

## Maintenance, Safeguards, and Operational Features for Exit Routes — OSHA Standard 1910.37 <sup>1</sup>

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### The Impact of Safety on Florida Agriculture

Florida agriculture, including forestry and fishing, made an annual economic impact of \$98 billion in 2004. More than 390,000 workers are directly employed in these industries in Florida, and another 380,000 people are employed in activities related to agriculture (Hodges 2006). The state's agricultural enterprises range from large citrus, vegetable and cattle operations to small family-operated farms.

In spite of the popular images of agriculture, it is a highly mechanized, industrial profession with one of the highest injury and death rates among U.S. industries. The last study of death rates in Florida agriculture (Liller 2000) found 240 deaths from 1989 to 1998. In 2005, the Bureau of Labor Statistics (BLS 2005a) reported that death due to injury in agriculture was 31.4 deaths per 100,000 full-time workers, which was the highest rate among all major occupational groups and an increase of 14% over 2004. Also in 2005, the Bureau of Labor Statistics reported 6,100 injuries per 100,000 full-time workers (BLS 2005b).

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 information about the OSHA Standards and agricultural safety is available at the following Web sites:

Florida AgSafe: <http://www.flagsafe.ufl.edu>

OSHA Regulations:  
<http://www.osha.gov/comp-links.html>

National Agricultural Safety Database:  
<http://www.cdc.gov/nasd>

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## Introduction

This standard, 1910.37, is one part of OSHA Standard 1910 Subpart E, "Exit Routes, Emergency Action Plans, and Fire Prevention Plans." The standards in Subpart E are:

- 1910.33 — Table of Contents
- 1910.34 — Coverage and Definitions
- 1910.35 — Compliance with NFPA 101-2000, Life Safety Code
- 1910.36 — Design and Construction Requirements for Exit Routes
- 1910.37 — Maintenance, Safeguards, and Operational Features for Exit Routes
- 1910.38 — Emergency Action Plans
- 1910.39 — Fire Prevention Plans

This content is the result of a major restructuring of Subpart E, formerly named "Means of Egress," undertaken in 2002 to make the standard easier to understand and to comply with. The term "means of egress" has been replaced with exit routes. In addition, there are fewer subparagraphs and fewer cross-references. Inconsistencies and duplicative requirements have been eliminated.

## Overview

**Author's Comment:** Standards for exits are essential to prepare for situations in which a facility must be evacuated. Laws regulating workplace safety largely began with a disastrous fire in a New York garment factory in 1911 in which 146 workers died. A primary reason that so many workers died was that alternate exits were generally locked and all doors opened inward and were effectively blocked by the pressure of panicked people trying to get out. Fire suppression amounted to 27 buckets of water for a room full of bolts of highly flammable cloth and littered with scraps. Employers preferred to lock all exits to prevent theft. Workers, mostly women and young girls, died when they were burned or trampled. Fifty died when they leapt from their ninth-floor workroom to escape the flames.

Occupational safety has come a long way since 1911, but workers still die because of inadequate exits. In 1990, 87 people died at the Happy-Land Social Club in New York City, a facility that had no fire suppression, no alarms and no exits. In 1991, 25 workers died in a North Carolina poultry processing plant in which the fire exits were either inadequately marked, blocked, or locked. Other corporations, both large and small, have faced scrutiny in the past few years for their policies regarding locking or blocking emergency exits.

An emergency plan is a critical part of standard emergency preparedness for any facility, but it is only part of the story. To be truly prepared, any operation must have the following elements in place:

1. Management commitment to worker safety
2. A facility designed for safe and efficient operation, including periodic inspections of all safety features, exits, signage, etc.
3. Emergency plans that workers are trained in on a regular basis.

If any one of these elements is missing, the others quickly become ineffective, and the stage for a disaster is set.

## Exit Routes

*The danger to employees must be minimized.*

- Exit routes must be kept free of explosive or highly flammable furnishings or other decorations.
- Exit routes must be arranged so that employees will not have to travel toward a high hazard area, unless the path of travel is effectively shielded from the high hazard area by suitable partitions or physical barriers.
- Exit routes must be free and unobstructed. No materials or equipment may be placed, either permanently or temporarily, within the exit route. The exit access must not go through a room that can be locked, such as a bathroom, to reach an exit or exit discharge, nor may it lead into a corridor. Stairs or a ramp must be provided where the exit route is not substantially level.

- Safeguards designed to protect employees during an emergency (for example, sprinkler systems, alarm systems, fire doors, exit lighting) must be in proper working order at all times.

## Lighting and Marking

*Lighting and marking must be adequate and appropriate.*

- Each exit route must be adequately lighted so that an employee with normal vision can see along the exit route.
- Each exit must be clearly visible and marked by a sign reading "Exit."
- Each exit route door must be free of decorations or signs that obscure the visibility of the exit door.
- If the direction of travel to the exit or exit discharge is not immediately apparent, signs must be posted along the exit access indicating the direction of travel to the nearest exit and exit discharge. Additionally, the line-of-sight to an exit sign must clearly be visible at all times.
- Each doorway or passage along an exit access that could be mistaken for an exit must be marked "Not an Exit" or similar designation, or be identified by a sign indicating its actual use (for example, "Closet").
- Each exit sign must be illuminated to a surface value of at least five foot-candles (54 lux) by a reliable light source and be distinctive in color. Self-luminous or electroluminescent signs that have a minimum luminance surface value of at least .06 footlamberts ( $0.21 \text{ cd/m}^2$ ) are permitted.
- Each exit sign must have the word "Exit" in plainly legible letters not less than six inches (15.2 cm) high, with the principal strokes of the letters in the word "Exit" not less than three-fourths of an inch (1.9 cm) wide.

## Fire Retardants

*The fire retardant properties of paints or solutions must be maintained.*

- Fire retardant paints or solutions must be renewed as often as necessary to maintain their fire retardant properties.

## Maintain Exits during Construction Activities

*Exit routes must be maintained during construction, repairs, or alterations.*

- During new construction, employees must not occupy a workplace until the exit routes required by this subpart are completed and ready for employee use for the portion of the workplace they occupy.
- During repairs or alterations, employees must not occupy a workplace unless the exit routes required by this subpart are available, and existing fire protections are maintained, or until alternate fire protection is furnished that provides an equivalent level of safety.
- Employees must not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace, or that would impede exiting the workplace.

## Alarms

*An employee alarm system must be operable.*

- Employers must install and maintain an operable employee alarm system that has a distinctive signal to warn employees of fire or other emergencies, unless employees can promptly see or smell a fire or other hazard in time to provide adequate warning to them. The employee alarm system must comply with OSHA Standard 1910.165, Employee Alarm Systems.

## Changes to the Standard

The standards for Means of Egress, of which this standard is one part, were originally set in place in 1974. They were revised in 1980. In 2002, the Means of Egress standards were revised again.

OSHA significantly altered the language of this standard, 1910.37, in an effort to make the standard easier to understand and comply with. The requirements of the standard were not changed substantively, and the revisions were made with the intention that workers would be protected as well under the revised language as they had been before.

References in the Federal Register in which this standard and its revisions were announced:

- 39 FR 23502, June 27, 1974
- 45 FR 60703, Sept. 12, 1980
- 67 FR 67963, Nov. 7, 2002

References in Federal Register 59 and later are available on the Internet. at <http://www.gpoaccess.gov/fr>.

## References

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Bureau of Labor Statistics. 2005(b). "Census of Fatal Occupational Injuries Summary, 2005." Washington, D.C.: United States Department of Labor. *News*, August 10, 2006. USDL 06-1364.

Hodges, Alan W., Mohammad Rahmani, and W. David Mulkey. 2006. "Economic Impacts of Agricultural, Food, and Natural Resources Industries in Florida in 2004." Gainesville, Florida: Florida Cooperative Extension Service. IFAS Publication FE680. <http://edis.ifas.ufl.edu/FE680>

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