

cranium at the end of the penetration cycle shall not be used to stun cattle.

[44 FR 68813, Nov. 30, 1979, as amended at 69 FR 1891, Jan. 12, 2004]

§ 313.16 Mechanical; gunshot.

The slaughtering of cattle, calves, sheep, swine, goats, horses, mules, and other equines by shooting with firearms and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the Act.

(a) *Utilization of firearms, required effect; handling.* (1) The firearms shall be employed in the delivery of a bullet or projectile into the animal in accordance with this section so as to produce immediate unconsciousness in the animal by a single shot before it is shackled, hoisted, thrown, cast, or cut. The animal shall be shot in such a manner that they will be rendered unconscious with a minimum of excitement and discomfort.

(2) The driving of the animals to the shooting areas shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the shooting area is essential since accurate placement of the bullet is difficult in case of nervous or injured animals. Among other things, this requires that, in driving animals to the shooting areas, electrical equipment be used as little as possible and with the lowest effective voltage.

(3) Immediately after the firearm is discharged and the projectile is delivered, the animal shall be in a state of complete unconsciousness and remain in this condition throughout shackling, sticking and bleeding.

(b) *Facilities and procedure—(1) General requirements for shooting facilities; operator.* (i) On discharge, acceptable firearms dispatch free projectiles or bullets of varying sizes and diameters through the skull and into the brain. Unconsciousness is produced immediately by a combination of physical brain destruction and changes in intracranial pressure. Caliber of firearms shall be such that when properly aimed and discharged, the projectile produces immediate unconsciousness.

(ii) To assure uniform unconsciousness of the animal with every discharge where small-bore firearms are employed, it is necessary to use one of the following type projectiles: Hollow pointed bullets; frangible iron plastic composition bullets; or powdered iron missiles. When powdered iron missiles are used, the firearms shall be in close proximity with the skull of the animal when fired. Firearms must be maintained in good repair. For purposes of protecting employees, inspectors and others, it is desirable that all firearms be equipped with safety devices to prevent injuries from accidental discharge. Aiming and discharging of firearms should be directed away from operating areas.

(iii) The provisions contained in § 313.15(b)(1)(iii) with respect to the stunning area also apply to the shooting area.

(iv) The shooting operation is an exacting procedure and requires a well-trained and experienced operator. He must be able to accurately direct the projectile to produce immediate unconsciousness. He must use the correct caliber firearm, powder charge and type of ammunition to produce the desired results.

(2) *Special requirements.* Choice of firearms and ammunition with respect to caliber and choice of powder charge required to produce immediate unconsciousness of the animal may vary depending on age and sex of the animal. In the case of bulls, rams, and boars, small bore firearms may be used provided they are able to produce immediate unconsciousness of the animals. Small bore firearms are usually effective for stunning other cattle, sheep, swine, and goats, and calves, horses, and mules.

§ 313.30 Electrical; stunning or slaughtering with electric current.

The slaughtering of swine, sheep, calves, cattle, and goats with the use of electric current and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the Act.

§ 313.50

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(a) *Administration of electric current, required effect; handling.* (1) The electric current shall be administered so as to produce, at a minimum, surgical anesthesia, i.e., a state where the animal feels no painful sensation. The animals shall be either stunned or killed before they are shackled, hoisted, thrown, cast, or cut. They shall be exposed to the electric current in a way that will accomplish the desired result quickly and effectively, with a minimum of excitement and discomfort.

(2) The driving or conveying of the animals to the place of application of electric current shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the place of application is essential to ensure rapid and effective insensibility. Among other things, this requires that, in driving animals to the place of application, electrical equipment be used as little as possible and with the lowest effective voltage.

(3) The quality and location of the electrical shock shall be such as to produce immediate insensibility to pain in the exposed animal.

(4) The stunned animal shall remain in a state of surgical anesthesia through shackling, sticking, and bleeding.

(b) *Facilities and procedures; operator—*
(1) *General requirements for operator.* It is necessary that the operator of electric current application equipment be skilled, attentive, and aware of his or her responsibility.

(2) *Special requirements for electric current application equipment.* The ability of electric current equipment to perform with maximum efficiency is dependent on its proper design and efficient mechanical operation. Pathways, compartments, current applicators, and all other equipment used must be designed to properly accommodate the species of animals being anesthetized. Animals shall be free from pain-producing restraining devices. Injury of animals must be prevented by the elimination of sharp projections or exposed wheels or gears. There shall be no unnecessary holes, spaces or openings where feet or legs of animals may be injured. Impellers or other devices designed to mechanically move or drive animals or otherwise keep them

in motion or compartmentalized shall be constructed of flexible or padded material. Power activated gates designed for constant flow of animals shall be so fabricated that they will not cause injury. All equipment used to apply and control the electrical current shall be maintained in good repair, and all indicators, instruments, and measuring devices shall be available for inspection by Program inspectors during the operation and at other times.

(3) *Electric current.* Each animal shall be given a sufficient application of electric current to ensure surgical anesthesia throughout the bleeding operation. Suitable timing, voltage and current control devices shall be used to ensure that each animal receives the necessary electrical charge to produce immediate unconsciousness. The current shall be applied so as to avoid the production of hemorrhages or other tissue changes which could interfere with inspection procedures.

[44 FR 68813, Nov. 30, 1979, as amended at 50 FR 25202, June 18, 1985]

§ 313.50 Tagging of equipment, alleyways, pens, or compartments to prevent inhumane slaughter or handling in connection with slaughter.

When an inspector observes an incident of inhumane slaughter or handling in connection with slaughter, he/she shall inform the establishment operator of the incident and request that the operator take the necessary steps to prevent a recurrence. If the establishment operator fails to take such action or fails to promptly provide the inspector with satisfactory assurances that such action will be taken, the inspector shall follow the procedures specified in paragraph (a), (b), or (c) of this section, as appropriate.

(a) If the cause of inhumane treatment is the result of facility deficiencies, disrepair, or equipment breakdown, the inspector shall attach a "U.S. Rejected" tag thereto. No equipment, alleyway, pen or compartment so tagged shall be used until made acceptable to the inspector. The tag shall not be removed by anyone other than an inspector. All livestock slaughtered prior to such tagging may