

## **SUBCHAPTER 8. STANDARDS FOR INDOOR FIRING RANGES FOR PUBLIC EMPLOYEES**

### **12:100-8.1 Scope**

(a) This subchapter shall apply to the following:

1. The design considerations, work practices, and ammunition used at existing and new indoor firing ranges operated by public employers;
2. Public employees assigned to work at an indoor firing range; and
3. Public employers who operate indoor firing ranges and who are responsible for complying with the provisions of this standard.

### **12:100-8.2 Definitions**

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

“Bounce back” means the occasion when hard zinc bullets bounce off the surface of the bullet trap.

“Bullet trap” means the area of the firing range furthest from the shooting area which is equipped with plates to capture the expended bullets after firing.

“HEPA” means a high efficiency particulate absolute filter which is 99.97 percent efficient for 0.3 microns.

“Indoor firing range” means the room inside a building which contains the shooting booths and is used for the shooting of firearms.

### **12:100-8.3 Lead Standard**

The Lead Standard, Section 1910.1025 of 29 CFR Part 1910, adopted by reference at N.J.A.C. 12:100-4.2(a) 20, shall be applicable at indoor firing ranges.

### **12:100-8.4 Ammunition**

(a) The ammunition used in indoor firing ranges during practice sessions shall be zinc bullets or nylon jacketed or copper jacketed bullets. Service ammunition routinely used by the public employer may be used for qualification sessions.

(b) When selecting the type ammunition to be used to comply with (a) above, consideration shall be given to a potential problem of “bounce back” of the much harder

zinc bullet from the bullet trap in some ranges. Consideration shall be given to the potential eye hazard to shooters which may make the use of the zinc bullets unsafe unless changes are made in the bullet trap.

### **12:100-8.5 Ventilation system**

(a) The minimum air velocity shall be 50 feet per minute at the firing line. An optimum air velocity should be 75 feet per minute at the firing line.

(b) Filtered and conditioned air shall be introduced behind the firing line to guarantee an evenly distributed flow of air through the shooting positions. Supplied air inlets should be placed approximately 15 feet behind the shooter’s position.

(c) The entire range facility shall be maintained at a slightly negative pressure with respect to adjacent areas to prevent the escape of contaminants. Exhaust air shall exceed supplied air by at least 10 percent. For maximum efficiency, exhaust ducts should be located behind and at the apex of the bullet trap. An alternative location is to place the exhaust ducts on the side walls slightly in front of the apex of the bullet trap.

(d) A minimum down range conveying velocity of 35 feet per minute shall be maintained. When the 75 feet per minute rate is used, a minimum of 25 percent of the air should be exhausted 15 to 20 feet down range of shooting position and the remaining 75 percent at the bullet trap. When the 50 feet per minute rate is used, 100 percent of the air should be exhausted down range at the bullet trap.

(e) Each range shall have its own ventilation system to prevent the circulation of contaminated air to other areas of the building.

(f) The supply and exhaust systems shall be electrically interlocked, thereby eliminating an error in turning one system on and not the other. The system shall operate on one fan speed only.

### **12:100-8.6 Noise exposure**

(a) The Occupational Noise Exposure Standard, Section 1910.95 of 29 CFR Part 1910, adopted by reference at N.J.A.C. 12:100-4.2(a)(6) shall be applicable at indoor firing ranges.

(b) To minimize the effect of peak sound pressure levels on individuals in the indoor range, all reflecting walls should be covered with high efficiency sound absorbing material. The coverings should be designed to permit easy cleaning and access to the acoustical material for periodic replacement.

(c) The floors directly behind the shooting booths should be covered with acoustical flooring.

(d) Firing range control rooms should be acoustically treated to reduce noise levels.

(e) The bullet trap should not be anchored or attached to any structural support for the building.

#### **12:100-8.7 Water drains**

Each firing range should be equipped with a floor drain and trap to facilitate cleaning by a wet method. The drain location should be approximately 20 feet down range of the firing line. The floor should slope two to three inches toward the drain.

#### **12:100-8.8 Work practices**

(a) The ventilation system shall be in operation at all times while the range is in use and during clean-up.

(b) The range shall be cleaned by vacuum or a wet method. The use of a hand broom shall be prohibited. Vacuum cleaners shall be equipped with high efficiency particulate filters (HEPA) or the equivalent.

(c) At all times while cleaning, repairing, or reclaiming lead in the bullet trap, a National Institute of Occupational Safety and Health approved half-mask, air purifying respirator equipped with N-100 filters and disposable coveralls shall be the minimum personal protective equipment worn by all employees performing one or more of these tasks.

(d) Proper ear protection shall be provided for and worn by all individuals inside the firing range. The ear protectors shall be selected on the basis of offering a noise reduction rating of at least 20 decibels. In cases where the noise decibel level is at or above 100 decibels, both plugs and muffs shall be worn simultaneously.

(e) Ear plugs, when worn, shall be properly fitted.

(f) A hearing conservation program shall be instituted and yearly audiometric examinations shall be provided to the firing range officers and instructors.

(g) Eating, drinking, or smoking in the range shall be prohibited.

(h) A Specific schedule shall be established to perform maintenance and repair work to keep the range facilities operational and free of hazardous conditions.