

## Chapter 15. Explosive Code

### Subchapter A. General

#### §1501. Scope of Rules and Regulations

A. Pursuant to Revised Statute 40:1472.1 through 40:1472.19, as amended, the following rules and regulations are adopted as required thereunder, covering the manufacture, storage, transportation, sale, use and handling of explosives and blasting agents in the state of Louisiana.

B. These rules and regulations shall not apply to the transportation of explosives or blasting agents when under the jurisdiction of and in compliance with the regulations of the U.S. Department of Transportation, the regulations of the United States Coast Guard, and the regulations of the Federal Aviation Administration.

C. Nothing contained in these rules and regulations shall apply to the regular Armed Forces of the United States, or to the duly organized military force of any state or territory thereof, or to police or fire departments in this state, provided they are acting within their respective official capacities and in the proper performance of their duties.

D. These rules and regulations shall not apply to the transportation and use of explosives or blasting agents in the normal and emergency operations of federal agencies such as the Mine Safety and Health Administration, the Federal Bureau of Investigation and the Secret Service.

E. The licensee, on specific approval in writing by the Deputy Secretary of Public Safety Services, as provided by this Paragraph, may use an alternate method or procedure in lieu of a method or procedure specifically prescribed in these rules and regulations. The Deputy Secretary of Public Safety Services may approve an alternate method or procedure, subject to stated conditions, when he/she finds that:

1. good cause is shown for the use of the alternate method or procedure;
2. the alternate method or procedure is within the purpose of, and consistent with the effect intended by, the specifically prescribed method or procedure and that the alternate method or procedure is substantially equivalent to that specifically prescribed method or procedure; and
3. the alternate method or procedure will not be contrary to any provision of law and will not result in an increase in cost to the state of Louisiana or hinder the effective administration of these rules and regulations.

F. Where the licensee desires to employ an alternate method or procedure, he/she shall submit a written application to the Deputy Secretary of Public Safety Services. The application shall specifically describe the proposed alternate method or procedure and shall set forth the reasons for it. Alternate methods or procedures may not be employed until the application is approved by the Deputy Secretary of Public Safety Services. The licensee shall, during the period of authorization of an alternate method or procedure, comply with the terms of the approved application. Authorization of any alternate method or

procedure may be withdrawn whenever, in the judgment of the Deputy Secretary of Public Safety Services, the effective administration of these rules and regulations is hindered by the continuation of the authorization. As used in this Paragraph, alternate methods or procedures include alternate construction or equipment.

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#### §1503. Definitions

*Approved*—approved by the Office of the Deputy Secretary of Public Safety Services.

*Artificial Barricade*—an artificial mound or revetted wall of earth of a minimum thickness of 3 feet.

*Barricaded*—building containing explosives is effectively screened from a magazine, building, railway, or highway, either by a natural barricade or by an artificial barricade of such height that a straight line from the top of any sidewall of the building containing explosives to the eave line of any magazine or building, or to a point 12 feet above the center of a railway or highway, will pass through such intervening natural or artificial barricade.

*Blaster*—any person employed by a primary licensee who detonates or otherwise effects the explosion of an explosive or who is in immediate personal charge and supervision of one or more other persons engaged in such activity.

*Combustible*—any material with a flash point above 140° Fahrenheit and less than 200° Fahrenheit.

*Dealer-Distributor*—any person engaged in the wholesale or retail business of buying and selling, or distribution of explosives, provided that should a manufacturer make sales to users, such manufacturer shall not be required to obtain an additional license as a dealer.

*Deputy Secretary of Public Safety Services*—the deputy secretary for Public Safety in the Department of Public Safety and Corrections, or his designee.

*Emergency Contact Telephone Number*—A telephone number that will be answered by a knowledgeable company representative who can answer questions about the company's product stored in said company's licensed explosive magazine twenty four hours daily seven days per week including holidays. The contact person shall also have the ability to provide or effect a timely response in the event of an emergency or an incident requiring a response.

*Explosives*—any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. The term includes but is not limited to dynamite and other high explosives, black powder in quantities in excess of 5 pounds, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter

cord, and igniters. The term *explosives* further includes but is not limited to the following.

1. *Binary (phosphoric)*—two or more unmixed, commercially manufactured prepackaged chemical substances including oxidizers, flammable liquids or solids, or similar substances that are not independently classified as explosives but which when mixed or combined form a mixture that is classified as an explosive and that is intended for blasting.

2. *Blasting Agent*—any material or mixture, consisting of fuel and oxidizer, intended for blasting, not otherwise defined as an explosive; provided, that the finished product, as mixed for use or shipment, cannot be detonated by means of a number eight test blasting cap when unconfined.

3. *Detonator*—any device containing an initiating or primary explosive that is used for initiating detonation in another explosive material. A detonator may not contain more than 10 grams of total explosives by weight, excluding ignition or delay charges. The term includes but is not limited to electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps which use detonating cord, shock tube, or any other replacement for electric leg wires. When used in this Chapter, the term *cap* shall have the same meaning as the term *detonator*.

4. The term *explosive* shall not include smokeless powder when used in sporting arms.

*Factory Building*—any building or other structure, except, magazines, containing explosives in which the manufacture of explosives or any processing involving explosives is carried on, and any building where explosives are used as a component part or ingredient in the manufacture of any article or device. The definition does not include private residences or shop buildings where hand loading of small arms ammunition is being carried on.

*Flammable*—any material with a flash point of 140° Fahrenheit or less.

*Handler*—a person who touches, moves, or otherwise handles explosives but does not detonate or otherwise effect the explosion of explosives or explosives materials. The license issued to a handler shall not be used by a blaster or user who uses explosives as an ultimate consumer.

*Highway*—any public street or public road, public highway, alley or thoroughfare. Public highways of Class A to D as applied to the American Table of Distances for Storage of Explosives are highways with an average traffic volume of three thousand or less vehicles per day as specified in American Civil Engineering Practice (Abbett, Volume 1, Table 46, Section 3-74, 1956 Edition, John Wiley and Sons).

*Inhabited Building*—any building or structure regularly used in whole or part as a place of human habitation, also any church, school, store, railway passenger station, airport terminal for passengers, and any other building or structure

where people are accustomed to congregate or assemble, but excluding buildings or structures occupied in connection with the manufacture, transportation, storage and use of explosives. A building, such as an office building or repair shop, which is part of the premises of an explosives licensee and is used in connection with the manufacture, transportation, storage, or use of explosives is not an inhabited building.

*Local Office*—as applies to a user, means a structure, place of rental, such as an apartment or motel, or a movable such as a barge, ship or vehicle in the vicinity of the storage container.

*Magazine*—any building, structure, or device used for temporary or permanent storage of explosives. There shall be five types of magazines built and/or constructed in accordance with the rules and regulations promulgated pursuant to this Chapter. This definition does not apply to the storage of explosives in underground mining operations.

*Magazine License Number*—The number of a specific magazine license assigned to a specific magazine by Louisiana Department of Public Safety, Explosive Control Unit.

*Manufacturer*—a person engaged in the manufacture, compounding, or combining, ~~or distribution~~ of explosives.

*Natural Barricade*—natural features of the ground such as hills, or timber of sufficient density that the surrounding exposures which require protection cannot be seen when the trees are bare of leaves.

*Offshore*—any work performed at locations accessible only by air or water when the work location is totally surrounded by water and explosives are secured and attended.

*Oxidizer*—any material that may, generally by yielding oxygen, cause or enhance the combustion of other materials.

*Person*—any individual, corporation, company, association, firm, partnership, society, or joint stock company.

*Primary Licensee*—the responsible party holding a valid manufacturer, dealer-distributor or user license.

*Purchase* and its various forms—includes acquisition of any explosive by a person with or without consideration.

*Railroad*—any steam, electric, diesel electric, or other railroad or railway which carries passengers for hire.

*Sale* and its various forms—includes delivery of an explosive with or without consideration.

*Secured Area*—any location that is either locked or under the immediate control of a licensee.

*Temporary*—no more than 48 hours.

*Unauthorized Persons*—persons not employed by the licensed company or authorized by the licensed manufacturer, dealer-distributor or user.

*User*—a person who, as an ultimate consumer of an explosive, purchases the same from a dealer-distributor or manufacturer or means a dealer or manufacturer who uses an explosive as an ultimate consumer.

*Vessel*—any description of watercraft used or capable of being used as a means of transportation on water.

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### **§1505. General Administrative Requirements**

A. All incidents or accidents involving explosives which resulted in property damage, injuries, or fatalities shall be reported to the Deputy Secretary of Public Safety Services, Explosives Control Unit through the State Police Hot Line (225-925-6595) immediately!

B. No person under the age of 21 shall purchase, acquire or handle explosives or explosive supplies.

C. No person shall store, handle, or transport explosives or blasting agents when such storage, handling and transportation of explosives or blasting agents constitutes an undue hazard to life and property.

D. No person or business shall possess, keep, store, sell, or offer for sale, give away, use, transport, or dispose of, or otherwise handle in any manner any explosive or blasting agent except in conformity with the provisions of R.S. 40:1472.1 through R.S. 40:1472.19 and these rules and regulations. Nothing in this Subsection shall be so construed as to prevent hand-loaders of ammunition from giving small quantities of black powder or smokeless propellant to one another in quantities of one pound or less.

E. Nothing in these rules and regulations shall be construed to prohibit the use of explosives in the form prescribed by the official United States Pharmacopoeia.

F. Prior to the sale of any explosives, manufacturers and dealer-distributors shall verify the license status of the purchaser's explosive license with the Department of Public Safety, Explosives Control Unit. Invoices of sales shall be forwarded to the Department of Public Safety and Corrections, Explosives Control Unit on a weekly basis. These sale slips or invoices must be legible, correct and complete.

G. Persons having explosives in their possession that were purchased prior to the serialization requirements set forth in this Chapter must notify the Deputy Secretary of Public Safety Services through Explosive Control, Baton Rouge, Louisiana.

H. No explosives or blasting agents shall be manufactured within this state unless the persons engaged therein possess a valid and subsisting license issued by the

Office of the Deputy Secretary of Public Safety Services, in accordance with the provisions of R.S. 40:1472.1 through 40:1472.19.

I. Nothing contained in these rules and regulations shall be in conflict with provisions of the National Security Act of 1947, as amended, or the Espionage and Sabotage Act of 1954, as amended, or the Organized Crime Control Act of 1970 "PL 91-452, Chapter 40."

J. Each manufacturer, dealer-distributor, user, blaster, or handler shall possess a valid and subsisting license issued by the Office of the Deputy Secretary of Public Safety Services, in accordance with the provisions of R.S. 40:1472.1 through 40:1472.19. All applicants for a license shall submit with their application two complete, legible, and classifiable FBI applicant fingerprint cards taken by a person employed by a law enforcement agency who is appropriately trained in recording fingerprints.

K. A photo license issued by the Office of the Deputy Secretary of Public Safety Services shall be in the possession of the licensee while actively engaged in explosive handling. An original or copy of the paper license issued by the Office of the Deputy Secretary of Public Safety Services must be maintained at the licensee's local office. A fee of \$25 shall be paid to the Department of Public Safety and Corrections, Explosives Control Unit for any necessary replacement or modification of a license.

1. The photo license shall not be required to be in the possession of the licensee only when the presence of the license would create a danger of physical injury to the licensee or others and only while the licensee is actually working with explosives on his employer's facility. However, when this exception is invoked, the license shall be on file or otherwise available at the site of the employer's facility and, upon request, shall be produced for inspection within a reasonable amount of time.

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### **§1507. Blasting Agents**

A. Buildings or other facilities used for mixing blasting agents, including mobile equipment, shall be located, with respect to inhabited buildings, passenger railroads and public highways, in accordance with the American Table of Distances as set forth in §1545, Appendix A.

B. Minimum intra-plant separation distances between mixing units and the oxidizer storage areas and blasting agents storage areas shall comply with the American Table of Distances [see §§1545, Appendix A, and 1547, Appendix B].

C. If oxidizer is stored at a closer distance to the blasting agent storage area than as provided in §1507.B above, one-half its weight shall be added to the quantity of blasting

agents to calculate the total quantity involved for application of the aforementioned table (Subsection A).

D. Buildings used for the mixing of blasting agents shall conform to the requirements of these rules and regulations, unless otherwise specifically approved by the Office of the Deputy Secretary of Public Safety Services.

E. Buildings shall be of noncombustible construction or sheet metal on wood studs.

F. The layout of the mixing building shall be such as to provide physical separation between the finished product storage and the mixing and packaging operations.

G. Floors in storage areas and in the processing plant shall be of concrete. Isolated fuel storage shall be provided to avoid contact between molten oxidizer and fuel in case of fire.

H. The building shall be well ventilated.

I. Heat shall be provided exclusively from a unit outside the building.

J. The design of the mixer shall minimize the possibility of frictional heating, compaction, and especially, confinement. Bearings and gears shall be protected against the accumulation of oxidizer dust. All surfaces shall be accessible for cleaning. Mixing and packaging equipment shall be constructed of materials compatible with the fuel-oxidizer composition.

K. The sensitivity of the blasting agent shall be determined by means of a Number 8 test blasting cap at regular intervals and after every change in ingredients, composition or packaging, or as may be requested by the Office of the Deputy Secretary of Public Safety Services.

L. No Hydrocarbon liquid fuel with flash point lower than that of Number 2 Diesel fuel oil (125° minimum or legal) shall be used.

M. If solid fuels are used, they shall be chosen so as to minimize dust explosion hazards.

N. Metal dusts (aluminum powder, etc.) peroxides, chlorates or perchlorates shall not be used unless such operations are conducted in a manner approved by the Deputy Secretary of Public Safety Services.

O. Unusual compositions shall not be attempted except under the supervision of competent personnel equipped to determine the over-all hazards of the resulting compositions.

P. All electrical switches, controls, motors, and lights, if located in the mixing room, shall conform to the requirements of Class II, Division 2 of the National Electrical Code, otherwise, they shall be located outside the mixing room. The frame of the mixer and all other equipment that may be used shall be electrically bonded and be provided with a continuous path to the ground.

Q. Clean or washdown facilities shall be provided. Floors shall 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 shall be washed down frequently to prevent accumulation of oxidizers or fuels and

other sensitizes. The entire mixing and packaging plant shall be washed down periodically to prevent excessive accumulation of dust, washdown facilities need not be maintained on job site mixing operations.

R. Smoking or open flames shall not be permitted in or within 50 feet of any building or facility used for the mixing of blasting agents.

S. Empty oxidizer containers shall be disposed of daily in a safe manner.

T. Not more than one day's production of blasting agents shall be permitted in or near the mixing and packaging plant or area. Larger quantities shall be stored in separate warehouses or magazines in accordance with §1509.

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#### **§1509. General Storage Requirements**

A. All explosives, including black powder in excess of 5 pounds, except when being transported, shall be kept in magazines which meet the requirements of these rules and regulations. Blasting agents shall be stored in accordance with the requirements set forth in §1515. Storage of explosives in underground mining operations is exempt from the rules and regulations set forth in this Section, but must comply with all applicable federal regulations set forth in 30 CFR Part 57. Underground mine storage will provide all adequate safety and security procedures necessary to ensure that unlicensed personnel will not have access to the explosives. Such security must be approved by the Deputy Secretary of Public Safety Services.

B. Loaded perforating guns are not required to be stored in magazines. Storage of these explosive devices must be in a secured area approved by the Deputy Secretary of Public Safety Services.

C. Detonators shall not be stored in the same magazines with other explosives.

D. The ground around outdoor magazines shall slope away for drainage. The land surrounding outdoor magazines shall be kept clear of brush, dried grass, leaves, and other combustible materials for a distance of 25 feet in each direction.

E. Magazines, as required by these rules and regulations, shall be used for the storage of explosives only, and shall be of five Types, 1 through 5.

F. When a building or magazine containing ammonium nitrate and/or blasting agents is not barricaded, the distances shown in Table 2 shall be doubled.

G. Magazines must be located on property in accordance with the American Table of Distances for Storage of Explosives (§1545, Table 1).

H. When two or more storage magazines are located on the same property, each magazine must comply with the minimum distances specified from inhabited buildings, railways and highways; and in addition, they shall be separated from each other by not less than the distances shown for Separation of Magazines, (Table 1) except that the quantity of explosives contained in detonator magazines shall govern in regard to the spacing of said detonator magazines from magazines containing other explosives. If any two or more magazines are separated from each other by less than the specified Separation of Magazines (Table 1) distances, then such two or more magazines, as a group, must be considered as one magazine, and the total quantity of explosives stored in such group must be treated as if stored in a single magazine located on the site of any magazine of the group, and must comply with the minimum of distances specified from other magazines, inhabited buildings, railways and highways.

1. All types of detonators in strengths up to and including No. 8 detonators shall be rated at 1.5 pounds of explosives per 1,000 caps. Detonating cord, 50 grains, shall be rated at 8 pounds of explosives per 1,000 feet. Detonating cords with larger or smaller grains per foot will be rated proportionately.

2. Explosive operations carried out on a vessel shall be required to comply with the distances shown for Separation of Magazines (Table 1) only as the physical limitations of the vessel will permit. Explosive magazines shall not be located under, over, or immediately adjacent to pressurized gas lines or high voltage power lines, or on levees constructed for major flood control.

I. The storage of more than 300,000 pounds of explosives in one magazine or in a group of magazines which is considered as one magazine will not be approved.

J. This table applies only to the manufacture and permanent or portable storage of explosives. It is not applicable to the transportation of explosives, or any handling or temporary storage necessary or incident thereto. It is not intended to apply to bombs, projectiles, or other heavily encased explosives used by the military.

K. All factory buildings and magazines in which explosives are had, kept, or stored, must be located beyond the corporate limits of any city or town, except with the consent of the proper local authorities and the Office of the Deputy Secretary of Public Safety Services. In no instance shall magazines located inside buildings contain in excess of 50 pounds or more than 5,000 detonators. Smokeless propellants shall not be included in these quantity limitations. Cap magazines must be separated from other magazines by a distance of at least 10 feet. Where such storage is permitted, it shall be located on the ground floor and at street level.

L. No smoking, matches, flame producing devices or fire of any kind shall at any time be permitted inside of or within 50 feet of a magazine.

M. The owner of explosive magazines used in the state of Louisiana are responsible for licensing such magazines. Persons leasing or renting explosive storage magazines for use in the state of Louisiana shall insure the magazines are in compliance with the provisions of this Chapter and the rules and regulations section prior to releasing the magazines to the customer. Government entity owned magazines are only exempt from magazine licensing requirements when the magazines are being utilized by official government agencies.

N. American Table of Distances for Storage of Explosives (Table 1) is in §1545, Appendix A.

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#### **§1511. Magazine Construction Requirements**

A. Magazines shall be constructed in conformity with the provisions of these rules and regulations, or may be of substantially equivalent construction satisfactory to the Office of the Deputy Secretary of Public Safety Services.

B. Magazines for the storage of explosives, other than black powder or smokeless propellant shall be bullet-resistant, weather-resistant, fire-resistant, theft-resistant, and ventilated sufficiently to protect the explosive in the specific locality. Magazines used only for the storage of black powder or smokeless propellant shall be weather-resistant, fire-resistant, theft-resistant, and have ventilation. Magazines for storage of detonators shall be weather-resistant, fire-resistant, theft-resistant, and ventilated.

C. Magazine sites upon which outdoor type magazines are located shall be posted with signs reading "explosives-keep out" (or equivalent) legibly printed thereon in letters not less than 2 inches high. These signs shall be visible from any direction. A second sign shall be posted at the entrance of the facility and shall read "Danger—Never fight explosives fires—Explosives are stored on this site—Call (Emergency Phone Number)" legibly printed thereon in letters not less than 2 inches high. Such signs shall be located so as to minimize the possibility of a bullet traveling in the direction of the magazine if anyone should shoot at the sign. All licensed magazines shall have a license number and twenty-four hour emergency telephone contact number affixed to the front of the magazine in the following manner:

1. An emergency contact telephone number will be painted with a contrasting color in 2 inch or larger numbers on the front of the magazine.

2. The license number assigned by the Louisiana Department of Public Safety, Explosive Control Unit, for that specific magazine will be permanently inscribed, welded, or otherwise permanently affixed to the front of the magazine in letters and numbers at least 2 inches high.

D. Magazines shall not be provided with heat or lights, except that if lights are necessary, an approved safety flashlight or safety lantern shall be used, provided however, trailer mounted portable magazines while containing no explosives shall use normal automobile lighting systems required for highway use. The Office of the Deputy Secretary of Public Safety Services may waive the requirements of this Subsection if adequate safety is assured.

E. Magazines constructed according to the following minimum specifications are approved as bullet-resistant and fire-resistant.

#### 1. Exterior Construction

a. The exterior and doors are to be constructed of not less than ¼ inch steel and lined with at least 2 inches of hardwood. Magazines with top openings will have lids with water-resistant seals or which overlap the sides by at least 1 inch when in a closed position.

#### 2. General

a. Outdoor magazines (Type 1 and 2) are to be bullet-resistant, fire-resistant, weather-resistant, theft-resistant and ventilated. They are to be supported to prevent direct contact with the ground and, if less than one cubic yard in size, must be securely fastened to a fixed object. The ground around outdoor magazines must slope away for drainage or other adequate drainage provided. When unattended, vehicular magazines must have wheels removed or otherwise effectively immobilized by kingpin locking devices or other methods approved by the director.

b. Magazines shall be constructed in accordance with the rules and regulations of the Bureau of Alcohol, Tobacco, Firearms and Explosives, 27 Code of Federal Regulations Parts 555.207, 555.208, 555.209, 555.210, 555.211.

Types 1,2,3 or 4 magazines shall be constructed with a lattice, paint, mastic, or equivalent lining, to prevent contact of explosive materials with masonry walls or ferrous metal.

F. A Type 3 magazine is a "day box" or other portable magazine. It must be theft-resistant, fire-resistant, and weather-resistant (does not have to be bullet-resistant).

1. Minimum specifications require that a "day box" be constructed of not less than 12-gauge (.1046 inch) (2.66 mm) steel or aluminum, lined with 1/2 inch (12.7 mm) hardboard or plywood. The door or lid must overlap the door opening by at least 1 inch (25 mm). Hinges, hasps, and panels shall be welded, riveted, or bolted (with nuts on inside) so they cannot be removed or disassembled from the outside.

2. The magazine shall be equipped with at least a 5-tumbler padlock (which need not be protected by a steel

hood) meeting the lock requirements outlined in §1511.I.1 of this Chapter.

3. Explosive materials are not to be left unattended in Type 3 magazines and must be removed to Type 1 or Type 2 magazines. This requirement does not apply to offshore operations.

G. Unattended vehicular Type 5 magazines shall have wheels removed or shall be immobilized by kingpin locking devices. Placards required by DOT must be displayed on all Type 5 magazines containing blasting agents.

H. Magazines used for indoor storage shall be fire- and theft-resistant. They do not have to be weather- and bullet-resistant if the buildings in which they are stored provide protection from the weather and from bullet penetration.

1. No indoor storage facility shall contain more than 50 pounds (22.7 kg) of explosive materials or more than 5,000 detonators. When explosive materials and detonators are stored in the same building they shall be stored in separate magazines.

2. No indoor storage magazine for explosive materials shall be located in a residence or dwelling.

3. Indoor magazines shall be provided with handles or substantial wheels or casters to facilitate removal from a building in an emergency.

I. All magazines shall be equipped with approved locking devices which shall conform to at least the following minimum standards of quality and design:

1. padlocks shall consist of a steel or brass case of at least 1 1/8 inch thickness, with case hardened steel shackles of 3/8 inch diameter and 2-inch maximum length when in the locked position. Either one 12-pin or two 5-pin locks may be used (Type 3 and Type 5 magazines only require one 5-pin lock). Key numbers shall be removed from the locks. Padlocks to be enclosed by a hooded metal type enclosure 1/4-inch thick steel. Hooded enclosure must be constructed to restrict forcible entry from pry bars, hacksaws, and bolt cutters;

2. two mortise locks;

3. combination of a mortise lock or a hooded padlock;

4. mortise lock that requires two keys to open; or

5. three-point lock or equivalent-type lock that secures the door to the frame at more than one point;

6. doors that are secured by at least two substantial internal bolts or bars do not require additional locking devices on the exterior.

### §1513. Storage within Magazines

A. Packages of explosives stored in magazines shall be laid flat with the top side up, except when turning dynamite to minimize exudation, the case may be laid flat with top side down. Black powder, when stored in magazines with other explosives, shall be stored separately. Black powder stored in kegs shall be stored on ends, bungs down, or on

side, seams down. Corresponding grades and brands shall be stored together in such a manner that brands and grade marks show. All stocks shall be stored so as to be easily counted and checked. Packages of explosives shall be piled in a stable manner. When any kind of explosive is removed from a magazine for use, the oldest explosive of that particular kind shall always be taken first. Electric detonators will be shunted (shorted by twisting bare lead together) except when tying to firing lines. When electric detonators have broken lead wires of insufficient length to shunt, the detonator will be wrapped in at least a double thickness of metal foil to prevent accidental discharge from stray extraneous current.

B. Packages of explosives shall not be unpacked or repacked within magazines nor within 50 feet of such magazines or in close proximity to other explosives. This requirement does not apply when working in proximity to indoor magazines. Tools used for opening packages of explosives shall be constructed of nonsparking material, except that metal slitters may be used for opening fiberboard boxes. A wood wedge and fiber, rubber or wood mallet shall be used for opening or closing wood packages of explosives. Opened packages of explosives shall be securely closed before being returned to a magazine.

C. Magazine floors shall be regularly swept, kept clean, dry, free of grit, paper, empty used packages and rubbish. Brooms and other cleaning utensils shall not have any spark-producing metal parts. Sweepings from floors of magazines shall be properly disposed of. Magazine floors stained with nitroglycerin shall be cleaned according to the instructions of the explosives manufacturer.

D. When any explosive has deteriorated to an extent that it is in an unstable or dangerous condition, or if nitroglycerin leaks from any explosive, then the person in possession of such explosive shall immediately report the circumstance to the Office of the Deputy Secretary of Public Safety Services.

E. When magazines need inside repairs, all explosives shall be removed and the floor cleaned. In making outside repairs, if there is a possibility of causing sparks or fire, the explosives shall be removed from the magazine. Explosives removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine. The explosives shall be properly guarded and protected until repairs have been completed, then returned to the magazine.

F. Smoking, matches, open flames, spark producing devices and firearms shall be prohibited inside of or within 50 feet of magazines.

G. Magazine safety and security shall be the responsibility of a competent person at all times, who shall be responsible for compliance with these rules and regulations.

H. Magazine doors and covers must be kept closed and locked with approved locking devices except when opened for transacting business.

I. The keys to a primary licensee's magazine doors and covers must be available only to the primary licensee and one of his blasters. Variances to this requirement may be requested in writing to the Deputy Secretary of Public Safety Services. It is the primary licensee's responsibility to keep his magazine locked from all unauthorized persons.

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### **§1515. Storage of Blasting Agents**

A. Blasting agents and oxidizers used for mixing of blasting agents shall be stored in the manner set forth in this Section. Storage of explosives in active underground operations is exempt from the rules and regulations set forth in this Section, but must comply with all applicable federal regulations set forth in 30 CFR Part 57. Underground mine storage will provide all adequate safety and security procedures necessary to ensure that unlicensed personnel will not have access to explosives. Such security must be approved by the Deputy Secretary of Public Safety Services.

B. Blasting agents or oxidizers when stored in conjunction with explosives shall be stored in the manner set forth in §1509, §1511 and §1513. The quantity of blasting agents or oxidizers shall be included when computing the total quantity of explosives for determining distance requirements.

C. Blasting agents, when stored entirely separate from other explosives, shall be stored in one-story warehouses without basements. These warehouses shall be:

1. noncombustible or fire resistive;
2. constructed so as to eliminate open floor drains and piping into which molten materials could flow and be confined in case of fire;
3. weather resistant;
4. well ventilated; and
5. equipped with a strong door kept securely locked except when open for business.

D. Semi-trailer or full vans used for highway or on-site transportation of blasting agents are satisfactory for temporarily storing these materials, provided they are located according to the American Table of Distances with respect to inhabited buildings, passenger railroads and public highways. Trailers shall be provided with approved locking devices, and the trailer doors shall be kept locked, except during the time of placement and removal of stocks of blasting agents.

E. Warehouses used for the storage of blasting agents separate from other explosives shall be located as follows.

1. Warehouses used for the storage of blasting agents shall be located in accordance with the provisions of the American Table of Distances with respect to inhabited buildings, passenger railroads and public highways.

2. If both blasting agents and oxidizers are handled or stored within the distance limitations prescribed in §1507, one-half the weight of the oxidizer shall be added to the weight of the blasting agent to determine the proper distance for compliance with the American Table of Distances.

3. Smoking, matches, open flames, spark producing devices and firearms shall be prohibited inside of or within 50 feet of any warehouse used for the storage of blasting agents. Combustible materials shall not be stored within 50 feet of warehouses used for the storage of blasting agents.

F. The interior of warehouses used for the storage of blasting agents shall be kept clean and free from debris and empty containers. Spilled materials shall be cleaned up promptly and safely removed. Combustible materials, flammable liquids, corrosive acids, chlorates, nitrates or similar materials shall not be stored in any warehouse used for blasting agents unless separated therefrom by a fire resistive separation of not less than one hour resistance.

G. Floors in storage warehouses shall be of concrete. Underground storage such as in salt mines are exempt from this requirement.

H. Bags of blasting agents, when stored in other than magazines or lined trailers, shall not be piled less than 30 inches from the building walls in piles not more than 12 feet in width, with aisles not less than 30 inches between piles. If the storage building has foundation and roof ventilation and has an air space between the floor perimeter and the walls, the 30-inch spacing from walls may be disregarded. Piles of blasting agents shall not be higher than within 36 inches of the eave line of the roof or the supporting and spreader beams overhead.

I. Piles of oxidizers and warehouses containing oxidizers shall be adequately separated from readily combustible fuels.

J. Caked oxidizers, either in bags or in bulk, shall not be loosened by blasting.

K. Every warehouse used for the storage of blasting agents shall be under the supervision of a competent person.

L. The Department of Public Safety has the authority to and may designate the location for, and limit the quantity of blasting agents which may be loaded, unloaded, reloaded, or temporarily retained at any facility within the jurisdiction; provided, however, nothing in this Subsection shall be construed so as to be in conflict with these rules and regulations and the Table of Distances in particular.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections,

Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1517. Storage Inventory**

A. Manufacturers and dealer-distributors must keep accurate accounts of all inventories and sales of explosives. Invoices, sales tickets, or explosive bills of sale that are delivered to the purchaser shall bear the name of the manufacturer or dealer-distributor, the name of the user, the name of the purchaser, the address of the purchaser, the user's license number, date of sale, identification of the type of explosives sold, quantity sold, date-shift-code, and the use for which the explosives are purchased.

B. An accurate inventory of the stock of explosives and caps in magazines must be maintained at each "primary licensee's" local office. The inventory must reflect the date, date/shift-code, quantity on hand, quantity received, quantity issued, quantity returned, and balance on hand at all times of each brand and grade.

C. Records will be maintained for three years on all retail sales of black powder. In addition to the brand, grade, and lot number, the record will reflect the name, street address, city and state of the purchaser. The purchaser will be required to produce identification in the form of driver's license, military identification, or equivalent. This record may be in the form of a sales invoice providing it contains the required information.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1519. Shortages or Thefts**

A. In case a magazine is broken into, the owner must immediately notify the police or the sheriff, and the Office of the Deputy Secretary of Public Safety Services through the Explosive Control Unit, Baton Rouge, Louisiana. Unexplained shortages or thefts must be reported immediately to the aforementioned authorities.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1521. General Transportation Requirements**

A. In addition to all other applicable requirements set forth in these rules and regulations, the transportation of explosives over all highways shall be in accordance with the U.S. Department of Transportation regulations.

B. Explosives shall not be transported through any prohibited vehicle tunnel, or subway, or over any prohibited bridge, roadway, or elevated highway.

C. No person shall smoke, carry matches or any other flame producing device, or carry firearms or loaded cartridges while in or near a conveyance transporting explosives. Nothing in this Subsection shall be so construed as to prevent the presence of a duly authorized and legally constituted armed guard on such conveyances where security considerations dictate their necessity.

D. Explosives shall not be carried or transported in or upon a public conveyance or conveyances carrying passengers for hire.

E. Explosives shall not be transferred from one vehicle to another within the corporate limits of any city or town without informing the local fire and police department thereof. In the event of breakdown or collision, the local fire and police department shall be promptly notified to help safeguard such emergencies. In the event of a collision/accident, the Department of Public Safety and Corrections Explosives Control Unit, will be notified immediately by telephone. Explosives shall be transferred from the disabled conveyance to another only when proper and qualified supervision is provided.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

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### **§1523. Transportation Safety Requirements**

A. Conveyances used for transporting explosives shall comply with all regulations as set forth by the U.S. Department of Transportation. Conveyances used in underground mining operations regulated by the Mine Safety and Health Administration (MSHA) are exempt from this requirement.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1525. Operation of Vehicles**

A. Conveyances transporting explosives shall only be driven by and be in charge of a driver who is physically fit, careful, capable, reliable, able to read and write the English language, and not addicted to the use, or under the influence, of intoxicants or narcotics, and not less than 18 years of age. He shall be familiar with the traffic regulations, state laws, and the provisions of these rules and regulations. The driver shall always have his vehicle under complete control. Violation of this Subsection shall be based upon an official report of any public official.

B. Vehicle operations shall be conducted in accordance with all regulations as set forth by the U.S. Department of Transportation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

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### **§1527. Transportation of Explosives at Piers, Railway Stations, etc.**

A. Operations pertaining to this Section shall be conducted in accordance with all regulations as set forth by the U.S. Department of Transportation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1529. Transportation of Blasting Agents**

A. The transportation of blasting agents shall be conducted in accordance with all regulations as set forth by the U.S. Department of Transportation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1531. General Requirements**

A. The handling of explosives shall be performed only by a person holding a valid and subsisting license to use explosives, provided such persons are at least 21 years of age.

B. It is the primary licensee's responsibility to control his explosives and the use thereof. The primary licensee must control his storage and keep an accurate and continuing inventory of all supplies as set forth in §1517. The primary licensee must employ only people of good judgment, who are careful and know how to handle explosives, to do the blasting for him. The primary licensee must be sure that his employees have a valid and subsisting blaster's license. The primary licensee must be certain that the license is issued under the name of himself or his company. The primary licensee should take all practical and necessary steps to ensure that his explosives are not finding their way into the hands of unauthorized persons. Licensed geophysical contractors may contract with licensed drilling contractors to possess and use explosives for the sole purpose of executing the contract between the two parties. All explosives shall be returned to the licensed geophysical contractor at the end of

each day. For purposes of §1531, the transfer of the temporary possession of explosives between the contracting parties shall not constitute a sale. The safety and security of the explosives and the compliance with these regulations shall be the responsibility of the party to the contract who is in possession of the explosives. There shall be no requirement that the drilling contractor be licensed by each geophysical contractor with whom he contracts.

C. If the employment of any licensed individual terminates, the company shall immediately notify the Office of the Deputy Secretary of Public Safety Services, Explosive Control Unit. The individual's original paper license and photo license will be retained by the company and returned to the Office of the Deputy Secretary of Public Safety Services, Explosive Control Unit, within 3 days. The company shall retain a copy of the terminated individual's paper license.

D. A user must not sell explosives to any person.

E. While explosives are being handled or used, smoking shall not be permitted and no one near the explosives shall possess matches, open lights or other fire or flame. No person shall handle or use explosives while under the influence of intoxicating liquors or narcotics.

F. Original shipping containers or Type 3 magazines shall be used for taking detonators and other explosives from storage magazines to the blasting area. Any materials employed in packing explosives shall not be burned in a stove, fireplace, or other confined space, or be used for any purpose.

G. When blasting is done in congested areas or in close proximity to a structure, railway, or highway or any other installation that may be damaged, the blast shall be covered before firing with a mat so constructed that it is capable of preventing fragments from being thrown. When such blasting is being carried out near a highway, the operator may, in lieu of using a mat, and with the permission of local authorities, block the road adjacent to the firing area while such firing is in progress. The Deputy Secretary of Public Safety Services must be notified in advance, and approval received, prior to this type of blasting operation being conducted.

H. Should there exist even a remote possibility of damage to private or public property in an area where blasting is being done, the user or the blaster must then keep an accurate blasting log for each blast. The blasting log shall record the job location, date, time of blast, weather conditions, type of blast, type of materials blasted, type of size cartridge of explosive used, number and diameter of holes, hole depth, and the total quantity of explosives fired instantaneously or by a delay interval. It shall be the user's or the blaster's responsibility to determine if the possibility of such damage exists.

I. Persons authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution, which may include but is not limited to warning signals, flags, barricades, or blasting mats approved by the

Deputy Secretary of Public Safety Services, to insure the safety of the general public and workmen.

J. Blasting operations, except by special permission of the Office of the Deputy Secretary of Public Safety Services, shall be conducted only during daylight hours, excepting underground mining operations, offshore operations, and wireline/tubing conveyed perforating operations.

K. Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, telegraph, and steam utilities, the user or the blaster shall notify the appropriate representative of such utilities at least 24 hours in advance of blasting, provided, however, in Seismic operations conducted in the presence of a Seismic Agent of the Louisiana Wildlife and Fisheries Commission, no such notice is necessary. Explosives shall not be detonated in congested areas or in close proximity to any structure, railway, highway, pier, dock, vessel, or other installation which may be damaged. In case of an electrical utility highline, care shall be taken to see that the total length of wire is kept too short to hit the electrical utility or that the wires are securely anchored to the ground so that the length of the wire that may be thrown by the explosion is less than the distance from the anchoring point to the utility. Further, should a firing line or a cap wire be thrown onto an electrical utility, a guard shall be posted and the utility called to remedy the situation.

L. Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent power lines, dust storms, or other resources of extraneous electricity. These precautions shall include:

1. the suspension of all blasting operations, and removal of persons from the blasting area during the approach and progress of an electrical storm. This Paragraph does not apply to underground mining operations;

2. with the exception of seismic off the road operations, the posting of signs warning against the use of mobile radio transmitters on all roads within 350 feet of the blasting operations, or as far away as practical;

3. compliance with the latest recommendations of the Institute of Makers of Explosives with regard to blasting in the vicinity of radio transmitters or power lines;

4. explosives or blasting equipment that are obviously deteriorated or damaged shall not be used; and

5. in seismic operations, when charges anchored in the hole misfire, there shall be no requirement that an attempt be made to remove such charge. An attempt to detonate this charge will be made with an additional priming charge. If this attempt to fire fails, blasting cap leads must be cut below the surface of the ground prior to leaving the hole.

M. Original equipment used in explosive operations shall be maintained in good working condition. Safety devices designed to ensure a safe working environment shall be in place and in proper working order.

N. Tamping shall be done only with wood rods without exposed metal parts. Non-sparking metal connectors may be used for jointed poles. Plastic tamping poles may be used provided they have been approved by the Office of the Deputy Secretary of Public Safety Services. Violent tamping shall be avoided.

O. After loading for a blast is completed all excess detonators and other explosives shall immediately be returned to their separate storage magazines unless they are promptly removed to another job site in accordance with transportation and storage rules provided herein.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Adopted by the Department of Public Safety, Office of State Police, 1974, amended and promulgated LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996), LR 24:106 (January 1998), amended by the Department of Public Safety and Corrections, Office of State Police, LR 26:91 (January 2000).

### **§1533. Loading of Explosives in Blast Holes**

A. All drill holes shall be sufficiently large to admit freely the insertion of the cartridges of explosives.

B. Tamping shall be done only with wood rods without exposed metal parts. Nonsparking metal connectors may be used for jointed poles. Plastic tamping poles may be used provided they have been approved by the Office of the Deputy Secretary of Public Safety Services. Violent tamping shall be avoided.

C. No hole shall be loaded except those to be fired in the next round of blasting. Seismographic operations shall follow this procedure wherever possible for maximum safety, but where practicality will not permit or where a seismic charge is anchored in the bottom of the hole, they are excepted from the provisions of this Subsection.

D. Drilling shall not be started until all remaining butts of old holes are examined for unexploded charges, and if any are found, they shall be refired by or under the direction of a competent and experienced person before work proceeds.

E. No person shall be allowed to deepen drill holes which have contained explosives.

F. After loading for a blast is completed, all excess detonators and other explosives shall immediately be returned to their separate storage magazines unless they are promptly removed to another job site in accordance with transportation and storage rules provided herein.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1535. Initiation of Explosive Charges**

A. When fuse is used, the detonator shall be securely attached to the safety fuse with a standard ring-type cap crimper. All primers shall be assembled at least 50 feet from any magazine.

B. Primers shall be made up only as required for each round of blasting.

C. No detonator shall be inserted in the explosives without first making a hole in the cartridge for the detonator with a non-sparking punch of proper size or with a standard cap crimper designed for the purpose.

D. If there are any misfires while using detonators and fuses, all persons shall remain away from the charge for at least 30 minutes. If there are any misfires while using electric detonators, all persons shall remain away from the charge for at least 15 minutes. Misfires shall be handled under the direction of the person in charge of the blasting and all wires shall be carefully traced and a search made for unexploded charges.

E. The blaster, when testing circuits to charged holes, shall use only blasting galvanometers designed for this purpose.

F. Only the person making lead wire connections in electrical firing shall control the firing of the shot. All connections shall be made from bore hole back to the source of firing current, and the lead wires shall remain shorted and not be connected to the blasting machine or other source of current until the charge is to be fired.

G. Before a blast is fired, an ample warning signal shall be given by the person in charge, who has made certain that all surplus explosives are in a safe place, all persons and vehicles are at a safe distance or under sufficient cover, and that an adequate warning has been given.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### **§1537. Identification Numbers and Symbols**

A. All explosives manufactured in this state or transported into this state for distribution or sale in this state shall be legibly identified by marking all explosive material. The marks required by this Section must identify the manufacturer and the location, date, and shift of manufacturer. The manufacturer shall place on each cartridge, bag, or other immediate container of explosives manufactured for sale or distribution the required mark which shall also be placed on the outside container, if any, used for their packaging.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### §1539. Investigative Reports

A. Any person investigating losses, thefts, illegal use, and/or possession of explosives, must immediately file a report to that effect with the Explosive Control Unit, Office of the Deputy Secretary of Public Safety Services in Baton Rouge, Louisiana.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Filed by the Department of Public Safety, Office of State Police, at the Office of the State Register, 1974, promulgated and amended LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

### §1541. Training

A. All licensees must be trained in the areas outlined herein. Explosive Blaster, User, Manufacturer and or Dealer Distributor training shall include a minimum of 16 hours utilizing any combination of classroom and hands on practice in the use of explosives defined in §1541.D. Explosive Handler training shall consist of 8 hours of classroom training defined in §1541.E.

1. All Blaster, User, Manufacturer and or Dealer Distributor licensees shall attend a minimum of 8 hours of annual refresher training utilizing any combination of classroom or hands on practice in the use of explosives to include updates in §1541.D.6 and explosive safety procedures.

2. All Explosive Handler licensees shall attend a minimum of 8 hours of annual refresher training to include topics covered in §1541.E.2 and §1541.E.3.

B. Training records required in §1541.B.1 below must be maintained at the licensee's local office.

1. All Training (Initial and Refresher) shall be documented on a form or certificate to include location, subject, date of instruction, and to include the instructor's signature, Louisiana Explosives' License Number and Bureau of Alcohol, Tobacco, Firearms and Explosives' License Number. The applicant shall submit the initial 16 hour training or 8 hour training documentation at the time of application for an explosives license.

2. In addition to §1541.B.1 above, the training provider shall also document training by a written examination. These training records shall be retained by the training provider.

C. Course instructor shall meet criteria based on knowledge, experience, and training in the field of explosives being taught. Course instructors shall possess a current Louisiana Explosives' License in one of the following classes: Blaster, User, Manufacturer and or Dealer

Distributor. In addition, Instructors shall also possess a Bureau of Alcohol, Tobacco, Firearms and Explosives' License (User or User Limited) relating to the field of instruction.

D. Explosive Blaster, User, Manufacturer and or Dealer Distributor Course Topics (16 Hours):

1. Introduction to Explosives
  - a. Types of Explosives
  - b. Characteristics
  - c. Explosive Effects
2. Explosive Safety
  - a. Physical and Environmental Hazards
  - b. Misfire Procedures
  - c. Industry Specific Safety Procedures
3. Explosive Operations Planning
  - a. Site Preparation and Considerations
  - b. Industry Specifications
4. Explosive Firing Systems
  - a. Electric Firing
  - b. Non-Electric Firing
  - c. Shock Tube Firing
  - d. Priming Procedures
  - e. Blasting Accessories
  - f. Industry Specific Systems
5. Industrial Applications
6. Applicable Regulations Regarding Use, Transportation, Storage, and Disposal of Explosives
  - a. OSHA/MSHA Requirements
  - b. BATFE Requirements
  - c. DOT Requirements
  - d. EPA Requirements
  - e. State and Local Requirements

E. Explosive Handler Course Topics (8) hours:

1. Introduction to Explosives
  - a. Types of Explosives
  - b. Characteristics of Explosives
  - c. Explosive Effects
2. Explosive Safety
  - a. Physical and Environmental Hazards
  - b. Industry Specific Safety Procedures

### 3. Explosive Rules and Regulations

- a. State and Local Requirements
- b. BATFE Requirements
- c. OSHA/MSHA Requirements
- d. EPA Requirements
- e. Explosive Handler License Requirements and Restrictions
- f. Transportation of Explosives
- g. Storage of Explosives
- h. Explosive Magazine Inventory

F. Training required under this Section is effective August 15, 2008.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Adopted by the Department of Public Safety, Office of State Police, 1974, amended and promulgated LR 10:803 (October 1984), amended by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996), LR 24:106 (January 1998).

#### **§1543. Drug Testing Requirements**

A. All holders of Louisiana Explosive Licenses shall meet the drug testing requirements of the U.S. Department of Transportation (DOT) as they apply to pre-employment, reasonable suspicion, and post accident testing.

B. Nothing in this regulation shall limit or prohibit any company from conducting a drug testing program that is more stringent than the DOT requirements.

C. Any company whose licensee employee refuses or fails any drug test shall notify the deputy secretary of the Department of Public Safety and Corrections, Explosives Control Unit of this fact.

D. All holders of Louisiana Explosives Licenses shall be drug-screened within 72 hours of initial application for, or renewal of, an explosives license. The drug testing required by this paragraph shall meet the same testing standards as tests required by Subsection A of this section.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

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## Subchapter B. Appendices

### §1545. Appendix A—Table 1, American Table of Distances for Storage of Explosive Materials

TABLE 1

#### AMERICAN TABLE OF DISTANCES FOR STORAGE OF EXPLOSIVE MATERIALS

As Revised and Approved by The Institute of Makers of Explosives—June 1991

DISTANCES IN FEET

Explosives		Inhabited Buildings		Public Highways Class A to D		Passenger Railways— Public Highways with Traffic Volume of more than 3,000 Vehicles/Day		Separation of Magazines	
						Barn- caded	Unbarn- caded		
Pounds Over	Pounds Not Over	Barn- caded	Unbarn- caded	Barn- caded	Unbarn- caded	Barn- caded	Unbarn- caded	Barn- caded	Unbarn- caded
2	5	70	140	30	60	51	102	6	12
5	10	90	180	35	70	64	128	8	16
10	20	110	220	45	90	81	162	10	20
20	30	125	250	50	100	93	186	11	22
30	40	140	280	55	110	103	206	12	24
40	50	150	300	60	120	110	220	14	28
50	75	170	340	70	140	127	254	15	30
75	100	190	380	75	150	139	278	16	32
100	125	200	400	80	160	150	300	18	36
125	150	215	430	85	170	159	318	19	36
150	200	235	470	95	190	175	350	21	42
200	250	255	510	105	210	189	378	23	46
250	300	270	540	110	220	201	402	24	48
300	400	295	590	120	240	221	442	27	54
400	500	320	640	130	260	238	476	29	58
500	600	340	680	135	270	253	506	31	62
600	700	355	710	145	290	266	532	32	64
700	800	375	750	150	300	278	556	33	66
800	900	390	780	155	310	289	578	35	70
900	1,000	400	800	160	320	300	600	36	72
1,000	1,200	425	850	165	330	318	636	39	78
1,200	1,400	450	900	170	340	336	672	41	82
1,400	1,600	470	940	175	350	351	702	43	86
1,600	1,800	490	980	180	360	366	732	44	88
1,800	2,000	505	1,010	185	370	378	756	45	90
2,000	2,500	545	1,090	190	380	408	816	49	98
2,500	3,000	580	1,160	195	390	432	864	52	104
3,000	4,000	635	1,270	210	420	474	948	58	116
4,000	5,000	685	1,370	225	450	513	1,026	61	122
5,000	6,000	730	1,460	235	470	546	1,092	65	130
6,000	7,000	770	1,540	245	490	573	1,146	68	136
7,000	8,000	800	1,600	250	500	600	1,200	72	144
8,000	9,000	835	1,670	255	510	624	1,248	75	150
9,000	10,000	865	1,730	260	520	645	1,290	78	156
10,000	12,000	875	1,750	270	540	687	1,374	82	164
12,000	14,000	885	1,770	275	550	723	1,446	87	174
14,000	16,000	900	1,800	280	560	756	1,512	90	180
16,000	18,000	940	1,880	285	570	786	1,572	94	188
18,000	20,000	975	1,950	290	580	813	1,626	98	196
20,000	25,000	1,055	2,000	315	630	876	1,752	105	210
25,000	30,000	1,130	2,000	340	680	933	1,866	112	224
30,000	35,000	1,205	2,000	360	720	981	1,962	119	238
35,000	40,000	1,275	2,000	380	760	1,026	2,000	124	248
40,000	45,000	1,340	2,000	400	800	1,068	2,000	129	258
45,000	50,000	1,400	2,000	420	840	1,104	2,000	135	270
50,000	55,000	1,460	2,000	440	880	1,140	2,000	140	280
55,000	60,000	1,515	2,000	455	910	1,173	2,000	145	290
60,000	65,000	1,565	2,000	470	940	1,206	2,000	150	300
65,000	70,000	1,610	2,000	485	970	1,236	2,000	155	310
70,000	75,000	1,655	2,000	500	1,000	1,263	2,000	160	320
75,000	80,000	1,695	2,000	510	1,020	1,293	2,000	165	330
80,000	85,000	1,730	2,000	520	1,040	1,317	2,000	170	340
85,000	90,000	1,760	2,000	530	1,060	1,344	2,000	175	350
90,000	95,000	1,790	2,000	540	1,080	1,368	2,000	180	360
95,000	100,000	1,815	2,000	545	1,090	1,392	2,000	185	370
100,000	110,000	1,835	2,000	550	1,100	1,437	2,000	195	390
110,000	120,000	1,855	2,000	555	1,110	1,479	2,000	205	410
120,000	130,000	1,875	2,000	560	1,120	1,521	2,000	215	430
130,000	140,000	1,890	2,000	565	1,130	1,557	2,000	225	450
140,000	150,000	1,900	2,000	570	1,140	1,593	2,000	235	470
150,000	160,000	1,935	2,000	580	1,160	1,629	2,000	245	490
160,000	170,000	1,965	2,000	590	1,180	1,662	2,000	255	510
170,000	180,000	1,990	2,000	600	1,200	1,695	2,000	265	530
180,000	190,000	2,010	2,010	605	1,210	1,725	2,000	275	550
190,000	200,000	2,030	2,030	610	1,220	1,755	2,000	285	570
200,000	210,000	2,055	2,055	620	1,240	1,782	2,000	295	590
210,000	230,000	2,100	2,100	635	1,270	1,836	2,000	315	630
230,000	250,000	2,155	2,155	650	1,300	1,890	2,000	335	670
250,000	275,000	2,215	2,215	670	1,340	1,950	2,000	360	720
275,000	300,000	2,275	2,275	690	1,380	2,000	2,000	385	770

**Explanatory Notes Essential to the Application  
of the American Table of Distances for  
Storage of Explosive Materials**

Note 1—*Explosive Materials* means explosives, blasting agents and detonators.

Note 2—*Explosives* means any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. A list of explosives determined to be within the coverage of "18 U.S.C. Chapter 40, Importation, Manufacturer, Distribution and Storage of Explosive Materials" is issued at least annually by the Director of the Bureau of Alcohol, Tobacco and Firearms of the Department of the Treasury. For quantity and distance purposes, detonating cord of 50 grains per foot should be calculated as equivalent to 8 lbs. of high explosives per 1,000 feet. Heavier or lighter core loads should be rated proportionately.

Note 3—*Blasting Agents* means any material or mixture, consisting of fuel and oxidizer, intended for blasting, not otherwise defined as an explosive: Provided, That the finished product, as mixed for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined.

Note 4—*Detonator* means any device containing any initiating or primary explosive that is used for initiating detonation. A detonator may not contain more than 10 grams of total explosives by weight, excluding ignition or delay charges. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps which use detonating cord, shock tube, or any other replacement for electric leg wires. All types of detonators in strengths through No. 8 cap should be rated at 1 1/2 lbs. of explosives per 1,000 caps. For strengths higher than No. 8 cap, consult the manufacturer.

Note 5—*Magazine* means any building, structure, or container, other than an explosives manufacturing building, approved for the storage of explosive materials.

Note 6—*Natural Barricade* means natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the magazine when the trees are bare of leaves.

Note 7—*Artificial Barricade* means an artificial mound or riveted wall of earth of a minimum thickness of 3 feet.

Note 8—*Barricaded* means the effective screening of a building containing explosive materials from the magazine or other building, railway, or highway by a natural or an artificial barrier. A straight line from the top of any sidewall of the building containing explosive materials to the eave

line of any magazine or other building or to a point 12 feet above the center of a railway or highway shall pass through such barrier.

Note 9—*Inhabited Building* means a building regularly occupied in whole or part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where people are accustomed to assemble, except any building or structure occupied in connection with the manufacture, transportation, storage or use of explosive materials.

Note 10—*Railway* means any steam, electric, or other railroad or railway which carries passengers for hire.

Note 11—*Highway* means any public street, public alley, or public road.

Note 12—When two or more storage magazines are located on the same property, each magazine must comply with the minimum distances specified from inhabited buildings, railways, and highways, and, in addition, they should be separated from each other by not less than the distances shown for "Separation of Magazines", except that the quantity of explosive materials contained in detonator magazines shall govern in regard to the spacing of said detonator magazines from magazines containing other explosive materials. If any two or more magazines are separated from each other by less than the specified "Separation of Magazines" distances, then such two or more magazines, as a group, must be considered as one magazine, and the total quantity of explosive materials stored in such group must be treated as if stored in a single magazine located on the site of any magazine of the group, and must comply with the minimum of distances specified from other magazines, inhabited buildings, railways, and highways.

Note 13—Storage in excess of 300,000 lbs. of explosive materials, in one magazine is generally not required for commercial enterprises.

Note 14—This Table applies only to the manufacture and permanent storage of commercial explosive materials. It is not applicable to transportation of explosives or any handling or temporary storage necessary or incident thereto. It is not intended to apply to bombs, projectiles, or other heavily encased explosives.

Note 15—When a manufacturing building on an explosive materials plant site is designed to contain explosive materials, such building shall be located from inhabited buildings, public highways and passenger railways in accordance with the American Table of Distances based on the maximum quantity of explosive materials permitted to be in the building at one time.

## **American Table of Distances**

The American Table of Distances applied to the manufacture and permanent storage of commercial explosive materials. The distances specified are those measured from the explosive materials storage facility to the inhabited building, highway or passenger railway, irrespective of property lines.

The American Table of Distances covers all commercial explosive materials, including, but not limited to, high explosives, blasting agents, detonators, initiating systems and explosives materials in process. The Table is not designed to be altered or adjusted to accommodate varying explosive characteristics such as blast effect, weight strength, density, bulk strength, detonation velocity, etc.

The American Table of Distances should not be used to determine safe distances for blasting work, the firing of explosive charges for testing or quality control work, or the open detonation of waste explosive materials. The American Table of Distances may be utilized as a guide for developing distances for the unconfined, open burning of waste explosive materials where the probability of transition from burning to high order detonation is improbably.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1472.1 et seq.

HISTORICAL NOTE: Adopted by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

§1547. Appendix B—Table 2, Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents

TABLE 2

TABLE OF RECOMMENDED SEPARATION DISTANCES OF AMMONIUM NITRATE AND BLASTING AGENTS FROM EXPLOSIVES OR BLASTING AGENTS<sup>1,6</sup>

<i>Donor Weight</i>		<i>Minimum Separation Distance of Acceptor when Barricaded<sup>2</sup> (ft.)</i>		<i>Minimum Thickness of Artificial Barricades<sup>3</sup> (in.)</i>
<i>Pounds Over</i>	<i>Pounds Not Over</i>	<i>Ammonium Nitrate<sup>2</sup></i>	<i>Blasting Agent<sup>4</sup></i>	
	100	3	11	12
100	300	4	14	12
300	600	5	18	12
600	1,000	6	22	12
1,000	1,600	7	25	12
1,600	2,000	8	29	12
2,000	3,000	9	32	15
3,000	4,000	10	36	15
4,000	6,000	11	40	15
6,000	8,000	12	43	20
8,000	10,000	13	47	20
10,000	12,000	14	50	20
12,000	16,000	15	54	25
16,000	20,000	16	58	25
20,000	25,000	18	65	25
25,000	30,000	19	68	30
30,000	35,000	20	72	30
35,000	40,000	21	76	30
40,000	45,000	22	79	35
45,000	50,000	23	83	35
50,000	55,000	24	86	35
55,000	60,000	25	90	35
60,000	70,000	26	94	40
70,000	80,000	28	101	40
80,000	90,000	30	108	40
90,000	100,000	32	115	40
100,000	120,000	34	122	50
120,000	140,000	37	133	50
140,000	160,000	40	144	50
160,000	180,000	44	158	50
180,000	200,000	48	173	50
200,000	220,000	52	187	60
220,000	250,000	56	202	60
250,000	275,000	60	216	60
275,000	300,000	64	230	60

**Notes to Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents**

Note 1—Recommended separation distances to prevent explosion of ammonium nitrate and ammonium nitrate-based blasting agents by propagation from nearby stores of high explosives or blasting agents referred to in the Table as the "donor." Ammonium nitrate, by itself, is not considered to be a donor when applying this Table. Ammonium nitrate, ammonium nitrate-fuel oil or combinations thereof are acceptors. If stores of ammonium nitrate are located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of ammonium nitrate should be included in the mass of the donor.

Note 2—When the ammonium nitrate and/or blasting agent is not barricaded, the distances shown in the Table shall be multiplied by six. These distances allow for the possibility of high velocity metal fragments from mixers, hoppers, truck bodies, sheet metal structures, metal containers, and the like which may enclose the "donor". Where storage is in bullet-resistant magazines<sup>1</sup> recommended for explosives or where the storage is protected by a bullet-resistant wall, distances and barricade thicknesses in excess of those prescribed in the American Table of Distances are not required.

Note 3—The distances in the Table apply to ammonium nitrate that passes the insensitivity test prescribed in the definition of ammonium nitrate fertilizer promulgated by the Fertilizer Institute;<sup>2</sup> and ammonium nitrate failing to pass

said test shall be stored at separation distances determined by competent persons and approved by the authority having jurisdiction.

Note 4—These distances apply to blasting agents which pass the insensitivity test prescribed in regulations of the U.S. Department of Transportation and the U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms.

Note 5—Earth, or sand dikes, or enclosures filled with the prescribed minimum thickness of earth or sand are acceptable artificial barricades. Natural barricades, such as hills or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the "donor" when the trees are bare of leaves, are also acceptable.

Note 6—For determining the distances to be maintained from inhabited buildings, passenger railways, and public highways, use the American Table of Distances for Storage of Explosives Materials.

<sup>1</sup>For construction of bullet-resistant magazines see Bureau of Alcohol, Tobacco and Firearms, Department of the Treasury, Publication ATF P 5400.7 (6/90), ATF-Explosives Law and Regulations.

<sup>2</sup>Definition and Test Procedures for Ammonium Nitrate Fertilizer, Fertilizer Institute, May 8, 1971.

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HISTORICAL NOTE: Adopted by the Department of Public Safety and Corrections, Office of State Police, Transportation and Environmental Safety Section, Explosive Control Unit, LR 22:1230 (December 1996).

TABLE 3

Storage in Magazines	Magazine Types				
	1	2	3	4	5
High Explosives (1.1D) (Class A explosives) including dynamites; cap sensitive emulsions; slurries, and watergeis; cast boosters.	X	X	X		
Black Powder (1.1D) (Class A explosives). Defined as low explosive by the BATF for storage.	X	X	X	X	
Detonators (1.1B) (Class A explosives).	X	X	X		
Detonating Cords (1.1D; 1.2D, 1.4G) (Class A or C explosive).	X	X	X		
Detonators (1.4B; 1.4S) (Class C explosive).	X	X	X	X	
Safety fuse, electric squibs, igniters and igniter cord (1.4G; 1.4S).	X	X	X	X	
Blasting Agents (1.5D) (Blasting Agents).	X	X	X	X	X
Propellants (1.3C) (Class B explosives) Defined as low explosive by the BATF for storage.	X	X	X	X	

**Note:** Detonators are not to be stored in the same magazine with other explosive materials.

**EXCEPTION:** Detonators which are not mass detonating may be stored with safety fuse, electric squibs, igniters or igniter cord in Type 1, 2, 3 or 4 magazines.

Classification and Use of Magazines	Magazine Types				
	1	2	3	4	5
<b>Construction Features</b>					
Permanent	X			X	X
Portable		X	X	X	X
Bullet-Resistant	X	X			
Fire-Resistant	X	X	X	X <sup>(2)</sup>	X <sup>(2)</sup>
Theft-Resistant	X	X	X	X	X <sup>(1)</sup>
Weather-Resistant	X	X	X	X	X
Ventilated	X	X	X	X <sup>(2)</sup>	X <sup>(2)</sup>

**Notes:** <sup>(1)</sup> Each door of a Mobile Type 5 magazine shall be equipped with at least one 5-tumbler padlock having a 3/8-inch (9.5 mm) case-hardened shackle. The lock need not be hooded.

<sup>(2)</sup> Over-the-road trucks or semi-trailers used for temporary storage as Type 4 or 5 magazines need not be fire-resistant or ventilated.

