



**6a. SUBJECT:** Hazard Communication Program

**Annex I:** Prescott Hangar Hazard Communication Program

**REGULATORY STANDARD:** OSHA - 29 CFR 1910.1200

# OCCUPATIONAL SAFETY AND HEALTH PROGRAM

**For the**

FLIGHT MAINTENANCE FACILITY

**At**

**EMBRY-RIDDLE AERONAUTICAL UNIVERSITY, FTC**

Prescott, Arizona 86301

**For Compliance with**

**OSHA RULES AND REGULATIONS**

**CFR 29 1910....the**

**Arizona Department Of Safety & Health (ADOSH)**

**And**

The University Comprehensive Safety Program

*Prepared By:*

**Anthony J. Villalpando, OSH Program Manager  
ERAU-FTC, Building F-4A, Ernest A. Love Field, Prescott, AZ  
928-777-4388**

## **OCCUPATIONAL HEALTH AND SAFETY POLICY**

The following Policy is a statement to exemplify the commitment of providing a safe, accident-free, and healthy work environment for everyone here at the FTC. It is incorporated under the University’s Comprehensive statement regarding the same as stated by Mr. George Ebbs, our President.

Excellent safe and healthy conditions do not occur by chance. They are the result of diligent work and careful attention to all ERAU policies by everyone.

Safety demands cooperation on everyone’s part. Thus, it is important that communication be kept open at all times between the management and employees. Workers who notice hazards or other safety problems, or feel that they need additional training, must notify their supervisor. Supervisors and management at all levels must address these concerns and take corrective action when warranted.

Everyone is obligated to know the safety standards for their area or job, and just as important, to abide by them. Supervisors must instill a positive attitude and safety awareness in their workers through personal adherence, personal contact, training, and regularly scheduled safety meetings. It is the duty of all employees to perform their work with maximum regard for the safety of themselves and co-workers.

Our safety policies are based on past experience and current standards. And are also an integral part of the University’s Comprehensive Safety Plan policies. This means that compliance with the policies is a condition of employment and must be taken seriously. Failure to comply is sufficient grounds for disciplinary action or for termination of employment.

Instructional pilots, being employees of ERAU, are as responsible for the occupational safety & health of themselves, co-workers, passengers and students as the ground instructor is for his/her classroom students.

Safety and health are a top priority at the University and are every bit as important as productivity and quality. In fact, they go hand in hand. Of course the best reason for you to observe these policies is because it’s in your own self- interest to do so. Conscientiously following them can help you stay safe, healthy, and able to work, play, and enjoy life to its fullest.

Anthony J. Villalpando  
OSH Program Manager-AMT  
ERAU Flight Training Center  
Ernest A. Love Field  
Prescott, AZ

## *HEALTH AND SAFETY RESPONSIBILITIES*

Our goal is to protect employees from injury while working at the FTC. This must receive top priority from everyone. Duties and responsibilities of all personnel under our health and safety program are described in the following:

### *Occupational Safety & Health Program Manager's Office / Anthony J. Villalpando*

- a. Administers all aspects of the occupational health and safety program (OSHP).
- b. Develops programs and technical guidance to identify and remove physical, chemical, and biological hazards from facilities, operations, and sites at the FTC.
- c. Assists management and supervisors in the health and safety training of employees.
- d. Conducts inspections to identify unhealthy or unsafe conditions or work practices. Completes written reports of inspections.
- e. Recommends programs and activities that will develop and maintain incentives for the motivation of employees in health and safety.
- f. Recommends disciplinary action for repeat violators of health and safety rules.
- g. Maintains the state health and safety criteria regarding posters, emergency telephone numbers, OSHA Form 300 and other notices required by ADOSH.
- h. Develops and maintains accident and incident investigation and reporting procedures and systems. Investigates serious or reportable accidents and takes action to eliminate accident causes. Reportable incidents consist of fatalities, lost workday cases, and without lost workdays requiring medical treatment. Keep management informed of findings.
- i. Report accidents that result in an occupational fatality or hospitalization of three or more within eight (8) hours of occurrence.
- j. Requires all subcontractors, subcontractor personnel and other non-FTC personnel working within the FTC facility to comply with health and safety regulations.
- k. Maintains copies of applicable programs and Workers' Safety forms in accordance with University practice and policy. For example: HAZCOM Program, MSDS's. OSHA 300 Injury Log. (must be kept at this location)...work areas are not near the central University Safety office. Therefore IAW and the Arizona State regulatory Commission (ADOSH) mandates that we retain an original similar form here in Prescott.

### *Supervisor and OSH Department / Area Liaison–Aircraft Maintenance / Mr. Ken Masser*

- a. Familiarizes himself with health and safety regulations related to his area of responsibility.
- b. Directs, implements, and coordinates health and safety program elements and activities within area of responsibility.
- c. Requires all employees supervised to use individual protective equipment and safety devices, as explained within pertinent individual safety & health programs.
- d. Ensures that safety equipment is available, maintained, used and stored correctly.
- e. Ensures that all persons within area of responsibility receive job safety and health training as required.
- f. Conducts quarterly health and safety inspections of work area. Directs correction of unsafe conditions.

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- g. Conducts weekly safety briefings with all supervisors and/or workers.
- h. Ensures that supervisors are aware of and comply with requirements for safe practices.
- i. Investigates, along with OSH Program Manager’s Office, all accidents within area of responsibility. Ensures any reports denoting unsafe conditions or accidents are complete and submitted appropriately. Insures that corrective action is taken immediately, with assistance of OSH Program Manager’s Office if necessary, to eliminate the cause of any unsafe situation or accident.

*Chief Inspector, Supervisor-Avionics, Shift Supervisor’s, Aircraft Parts Manager’s (The preceding & following personnel are eligible for selections to DSHR & ASR’s)*

**Mr. Pat Kelly, Mr. Chris Plumb, Mr. Allen Hedgepath, Mr. Sean Moreau, Mr. Nacho Reyes,  
Mr. John Toczko, Mr. Russell Harris, Mr. Mike Hough and Mr. Warren Overstreet**

- a. Be familiar with, explains, and enforces health and safety regulations that apply to University operations within his/her area of responsibility.
- b. Ensure that persons under his/her supervision use safety devices and proper individual protective equipment in accordance with applicable individual safety programs.
- c. Instructs and trains all persons within area of responsibility in job health and safety requirements, and requires compliance by workers with the safety rules established.
- d. Conducts frequent and regular safety and health inspections of his/her work areas and ensures that no unsafe conditions exist in area of responsibility.
- e. Conducts weekly (or more often if needed) safety briefings with all workers under his/her supervision.
- f. Ensures that injuries are treated promptly and reported properly.
- g. Investigates all accidents/incidents, with assistance of the Supervisor-Aircraft Maintenance &/or the OSH Program Manager’s Office.
- h. Acts on reports of hazards or hazardous conditions reported to them by employees.

*Aircraft Maintenance Scheduling / Robert Hartman (Assistant Liaison to the OSH-PM’s Office)*

- a. Maintains all records and reports of accidents that have taken place during Flight Maintenance Operations regarding: AMT’s, Ground Support Personnel, and Fueling Personnel.
- b. Processes all paperwork associated with accidents, on-site inspections and in-house audits. Maintains permanent record for University files.
- c. Maintains all medical records, evaluations and exposure monitoring records for a period of 30 years.
- d. Maintains all training records for a minimum of three years.

NOTE: This position will utilize the OSH Program Manager’s Office in the performance of his OSH duties.

*All Employees (These personnel are eligible to selection of ASR's)*

- a. Be familiar with and comply with proper health and safety practices.
- b. Use the required safety devices and proper personal protective safety equipment.
- c. Notify the most appropriate person immediately of unsafe conditions/acts, accidents, and injuries.

*WORKERS' COMPENSATION CLAIMS MANAGEMENT*

The following actions will be taken/followed on all accidents/injuries being submitted as a Workers' Compensation claim.

- a. Injured employees must report all accidents/injuries to their supervisor immediately (within 72 hours), who in turn will notify other appropriate University officials, such as Human Relations. All accidents/incidents will be investigated by the OSH Manager's Office, and Immediate Supervisor to determine the facts and take corrective action to prevent recurrence.
- b. The accident investigation must confirm that the injury was job related.
- c. Injured employees will be entered into a modified job program, i.e., light duty, restricted duty, part time duty, when such is recommended by a Professionally Licensed Health Care Professional (PLHCP)

**OSHA FORM 300 INJURY / ILLNESS LOG (Required)**

The OSHA Form 300 log of all recordable occupational injuries and illnesses is maintained at the OSH Manager's Office, insuring the information from the initial accident report is posted onto the master form in the main office within seven days after the accident has occurred. The Summary section of the OSHA 300 Form, the 300-A Form, will be posted in the Copy Room at Building F-3, next to Betty Brown's Office. It will be posted no later than February 1<sup>st</sup> of the year following the year covered by the records and kept in place until April 30th.

*HAZARD COMMUNICATION ROGRAM*

The Flight Maintenance Facility at the FTC has a Hazardous Communication (HAZCOM) Program in place because of our work with and exposure to hazardous chemicals in the workplace. Important elements of this program are: a written program explaining what the program is about; a master listing of hazardous chemicals in the workplace; material safety data sheets (MSDS's) of those chemicals; labeling requirements of chemicals containers; and training for all employees on the program and its elements. Employees working within such an environment will be notified and be required to comply with the regulations within this individual program.

*TRAINING*

Training and education cannot be over-emphasized as a means of learning a healthful and safe approach to employee work effort. Knowledge of the safety rules and how and when to function under the rules, supplemented by compliance, is essential to safety.

- a. Employees scheduled for any safety and health training will attend such training.

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- b. New ERAU employees will be provided orientation training and will be furnished information and literature concerning the University and FTC health and safety policies, rules, and procedures. This orientation training must be provide prior to the employee’s exposure to the work environment.
- c. Individual job/task training will be provided to all employees. Included in this training is: the applicable regulations/standards for their job; the recognition, avoidance, and prevention of unsafe conditions; areas and activities that require personal protection equipment; and how to use protective equipment (such as respirators etc.).
- d. On-going safety training sessions will be conducted to provide information and training on new equipment, new procedures, new chemicals, refresher/remedial training in specific areas, or meet annual requirements. Such training may be held in conjunction with the safety briefings/meetings addressed elsewhere in this program.
- e. Various individual Workers’ Safety programs specify that training be provided to employees. Supervisors will ensure their employees are scheduled and provide this training as required.

Examples of specified training include (but not limited to):

- Fire extinguisher training
- Respirator care and use
- Hazard communication
- Lockout/Tagout procedures

- f. Training addressed above will be documented in the employees’ personnel records and/or in a master training record. **Training time frames & schedules must be addressed!!!**

## HAZARD IDENTIFICATION, ASSESSMENT, AND CONTROL

Hazard identification and elimination is not only an inherent responsibility of supervision in providing a safe workplace for employees, but also requires employee involvement. As such, hazard evaluation and control shall be an ongoing concern for all. It is the responsibility of everyone (management, supervisors and all employees) to identify, report, and correct, all possible hazards. Employees are particularly important in this process as they are in the best position to identify hazards in the workplace and day-to-day operations. **Reporting hazards is a protected activity and no action will be taken against anyone for identifying unsafe conditions.** All Reports are designed to disseminate directly to the OSH Program Manager’s office (Tony Villalpando) or the Aviation Safety Manager’s Office (Juergen Tank).

The FTC has a procedure for conducting inspections of workplaces/jobsites for compliance with health and safety rules. The purpose of the in-house inspection is to identify hazards and unsafe practices before they cause an injury or accident.

Formal safety and health inspections will be conducted under the following minimum timelines:

- a. Health and Safety Manager: **Monthly** of all fixed facilities and shops.
- b. Supervisor – Air Craft Maintenance: **Monthly** of his/her area of responsibility.

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- c. Chief Inspector, Shift Supervisor’s and Parts Manager’s: **Weekly** of area of responsibility, not in conjunction with the above inspections.
- d. Committee will review the company’s Health and Safety program at least **annually**. *\*\*\*\*\*Committee to be arranged\*\*\*\*\**
- e. OSHA, Workers’ Safety – Technical Assistance, private consultation services, and insurance company representatives may conduct on-site consultation and inspections, **if desired and requested**.

After completing jobsite or facility inspections, the person making the inspection will:

- a. **Discuss** findings with employees/persons responsible for any existing unsafe conditions. Invite their comments, suggestions and aid.
- b. Ensure **recommended** corrections/changes are transmitted to and discussed with the proper supervisor/person for correction.
- c. **Follow up** on changes, corrections, and other necessary actions.
- d. Provide copy of scheduled checklists to OSH Manager’s Office, along with **statement of any corrective actions** taken, still required or a **clean bill of inspection**.

*Inspection Guideline*

This listing includes items, areas, and categories that may be looked at during health and safety inspections of the workplace and in the shop. It is generic and not all-inclusive, but provides a guideline of areas to be surveyed or developed into a checklist for use during the inspection.

- a. First aid safety and health equipment.
- b. Posters, signs required by OSHA and Workers Safety and Health and Safety practices.
- c. Accident reporting records.
- d. Employee training provided, such as health and safety talks, worker orientation. Records maintained.
- e. Equipment and tools (hand, power, welding, etc.): condition and use.
- f. Protective guards and devices: availability, use, proper maintenance and operating condition.
- g. Housekeeping: maintaining clean work areas, free of trash/debris accumulation, tripping and slipping hazards.
- h. Lighting: for adequacy and safety.
- i. Sanitation: water, toilets for cleanliness and proper operation.
- j. Noise hazards, hearing protection.
- k. Ventilation for gases, vapors, fumes, dusts.
- l. Availability of personal protective equipment (PPE): Respirators, safety gloves & eye protection.
- m. Fire protection, prevention and control, use of fire protection equipment.
- n. Any temporary buildings, trailers or sheds.
- o. Open ground storage.
- p. Storage of flammable and combustible liquids including service and refueling areas for vehicles. HAZMAT Storage area in F-8.
- q. Any temporary heating devices.
- r. Fall protection requirements: in place and in use.

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- s. Electrical system and devices; condition and use of cords; ground fault protection; circuit breaker panels/receptacles and switches.
- t. Openings – floor, wall, safety railings.
- u. Materials – handling equipment and golf carts.
- v. Ladders: condition and use.
- w. Hazard communication program and material safety data sheets (MSDS)
- x. Stairways: safety railings, condition.
- y. Scaffolds: safety railings, secured.
- z. Lockout/Tagout procedures.
- aa. Machines and equipment: condition, guards in place.
- bb. Preventive maintenance program: all-inclusive, up to date.
- cc. Other items as appropriate.

## INDIVIDUAL SAFETY AND HEALTH PROGRAMS LISTING For the FTC, at Prescott, AZ

The Occupational Health and Safety Rules and Regulations specify various individual programs that are applicable to the FTC. Highlights of these programs are provided below, and specific written programs or procedures are incorporated as appendixes into this document or are available separately.

**FTC Health and Safety Rules.** These rules provide safety guidance for the FTC and employees to follow in the workplace. They cover various requirements in such areas as housekeeping, fire prevention, electrical, ladders, scaffolds, machine guarding, material handling, etc, that can be encountered in the workplace.

**Hazard Evaluation/Control Program.** (OSH & Hazard Reporting Program) ERAU is required to furnish to its employees a workplace that is free from recognized hazards. An in-depth hazard evaluation and/or safety inspection conducted by ADOSH, private consultants, insurance companies, or in-house are means of identifying and eliminating workplace hazards. An on-going periodic self inspection program will help ensure that hazards are identified and eliminated/controlled.

**Hazard Communication Program (HAZCOM).** If employees are exposed to or work with hazardous chemicals in the workplace, this program is required. Important elements of the program are: a written program including a master listing of chemicals; material safety data sheets on each chemical; labeling; and training of employees on the program, the chemicals exposed to, and material safety data sheets.

**Personal Protective Equipment Hazard Assessment.** (OSH & Hazard Reporting Program) ERAU must assess their workplaces to determine if hazards are present, or are likely to be present, which may necessitate the use/wear of PPE. This assessment must be documented through a written certification that identifies the workplace evaluated, the person certifying the assessment, that it has been completed, the date(s) of the assessment, and identifies the document as a certification of hazard assessment.

**Respiratory Protection Program.** If employees are exposed to hazardous/toxic chemical, paint or other gases, vapors, fumes, dusts, or mists above the permissible exposure limit, and/or

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respirators are worn by employees, this program is required. Program elements are: written program for the selection, maintenance, care, and use of respirators as well as the physical evaluation for use; the FTC’s program is currently “Voluntary”.

**Emergency Action Plan** (Emergency Response & Fire Prevention Plans) If employees are engaged in emergency response to medical surveillance & needs we must list the personnel capable of performing such tasks & provide ongoing training. Anticipated emergencies & program response plans are explained within the Emergency Action Plan.

The purpose of this section is to ensure that ERAU employees understand potential hazards and hazard control measures for chemicals used at the FTC. The material, which supports the WRITTEN PLAN, is covered in depth in the “Hazard Communication, Evaluation and Control Program. This written plan is available for employee review at any time.

It is located in:

Building F-4A, at the OSH Program Managers Office (OPMO)

**OUR HAZ-COM PROGRAM MANAGER IS: ANTHONY J. VILLALPANDO**

Contact at: Extension 4388 In Bldg. F-4A

A copy of the program will be provided to any employee or representative upon request.

**NOTE:** MSDS Binders, contain copies of this Written Program, MSDS’s and the Hazardous Materials Inventory List. Requests for additional copies can be made using the “MSDS Request for Copy” form contained in the pocket of any MSDS Binder.

**CONTAINER LABELING**

The Receiving dept. on the main campus will verify that all containers received for use by the University will:

1. Be clearly labeled as to the contents, matching identification on MSDS’s.
2. Note the appropriate hazard warnings.
3. List the name and address of the manufacturer.

No container will be released for use until the above data is verified through the Occupational Safety and Health Program Manager’s Office (OSH-PMO)

**MATERIAL SAFETY DATA SHEETS**

Copies of MSDS’s for all hazardous chemicals to which employees may be exposed, at this location will be kept in the Manuals, located at FTC Maintenance, Bldg. F-4A & in the Main Hangar, Bldg. F-5 at the “Right-To-Know” Station.

The OSH-PMO will be responsible for ensuring that

1. MSDS’s for the new chemicals are available.
2. MSDS’s will be available for review to all employees during each work shift.
3. Copies will be available on request.

## **EMPLOYEE TRAINING AND INFORMATION**

Each employee will be provided the following information and training before working in areas where hazardous chemicals exist. In addition, if a new hazardous material is introduced into the workplace, affected employees will be given new information and training concerning that material.

### **MINIMUM INFORMATION PROVIDED**

1. All operations and locations in the work area where hazardous chemicals are presently in use or likely to be used. All hazardous materials/chemicals or processes will be listed on a MASTER INVENTORY LIST, available at and at the locations mentioned on the previous page.
2. The location and availability of the written hazardous communication program, including list(s) of hazardous chemicals used and related material safety data sheets.
3. The method the FTC will use to inform employees of potential hazards of non-routine tasks (jobs that are not routine for an individual because of infrequency, location or type). It will be the obligation of the Department Safety & Health Representative (DSHR) to guarantee that employees are fully informed and trained regarding the hazardous materials they are asked to use.

### **MINIMUM TRAINING PROVIDED**

1. Methods and observations used to detect the presence or release of a hazardous chemical in the work area. Accomplished through Personal Protective Equipment Hazard Assessments.
2. The physical and health hazardous of chemicals in the assigned work area.
3. The measures necessary to protect against such hazards, including specific OSH Program procedures concerning work practices, emergencies, and care and use of protective equipment
4. Details of the University HAZCOM program, including explanation of the labeling system, the material safety data sheets and how to obtain and use the appropriate hazard information.

Upon completion of the training, each employee will sign a form acknowledging receipt of the written HAZCOM Program and related training.

### **HAZARDOUS NON-ROUTINE TASKS**

If University employees are required to do hazardous non-routine tasks, such as welding in confined spaces or unscheduled maintenance of support equipment, the employer must address how the employee doing the work will be informed about specific hazards to which they will be exposed, what personal protective equipment and training will be provided, and who will be responsible to oversee the operation or operations.

## **INFORMATION OTHER CONTRACTORS ON MULTI-EMPLOYER SITES**

It is the responsibility of the OSH-PMO to provide contractors and their employees with the following information:

1. Hazardous chemicals to which they may be exposed while on the job site.
2. Measures the employees may take to lessen the possibility of exposure.
3. Steps the University has taken to lessen the risks of exposure.
4. Where the MSDS's are for the chemicals to which they may be exposed,
5. Procedures to follow if they are exposed.

## **CONTRACTORS INFORMING EMPLOYERS**

Contractors entering this workplace with hazardous materials will supply this employer with MSDS's covering those particular products the contractor may expose the University employees to while working at this job site. FOR A LIST OF HAZARDOUS CHEMICALS USED IN THIS WORKPLACE, SEE MSDS INDEX located at Building F-4's Right to Know" Station.

**NOTE:** Embry-Riddle Aeronautical University notifies other contractors by means of letter and a sign posted on the jobsite detailing availability of hazardous material information.

***EMBRY RIDDLE AERONAUTICAL UNIVERSITY***

Flight Training Center At:  
Ernest A. Love Field, Prescott, AZ

**TO:**

All Contractor's (General or otherwise) and Sub-Contractor's of General Contractor's or Otherwise, employed through Embry-Riddle Aeronautical University (ERAU) to perform construction work at or on the premises of the Flight Training Center (FTC) at the Love Field Airport Location.

**PLEASE NOTE**

The Facility & grounds located, as described above, are regulated within the scope of safety regulations governed by the Occupational Safety & Health Act within CFR 29 1910, General Industry Regulations and incorporated into the ERAU comprehensive safety policies. Paragraph 1910.12 (Construction Work) adopts the standards prescribed in CFR Part 1926 as Occupational Safety & health standards under section 6 of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in construction work. Each employer shall protect the employment and places of employment of each of his employees engaged in construction work by complying with the appropriate standards prescribed in this paragraph.

Thus, the standards (substantive rules) published in Subpart C and the following subparts of Part 1926 of this chapter are applied.

For reference to CFR Part 1926 by any Contractors operating at the FTC, I have attached an index to review any compliance issues that may apply to your respective Company.

I thank you for your cooperation toward ongoing efforts of promoting a safe and productive environment in which to operate. I look forward to the utilization of the new facilities that are being provided by You & your Employees. It will greatly enable the extension of our growth & productivity. Should there be any questions with respect to the safety compliance's that govern your efforts or any assistance this department may offer, please contact me at the number below.

Sincerely,

Anthony J. Villalpando  
Occupational Safety Manager / FTC  
928-777-4388

- Program management
- Participating personnel

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- Informing Contractors
  - Hazardous locations
  - Hazardous chemical listing
    - Chemicals in unlabeled pipes
  - Hazardous Chemical Identification
    - Container labeling
- Material safety data sheets
- Employee Training and Information
    - Hazardous Non-Routine Tasks
    - Hazardous Spill Clean-up Procedures
  - Trade secrets
  - Documentation
  - Program evaluation/QA

Format

For easy understanding by employees, each component of this program is organized along the following lines:

- Component point
- Company policy statement
- Component objective
- Component content
- Method of compliance/quality assurance

*Quality Assurance and Updates*

If employees have questions or concerns about the program, they are encouraged to submit their questions or concerns to the Program Manager’s Office. Comments will be evaluated, and appropriate action will be taken.

In addition, this program will be evaluated on an annual basis. This program shall be updated and revised as new data becomes available or as a change in the University’s FTC operations &/or policies occur.

**Program Management**

*Policy Statement*

ERAU's program shall have a program manager with authority to carry out its written requirements.

*Component Objective*

The objective of this portion of the program is to enable management to address comprehensively the issues of evaluating the potential hazards of chemicals. Further Communication between management to disseminate information concerning these hazards lies within the responsibility of the Program Manager’s Office. The use of appropriate protective measures by all employees is each individual’s ultimate responsibility.

## *Component Content*

### Departmental Responsibility

The Program Manager's Office has been assigned the responsibility of coordinating the program, since this department already administers record keeping, medical surveillance, and training for Flight Line maintenance and service employees. The Director of Flight Support has selected a health and safety program manager in consultation with the Prescott Flight Maintenance Health and Safety Committee (HSC). The HSC will assist the program manager's Office in maintaining the program. The HSC is made up of the following members:

- Director of Flight Support
- Manager of Aviation Safety
- Director of Flight Maintenance
- Program Manager of health and safety
- Flight Maintenance Supervisor
- Aircraft Fueling employee
- Aircraft De-Icing employee
- A&P employee

### Program Manager

The Program Manager is Tony Villalpando. As Program Manager, he will be responsible for the implementation and oversight of the below stated specific duties of the HAZCOM Program:

- Coordinating program implementation
- Scheduling training for present personnel
- Conducting training for newly hired, transferred, temporary and contract personnel
- Maintaining records and documentation generated by the program
- Receiving and addressing all comments concerning the program
- Conducting quality audits on a scheduled basis
- Filing reports required by government authorities
- Reporting to the HSC on a regular basis on progress and status of the program
- Handling requests and explanation for MSDS's by employees
- Any other task affecting program maintenance

### Other Key Personnel

When the program manager is not in the office, another person must be available for questions and requests concerning the program. Two additional persons have been identified to assist with responsibilities of the program. They are:

- Mike Hough – Night Shift, Aircraft Parts Room Coordinator
- Derrick James – Day Shift A&P.

One of the above-named personnel will be available during Flight Line operating hours for information regarding the program.

### *Quality Assurance*

The HSC will have responsibility for assuring that the program is properly managed and operated according to the written program. This will be accomplished by a review of employee comments, plant safety records, and audits conducted by the Program Managers Office.

### **Participating Personnel**

#### *Policy Statement*

Because of the nature of hazardous chemicals, it is the policy of ERAU to have all employees, Student Instructors, Officers of the company, and contract personnel at the Flight Line Maintenance and Operations level, participate in the HAZCOM program.

#### *Component Objective*

In order to determine the level of participation and training employees will receive, this program component will classify employees by group and work area.

#### *Component Content*

Flight Line Personnel are grouped in the following classifications:

- Management and office
- Health/safety/security
- Aircraft Maintenance Supervisors and Technicians
- Campus Maintenance and Support Personnel
- Receiving/shipping (Parts Department & Campus Receiving)
- Contractor Personnel

### **Informing Contractors**

It will be the responsibility of the Program Managers Office to provide contractors and their employees with the following information:

1. Hazardous chemicals to which they may be exposed while on the job site.
2. Measures other employees may take to lessen the possibility of exposure.
3. Steps the University has taken to lessen the risks.
4. Where the MSDS's are for chemicals to which they may be exposed.
5. Procedures to follow if they are exposed.

### **Contractors Informing Employers:**

Contractors entering this workplace with hazardous materials will supply this employer with MSDS's covering those particular products the contractor may expose this company's employees to while working at this site.

A List Of Hazardous Chemicals And Their Locations Can Be Found At The "Right To Know" Station & In The Next Two Sections Of This Program.

Work areas at the Flight Training Center include:

- The Main Hangar area - Bldg. F-5
- The Project Hangar/Aircraft Maintenance Shop/Hazardous Materials Storage Area - Bldg.F-8
- Parts Rooms A /Shipping & Receiving area – NW area of F-5
- Bldg F-4A - Avionics & Safety Training, also the Break Room
- Administrative offices adjacent to Bldg. F-5
- Flight Operations Bldg. F-3

### *Quality Assurance*

Because all personnel at one time or another must enter an area where hazardous chemicals are being used or stored, all employed personnel within the above program content will participate in this program. This will be assured through employee safety education upon employment. Contract Personnel will be monitored, for occupational safety purposes, by this safety office for the duration of their stay. Any newly introduced chemicals, (hazardous or not) impacting the work environment of employees, will have been researched with respect to its safety precautions prior to its implementation.

### **Hazardous Locations**

#### *Policy Statement*

It is the policy of ERAU to identify and mark locations with signage where hazardous chemicals are used, stored, or transported.

#### *Component Objective*

This component of the program will list locations and areas where hazardous chemicals are used, stored, and transported.

#### *Component Content*

##### Chemical Storage

Storage of hazardous chemicals requires ongoing monitoring. Attention to the hazards associated with a specific chemical must be understood and the reactivity of the chemical itself must be considered. The HAZMAT storage area of Bldg. F-8 will house all Hazardous & Flammable Materials. It has been designed for this purpose and will be maintained in accordance with regulations set forth by the Program Manager’s Office.

General requirements.

Received chemicals. Hazardous chemicals will be immediately moved to the designated storage area after the proper receiving process has been completed.

Ventilation and Illumination. The storage area will be well ventilated and illuminated.

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Accessibility. All material will be stored in compliance with 29 CFR Subpart N – 1910.176 (a, b, c, e).

Storage classification. Materials will be segregated by their hazard characteristics, classification, and compatibility. The area will be well defined and labeled with appropriate markings and labels.

Preparation or Repackaging. The storage area will not be used as a preparation or repackaging area.

Accessibility. The storage area will be accessible during normal working hours.

Hand transport. When hazardous materials are transported or dispensed by hand for temporary use, they will be transported in accordance with policy described in the “Temporary Containers” section of this program.

Use minimization. Storage of materials at the point of use will be limited to those amounts necessary to supply the need of that particular operation. The container(s) will be properly labeled and of a minimum size to make it convenient for use.

Inventory minimization. Chemical storage should be kept as small as practical. Storage on bench tops and in hoods may cause potential exposure to fire and spills and will be avoided. Ventilated cabinets will be utilized for small hazard specific products only. Flammable liquids will be stored in appropriately labeled containers according to NFPA standards.

Inventory use inspection. Unneeded items shall be properly discarded or returned to the storage area. Periodic inspections of materials outside the storage area will be conducted.

Toxic chemicals. Toxic chemicals, including carcinogens, will be stored in ventilated storage areas. These containers will be labeled "CAUTION: HIGH CHRONIC TOXICITY OR CANCER-SUSPECT AGENT." Carcinogens and suspected carcinogens information is maintained at respective right-to-know stations.

Compressed gas. Cylinders of compressed gases will be strapped (above the midpoint) or chained to a wall or bench top and will be capped when not in use. They will be stored on a clean, dry surface or in approved mobile carts at a designated location so marked and placarded for this purpose. No ignition sources will be allowed in the vicinity of compressed gas cylinders. The area will be maintained free of combustible debris.

Hazardous chemicals can be found in the following locations:

- Aircraft Fuel Truck Parking Area
- Receiving area of Parts Room “A”
- Bldg F-8 - 55-gallon drums, Flammable storage cabinets, Used Lead Acid Batteries and Storage for various aerosol and small quantity Hazardous items (Northwest end)
- Bldg. F-5 - Compressed Gas Cylinder’s....Nitrogen bottles.

A map of the facility is included, and these hazardous locations are clearly identified (Appendix E).

### *Quality Assurance*

The program manager and the Director of Flight Support will tour the plant on a monthly basis to determine whether any areas that previously had no hazardous chemicals contain any at that time. A survey form will be completed and a report generated listing the findings, if any.

## **Hazardous Chemical Listing**

### *Policy Statement*

It is the intent of the University to comply with all laws. To do this we must constantly be aware of not only conditions in all work areas but maintain a thorough chemical inventory program that is consistent with our Chemical hygiene program. Cooperation in controlling and accounting for all hazardous inventories is a condition of employment. Supervisors should be advised immediately of any situation that needs to be corrected.

### *Component Objective*

Our objective is a chemical inventory plan that will increase the accuracy of accountability, quantity, and should the need ever arise, the ability to keep the number of chemical exposures, injuries, and illnesses to an absolute minimum.

This component of the program will list the chemicals present in the facility and the locations where they can be found.

### *Component Content:*

The Program Managers Office will perform a chemical inventory on an annual basis. The inventory will compile a listing of all hazardous chemicals at the Hangar Maintenance Facility at the FTC. Chemicals listed are those classified as hazardous by the Department of Transportation (DOT), the Environmental Protection Agency (EPA), or displaying a 2 or greater number in any section of the National Fire Protection Association (NFPA) diamond (DOT and EPA classifications are in Appendices A and B).

ERAU utilizes only two chemical Products that are stored in 55-gallon drums in building F-8 in the HAZMAT Storage Area for its Flight line Operations. They are identified as:

- **SAFETEMP I PG100 Deicing/Anti-icing fluid** – Class III B Combustible MSDS ID# 35
- **Aviation Gasoline (100LL AVGAS)** Class 1A FLAMMABLE 2-55 GAL. Drums on cart for de-fueling of A/C - MSDS ID#37

The above **bolded** names, above, shall be used on hazardous chemical containers in lieu of any other name or synonym. They are used or stored in the following locations:

- W/I De-Ice Truck and De-Ice Cart
- W/I Aircraft fuel tanks and portable Fuel Cart (100LLAVGAS)
- In Portable Garden Spray Containers (Isopropynol), used by De-ice crew & students.
- In Bldg. F-8 in Hazardous Material Storage Area at NW side of Bldg.

This list is included as part of this plan and is available from the Program Manager’s Office.

### Chemicals In Unlabeled Pipes

Presently there are “NO CHEMICALS IN UNLABELED PIPES.”

#### *Quality Assurance*

On a monthly basis, the program manager’s office will review all purchase orders to chemical manufacturers, distributors, suppliers and importers to determine if any new chemicals have been ordered for delivery to the facility without prior notice to the Program Managers Office. If a new hazardous chemical has been ordered, the program manager’s office will take appropriate steps to revise related documents and the program.

### **Hazardous Chemical Identification**

#### **Container Labeling**

##### *Policy Statement*

ERAU shall assure that all hazardous containers are properly marked with the identity and hazard warning (NFPA 704 system) for each hazardous chemical container in the facility. 29 CFR 1910.1200 (d) (2...6) and (f), (4...11), contains specific hazard determination and labeling requirements respectively.

##### *Component Objective*

To identify and evaluate all chemicals used in the workplace based on two hazard categories:

- a. “Listed” .....A Hazardous chemical included in OSHA reference 1910.1000 Z tables and;
- b. “Defined.”...Those specified by OSHA as physical or health hazards, such as combustible liquids, oxidizers, corrosives, reproductive toxins and non-toxins.

Identified also in accordance with 29 CFR 1910.1200 (d), (3), (2); which incorporates the American Conference of Governmental Industrial Hygienists (ACGIH) with respect to Threshold Limit Values (TLV) for Chemical Substances and Physical Agents in the Work Environment.

##### *Component Content*

Labels must be affixed to all hazardous chemical containers that are shipped and used in the workplace. Labels must not be removed or defaced.

DEFINITION: Regular Containers are: Drums, cases of aerosol products, cans, bottles, kits, tube products, bag, barrel, box or treated materials, etc.

The Program Manager’s Office will verify that all containers received for use by the University at the FTC will be checked against any P.O.’s &/or receiving records and:

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- Be clearly labeled as to the contents, matching most current MSDS shipped with the product.
- Note the appropriate hazard warning.
- List the name and address of the Manufacturer, distributor or importer.

No containers will be released for use until the above data is verified, proper storage has been acquired and if training for use of the product has been determined.

All labels and information on labels shall be written in English. If at some time ERAU employs workers who are unable to read English, the information will be added to the label in the employees' native language.

### Temporary Containers

Unmarked Containers. No unmarked container containing chemicals may be used in conjunction with any duties or operations at Embry-Riddle Aeronautical University, unless the container is a **portable** container in the control of a specific person for their immediate use. **Container** means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this standard practice instruction, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers. **Immediate use** means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred. When Temporary Container is to be disposed of after containing hazardous material, it will be done I.A.W. HAZMAT disposal procedures.

### *Quality Assurance*

Once a container has been determined to be labeled properly (by other than a manufacturer's label,) a FTC – CHEMICAL CONTAINER ID LABEL (CCID) is attached. On the label will be a space for the person approving the labeling to put his or her signature.

A receipt log shall be maintained as part of the receiving procedure for hazardous chemicals. This log shall note date of receipt or creation, contents & quantity, label check, and initials. Under label check will be a list of label information required in this section. The program manager's office will check container labels on a monthly basis. If a CCID label is missing or the labeling is improper, corrective action shall be taken immediately. In addition, employees shall be trained to report to their supervisor if a container is found with inadequate labeling so that corrective action can be taken.

### **Material Safety Data Sheets**

Master copies of MSDS's for all hazardous chemicals to which employees may be exposed will be kept @ the Flight Training Center, Building F-4, Program Manager's Office.

The Program Manager's Office will be responsible for ensuring that:

- MSDS's for any new chemicals are processed to the Right To Know Station (RTKS) before use.
- MSDS's will be available for review to all employees during each work shift at the RTKS.

- Copies will be available on request.

### *Policy Statement*

The University shall maintain copies of any material safety data sheets that are received with incoming shipments of the sealed containers of hazardous chemicals. The University/FTC shall obtain a material safety data sheet for sealed containers of hazardous chemicals received without a material safety data sheet. All MSDS's will be kept up-to-date, and reviewed as necessary for each hazardous chemical used at the FTC.

### *Component Objective*

To describe the use of material safety data sheets, the respective locations of "right to know" workstations and the process of maintaining such information.

### *Component Content*

#### General

MSDS copies will be maintained for all hazardous chemicals abandoned for use for a period of 30 years.

MSDS requests for receipt of a hazardous material without an MSDS

A request letter or electronic means of notification will be forwarded to any vender and the ERAU shipping & receiving Department to notify of receipt of a hazardous chemical, at this location, without an accompanying MSDS. This product will not be put into use or stocked until such documentation is received and administrative accountability is completed. ERAU relies on its chemical distributors to supply MSDS's. ERAU is highly reliant on the receipt of this documentation. Besides the obvious compliant issues MSDS's will be utilized for, this facility will be depending on them for training programs and PPE issues.

#### New and Updated MSDS's

When new or updated MSDS's are received, the original will be forwarded to the Program Manager's office for review of completeness. If the Program Manager's office determines the MSDS to be complete, it will be marked "reviewed" and distributed to the predetermined "Right-To-Know" Stations in the facility. If it is determined to be incomplete, the Manager's office shall notify the program manager, and a schedule for revision and completion shall be set. The Compliance review shall be completed within two working days.

First-time use of hazardous chemicals shall not commence until an MSDS has been received, approved, reviewed with employees, and distributed to the proper locations. Approved updates of MSDS's received from our distributors shall replace outdated MSDS's at all locations within two working days of receipt.

Original MSDS's shall be maintained in the same form as they are received from the distributor. The MSDS master book will be the first to incorporate, file and index the latest MSDS's. It will be maintained in the Program Manager's office.

### **Location/availability**

Staff will be informed of the location and availability of the written hazard communication program, including a list of hazardous chemicals used in their department and the associated material safety data sheet (MSDS). This information will be located in the respective areas at the "Right-To-Know" Station. All employees will have

convenient access to this location and materials during each shift. A chemical list will be provided and broken down by department.

A material safety data sheet book shall be kept at the following locations:

—Building: F-4A Program manager's office / Avionics (Master Book-Originals).

—Buildings: F-5, Right-To-Know Station (by NE EXIT).

### *Quality Assurance*

The program manager's Office will make a monthly inspection of each MSDS location to assure that every MSDS is present and up-to-date. The inspection shall be based on an MSDS log, maintained by the program manager's office. This log will include MSDS date of receipt, date of review, date of revision (if needed), and date of distribution. Initials shall be required after each date.

### **Employee Training and Information**

Each employee will be provided the following information and training before working in areas where hazardous chemicals exist. In addition, if a new hazardous material is introduced into the workplace, affected employees will be given new information and training concerning that material.

### *Policy Statement*

Safety is a primary concern of Embry-Riddle Aeronautical University. Embry-Riddle takes a proactive stance by emphasizing accident prevention, hazard identification, safety data collection and dissemination, comprehensive emergency response procedures, and an active safety education program.

The University is committed to the concept that safety is an integral part of all flight training, operations, and maintenance functions. Adherence to carefully developed operational procedures of the flight-training curriculum and Flight Maintenance is an essential part of the aviation safety program.

### *Component Objective*

The Program Manger’s health and safety office shall provide employees with information and training on hazardous chemicals in their work area at the time of their initial assignment, annually, and whenever a new chemical is introduced into their work area that could present a potential hazard.

### *Component Content*

The Program Manager’s Office will schedule HAZCOM training at this Facility Annually. An approved training instructor will conduct this training. A 30-day notice will be issued to all employees of scheduled times when and where this will occur. Newly hired and interdepartmentally transferred personnel will be briefed on the general requirements of the OSHA HAZCOM standard, as well as duty specific hazards by their immediate supervisor before they begin any duties within the department. This training will include the following **Minimal Information**:

1. All operations and locations in the work area where hazardous chemicals are present.
2. The location and availability of the written hazard communication program, including list(s) of hazardous chemicals used and related MSDS’s.
3. The method the company will use to inform employees of potential hazards of non-routine tasks (jobs that are not routine for an individual because of infrequency, location or type.)
4. Details of the company hazard communication program, including explanation of the labeling system, the material safety data sheets and how to obtain and use the appropriate hazard information.

### General

Information and training will be provided on the basis of job responsibility and risk. Employees may receive up to two levels of instruction depending on the job and risk. These levels range from basic program information to hands-on materials handling training. Depending on the level of training needed, Individuals will be trained accordingly in the following categories as noted below:

Methods that may be used to detect the presence or release of a hazardous chemical in the work area.

The physical and health hazards of the chemicals present in the work area (MSDS’s).

The measures employees can take to protect themselves from these hazards. Specific procedures Embry-Riddle Aeronautical University has implemented to protect employees from exposure to hazardous chemicals, to include; appropriate work practices, Standard Practice Instructions, emergency procedures, and personal protective equipment.

An explanation of the labeling system used at Embry-Riddle Aeronautical University, the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

The chemical (formal) and common names of products used, and all ingredients that have been determined to be health hazards

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Physical and chemical characteristics of the hazardous chemical, including vapor pressure and flash point

The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity

The health hazards of the hazardous chemical, including signs and symptoms of exposure, and any medical conditions that are generally recognized as being aggravated by exposure to the chemical.

The primary routes of entry; inhalation, absorption, ingestion, injection, and target organs

The OSHA permissible exposure limit, ACGIH Threshold Limit Value, including any other exposure limit used or recommended by the chemical manufacturer.

Whether the hazardous chemical has been found to be a potential carcinogen by the International Agency for Research on Cancer (IARC).

Any generally applicable precautions for safe handling and use that are known, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean up of spills and leaks.

Any generally applicable control measures that are known appropriate engineering controls, work practices, or personal protective equipment.

Emergency and first aid procedures.

Documentation. All training will be documented using a standard company attendance roster.

ERAU shall post a notice stating that the company has a written program and that employees shall receive training prior to entering a hazardous location. The notice will have the following additional information printed on it:

- Location of written program
- Location of chemical inventory form
- Location of MSDS's
- Name of program manager

### **Training Program Structure and Content**

The training will be structured into two modules, identified as ER 1 and ER 2.

#### **1. ER1**

This is a general, but company-specific, program orientation and training for employees who do not work regularly with chemicals. Topics to be discussed and explained shall include at a minimum:

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- The Hazard Communication Standard
- Training requirements of the Standard
- ERAU's training program
- ERAU's written Hazard Communication Program and location
- Chemical inventory form and location
- Hazardous location identification map
- Labeling system in use
- Description and use of MSDS's
- Physical/chemical/health hazards of chemicals used, stored, or transported in facility
- Methods of recognizing release or presence of hazardous chemicals at Flight Line facility
- Control methods used by ERAU to reduce risk of exposure during normal and emergency situations

## 2. ER 2

Instruction in this level of training includes at a minimum the following for employees who work regularly with chemicals:

- Specific chemical hazard information and operations instructions, including review of specific MSDS forms
- Control methods used to prevent contact with hazardous chemicals, such as monitoring instrumentation and personal protective gear
- Operational Task specific training
- Specific procedures for dealing with spills and other abnormal releases of the chemical
- Work area organization and hazard control

Proper handling techniques

- Special controls, such as monitoring instrumentation and personal protective gear
- Shop & flight line equipment maintenance, including hands-on training with compressed gasses and de-fueling of A/C
- Parts washer cleaning & maintenance of servicing equipment

### **Hazardous Non-Routine Tasks**

Training materials shall be developed, if necessary, for any non-routine tasks encountered.

### **Hazardous Spill Cleanup Procedures**

- a. Get Away!
- b. Identify spill
- c. Get help
- d. Seal off area, alert others
- e. Look for injuries
- f. Identify Hazards
- g. Prepare equipment/sorbents
- h. Contain Spill
- i. Cleanup Spill

New Hazard Training

## *“Know The Safety Culture”*

When new hazardous chemicals are introduced into the workplace, training will be given to personnel at the highest level at which they have previously been trained.

### *Refresher Training*

Employees of ERAU shall be given refresher training as needed.

### *Training Program Presentation*

In-house staff shall present all training. Two representatives from the Program Manager’s Office will conduct ER 1. Slide photographs of actual hazardous locations at the ERAU Flight Line Facility will be used.

A member of the Program Manager’s staff will conduct ER 2 with the assistance of an A&P Technician or Flight Maintenance Supervisor. MSDS’s and equipment shall be used in this training. Complete lesson plans, with lists of equipment, props, and handouts are attached to this program as an appendix.

### *Quality Assurance*

It is the responsibility of the Health & Safety Program Manager’s office to maintain training records. In addition, this Office is to arrange and schedule the initial training for contractors and retraining for regular employees. The Program Manager’s Office reviews the training records to determine the progress of initial training and makes a report, quarterly, to the health and safety committee on Occupational Safety Training.

### **Trade Secrets**

#### *Policy Statement*

It is the policy of ERAU to provide trade secret information, with respect to processes & procedures involving hazardous substances, to those individuals requesting such information under the existing regulations.

#### *Component Objective*

ERAU neither uses nor sells chemicals that contain trade secret formulas at this time, so this component of the program is reserved for that time when it is necessary for ERAU to prepare a trade secret policy.

#### *Quality Assurance*

If a new chemical and its MSDS are reviewed by the health and safety office and it is found to contain a trade secret, or if ERAU begins to produce a product that contains a trade secret, the health and safety office shall notify the program manager and the health and safety committee. It will be the responsibility of University management to determine company action on the subject of trade secrets.

### **Documentation**

*Policy Statement*

ERAU shall make the forms and documents listed in this written program available to employees on a written request basis.

*Component Objective*

This component of the program is included to identify, list, and define the various forms and reports referred to in this program.

*Component Content*

The forms and documents listed in this section are integral components of the ongoing effective results of this program. They are meant to allow efficient monitoring of the program as a means of quality assurance.

**The aforementioned form titles will be introduced in the individual "Hazard Reporting Program" Module.**

*Quality Assurance*

If the monthly and annual reports are not filed on schedule, notification prior to their due dates will be sent to the Program Managers office accompanied with an explanation for their tardiness. An explanation from responsible parties will accompany the notification. Reports will then be accepted at a later date determined by any mitigating circumstances.

**Program Evaluation/QA**

*Policy Statement*

It is the policy and responsibility of ERAU to take the steps necessary to assure the effectiveness of the Hazard Communication Program.

*Component Objective*

This component shall review and further define how ERAU will assure the effectiveness of the program.

*Component Content*

For program quality assurance, the program as a whole must be reviewed. This requires a review from outside the working organization of the program. The health and safety committee, on the basis of monthly reports and annual reports will conduct the review and interviews with random employees.

Accident reports and lost- time injury reports, maintained by the Human Relations Dept. (not part of the program), will also be used in the annual evaluation.

## Monthly Report

This report will be a compilation of information collected during a monthly survey and review of employee comments. Included in this report will be:

- Hazardous location survey
- Chemical inventory update
- Chemical receiving log—quantities of chemical received
- Hazard labeling survey
- MSDS file log activity
- Employee comments
- Tabulation of employee information requests
- ER training report
- Spill reports
- Other significant information

## Annual Report

This report will consist of a review of monthly reports, tabulations of pertinent statistics in monthly reports, and a review of the program as a whole over the year.

## *Quality Assurance*

It is the responsibility of the program manager's office to provide the health and safety committee with the required reports. It is the responsibility of the health and safety committee to review and make recommendations based on those reports and interviews.

Ultimately it is the responsibility of the Chancellor of ERAU, Prescott Campus to assure that this program is carried out.

## Attachments:

Appendix A: A copy of the Federal Hazard Communication Standard

Appendix B: List of participants in the ER training sessions

Appendix C: Most recent chemical inventory of the facility Submitted to the health and safety committee (insert date)...(MSDS INDEX)

Appendix D: Map of Facility Area and denotations of where hazardous materials are stored.

6b.

## HEALTH & SAFETY RULES

**For the:**

FLIGHT MAINTENANCE FACILITY/FTC

*At:*

**EMBRY-RIDDLE AERONAUTICAL UNIVERSITY, FTC**

Prescott, Arizona 86301

*For Compliance With:*

**OSHA RULES AND REGULATIONS**

**CFR 29 1910....the**

**Arizona Department Of Safety & Health (ADOSH)**

*And*

## The University Comprehensive Safety Program

*Prepared By:*

**Anthony J. Villalpando, OSH Program Manager  
ERAU-FTC, Building F-4A, Ernest A. Love Field, Prescott, AZ  
928-777-4388**

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### **FLIGHT MAINTENANCE FACILITY**

#### **HEALTH AND SAFETY RULES**

In order for a health and safety program to be effective, it is vital that it be understood and implemented at all levels from management to all employees.

The following are the primary occupational health and safety rules and regulations applicable to our operations that must be complied with at the FTC. A complete set of standards may be found in our University Safety Comprehensive Program.

#### *General Workplace Safety Rules*

- a. Report unsafe conditions to your immediate supervisor.
- b. Promptly report all accidents/injuries/incidents to your immediate supervisor.
- c. Use eye and face protection where there is danger from flying objects or particles, (such as when grinding, chipping, burning and welding, etc.) or from hazardous chemical splashes.
- d. Dress properly. Wear appropriate work clothes, gloves, and shoes or boots. Loose clothing and jewelry shall not be worn.
- e. Operate machines or other equipment only when all guards and safety devices are in place and in proper operating condition.
- f. Keep all equipment in safe working condition. Never use defective tools or equipment. Report any defective tools or equipment to immediate supervisor.
- g. Properly care for and be responsible for all Personal Protective Equipment (PPE). Wear or use any such PPE when required.
- h. Lockout / tagout or disconnect power on any equipment or machines before any maintenance, unjamming, and adjustments are made. (Refer to **Lockout/Tagout Program**)
- i. Do not leave materials in aisles, walkways, stairways, work areas, or other points of egress.
- j. **Practice good housekeeping at all times.**

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- k. Training on equipment is required prior to unsupervised operation.
- l. Compliance with all governmental regulations/rules and all University safety rules in the following sections is required.

*Housekeeping*

- a. Proper housekeeping is the foundation for a safe work environment. It definitely helps prevent accidents and fires, as well as creating a professional appearance in the work area.
- b. All work areas, floors, aisles, and stairways will be kept clean and orderly, and free of tripping and slipping hazards. Oils, greases and other liquids will be immediately cleaned up if spilled.
- c. Combustible scrap, debris, and garbage shall be removed from the work area at frequent and regular intervals.
- d. Stairways, walkways, exit doors, in front of electrical panels, or access to fire fighting equipment will be kept clear of storage, materials, supplies, trash, flammable liquids and materials and other debris at all times.
- e. Overhead storage areas will be marked as to maximum load rating.

*Fire Prevention*

Note: Additional information with respect to this section is provided in the **Emergency Action Plan**.

- a. All portable fire extinguishers will be conspicuously located, accessible and maintained in operating condition. Portable fire extinguishers will receive an annual service check. All portable fire extinguishers in aircraft are inspected in the 50-hour progressive A/C inspection program. All other portable fire extinguishers are inspected visually for condition & proper charge.
- b. All employees must know the location of fire fighting equipment in the work area and have knowledge of its use and application.
- c. Exits will be marked as such by a readily visible sign. Other doors likely to be mistaken for an exit will be marked as to their character or as “NOT AN EXIT”.
- d. Only approved safety cans shall be used for handling or storing flammable liquids in quantities greater than one gallon. For one or less gallon, only the original container or a safety can shall be used.
- e. When heat-producing equipment is used, the work area must be kept clear of all fire hazards and all sources of potential fires will be eliminated.
- f. A fire extinguisher and trained fire extinguisher operator, (in addition to other personnel needed to perform the task), will monitor at all times when utilizing **heat producing equipment** around, on, or near aircraft or within a building.
- g. A fire extinguisher and trained fire extinguisher operator, (in addition to other personnel needed to perform the task), will monitor **the use of the portable fueling cart** when it is utilized. For example: De-fueling & Re-fueling of aircraft, or transferring fuel at any time.
- h. A fire extinguisher and trained fire extinguisher operator, (in addition to other personnel needed to perform the task), will monitor the **starting of an A/C, for the first time, after an engine change** has been performed.
- i. A fire extinguisher and trained fire extinguisher operator will monitor **any operation he/she self-determines** to be a potential fire hazard.

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- j. A fire extinguisher and trained fire extinguisher operator will monitor **any operation at the request of any personnel.**

*Industrial Hygiene and Occupational Health*

- a. When no medical facility is reasonably accessible (time and distance) to the workplace, a person who has a valid certificate of first aid training and first aid supplies will be available at the workplace to render first aid. The **Emergency Action Plan lists certified personnel.**
- b. Employees exposed to noise levels above permissible noise level will be included into the hearing conservation program. Hazardous noise areas will be posted and hearing protection worn in those areas as required.
- c. Employees exposed to harmful gases, fumes, dust, and similar airborne hazards will be furnished protection through proper ventilation or personal respiratory equipment. **Our Voluntary Respirator Program goes into detail on this subject.**
- d. Assessment for lead exposure, content of painted surfaces, or other particle residue, due to any potential demolition, renovation, or grinding will be evaluated prior to operation commencing.

*Personal Protective and Related Equipment*

- a. PPE must be worn as required for each job in all operations where there is an exposure to hazardous conditions. This exposure is determined by a PPE hazard assessment of the workplace by the OSH Manager’s Office. Equipment selection and wearing requirements are determined from this assessment.
- b. Safety glasses, goggles, or face shields will be worn in those areas where there is a reasonable probability of injury to the eye from flying particles, molten metal, chemicals/acids/caustics, or light radiation, or other eye hazards. **BUILDING F-8 REQUIRES THE USE OF SAFETY GLASSES AT ALL TIMES!**
- c. Appropriate hand protection is required when hands are exposed to severe cuts/abrasions, chemical/thermal burns, or chemical absorption.
- d. Appropriate aprons and goggles will be used when necessary for protection against acids and other chemicals which could injure employees.
- e. Respiratory equipment in many cases is needed for protection against toxic and hazardous fumes/dusts. The OSH Program Manager’s Office must verify which equipment meets the need for breathing safety. Only NIOSH approved equipment will be used.
- f. The use of safety harnesses, and lanyards are required when working more than ten feet above a floor or ground level **and there are no guardrails or other form of fall protection.** Each employee will be on a separate safety line, and this line will be adjusted so that the employee cannot fall more than six feet.

*Lockout/Tagout Program*

- a. Before any work or maintenance is performed on any machine, equipment, tool, or electrical system, they will be made totally safe before work starts by removing any source of energy or power to them, such as electrical, air/hydraulic pressure, spring/stored energy, or thermal (heat/cold).

### *“Know The Safety Culture”*

- b. The Lockout/Tagout Program provides for a safe method of working on, near, or in machinery or equipment that can cause serious injury. This program will be used by all employees to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energizing or start-up of the machine or equipment, or release of stored energy, could cause injury.
- c. The Lockout/Tagout Program is located at the “Right to Know Station” in F-5 at the North side of the East wall. **Familiarization** with this program is **mandatory** prior to de-energizing or energizing any equipment.

### *Electrical*

- a. Live electrical parts shall be guarded against accidental contact by cabinets, enclosures, location, or guarding. Open circuit breaker openings or knock out holes in fuse panels, broken receptacles/switches, missing covering plates, etc. will be reported to supervisors for repair or replacement.
- b. Clear, clean and accessible space will be kept around electrical equipment and distribution boxes. This includes: drill press, floor shear, pan brake, and all tables and cabinets in use.
- c. Circuit breakers, switch boxes, etc. will be legibly marked to indicate its purpose.
- d. All extension cords and electric powered tools (except double insulated) will be grounded. Ground prongs will not be removed.
- e. Electric wiring/cords entering/exiting any panel/control/junction box will be secured with clamps or other appropriate strain relief device.
- f. Extension cords and other flexible cords will not be used in lieu of permanent wiring and receptacles. Cords will not be run through holes in or around doors, walls, windows, nor will they be fastened to walls, poles, equipment, etc.
- g. All lamps below seven feet used for general illumination will have the bulbs protected against breakage.

### *Guarding*

- a. All flywheels, shafting, pulleys, belts, gears, sprockets, chains, and fan blades will be guarded / enclosed when located below seven feet above the floor or work platform.
- b. Guards installed on machinery and equipment, such as air compressors, conveyors, drill presses, etc. will not be removed when operating. Guards removed for servicing or other work on the machine or equipment will be immediately replaced upon completion of the work.

### *Compressed Gas Cylinders*

- a. All gas cylinders shall have their contents clearly marked on the outside of each cylinder.
- b. Cylinders must be transported, stored, and secured in an upright position, unless approved by the OSH Manager’s Office. They will never be left laying on the ground or floor, nor used as rollers or supports.
- c. Cylinder valves must be protected with caps and valves closed to regulators when not in use.

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- d. Oxygen cylinders and fittings will be kept away from oil or grease. Oxygen cylinders will be stored at least 20 feet from any fuel gas cylinder, or separated by a fire barrier at least five feet high.
- e. When cylinders are hoisted, they will be secured in a cradle, sling-board, or pallet. Valve protection caps will not be used for lifting cylinders from one vertical level to another.

### *Ladders*

- a. Ladders will be inspected frequently to identify any unsafe conditions. Those ladders, which have developed defects, will be removed from service, and repaired or replaced. They will be tagged or marked as such.
- b. Portable ladders will be placed as to prevent slipping, or if used on other than stable, level, and dry surfaces, will be tied off or held. A simple rule for setting up a ladder at the proper angle is to place the base from the vertical wall equal to one-fourth the working length of the ladder.
- c. Portable ladders will extend at least **three feet** above the upper level to which the ladder is used to gain access.
- d. The top of a stepladder will not be used as a step.
- e. Only one person will be on a ladder at a time.

### *Flammable And Combustible Liquids*

- a. Only approved safety cans, original containers, or portable tanks will be used to store flammable or combustible liquids.
- b. All Flammable or Combustible Liquids will be stored in the HAZMAT storage area in Building F-8. No more than 5 gal. of any Flammable or Combustible Liquid may be portably transported at any time. Exceptions: De-fueling cart, 35gal. or approved 55gal. drums.
- c. Above ground storage tanks will be separated from each other by a minimum of three feet or 1/6 the sum of their diameters. Dikes or drainage to prevent accidental discharge from reaching adjoining property or waterways will be provided.
- d. Only 25 gallons of Class IA and 120 gallons (50 gal. vessels max.) of Class IB, IC, II, or III liquids may be temporarily stored away from their designated storage area for a specific length of time & within a specific area, **after receiving the approval of the OSH Program Managers Office.**
- e. At no time will any size quantity portable container be left unattended away from its designated storage area. (FULL or EMPTY)

### *Hoists*

- a. Hoists will be inspected prior to each use/during use to make sure it is in safe operation condition.
- b. A monthly inspection of hooks, and hoist chains will be made and a certification record to include date, inspector signature, and hook identifier (its purposeful use) will be maintained along with supervisor's safety inspection criteria.
- c. Job or shop hooks or other makeshift fasteners using bolts, wire, etc. will not be used.

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- d. No item will be hoisted without knowing the load rating capability of the hoist and/or any attaching devices (i.e. chains, ropes, hooks etc.).

*Welding And Brazing*

- a. Combustible material will be cleared for a radius of 35 feet from the area around cutting or welding operations. If the combustible material cannot be cleared or the work cannot be moved, then the welding/cutting will not be done.
- b. Welding helmets and goggles will be worn for eye protection and to prevent flash burns. Eye protection will be worn to guard against slag while chipping, grinding and dressing of welds.
- c. Welding screens will be used and in proper position to protect nearby workers from welding rays.
- d. Cables, leads, hoses, and connections will be placed so that there are no fire or tripping hazards. Cables will not be wrapped around the welder’s body.
- e. Oxygen cylinders will be stored at least 20 feet from fuel gas cylinders, or separated by a noncombustible firewall with a one-half hour rating at least five feet high.
- f. Valve protection caps will be in place on cylinders not in use.
- g. Ventilation is a prerequisite for welding in any confined spaces.

*Tools*

- a. Hand tools with broken/cracked handles, mushroomed heads, or other defects will not be used. Files will have handles installed.
- b. Take special precautions when using power tools. Defective tools will be removed from service.
- c. Power tools will be turned off and motion stopped before setting tool down.
- d. Tools will be disconnected from power source before changing drill bits, blades or attempting to repair or adjust. Never leave a running tool. Never lay down an air tool on a toolbox or table while attached to the air source. If the tool is to remain attached to an air source during intermittent use, use the provided tool storage hooks.
- e. Portable abrasive side-winder grinders will have guards installed covering the upper and back portions of the abrasive wheel. Wheel speed ratings will never be less than the grinder RPM speed.
- f. Pedestal Grinders will be permanently mounted, tool rests installed and adjusted to within 1/8” of the wheel, tongue guards installed and adjusted to within ” of the wheel, and side spindle/nut guards installed.
- g. Air compressor receivers will be drained frequently to prevent buildup of water in the tank.
- h. Compressed air will not be used for cleaning purposes except when pressure is reduced to less than 30PSI by regulating or use of a safety nozzle, and then only with effective chip guarding and proper PPE. Any employee-furnished tools of any nature must meet all OSHA’ Safety and ANSI requirements.

*Safety Railings and Other Fall Protection*

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- a. All open sided floors and platforms four feet or more above adjacent floor/ground levels will be guarded by a standard railing (top and mid rail, toeboard if required).
- b. All stairways of four or more risers will be guarded by a handrail, or stair rails on the open side. Handrails or stair rails will be provided on both sides if the stairs are more than 44 inches wide.
- c. When a hole or floor opening is created during a work activity, a cover or a barricade must be installed immediately.

### *Scaffolds*

- a. Scaffold platforms more than ten feet above the ground, floor, or lower level will have standard guardrails (consisting of a toprail, midrail, and a toeboard) installed on all open sides and ends of platforms.
- b. Mobile scaffolds will be erected no more than a maximum height of four times their minimum base dimension.
- c. Scaffolds will not be overloaded beyond their design loadings.

### *Miscellaneous*

- a. Any work to be performed on support equipment will follow the FTC safety policy & rules.
- b. There are additional safety policies with respect to individual programs & itemized equipment in the FTC Operation & Safety Manual.
- c. Only personnel trained in the operation & safety procedures of the Mechanical Scissor Lift are eligible to operate this Unit. ( Ref. Title 29 CFR 1910.67)

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