



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

**ORDER
VS 3900.84**

Aviation Safety

Effective date:
06/22/2023

SUBJ: Aviation Safety (AVS) Hazardous Energy Control Program

Hazardous energy is defined as any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, gravitational, or other energy that can harm personnel. Some energy sources are obvious, such as electricity, heat in a furnace, or something that might fall. Others may be hidden hazards such as air pressure in a system or a tightly wound spring. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers. Proper lockout/tagout practices and procedures safeguard workers from hazardous energy releases.

Although AVS employees do not directly operate, maintain, or repair aircraft, machines, or equipment, it is important to be aware of the hazards and controls they may encounter at an external industry workplace. In some instances, to better observe and inspect facilities or operations, AVS personnel are required to put themselves into positions that expose them to greater risks from potentially hazardous conditions. As such, AVS employees are considered 'affected employees' according to the Occupational Safety and Health Administration standards and their level of exposure to hazards is anticipated to be moderate. AVS employees must comply with applicable safety and health programs, policies, and procedures when working at these external industry workplaces.

The AVS Hazardous Energy Control Program is an element of the AVS Occupational Safety and Health Program and establishes the minimum requirements to ensure awareness by AVS employees of the regulations related to hazardous energy, the associated hazards, and the importance of the locks and tags used to control hazardous energy. By establishing the necessary programs, policies, and procedures, AVS-affected persons will have the information they need to perform their activities safely.

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Chapter 1. General Information

1. Purpose of This Order. The purpose of this order is to provide requirements and guidelines to protect Aviation Safety (AVS) personnel from exposure to hazardous energy in external industry workplaces. Appendix A, Definitions, defines many of the terms used in this order. The AVS Hazardous Energy Control Program is designed to meet the minimum requirements for compliance with:

a. Federal Aviation Administration (FAA) Order 3900.19C, Chapter 10-4 Hazardous Energy Control Policy; and

b. Occupational Safety and Health Administration (OSHA) Title 29 Code of Federal Regulations (CFR) 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

2. Audience. This program applies to all AVS personnel involved in aircraft and/or facility surveillance activities, aircraft accident investigation, and other related work where there is potential exposure to hazardous energy.

3. Where to Find This Order. You can find this order on the MyFAA Employee website: https://employees.faa.gov/tools_resources/orders_notices/. This order is available to the public at http://www.faa.gov/regulations_policies/orders_notices/.

4. Action Date. Complete applicable organization-level requirements of this order within one year of the date on which this order is signed.

Chapter 2. Roles and Responsibilities

1. AVS Service and Office (S/O) Executive Directors

- a.** Ensure the resources (funding and personnel) are available to implement the Hazardous Energy Control Program effectively throughout their organization for applicable employees.
- b.** Designate S/O Program Manager(s) to oversee the program and provide the necessary technical support for their S/Os as needed.

2. AVS Middle Managers

- a.** Ensure affected employees who could be exposed to hazardous energy at an external industry workplace participate in the AVS Hazardous Energy Control Program.
- b.** Manage and implement the AVS Hazardous Energy Control Program requirements within the jurisdiction or organization(s) they manage.

3. AVS Frontline Managers

- a.** Identify employees whose job functions may expose them to hazardous energy at an external industry workplace and ensure they complete the AVS hazardous energy safety awareness training.
- b.** Remind employees about filing Injury and Illness Incident Reports electronically via the Department of Labor Employees' Compensation Operations & Management Portal (ECOMP), and approve those reports.
- c.** Know this AVS Hazardous Energy Control Program's policies and procedures.

4. AVS S/O Designated Hazardous Energy Control Program Managers

- a.** Serve as the S/O Hazardous Energy Control Program subject matter expert and perform overall Hazardous Energy Control program management for the respective AVS service or office. This AVS position does not include managing or overseeing hazardous energy controls (lockout/tagout) at an external industry workplace, as authorized employees at the external industry location handle this responsibility.
- b.** Assist their respective S/O frontline managers and employees with the implementation of the AVS Hazardous Energy Control Program, the identification of employees with potential hazardous energy exposure, and determine hazardous work areas and tasks that may result in exposures.
- c.** Ensure AVS hazardous energy safety awareness training is available to all affected employees as determined by management.
- d.** In coordination with Learning Management System Coordinator, ensure documentation and retention of training records.

e. Perform annual program evaluation of the AVS Hazardous Energy Control Program to ensure effectiveness and make changes to program requirements, if needed.

5. AVS Employees

a. Comply with this AVS Hazardous Energy Control Program, applicable OSHA standards, and FAA orders and complete the AVS hazardous energy safety awareness training.

b. If applicable, coordinate with an external industry workplace point of contact or qualified occupational safety and health (OSH) representative regarding activities with potential hazardous energy exposures and use worker protection measures to comply with this Hazardous Energy Control Program.

c. Become familiar with the external industry AVS Hazardous Energy Control Program to include an understanding of energy isolation and lockout/tagout procedures, although AVS personnel will not be performing the latter.

d. Disengage from unsafe work activities or work environments and immediately notify the frontline manager, in accordance with the AVS OSH Policy Statement.

e. Report workplace injury and illness incidents in accordance with FAA policies and procedures.

f. Submit an unsatisfactory condition report (UCR) where situations are observed that may cause or contribute to hazardous energy exposure incidents or otherwise present a hazard to personnel and equipment, including any lack of training or awareness of hazards and appropriate worker protection measures. See the most current version of FAA Order 1800.6 Unsatisfactory Condition Report for specific guidance on submitting an UCR.

Chapter 3. Hazardous Energy Control Program Requirements

- 1. Hazardous Energy Defined.** Energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machines and equipment can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers.
 - 2. Identification of Hazardous Energy Sources.** AVS employees in the course of surveillance and investigation activities may work in areas of an external industry workplace where external industry workplace employees are involved with servicing and maintenance of aircraft, components, engines, machines, and equipment.
 - 3. Hazardous Energy – Affected Employees.**
 - a. AVS employees are considered affected employees per 29 CFR 1910.147. OSHA’s definition of an affected employee includes an employee whose job requires them to work in an area in which servicing or maintenance is being performed under lockout or tagout.
 - b. AVS affected employees are prohibited from performing the following activities that could endanger the safety and health of those performing work at external industry workplaces:
 - (1) Attempting to activate equipment, machines, aircraft components, etc., that are locked out or tagged out; and
 - (2) Attempting to remove or tamper with locks or tags for any reason.
 - 4. Harmful Effects of Hazardous Energy.** External industry workers servicing or maintaining aircraft, engines, machines, or equipment may be seriously injured or killed if hazardous energy is not properly controlled. Injuries may include electrocution, burns, crushing, cutting, lacerating, amputating, or fracturing body parts, and others.
 - 5. Hazard Control Measures.** Proper lockout/tagout practices and procedures safeguard workers from hazardous energy releases. The OSHA standard for the Control of Hazardous Energy (Lockout/Tagout) (29 CFR 1910.147) for the general industry outlines measures for controlling different types of hazardous energy and establishes the external industry employer's responsibility to protect workers from hazardous energy. OSHA's Lockout/Tagout [Fact Sheet](#) describes the practices and procedures to be used by external industry locations to disable machinery or equipment to prevent hazardous energy release.
- Note:** Not all countries are going to have something equivalent to the United States regarding hazardous energy. AVS employees need to be cognizant of the hazards that are possible at international operators and work locations.
- 6. Hazardous Energy Safety Awareness Training.** AVS employees who are potentially exposed to hazardous energy (e.g., work in an area where servicing/maintenance is performed under lockout/tagout) must complete hazardous energy safety awareness training to ensure that the purpose and function of the energy control program are understood and that the knowledge

and skills required for the safe application, usage, and removal of the energy controls are acquired.

a. Awareness training shall include:

- (1) Types of hazardous energy (e.g., electrical, mechanical, hydraulic, pneumatic);
- (2) Purpose and use of energy control procedures;
- (3) The prohibition relating to attempts to restart or re-energize machines or equipment, which are locked out or tagged out; and
- (4) The limitations of tags.

b. This hazardous energy safety awareness training will be web-based.

c. Training received while in the employ of previous employers is not a substitute for mandatory AVS hazardous energy safety awareness training requirements.

7. Performance Assurance and Program Evaluations. The AVS S/O Designated Hazardous Energy Control Program Managers must perform an annual review of program elements and performance including an evaluation of the accuracy and efficacy of the program. The review must validate program objectives or goals, requirements, and lessons learned.

8. Unsatisfactory Condition Reports (UCRs). No employee is expected to perform work activities that subject them to unsafe or unhealthful work conditions. If an AVS employee would potentially be exposed to hazardous energy, they must not perform the task until the hazard is remediated. If it cannot be corrected or alternate measures are taken to address the hazard, the employee must not complete the activity. Instead, the employee must notify their supervisor for further direction.

a. Preferably, the hazardous condition should be discussed with the supervisor to abate the unsafe condition. However, any employee or employee representative who believes that an unsafe or unhealthful working condition exists shall have the right to make a report to an appropriate agency safety and health official and request an assessment of the workplace.

b. Although the complaint may be lodged verbally with your supervisor, it is recommended that a UCR be filed. This report may be submitted electronically or in writing on Form 1800-1. The electronic UCR form can be found in the internet favorites under “AVS Resource Links” or by going to https://smis.faa.gov/UCR/UCR_user_prompt.asp. See the most current version of FAA Order 1800.6, Unsatisfactory Condition Report for further instructions.

Chapter 4. Administrative Information

- 1. Distribution.** This order is distributed to all AVS personnel.
- 2. Authority to Change This Order.** The issuance, revision, or cancellation of the material in this order is the responsibility of the Associate Administrator for Aviation Safety (AVS-1).
- 3. Suggestions for Improvements.** Please forward all comments on deficiencies, clarifications, or improvements regarding the contents of this order to the FAA Directive Feedback System at <https://ksn2.faa.gov/avs/dfs/Pages/Home.aspx>. FAA Form 1320-19, Directive Feedback Information, is located in Appendix B of this order for your convenience.
- 4. Records Management.** Refer to FAA Order 0000.1, FAA Standard Subject Classification System; FAA Order 1350.14, Records Management; or your office Records Management Officer or Directives Management Officer for guidance regarding retention or disposition of records.

Appendix A. Definitions

- 1. Affected employee.** An employee whose job requires them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.
- 2. Authorized employee.** A person who locks out or tags out machines or equipment to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing service or maintenance covered under this section.
- 3. Energized.** Connected to an energy source or containing residual or stored energy.
- 4. Energy-isolating device.** A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches, and other control circuit type devices are not energy-isolating devices.
- 5. Energy source.** Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- 6. Hazardous energy.** Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, gravitational, or other energy that can harm personnel.
- 7. Lockout.** The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensures that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
- 8. Lockout device.** A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in a safe position and prevent the energizing of a machine or equipment. This includes blank flanges and bolted slip blinds.
- 9. Servicing and/or maintenance.** Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.
- 10. Tagout.** The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, indicates that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.
- 11. Tagout device.** A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established

procedure, indicates that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Appendix B. Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order VS 3900.84, Aviation Safety (AVS) Hazardous Energy Control Program

To: AVS Directives Management Officer

Please mark all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:
(attached separate sheet if necessary)

In a future change to this order, please include coverage on the following subject
(briefly describe what you want added):

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

Telephone Number: _____ Routing Symbol: _____