Fire Detection Systems -- OSHA Standard 1910.164

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The Impact of Safety on Florida Agriculture

Florida agriculture, including forestry and seafood, made an annual economic impact of $53 billion in 1998. More than 81,000 people work on the 40,000 farms in the state, and more than 50,000 are employed in other activities related to agriculture. The state's agricultural enterprises range from large citrus, vegetable and cattle operations to small family-operated farms.

From 1989 to 1998, there were approximately 240 deaths related to agriculture in Florida, according to data compiled by the Deep South Center for Agricultural Health and Safety. In addition, agriculture has one of the highest injury and death rates among U.S. industries.

Safety in Florida agriculture is challenging because:

- the state's agricultural enterprises are diverse,
- safety knowledge among workers varies,
- manual labor is used extensively,
- the climate creates year-round heat stress.

Therefore, it is vital to assist the public in learning about OSHA documents related to agriculture. More related information is available at the following Web sites:

Florida AgSafe: [http://agen.ufl.edu/~clehtola/agsafe.htm](http://agen.ufl.edu/~clehtola/agsafe.htm)


Overview

This document, a condensation of Section 1910.164 of the Occupational Safety and Health Act (29 CFR), is not intended to be totally inclusive but rather to highlight the information and requirements in the complete OSHA standard that owners and managers of agricultural businesses should understand. Refer to the OSHA Web site given above for the complete standard and for court interpretations of the standard.
Contents of OSHA Standard 1910.164

• Section 1910.164(a) -- Scope and Application
• Section 1910.164(b) -- Installation and Restoration
• Section 1910.164(c) -- Maintenance and Testing
• Section 1910.164(d) -- Protection of Fire Detectors
• Section 1910.164(e) -- Response Time
• Section 1910.164(f) -- Number, Location and Spacing of Detecting Devices

NOTE: Some sections of OSHA standards are labeled "Reserved." This label implies either that information has been deleted from the previous version of the standard or that additions to the standard are anticipated. Because standards often reference other standards, it is important that paragraph numbers remain consistent.

Section 1910.164(a) -- Scope and Application

This section applies to all automatic fire detection systems installed to meet the requirements of a particular OSHA standard.

Section 1910.164(b) -- Installation and Restoration

1910.164(b)(1) -- The employer shall assure that all devices and equipment constructed and installed to comply with this standard are approved for the purpose for which they are intended.

1910.164(b)(2) -- The employer shall restore all fire detection systems and components to normal operating condition as promptly as possible after each test or alarm. Spare detection devices and components which are normally destroyed in the process of detecting fires shall be available on the premises or from a local supplier in sufficient quantities and locations for prompt restoration of the system.

Section 1910.164(c) -- Maintenance and Testing

1910.164(c)(1) -- The employer shall maintain all systems in an operable condition except during repairs or maintenance.

1910.164(c)(2) -- The employer shall assure that fire detectors and fire detection systems are tested and adjusted as often as needed to maintain proper reliability and operating condition except that factory calibrated detectors need not be adjusted after installation.

1910.164(c)(3) -- The employer shall assure that pneumatic and hydraulic operated detection systems installed after January 1, 1981, are equipped with supervised systems.

1910.164(c)(4) -- The employer shall assure that the servicing, maintenance and testing of fire detection systems, including cleaning and necessary sensitivity adjustments are performed by a trained person knowledgeable in the operations and functions of the system.

1910.164(c)(5) -- The employer shall also assure that fire detectors that need to be cleaned of dirt, dust, or other particulates in order to be fully operational are cleaned at regular periodic intervals.

Section 1910.164(d) -- Protection of Fire Detectors

1910.164(d)(1) -- The employer shall assure that fire detection equipment installed outdoors or in the presence of corrosive atmospheres be protected from corrosion. The employer shall provide a canopy, hood, or other suitable protection for detection equipment requiring protection from the weather.
1910.164(d)(2) -- The employer shall locate or otherwise protect detection equipment so that it is protected from mechanical or physical impact which might render it inoperable.

1910.164(d)(3) -- The employer shall assure that detectors are supported independently of their attachment to wires or tubing.

Section 1910.164(e) -- Response Time

1910.164(e)(1) -- The employer shall assure that fire detection systems installed for the purpose of actuating fire extinguishment or suppression systems shall be designed to operate in time to control or extinguish a fire.

1910.164(e)(2) -- The employer shall assure that fire detection systems installed for the purpose of employee alarm and evacuation be designed and installed to provide a warning for emergency action and safe escape of employees.

1910.164(e)(3) -- The employer shall not delay alarms or devices initiated by fire detector actuation for more than 30 seconds unless such delay is necessary for the immediate safety of employees. When such delay is necessary, it shall be addressed in an emergency action plan meeting the requirements of 1910.38.

Section 1910.164(f) -- Number, Location and Spacing of Detecting Devices

The employer shall assure that the number, spacing and location of fire detectors is based upon design data obtained from field experience, or tests, engineering surveys, the manufacturer's recommendations, or a recognized testing laboratory listing.