

Training Topic:

OSHA REGULATIONS

Introduction

Complying with the FARs (Federal Aviation Regulations) is a major focal point of every flight department. Complying with OSHA (Occupational Safety and Health) regulations, on the other hand, is a topic generally given lower significance by flight departments even though, interestingly enough, the number of injuries on the ground is statistically much higher than the number of injury occurrences in the air.



The aviation industry has always prided itself on its safety record. So why should the workplace be any different? Employees have the right to a safe working environment and compliance with OSHA regulation is proof your organization is up holding the safest standard possible. However, OSHA compliance is more than just about following regulations its about protecting your workers and protecting your company. One accident or injury could have serious legal and public relation consequences. Avoiding this kind of trouble is in everyone's best interest. But where to start? The OSHA standards can be a endless labyrinth with perplexing applicability. This safety training element will bring to your attention the significant OSHA regulations that apply to the typical business aviation flight department and what these regulations mean to you the operator.

Common OSHA regulations:

- ⇒ Fire Protection and Evacuation (29 CFR 1910.33 & 1019.155)
- ⇒ Respiratory Protection (29 CFR 1910.134)
- ⇒ Hearing Conservation Program (29 CFR 1910.95)
- ⇒ Bloodborne Pathogens (29 CFR 1910.1030)
- ⇒ Personal Protection Equipment (29 CFR 1910.132)
- ⇒ Powered Industrial Trucks (29 CFR 1910.95)
- ⇒ Fall Protection (29 CFR 1926.21)
- ⇒ Hazard Communication Standard (29 CFR 1910.1200)
- ⇒ Hazardous Waste Operations (29 CFR 1910.120)

Fire Protection and Evacuation (29 CFR 1910.33 & 1019.155)

Aviation fuels present a potential major fire hazard if an uncontrolled release occurs, especially in an enclosed structure such as a hangar. Residual flammable or combustible chemicals from maintenance procedures, whether on floor surfaces or rags, pose additional fire hazards. All flammable and combustible materials should be handled and stored in accordance with the manufacturer's recommendations.

Potential ignition sources present in the workplace include electricity, open flame, and sparks. Ignition sources should be isolated from potential fuel sources to the maximum extent practicable. Electrical cords should be inspected prior to use for integrity of insulation. An extension cord should not be used for the permanent installation of equipment. Posted "No Smoking" signs should be obeyed by all personnel. Procedures that produce sparks should be performed away from potential fuel sources when practicable.

Other topics for consideration concerning fire protection include:

- ⇒ Fire Extinguishers and Alarm Systems
- ⇒ Observation of Fire or Smoke
- ⇒ Evacuation Routes & Procedure
- ⇒ Emergency Telephone Number Lists



Respiratory Protection (29 CFR 1910.134)

A Respiratory Protection Program is intended to prevent injury and illness resulting from exposure to oxygen deficient atmospheres and harmful gases and aerosols. The Program is also intended to prevent injury to personnel due to the improper selection, use, or maintenance of respirators. Respirators should be provided to affected Department personnel at no cost to the employee.

The Program applies to all Flight Department personnel who use respirators while conducting work with hazardous materials. Aircraft maintenance personnel are usually the only Department employees authorized to wear respirators in Department workplaces. This Program does not apply to aircraft oxygen systems, medical inhalators and resuscitators, or the use of dust masks to limit exposure to nuisance dust.

Other topics for consideration concerning respiratory protection include:

- ⇒ Training
- ⇒ Respirator Selection & Fit Testing
- ⇒ Medical Evaluation
- ⇒ Respirator Use and Care



Hearing Conservation Program (29 CFR 1910.95)

SOURCES	LEVEL (dB)
Whispered Voice	20-30
Urban Home, Average Office	40-60
Average Male Conversation	60-65
Noisy Office, Low Traffic Street	60-80
Jet Transport (Cabin)	60-88
Small Single Plane (Cockpit)	70-90
Busy City Street	80-100
Single Rotor Helicopter (Cockpit)	80-102
Power Lawn Mower, Chain Saw	100-110
Snowmobile, Thunder	110-120
Rock Concert	115-120
Jet Engine (Proximity)	130-160

The Hearing Conservation Program is intended to prevent permanent or temporary hearing loss resulting from employee exposure to workplace noise and to comply with the Occupational Noise Exposure requirements of 29 CFR 1910.95. The Program applies to Department employees who are exposed to noise levels at or above an 8-hour Time Weighted Average (TWA) of 85 dBA or, equivalently, a dose of fifty percent. All actions called for under this Program, which are predicated upon noise level exposure, should be made without regard to attenuation provided by hearing protectors.

Maintenance technicians may be exposed to noise levels up to 111 dBA for short duration while working near aircraft engines. Therefore, a flight department should provide hearing protection and audiometric testing for maintenance technicians.

Noise Monitoring

Noise monitoring is conducted to verify that no department employees are exposed to the OSHA action level of 85 dBA or greater for an 8-hour TWA during routine or reasonably anticipated non-routine tasks. Noise monitoring should be repeated when changes in equipment or controls may result in employees being exposed at or above the action level.

Hearing Protection

All employees exposed to noise should be provided with hearing protection, at no cost to the employee. Hearing protection should be worn by employees exposed to workplace noise at or above 85 dBA. All hearing protectors required under this Program should be worn as recommended by the manufacturer.

**Retention of Records**

Noise exposure measurement records should be retained in an accurate and accessible manner by the Safety Manager/Officer for two (2) years following the date of the measurement. Exposure records maintained pursuant to this Program are accessible to each affected employee as outlined in Access to Employee Exposure and Medical Records.

Bloodborne Pathogens (29 CFR 1910.1030)

This OSHA standard requires an exposure determination of all employees who may incur occupational exposure to blood or other potentially infectious materials (OPIM). This determination is made without regard to whether an employee uses personal protective equipment. The following job classifications are the employees who could have occupational exposure to bloodborne pathogens:

- ⇒ First-aid Responders
- ⇒ Go-team members

The employees in this job classification could have occupational exposure to bloodborne pathogens during on-site accident investigation.



Personal Protection Equipment (29 CFR 1910.132)

Each department facility must be assessed to identify hazards requiring the use of PPE. A written certification of workplace hazard assessment is required as defined in 1910.132. Supervisors must select, and require the use of, PPE that is suitable for protection from the identified hazards. Affected personnel, and their immediate supervisors, must be fitted for and instructed in the proper use and care of selected PPE. All personal protective equipment specifically required should be provided by the Department at no cost to the employee.



Powered Industrial Trucks (29 CFR 1910.95)

Only designated should be permitted to operate any powered industrial vehicle. Department personnel who have not successfully completed the Department's training and certification program, relevant to a particular vehicle, are prohibited from operation of the vehicle under any circumstances. This includes all operators regardless of previous experience. Details of training and certification requirements and frequency should be listed in a training manual.

Provisions for periodic inspections and maintenance of all covered vehicles should be made in accordance with manufacturer's recommendations. All inspections must be documented. Documentation should remain on the vehicle until the last operation of the day.

All powered industrial vehicles are to be maintained and operated in accordance with manufacturer's recommendations. Alterations to vehicles not approved by the manufacturer should be prohibited. Operation of any powered industrial vehicle for uses other than those approved by the manufacturer should be prohibited.



Powered industrial vehicles should be prohibited from use where any uncontained flammable or combustible liquids are present. All such liquids must be removed and the area adequately ventilated to remove any flammable or combustible gases prior to operation of any vehicle in near proximity.

Personnel should be prohibited from operating any powered industrial vehicle while under the influence of medication labeled with a caution against driving and/or operating heavy machinery. This restriction should remain in effect for 24 hours after taking the medication.

Fall Protection (29 CFR 1910.21)



All employees who work in areas that contain fall hazards of six feet or greater should use appropriate fall protection or fall restraint. Where practical, fall protection is the preferred method.

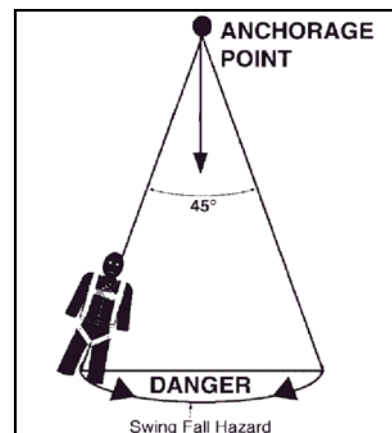
Inspection and Maintenance

Fall protection and fall restraint devices should be maintained in serviceable condition and in accordance with manufacturer's recommendations. Each piece of protection equipment and restraint device must be inspected at least monthly to assess condition. Each monthly inspection should be documented. When a device is found to be unserviceable or suspect, the device should be taken out of service via appropriate labeling and a Maintenance Supervisor should be notified as soon as possible. Additionally, each fall protection/fall restraint device must be inspected by the user prior to each use.

Fall Restraint Devices

Fall restraint is provided for work on elevated portions of aircraft. To reduce any pendulum effect, the work area should be placed directly below the hangar cable system. In no case should work be performed with the lifeline outside of a 45-degree cone from the vertical. The lifeline should be attached to a tight-fitting harness prior to ascent to the work area. The lifeline should be allowed to retract unrestricted without any slack remaining. Disconnecting of the lifeline should be performed after descending from the work area.

In the event of a fall while using a fall restraint device, immediately notify emergency fire and medical services for extraction and medical follow-up. Breathing is restricted while suspended in a fall restraint harness. For this reason, fall restraint devices should not be relied upon while working alone. An alternate form of fall protection should be selected while working alone.



Certain fall restraint system components are designed to bend or deform to absorb the energy of a fall. As such, all components involved in arresting a fall shall be taken out of service immediately and labeled as such until an inspection is performed by a qualified representative of the manufacturer. All damaged items should be replaced/ repaired prior to returning the system to service.

Hazard Communication Standard (29 CFR 1910.1200)

Education and training should be provided for all employees who may be or potentially may be exposed to hazardous chemicals in the work place. The training should be conducted prior to first exposure to the chemical (during on-the-job orientation) and whenever a new hazardous chemical is introduced into the work place. All employees should be informed of the location of the written hazard communication program, chemical listing, and MSDSs.

Other topics for consideration concerning hazard communication include:

- ⇒ Container labeling
- ⇒ List of hazardous chemicals
- ⇒ Material safety data sheets
- ⇒ Information and training
- ⇒ Non-routine hazardous tasks
- ⇒ Subcontractors and other employees

Hazardous Waste Operations and Emergency Response (29 CFR 1910.120)

Hazardous wastes are generally considered industrial wastes that can endanger human health or the environment. Each government agency that is concerned with hazardous materials management (Occupational Safety and Health Administration [OSHA], Department of Transportation [DOT], Environmental Protection Agency [EPA]) has their own definition of hazardous materials.

OSHA considers any chemical that poses a physical or health hazard to an employee to be a hazardous chemical. Employees can familiarize themselves with the hazards of the chemicals they use through Material Safety Data Sheets (MSDS) and container labels. Refer to Hazard Communication for further information.

DOT considers any substance or material which is capable of posing an unreasonable risk to health, safety, and property when transported in commerce to be a hazardous material. A material that is a hazardous chemical under OSHA regulations may not be considered a hazardous material by DOT.



EPA considers hazardous waste to be any material that is a waste and either exhibits a hazardous characteristic or is specifically listed by the EPA.

Emergency Response

Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of emergency response planning under **29 CFR 1910.120** if they provide an emergency action plan in accordance with **29 CFR 1910.38**.

Emergency Plan 29 CFR 1910.38

This plan provides procedures for emergencies such as, employee evacuation, power outages, fires, bomb threats, severe weather, and natural disasters.

An Emergency Evacuation Coordinator should be assigned with the maintenance of the facility's evacuation plan, communication of the plan to local emergency responders, and the posting of evacuation route maps in each work area.

Employees should be made aware of the Facility Emergency Plan. This includes knowledge of emergency procedures, location of emergency exits, and escape routes to safe areas in case of emergency evacuation. Any employee witnessing a potential fire hazard affecting department workplaces, personnel, or property should know how to report the hazard immediately.



Conclusion

Though not all the OSHA standards applicable to your company may have been addressed in this safety training element, you should now have a general understanding of the most common OSHA requirements flight departments must deal with. Operators should regularly evaluate themselves to discover any deficiencies and/or comply with any change in regulation.

For further information visit the following websites:

OSHA Standards 29 CFR 1910: <http://www.osha.gov/>

Free Material Safety Data Sheets: <http://www.msds.com/>

Policy examples on various safety topics: <http://www.nbaa.org/admin/sms/manual/>