example, hanging plants from ceilings, driving nails into walls, allowing furniture to dent or to rub abrasively against walls, or digging at TSI or flooring materials.

f. Area, Exposure, and Clearance Determinations.

(1) Area air sampling.

(a) Baseline level sampling. Baseline level air samples are required prior to any Class I and Class II asbestos abatement work. Class III asbestos abatement work may require baseline level air sampling. The type of baseline level sampling will be determined by the clearance sampling method required for a particular project.

(b) Clearance sampling. Area air samples, analyzed by Phase Contrast Microscopy (PCM), shall be used to determine whether a work area or building/facility may be reoccupied after asbestos abatement work has been completed. In certain instances, clearance samples may be analyzed by the Transmission Electron Microscopy (TEM) method.

(c) Periodic monitoring. Periodic area air monitoring shall be performed as part of routine O&M ACM and/or PACM activities as outlined in the O&M Plan; as required by OSHA and/or by the facility asbestos abatement contingency plan for perimeter monitoring during Class I and II asbestos abatement operations; and as deemed appropriate by the FAC.

(2) Exposure assessments. Exposure assessments for FAA employees performing Class III and Class IV work shall be performed in accordance with 29 CFR 1926.1101(f) and as described in paragraphs 1506f(2)(a), (b), or (c). Affected employees or their designated representatives shall be provided an opportunity to observe any monitoring of employee exposure to asbestos.

(a) For FAA employees, initial exposure assessments shall be performed at the beginning of each job involving Class III work. Exposure assessments are conducted to predict whether exposure levels will exceed the PEL's established in the OSHA standards. These assessments are used to decide whether periodic monitoring and other precautions will be needed. This initial exposure assessment shall be based on monitoring conducted pursuant to 29 CFR 1926.1101(f)(1)(iii). The sampling shall be conducted by an industrial hygienist or an air monitoring technician under the direct supervision of the CIH. It must include samples collected under work conditions having the greatest potential for releasing asbestos fibers.

(b) Negative exposure assessments (NEA) for SOP's shall be performed in accordance with 29 CFR 1926.1101(f)(2)(iii). Data supporting the NEA cannot be more than 12 months old at the time of the current or projected job.

(c) The case of an unanticipated or episodic event (e.g., excessive vibration due to construction, earthquake, or forklift rupture) that may have caused a release of airborne asbestos fibers into occupied work spaces shall be addressed in the facility O&M Plan.

g. Class I and II Asbestos Abatement. Class I and II asbestos abatement projects shall be conducted by contractor employees in strict accordance with Federal, state, and local regulatory requirements and FAA orders, particularly AF Order 1050.20.

(1) Asbestos abatement specifications shall be site-specific and include detailed procedures to be used by the abatement contractor to abate the asbestos safely and thoroughly while ensuring the safety and health of employees in the facility.

(2) The abatement contractor shall prepare a written asbestos abatement plan that shall comply with the requirements of the project specifications, and be compatible with the current facility asbestos abatement contingency plan and other applicable FAA orders and guidelines.

(3) Project oversight and environmental monitoring shall be performed by an independent third party CIH employed by an industrial hygiene firm contracted by the FAA.

h. Operations and Maintenance (O&M) Plan. The FAC shall manage ACM and/or PACM that are in place in FAA buildings and facilities through the implementation of an asbestos operations and maintenance (O&M) plan. The goals of this plan are to minimize the possibility of an asbestos exposure event through implementation of an effective in-place management plan that includes SOP's and work practices.

(1) The FAA O&M Plan includes Class III removal of TSI, surfacing ACM, nonfriable asbestos flooring, roofing, and building composite materials, routine operations and maintenance tasks that "disturb" ACM and/or PACM, and Class IV housekeeping activities in locations posted as containing ACM (e.g., mechanical rooms).

(2) The ACP shall include or refer to a written O&M Plan detailing procedures, responsibilities, and accountability in matters concerning management of ACM and/or PACM in both occupied and nonoccupied buildings and facilities.

(3) The written O&M Plan shall follow all applicable OSHA and EPA requirements for the performance of Class III or IV work, including training, demarcation of regulated areas, use of containment controls, negative exposure assessment, area and personal air sampling, signs and labels, respirator and personal protective equipment use, medical surveillance, recordkeeping, and oversight by a "competent person."

i. Facility Asbestos Abatement Contingency Plan (FAACP).

(1) A written facility asbestos abatement contingency plan (FAACP) shall be developed for occupied buildings and facilities that details oversight and response procedures to be followed by facility management, employees, any FAA "competent person(s)," and the independent third party CIH during a Class I or II asbestos abatement project performed by a contractor.

(2) The FAACP shall be kept current and contain at least the following:

(a) Notification listing of primary contacts to be used when an abatement-related asbestos incident has occurred.

(b) Procedures to be followed by management, the project engineer, the FAC, any other applicable FAA "competent person(s)," the independent third party CIH, and any other key individuals when there has been an incident (e.g., breach in containment or loss of negative pressure) resulting in potential release of airborne asbestos fibers. Procedures shall include requirements for area air and personal exposure monitoring.

(c) Procedures for re-occupancy of the building/facility.

j. Medical Surveillance.

(1) A medical surveillance program shall be instituted to cover FAA employees, such as Class III O&M workers and construction abatement overseers, who for a combined total of 30 or more days per year perform such work or have been exposed at or above a PEL, in accordance with 29 CFR 1926.1101(m). The program shall include written procedures for providing the examining physician with the information specified in 29 CFR 1926.1101(m)(3).

(2) Any day in which such worker fully follows the prescribed work practices and engages in O&M work on intact material for 1 hour or less (including cleanup) will not count toward the 30-day total.

(3) If such worker's duties require exposure to asbestos fewer than 30 days in a year, but do require the use of a negative-pressure respirator, then medical surveillance will be limited to determining that the worker is physically able to perform the work and to wear a respirator. The determination will be made in accordance with the requirements of the OSHA respirator standard, 29 CFR 1910.134(e). A physician or other licensed health care professional shall supervise this determination.

(4) Medical surveillance for bystander workers is limited to unanticipated, episodic releases of airborne asbestos fibers in accordance with the information in figure 15-1, Policy Memo #AEE097-01, Medical Surveillance Requirements for FAA Employees Following Unanticipated, Episodic Releases of Asbestos Containing Dust, dated December 23, 1996.

k. Recordkeeping.

(1) Records concerning the identification, location, and quantity of ACM and/or PACM in FAA-owned buildings and/or facilities shall be maintained for the duration of ownership, and shall be transferred to successive owners. For FAA-leased and GSA-controlled buildings and/or facilities, notifications of the presence of ACM and/or PACM are required from building owners and shall be maintained in the buildings and/or facilities for the duration of the occupancy. Copies of all records shall be maintained in locations designated by the region and center ACP.

(2) All facility inspection reports (including bulk and air sampling results) shall be retained in a permanent ACM and/or PACM file in the building/facility or if an unoccupied building/facility or FAA housing then in an office designated by the FAC. Periodic visual inspection records shall be retained in an active file until the next comprehensive asbestos inspection, after which they may be archived. If bulk sampling is performed to demonstrate that PACM does not contain asbestos, the data shall be retained so long as they are relied upon to rebut the presumption.

(3) Following an asbestos abatement project, the final report from the independent third party CIH shall be maintained in an accessible location.

(4) Permanent building/facility records also shall include records of all O&M work on the ACM and/or PACM in the building and/or facility.

(5) Records of all measurements made to monitor employees' exposure to asbestos shall be maintained at least 30 years. Copies of employee exposure records shall be maintained in the region and center human resources office and in locations designated by the region and center ACP.

(6) Employee asbestos medical surveillance records, including written evaluations of employees' ability to wear respirators, shall be maintained for the duration of the employee's employment plus 30 years. Regional flight surgeons shall be the custodians of these records.

(7) Training records shall be maintained for at least 1 year beyond the last date of employment.

l. Quality Assurance/Quality Control (QA/QC) Program.

(1) The written ACP shall include procedures for a QA/QC program to ensure that QA/QC is maintained in the collection and analysis of asbestos bulk samples and both area and personal air samples.

(2) Sampling and analysis shall be performed in accordance with current OSHA and EPA requirements as follows:

(a) Samples shall be identified, stored, and delivered to a laboratory for analysis following chain-of-custody procedures.

(b) Analysis of samples shall be performed by persons or laboratories with proficiency demonstrated by current successful participation in a nationally recognized testing program like the National Voluntary Laboratory Accreditation Program (NVLAP) or the National Institute for Standards and Technology (NIST) Proficiency Analytical Testing (PAT) program administered by the American Industrial Hygiene Association (AIHA). If microscopy is performed on site, the microscopist must have completed the NIOSH 582 course or equivalent. This person must also be registered with the AIHA Asbestos Analysis Registry (AAR) or have been successful in the most recent four rounds of the PAT program. Sample analysis shall follow the analytical method specified in the sampling strategy identified in the regulations and/or agency guidance.

(c) Asbestos bulk samples (collected during building surveillance and re-inspections) shall be collected according to EPA's revised bulk sample analysis method in "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116). Samples must be collected by an AHERA-certified inspector or by a CIH.

(d) Asbestos personal air samples, baseline level samples, area air samples, and perimeter monitoring for Class I, Class II, and Class III work shall be collected according to the National Institute of Occupational Safety and Health (NIOSH) Method 7400 and analyzed by Phase Contrast Microscopy (PCM) as specified in 29 CFR 1926.1101 Appendix A. In certain instances, samples will be analyzed by the TEM method.

1507. ACRONYMS. The following acronyms apply to this chapter:

AAR	Asbestos Analysis Registry
ACM	Asbestos Containing Material
ACP	Asbestos Control Plan
AEE	Office of Environment and Energy
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
ANS	NAS Transition and Integration
ARTCC	Air Route Traffic Control Center
ASHARA	Asbestos School Hazard Abatement Reauthorization Act
CIH	Certified Industrial Hygienist
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAACP	Facility Asbestos Abatement Contingency Plan
FAC	Facility Asbestos Coordinator
GSA	General Services Administration
HEPA	High Efficiency Particulate Air
NEA	Negative Exposure Assessment
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute for Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos Containing Material
PAT	Proficiency Analytical Testing
PEL	Permissible Exposure Limit
PCM	Phase Contrast Microscopy
QA/QC	Quality Assurance/Quality Control
SOP	Standard Operating Procedure
TEM	Transmission Electron Microscopy
TSI	Thermal System Insulation
TWA	Time Weighted Average

1508-1599. RESERVED.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996

U.S. Department
of Transportation
**Federal Aviation
Administration**

Memorandum

ACTION: Policy Memo # AEE097-01.

Subject: Medical Surveilance Requirements for FAA Employees Following Unanticipated, Episodic Releases of Asbestos Containing Dust

Date: DEC 23 1996

From: Assistant Administrator for Policy, Planning, and International Aviation, API-1 (Designated Agency Safety and Health Official)

Reply to Attn. of:

To: Regional Administrators
Airway Facilities Division Managers
Air Traffic Division Managers
Regional Flight Standards Division Managers
Airports Division Managers
Regional Flight Surgeons

This policy[1] delineates the position of the agency with regard to medical followup procedures for FAA employees who work in areas adjacent to asbestos-related construction activities and who may have been exposed to airborne asbestos fiber when there has been an unanticipated failure of containment controls on one or more occasions. This policy is in addition to the requirements under 29 CFR 1926.1101(d)(3), which states that all employers of employees exposed to asbestos hazards created by another employer performing construction-related asbestos activities shall comply with applicable protective provisions to protect their employees.

This policy also shall apply to episodic occurrences not originating with construction activities that cause damage to asbestos-containing building materials (ACBM), and result in subsequent release of asbestos dust into the air. Examples of these include earthquakes, vibration due to heavy ground or air traffic, an accidental puncture of insulated piping by a forklift, etc. All will require construction-related activities for repair and, therefore, should be viewed as falling within the scope of the asbestos standard for construction.

"Bystander employees" is a term the Occupational Safety and Health Administration (OSHA) has initiated to describe those workers whose job duties require them to occasionally work near or adjacent to other workers engaged in asbestos abatement or in maintenance activities involving asbestos containing materials (ACM). The FAA's air traffic controllers, employed in facilities where occasional asbestos-related construction activities take place, are examples of bystander employees under the OSHA standard. Construction activities include, but are not limited to, removal of asbestos containing insulation materials, repairing or replacing damaged ACBM, and maintenance of air handling units in areas where ACM could be disturbed.

[1] This policy will serve as interim policy until it is incorporated as an appendix in the agency's asbestos directive (Order 3900.XX), currently under development.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

The OSHA standards for asbestos (29 CFR 1910.100l[1] and 29 CFR 1926.1101[1]) do not specifically address medical surveillance requirements for *bystander employees* who are exposed to unanticipated releases of asbestos fibers. In September 1995, a memorandum was drafted by AEE and routed through the Office of the Secretary of Transportation to the OSHA requesting clarification in this matter. OSHA's response was received on December 6, 1995, and is attached.

In accordance with the OSHA, the FAA's policy is that full-scale medical surveillance is indicated for bystander employees only when they have received exposures to airborne asbestos fibers at or above the OSHA permissible exposure limits (PEL's) for a combined total of 30 days or longer per year, as demonstrated by breathing zone air samples which have been analyzed via phase contrast microscopy (PCM). This requirement applies independent of whether or not *bystander employees* have been assigned respirators.

Current OSHA employee (PEL's)[1] include:

- Time-weighted average limit (TWA) of 0.1 fibers per cubic centimeter (f/cc) of air as averaged over an 8-hr time period.

- Excursion Limit (EL) of 1.0 f/cc of air as averaged over a sampling period of 30 minutes.

The procedure for establishing *bystander employee* exposure in excess of the OSHA PEL's, and when inclusion in the FAA medical surveillance program should begin is outlined below.

1. <u>When the exposures of *bystander employees* are supported by valid employee air monitoring</u>.[1] Collection of valid employee data during most unanticipated releases of asbestos-containing dust will be a rare occurrence, because of their inherent unpredictability. Because of this, a facility contingency plan (or similar emergency planning document) should be in place prior to undertaking Class I, II, or III asbestos work as defined by the asbestos standard for construction, and should include details about when to initiate personal air monitoring of *bystander employees.* Only personal monitoring collected in accordance with OSHA-approved methods legitimately can be used for comparison with OSHA employee exposure limits. This means the sampling cassette (filter) is actually placed within an employee's breathing zone, usually designated as within 1 foot of the employees head, on representative employees. Area or environmental monitoring that

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[2] Amended by OSHA August 10, 1994 (59 FR 40964). The startup date of some provisions of the standard, including medical surveillance, were extended to October 1, 1995 (60 FR 33343, 6/28/95).

[3] Formerly 29 CFR 1926.58. The startup dates also were extended as noted above.

[4] The OSHA Action Level has been discontinued and is not included in the current asbestos standards.

[5] Air sampling would not be useful or valid, for example, when time has elapsed between the release and its discovery, during which operation of the ventilation system, the settling of dust, the redistribution of asbestos-containing dust, or all of the above also has occurred.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

commonly done to verify the adequacy of containment controls during asbestos abatement work, while informative, shall not be used as surrogate employee exposures.

For documented employee exposures, medical surveillance shall be provided as follows:

A. When exposures meet or exceed the OSHA PEL (TWA or EL) fewer than 30 days in a calendar year.

(1) One-time medical counseling by the Regional Flight Surgeon (RFS) or his/her designee may be provided within 15 working days to an exposed employee following a documented event at FAA's expense, if requested by that exposed employee. A record of the counseling shall be added to the employee's medical folder.

(2) An OWCP form CA-2 may be prepared by the exposed employee within 30 days following exposure for inclusion in his/her medical folder.

(3) The regional safety office shall maintain a record of employee exposures along with supporting air monitoring documentation. Copies of these records shall be made available to appropriate *bystander employees* upon request.

(4) Steps (1) through (3) above shall apply when there has been a positive determination of employee exposure pursuant to paragraph 2.

B. When 30 or more days of exposure have been documented in a single calendar year.

(1) The medical surveillance requirements detailed in 29 CFR 1926.1101(m) shall be activated within 10 days following the 30th day of exposure.

(2) Specific recordkeeping requirements for exposure measurements and medical surveillance covered by 29 CFR 1926.1101(n)(2) and 1926.1101(n)(3), respectively, shall be initiated at this time.

2. When the exposures of *bystander employees* are not supported by valid employee air monitoring.

A. The Regional Program Manager for Environment and Safety (RPMES), in coordination with the Regional Occupational Safety and Health Manager (ROSHM) and AXX-450, shall collect the information in (1) and (2) below prior to meeting with the RFS for the purpose of deciding together the likelihood that employee exposure above the PELs has occurred.

(1) Assemble complete descriptive information of the event. The RPMES is responsible for collecting and compiling, within 30 days, written descriptive

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

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chronologies of events as perceived by: himself/herself, the affected employees, the contracting employer's representative, and others as appropriate. This chronology should include, if available, the information listed below:

- Date and time of event.
- Number and location of *bystander employees* at time of event
- Floor plan or sketch showing source of asbestos release relative to location of each *bystander employee*.
- Duration of time between actual release and discovery of event.
- Length of time between discovery of event and installation of controls, including work stoppage, evacuation of employees, donning of respirators (if applicable), repair of critical barriers, shutting off ventilation, etc.
- Additional information as needed to complete the evaluation.

(2) Assemble relevant air monitoring data**.** Any air monitoring and analytical data collected subsequent to the event shall be obtained by the RPMES. The data should include:

- Description of air monitoring pumps, flow rates, calibration dates and times, length of time between incident and initiation of air monitoring (or best estimate), monitoring duration times, number of blanks submitted with samples, etc.
- For personal monitoring, each employee's name and location; for area monitoring, the locations of pumps should be should shown on building floor plans.
- Laboratory accreditation number for the lab which analyzed the samples, or other proof of its participation in the American Industrial Hygiene Association Proficiency Analytical Testing (PAT) Program.
- Laboratory analytical results based on phase contrast microscopy (PCM) performed in accordance with OSHA-approved methods. Note: Supplementary data from transmission electron microscopy (TEM) performed using the NIOSH Method 7402 may be included. AHERA TEM analytical data will not be used for assessing employee exposures.
- Additional information as required for evaluation purposes.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

(3) Prepare written recommendation. The RFS shall forward to AEE-200 a written rationale, prepared in coordination with the RPMES, ROSHM, and other qualified regional staff, for recommending whether or not the above data support a determination that bystander employees' exposure was in excess of the PEL's.

B. Determination. The determination of whether a *bystander employee* has received a recordable exposure in excess of either or both of the PEL's shall be made by AEE-200, following the review of all relevant information contained in paragraphs 2A(1) and 2A(2), plus the rationale for the recommendation submitted by the RFS. The review shall be performed in coordination with the Federal Air Surgeon or his designated representative within 30 days.

(1) If the determination supports bystander employee exposure in excess of one or both of the PEL's then paragraph 1 applies.

(2) If the determination does not support bystander employee exposure in excess of one or both of the PEL's, then no further action is required under the OSHA standards.

C. Report. A brief report detailing reasons for the determination pursuant to paragraph 2B shall be prepared by AEE-200 or designated representative and provided to the Federal Air Surgeon or his designated representative for inclusion in each applicable *bystander employee's* medical folder. A copy will be sent by AEE to the RFS who submitted the recommendation. The RFS will then use the report as notification to each affected *bystander employee* within 15 working days following the report's official date.

3. Retention of Records.

A. Employee exposure records. Each employee exposure record shall be preserved and maintained for at least thirty (30) years.

B. Employee medical records. Each employees's medical records shall be preserved and maintained for at least the duration of employment plus thirty (30) years.

This policy is effective immediately and is not retroactive, i.e., it affects only future unanticipated exposures as described on the first page of this policy memorandum. Employees already included in employee asbestos monitoring programs will not be removed from those programs.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

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If you have questions concerning this policy, please contact Jeanne Kosch, Occupational Safety and Health Program Manger for Policy, AEE-200, at (202) 267-9719.

Barry L. Valentine

Attachment

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, condt.

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

DEC 6 1996

Ms. Janet Kraus
Chief, Administrative
Services Policy Division
U.S. Department of Transportation
Office of the Secretary of
Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Ms. Kraus:

This is in response to your recent inquiry regarding the applicability of 29 CFR 1910.1000 to "bystander" worker expo-
Sure which results from the removal, renovation, or demolition of asbestos containing materials during construction activities. Additionally, you express concerns regarding the applicability of medical surveillance to these "bystander" employees.

Workers engaged in construction activities, i.e. asbestos removal, renovation, or demolition are covered by the standard contained in 29 CFR 1926.1101. Workers of adjacent work sites are also covered by the construction standards contained in 29 CFR 1926.1101. Thus, those employees you refer to as "bystanders" are provided protection from asbestos exposure resulting from the removal, renovation, or demolition activi-
ties by the 1926 standard.

Regarding the issue of whether or not medical surveillance programs must be developed for "bystander" employees on asbestos abatement worksites, that will depend entirely on the exposure to the "bystander" employee. If bystanders are exposed for 30 days or more above the PEL, medical monitoring in accordance with 29 CFR 1926 is applicable. However, it is not anticipated that, in most instances bystander employees will be exposed for greater than 30 days per year.

If we can of further assistance to you, please contact me at 202-219-9329, extension 170.

Sincerely,

John E. Plummer, Director
Office of Federal Agency Programs