7500.2600 MIXING OF BLASTING AGENTS.

Subpart 1. **Building locations; distances.** Buildings or other facilities used for mixing blasting agents must be located, with respect to inhabited buildings, passenger railroads, and public highways, in accordance with the table of distances for storage of explosive materials.

If ammonium nitrate is stored at a closer distance to the blasting agent storage area than as provided in the table of separation distances of ammonium nitrate and blasting agents from explosives or blasting agents, then the ammonium nitrate must be added to the quantity of blasting agents to calculate the total quantity involved before applying the table of distances for storage of explosive materials.

Subp. 2. **Separation in plant.** Minimum intraplant separation distances between mixing units and the ammonium nitrate storage areas and blasting agent storage areas must conform to the table of separation distances of ammonium nitrate and blasting agents from explosives or blasting agents.

Subp. 3. **Building requirements.** A building used for mixing blasting agents must conform to the following requirements unless the building is specifically approved by the commissioner:

A. Buildings must be of noncombustible construction or sheet metal on wood studs.

B. The layout of the mixing building must provide physical separation between the finished product storage and the mixing and packaging operation.

C. Floors in storage areas and in the processing plant must be of concrete.

D. Isolated fuel storage must be provided to avoid contact between molten ammonium nitrate and fuel in case of fire.

E. The building must be well ventilated.

F. Heat must be provided exclusively from a unit located outside the building.

Subp. 4. **Design of mixer.** The design of the mixer must minimize the possibility of frictional heating, compaction, and especially, confinement. Open mixers are preferable to enclosed mixers. Bearings and gears must be protected against the accumulation of oxidizer dust. Surfaces must be accessible for cleaning. Mixing and packaging equipment must be constructed of materials compatible with the composition of fuel and ammonium nitrate.

Subp. 5. **Blasting agent compositions.** The sensitivity of a blasting agent must be determined by using a number 8 test blasting cap at regular intervals and after every change in formulation, or as requested by the commissioner.

Ammonium nitrate of small particle size, such as crushed prills or fines, may be more sensitive and hazardous than ordinary prills and must be handled with greater care.

Liquid fuel with a flash point lower than that of number 2 diesel fuel oil, 125 degrees Fahrenheit minimum or legal, must not be used.

Crude oil and crankcase oil must not be used because they may contain light ends that offer increased vapor explosion hazards or gritty particles that tend to sensitize the resulting blasting agent.

If solid fuels are used, they must be chosen so as to minimize dust-explosion hazard.

Metal dusts, such as aluminum powder; peroxides; or chlorates must not be used unless the operations are conducted in a manner approved by the commissioner.

Unusual compositions may be attempted only under the supervision of competent personnel equipped to determine the overall hazard of the resulting compositions.

Subp. 6. **Equipment requirements.** If electrical switches, controls, motors, and lights are located in the mixing room, they must conform to the requirements of class II, division 2 of standard 70, of the National Electrical Code, and found in the National Fire Codes, 1982, volume 6, issued by the National Fire Protection Association, (Quincy, Massachusetts, 1982), which is incorporated by reference, is not subject to frequent change, and is located at the Minnesota State Law Library, 25 Rev. Dr. Martin Luther King Jr. Blvd., Saint Paul, Minnesota 55155; otherwise they must be located outside the mixing room. The frame of the mixer and other equipment that may be used must be electrically bonded and provided with a continuous path to the ground.

Subp. 7. **Washdown facilities.** Washdown facilities must be provided. An automatic water-deluge system with adequate capacity is recommended to protect mixers and the finished-explosives storage area in the plant. Floors must be constructed so as to eliminate open floor drains and piping into which molten materials could flow and be confined in case of fire. The floors and equipment of the mixing and packaging room must be thoroughly cleaned daily to prevent accumulation of oxidizers, fuels, or other sensitizers. The entire mixing and packaging plant must be washed down periodically to prevent excessive accumulation of dust.

Subp. 8. **Smoking or open flame.** Smoking or open flame is not permitted in or within 50 feet of a building or facility used for mixing blasting agents.

Subp. 9. **Disposal of oxidizer bags.** Empty oxidizer bags must be disposed of daily in a safe manner.

Subp. 10. **Storage, location of blasting agents.** Not more than one day's production of blasting agents or the limit determined by the table of distances for storage of explosive

materials, whichever is less, is permitted in or near the mixing and packaging plant or area. Larger quantities must be stored in separate warehouses or magazines.

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