

13937, (eff 4-24-24)

Readopt with amendment Saf-C 1600, effective 8-15-13 (Doc. #10396), to read as follows:

CHAPTER Saf-C 1600 EXPLOSIVES

Statutory Authority: RSA 158:9-f; 21-P:14, II(e)

PART Saf-C 1601 SCOPE OF CHAPTER

Saf-C 1601.01 Scope.

(a) This chapter shall apply to:

- (1) The handling, storage, sale, transportation, and use of explosive materials; and
- (2) State and municipal supervision of the transportation of explosive materials as to compliance with federal regulations within the jurisdiction of the state or municipality.

(b) Notwithstanding (a) above, this chapter shall not apply in the following instances:

- (1) The transportation of explosive materials when under the jurisdiction of and in compliance with the regulations of the hazardous materials regulation board of the U.S. Department of Transportation (DOT);
- (2) The transportation and use of military explosives by federal and state military departments;
- (3) The transportation and use of explosive materials by federal, state, and municipal police departments while in the performance of their official duties;
- (4) The transportation of small arms ammunition and components;
- (5) The manufacture under the regulations of the U.S. Department of Defense of Explosive Materials for, or their distribution to or storage or possession by, the military or naval services or other agencies of the United States, or to arsenals, navy yards, depots, or other establishments owned by, or operated by or on behalf of the United States;
- (6) The use of explosive materials in medicines and medicinal agents in the forms prescribed by the United States Pharmacopeia or the National Formulary pursuant to 27 CFR 555.141(a)(2);
- (7) The use of black gunpowder for purposes of splitting wood when purchased and stored in quantities less than the limits imposed by RSA 158; and
- (8) The use of black gunpowder for the purpose of RSA 158:39, III.

Saf-C 1601.02 Prerequisite.

(a) No person subject to these rules shall possess any explosive materials, or conduct any operation or activity within the state of New Hampshire requiring the use, storage, transportation, handling, sale, or purchase of such explosive materials, or perform or supervise the loading and firing of such explosive materials without first obtaining a license or certificate of competency from the director in accordance with these rules.

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(b) Notwithstanding (a) above, pursuant to 18 USC 845(a)(4), the requirement to obtain a license shall not apply to stocks of small arms ammunition and components thereof, to the extent that they are regulated by the provisions of the gun control act of 1968, 18 USC Chapter 44.

PART Saf-C 1602 DEFINITIONS

Saf-C 1602.01 "Approved" means approved by the director of state police.

Saf-C 1602.02 "Artificial barricade" means a man-made mound or revetted wall of earth of a minimum thickness of 3 feet.

Saf-C 1602.03 "Blasting agent" means any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive and in which none of the ingredients are classified as an explosive, provided that the finished product as mixed and packaged for use or shipment cannot be detonated by means of a number 8 test blasting cap.

Saf-C 1602.04 "Bullet-resistant magazine" means:

(a) When used in reference to the construction of a magazine, that its side walls and doors are resistant to penetration of a bullet of 150 grain M2 ball ammunition fired from a standard .30 caliber rifle having a nominal muzzle velocity of 2,700 feet per second (fps) when the bullet is fired at right angles to the side walls or doors from a distance of 100 feet; or

(b) When used in reference to the ceiling of a magazine that the ceiling is constructed to withstand penetration of a bullet, described in (a) above, when fired at an angle of 45 degrees from the perpendicular.

Saf-C 1602.05 "Bullet-sensitive explosive material" means any explosive material that can be exploded by 150-grain M2 ball ammunition having a nominal muzzle velocity of 2700 fps (824 meters per second (mps)) when fired from a .30-caliber rifle at a distance of 100 ft (30.5 m), measured perpendicular. The test material is at a temperature of 70°F to 75°F (21°C to 24°C) and is placed against a ½ in. (12.4 mm) steel plate.

Saf-C 1602.06 "Cap-sensitive explosive material" means any explosive material that can be detonated by means of a number 8 test blasting cap when the explosive material is unconfined.

Saf-C 1602.07 "Composite propellants" means a mixture consisting of an elastomeric type fuel and an oxidizing material, and used in gas-generators and rocket motors.

Saf-C 1602.08 "Department" means the New Hampshire department of safety.

Saf-C 1602.09 "Detonator" means detonator as defined in RSA 158:29, I. 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, electronic detonators, and non-electric instantaneous and delay blasting caps.

Saf-C 1602.10 "Director" means the director of the New Hampshire state police or their designee.

Saf-C 1602.11 "Explosive-actuated devices" means any tool or special mechanized device which is actuated by explosives, but does not include propellant-actuated devices. Examples of explosive-actuated devices are jet tappers and jet perforators.

Saf-C 1602.12 "Explosive" means "explosive" as defined in RSA 158:29, XI.

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Saf-C 1602.13 "Explosive material" means any explosive, blasting agent, emulsion explosive, water gel, or detonator. Explosive materials include but are not limited to all items contained in the "List of Explosive Materials" provided for in 27 CFR 555.23.

Saf-C 1602.14 "Fuel" means a substance that can react with oxygen in the air or with the oxygen yielded by an oxidizer to produce combustion.

Saf-C 1602.15 "Highway" means any public street, public alley, public road, or public way.

Saf-C 1602.16 "Inhabited building" means a building or structure regularly used in whole or part as a place of human habitation. The term includes any church, school, railway passenger station, airport terminal for passengers, and any other buildings or structure where people are accustomed to congregate or assemble, but excludes any building or structure occupied in connection with the manufacture, transportation, storage, and use of explosive materials.

Saf-C 1602.17 "Magazine" means any building or structure, other than an explosives manufacturing building, in conformance with these rules for the storage of explosives.

Saf-C 1602.18 "Marshal" means the New Hampshire state fire marshal or their designee.

Saf-C 1602.19 "Motor vehicle" means any self-propelled vehicle, truck, tractor, semitrailer, or full trailer used for the transportation of freight over public highways.

Saf-C 1602.20 "Natural barricade" means natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposed areas which require protection cannot be seen from the magazine when the trees are bare of leaves.

Saf-C 1602.21 "Nitro carbo nitrate" means any blasting agent that has been classified as nitro-carbo-nitrate pursuant to 27 CFR 555.23.

Saf-C 1602.22 "Number 8 test blasting cap" means a blasting cap containing 2 grams of a mixture of 80% mercury fulminate and 20% potassium chlorate, or a similar mixture of equivalent strength.

Saf-C 1602.23 "Oxidizer" means a substance such as nitrate that yields oxygen readily in order to stimulate the combustion of organic matter or other fuel.

Saf-C 1602.24 "Person" means any individual, firm, copartnership, corporation, company, society, association, or joint stock association including any trustee, receiver, assignee, or personal representative thereof.

Saf-C 1602.25 "Propellant" means an explosive that normally functions by deflagration and is used for propulsion purposes. The term includes high explosives or low explosives, depending on its susceptibility to detonation.

Saf-C 1602.26 "Propellant-actuated devices" means any tool or special mechanized device or gas generator system which is actuated by a propellant or which releases and directs work through a propellant charge.

Saf-C 1602.27 "Public conveyance" means any railroad car, streetcar, ferry, cab, bus, airplane, or other vehicle that carries passengers for hire.

Saf-C 1602.28 "Pyrotechnic" means and includes any combustible or explosive compositions or manufactured articles designed and prepared for the purpose of producing audible or visible effects.

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Saf-C 1602.29 "Qualified signer" means any employee of any person, firm, corporation, or association who under RSA 158:9-a, IV and V, is allowed to purchase and transport explosive materials in the name of their employer if the employer has obtained a license in its name as provided in RSA 158:9-b.

Saf-C 1602.30 "Railway" means any steam, electric, diesel electric, or other railroad which carries passengers for hire.

Saf-C 1602.31 "Sale" means barter, exchange, or gift, or offer therefore, and each such transaction made by any person whether as principal, proprietor, agent, servant, or employee.

Saf-C 1602.32 "Semiconductive hose" means a hose, of not more than 2 megaohms resistance over its entire length and of not less than 5,000 OHMS per foot, with an electrical resistance high enough to limit the flow of stray electric currents to safe levels yet not so high as to prevent drainage of static electric charges to ground.

Saf-C 1602.33 "Singular or plural" means that words used in the singular number will be construed to include the plural and those in the plural will include the singular.

Saf-C 1602.34 "Small arms ammunition" means any shotgun, rifle, pistol, or revolver cartridge, and cartridges for propellant-actuated devices and industrial guns. Military-type ammunition containing explosive bursting charges, incendiary, tracer, spotting, or pyrotechnic projectiles is excluded from this definition.

Saf-C 1602.35 "Small arms ammunition primers" means small percussion-sensitive explosive chargers, encased in a cap, and used to ignite propellant powder.

Saf-C 1602.36 "Smokeless propellants" means solid propellants, commonly called smokeless powders, used in small arms ammunition, cannon, rockets, propellant-actuated devices, and other like items.

Saf-C 1602.37 "Special industrial explosives devices" means explosive-actuated devices and propellant-actuated devices.

Saf-C 1602.38 "Special industrial explosives materials" means shaped materials, sheet forms and various other extrusions, pellets, and packages of high explosives which include dynamite, TNT (trinitrotoluene), PETN, (pentaerythritol tetranitrate), RDX, (cyclotrimethylenetrinitramine), and other similar compounds used for high-energy-rate forming, expanding, and shaping in metal fabrication, and for dismemberment and quick reduction of scrap metal.

Saf-C 1602.39 "Type 3 magazine", also known as a day box, means a portable structure used for temporary storage in conjunction with the loading and use of explosives.

Saf-C 1602.40 "Use" means the method or manner by which explosive materials are handled and employed but does not mean storage.

Saf-C 1602.41 "Water gels" means an explosive or blasting agent that contain a substantial proportion of water.

PART Saf-C 1603 CLASSIFICATION OF EXPLOSIVES FOR STORAGE AND TRANSPORTATION

Saf-C 1603.01 High Explosives. Explosives shall be classified as high explosives if they meet the definition of RSA 158:9-a, VI.

Saf-C 1603.02 Low Explosives. Explosives shall be classified as low explosives if they can be caused to deflagrate at less than 3300 fps when unconfined.

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Saf-C 1603.03 Blasting Agents. Blasting agents shall be as defined in Saf-C 1602.03.

Saf-C 1603.04 Forbidden or Not Acceptable Explosives.

(a) Explosives which are forbidden or not acceptable for transportation by common carriers, rail freight, rail express, highway, or water under 49 CFR 173.51 shall be forbidden under these rules.

(b) Explosives, described in (a) above, shall include but not be limited to the following:

(1) Explosive compositions that ignite spontaneously or undergo marked decomposition when subject to a temperature of 167 F, or 75 C, for 48 consecutive hours;

(2) Explosives containing an ammonium salt and a chlorate;

(3) Explosives containing an acidic metal salt and a chlorate;

(4) Leaking or damaged packages of explosives; or

(5) Liquid nitroglycerin.

PART Saf-C 1604 CERTIFICATE OF COMPETENCY FOR THE USE OF EXPLOSIVES APPLICATION

Saf-C 1604.01 Certificate of Competency for the Use of Explosives.

(a) No blasting operation shall be conducted unless at least one holder of a valid certificate of competency, of a type set forth in Saf-C 1604.02, is physically present at all times during such blasting operations.

(b) The director, upon application of any natural person, shall issue a certificate of competency to such person to conduct blasting operations upon the showing by the applicant that they are qualified, as set forth in Saf-C 1604.03.

(c) A certificate of competency shall not constitute a license to use, purchase, and transport explosive materials and shall be obtained in addition to any other license the applicant might possess.

(d) Certificates of competency shall be valid for 4 years from the date of issue unless suspended or revoked prior thereto by the director.

(e) No certificate of competency shall be reassigned or transferred.

Saf-C 1604.02 Types of Certificate of Competency for the Use of Explosives.

(a) Categories of certificates of competency for the use of explosives shall be:

(1) A certificate with no restrictions allowing all types of commercial blasting work;

(2) A restricted certificate allowing general blasting work or limited to specific areas or duties such as state or municipal employees doing specific work for the agency by which they are employed or private non-commercial blasting work;

(3) An agricultural certificate allowing non-commercial agricultural work such as stump removal and farm improvement; and

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(4) A specialized certificate restricted to specific materials or use, as outlined on the certificate, such as blasting caps, black powder, or explosive materials generally contained in squibs, impulse cartridges, linear cutters, pressure cartridges, guillotine cutters, and battery initiators.

(b) A restricted certificate of competency, pursuant to (a)(2) above, shall be limited to a maximum of 100 pounds of explosives per detonation.

(c) An agricultural certificate of competency, pursuant to (a)(3) above shall be limited to 50 pounds of explosive per detonation.

Saf-C 1604.03 Qualifications for Certificate of Competency for the Use of Explosives.

(a) An applicant for a certificate of competency shall meet the following minimum requirements:

- (1) Be 21 years of age or older;
- (2) Make application pursuant to Saf-C 1604.04;
- (3) Obtain a passing grade on the competency test administered by the director;
- (4) Demonstrate familiarity with these rules and all applicable laws; and
- (5) Supply endorsements on form DSSP 362E, "Endorsement Form for Explosive Competency", ~~effective April 2013~~ revised April 2024, from 2 persons who are holders of valid certificate of competency for the use of explosives from New Hampshire or any other state. The endorsers shall:

- a. Have knowledge of the applicant's competency to conduct blasting operations; and
- b. Have an equal level of competency as the applicant being endorsed.

(b) For the purposes of (a)(3) above, an applicant shall receive a passing grade if:

- (1) The applicant receives 11 or less wrong answers on the competency test for:
 - a. A certificate with no restrictions, pursuant to Saf-C 1604.02(a)(1); or
 - b. A restricted certificate, pursuant to Saf-C 1604.02(a)(2); or
- (2) The applicant receives 7 or less wrong answers on the competency test for:
 - a. An agricultural certificate, pursuant to Saf-C 1604.02(a)(3); or
 - b. A specialized certificate, pursuant to Saf-C 1604.02(a)(4).

(c) For the purpose of (a)(5) above, knowledge means:

- (1) The endorser was present when explosives were used; and
- (2) The applicant assisted the endorser with the loading and firing of the explosive.

(d) Applicants for a certificate of competency with no restriction shall submit, in addition to (a) above, one of the following:

- (1) Documentation verified by an endorser indicating:

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- a. The applicant assisted the endorser with the loading and firing of at least 25 separate blasting operations;
 - b. The combined weight of explosives utilized in (1)a. above shall total a minimum of 10,000 pounds;
 - c. Date, time, and location explosives were used;
 - d. Type and amount, of explosives used; and
 - e. Specific duties of the applicant;
- (2) Copies of blast records, as required in Saf-C 1607.03, which shall verify that the:
- a. Applicant assisted in at least 25 separate blasting operations; and
 - b. Combined weight of explosives utilized in the blasting operations shall total a minimum of 10,000 pounds; or
- (3) A combination of copies and documents specified in Saf-C 1604.03(d)(1) and (2) to establish their experience with at least 25 separate blasting operations that had a combined explosive weight minimum total of 10,000 pounds.

Saf-C 1604.04 Application Procedures for Certificate of Competency for the Use of Explosives.

(a) Any person who wishes to apply for a certificate of competency for the use of explosives shall complete and submit form DSSP 84, "Application for Certificate of Competency for the Use of Explosives", effective May 2013 revised April 2024 to:

Department of Safety
 ATTN: Permits and Licensing Unit
 33 Hazen Drive, Room 106
 Concord, NH 03301.

- (b) The applicant shall supply proof of photo identification with the application such as:
 - (1) A valid driver's license;
 - (2) A valid non-driver identification; or
 - (3) A valid United States Passport.
- (c) On the day of the test, the applicant shall make payment of the fee as specified in RSA 158:9-c.

Saf-C 1604.05 Renewal Procedures for Certificate of Competency for the Use of Explosives.

(a) Application for renewal of a certificate of competency for the use of explosives shall be made on form DSSP 84 pursuant to Saf-C 1604.04(a).

(b) If the renewal application is filed with the director prior to the expiration of the current certificate of competency for use of explosives, the renewal shall become effective when the old certificate of competency for use of explosives expires.

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(c) No certificate of competency for the use of explosives shall be issued more than 30 days before the expiration date of the current certificate of competency for the use of explosives.

(d) If an application for renewal is filed more than 30 days after the expiration of the certificate of competency for the use of explosives, it shall be considered as an application for an original certificate of competency for the use of explosives.

PART Saf-C 1605 EXPLOSIVES LICENSE APPLICATION

Saf-C 1605.01 Type of License.

(a) A user's license shall be issued to persons qualified to engage in either:

- (1) The use, purchase, and transport of explosives; or
- (2) The use, purchase, and transport of black powder or flash powder.

(b) A storage license shall be issued to persons qualified to engage in the storage of explosives and a separate license shall be issued for each overnight storage magazine at a designated location.

(c) A seller's license shall be issued to persons qualified to engage in selling or marketing explosives.

Saf-C 1605.02 Qualifications for a User's License of Explosives. An applicant for a user's license of explosives listed in Saf-C 1605.01(a)(1) shall:

- (a) Be 21 years of age or older;
- (b) Comply with the application procedures set forth in section Saf-C 1605.03;
- (c) Demonstrate familiarity with these rules; and
- (d) Obtain a certificate of competency for the use of explosives.

Saf-C 1605.03 Qualifications for a User's License of Black Powder / Flash Powder. An applicant for a user's license of black powder or flash powder listed in Saf-C 1605.01(a)(2) shall:

- (a) Be 21 years of age or older;
- (b) Comply with the application procedures set forth in section Saf-C 1605.03;
- (c) Demonstrate familiarity with these rules; and
- (d) Obtain a certificate of competency for the display of display fireworks, pursuant to Saf-C 5003.04, if applying for the use, purchase, and transport of black powder or flash powder license.

Saf-C 1605.04 Qualifications for a Storage License. An applicant for a storage license listed in Saf-C 1605.01(b) shall:

- (a) Be 21 years of age or older;
- (b) Comply with the application procedures set forth in section Saf-C 1605.03;
- (c) Demonstrate familiarity with these rules; and
- (d) Prior to submitting an application for a storage license:

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(1) Comply with the magazine construction and inspection requirements set forth in sections Saf-C 1609 through Saf-C 1614; and

(2) Have their storage magazines inspected and approved.

Saf-C 1605.05 Qualifications for a Seller's License. An applicant for a seller's license listed in Saf-C 1605.01(c) shall:

(a) Be 21 years of age or older;

(b) Comply with the application procedures set forth in section Saf-C 1605.03; and

(c) Demonstrate familiarity with these rules.

Saf-C 1605.06 Application Procedures for an Original Explosive License.

(a) Any person who wishes to apply for any original explosive license ~~to include the following: Use, Purchase, and Transport Explosives; Use, Purchase, and Transport Black Powder/Flash Powder; Storage of Explosives; Market and Sell Explosives,~~ shall:

(1) Complete the applicable application form:

a. If for a user license, DSSP 110 "Application for License to Use, Purchase and Transport Explosives", ~~effective May 2013~~ revised April 2024; or

b. If for a storage license, DSSP 109, "Application for License to Store Explosive Material", ~~effective May 2013~~ revised April 2024; or

c. If for a seller's license, DSSP 108, "Application for License to Market and Sell Explosives", ~~effective May 2013~~ revised April 2024; or

d. If for a user license of black powder or flash powder, DSSP 110F "Application for License to Use, Purchase and Transport Black Powder/Flash Powder", ~~effective May 2013~~ revised April 2024.

(2) Submit the completed form to:

Department of Safety
ATTN: Permits and Licensing Unit
33 Hazen Drive, Room 106
Concord, NH 03301.

(b) The applicant shall supply proof of photo identification with the application such as:

(1) A valid driver's license;

(2) A valid non-driver identification; or

(3) A valid United States Passport.

(c) On the day of the test, the applicant shall make payment of the fee as specified in RSA 158:9-c.

Saf-C 1605.07 Renewal Procedures.

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(a) Applications for renewal of licenses shall be made on forms DSSP 110, DSSP110F, or DSSP 108, effective May 2013, as applicable. For renewals of a license to store explosive material, form DSSP 121 “Renewal Application for License to Store Explosive Material”, revised April 2024 shall be utilized.

(b) If the renewal application is filed with the director prior to the expiration of the current license, the renewal shall become effective when the old license expires.

(c) No renewal license shall be issued more than 30 days before the expiration date of the current license. If an application for renewal is filed more than 30 days after the expiration of the old license, it shall be considered as an application for an original license.

Saf-C 1605.08 Other License Provisions.

(a) No license shall be reassigned or transferred.

(b) No person shall sell or transfer ownership of any explosive material to another unless the person receiving the explosive material exhibits a license to purchase, as provided in RSA 158:9-b.

(c) In the case of a sale or transfer of ownership of any explosive material, the seller or donor shall record the following:

- (1) The name and address of the receiver of the explosives;
- (2) The receiver's license number;
- (3) The date of the transfer;
- (4) The type and quantity of explosives sold, or donated;
- (5) The serial number of the explosives, if any; and
- (6) The purpose to which the explosives are to be used.

(d) The records pursuant to (c) above shall be kept by the seller or receiver for a period of 5 years.

(e) No person holding a seller's license shall deliver any explosive materials to any storage magazine which is not licensed in accordance with RSA 158:9-a, or is not in compliance with these rules.

(f) One copy of the explosive storage ~~facility~~magazine license shall be prominently displayed within the storage magazine and shall be available for inspection upon request of the director.

PART Saf-C 1606 EXPLOSIVE LICENSE OR CERTIFICATE OF COMPETENCY FOR THE USE OF EXPLOSIVE DENIAL AND REVOCATION

Saf-C 1606.01 Denial of an Explosives License or Certificate of Competency for the Use of Explosives.

(a) The commissioner or their designee shall deny, in writing, a license or certificate of competency, for any of the following reasons:

- (1) Failure to comply with the requirements as set forth in Saf-C 1604, if the applicant is applying for a certificate of competency for the use of explosives, or Saf-C 1605, if the applicant is applying for an explosives license;
- (2) Noncompliance with any lawful order of the director relative to explosives;

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- (3) Evidence that the applicant is under indictment for, or has been convicted of, a crime punishable by imprisonment for a term exceeding one year, which involved acts of violence, fraud, or dishonesty such as, murder, assault, subversive activities, terrorism, extortion, and embezzlement;
 - (4) The applicant is a fugitive from justice;
 - (5) The applicant has been adjudicated mentally ill;
 - (6) The applicant advocates, or knowingly belongs to any organization or group that advocates violent overthrow of or violent action against any federal, state, or local government;
 - (7) The applicant is under 21 years of age;
 - (8) The applicant suffers from a mental or physical defect that would interfere with the applicant's safe use of explosives;
 - (9) Violation by the applicant of any provision of RSA 158 or of these rules;
 - (10) The applicant knowingly provided false information on:
 - a. Any explosives license application;
 - b. Certificate of competency application; or
 - c. Record, form, or diagram required by these rules; or
 - (11) Is not a United States citizen, or currently working under a valid work visa.
- (b) Any person who has been denied a license or certificate of competency may request, in writing, a hearing before the director within 10 days of the date of such denial.
- (c) The director shall extend the 10 day time limit, in (b) above, for good cause shown, such as:
- (1) Illness;
 - (2) Family tragedy; or
 - (3) Unavoidable absence from state.

Saf-C 1606.02 Suspension or Revocation.

(a) A license or certificate of competency shall be suspended for the reasons set forth in Saf-C 1606.01 (1), (2), and (9), or revoked, after a hearing, for any of the reasons set forth in Saf-C 1606.01 (a)(3)-(8), (10), or (11).

(b) In addition to (a) above, a license or certificate of competency shall be revoked for the following reasons:

- (1) The licensee or holder of a certificate of competency gave false information or made any misrepresentation in order to obtain such a license or certificate; or
- (2) The director determines that an individual is a threat to the public or the state, or any subdivision thereof, such as but not limited to, when an individual has made threats against a person or public building.

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(c) The director shall notify the licensee or holder of a certificate of competency in writing of the date, time, and place of the hearing which shall be scheduled at least 10 days from the date of notice. The notice shall specify the reasons why suspension or revocation is under consideration.

Saf-C 1606.03 Hearing Procedure. Hearings shall be conducted by the hearing board, pursuant to RSA 158:9-e. All hearings shall be conducted pursuant to the procedures outlined in Saf-C 202.

PART Saf-C 1607 RECORD KEEPING AND REPORTING

Saf-C 1607.01 Record Period.

(a) Each licensee shall keep a record of all transactions or operations involving explosive materials for 5 years. Such records shall be made available to the director upon request.

(b) An accumulation of invoices, sales slips, delivery tickets or receipts, or similar papers representing individual transactions shall satisfy the requirement for records provided they include the signature of the receiver of the explosive materials.

Saf-C 1607.02 Marketing Report.

(a) Any person who sells or markets explosive materials, as defined by RSA 158:9-a, within the state of New Hampshire shall submit a report to the director of the sale or transfer of ownership of all explosive materials sold or transferred to a new owner.

(b) The marketing report shall be submitted monthly, on form DSSP 125, "Explosives Marketing Report", ~~effective April 2013~~ revised April 2024, no later than by the 15th day of each month.

Saf-C 1607.03 Record Keeping.

(a) Each licensee or holder of a certificate of competency shall keep a record of explosive material fired or otherwise disposed of.

(b) The records, in (a) above, shall include:

(1) A daily log which shall contain:

- a. The manufacturer's name; and
- b. The type, size, and identification number of the explosives; and

(2) A record of each blast completed prior to or immediately following detonation, that includes the following:

- a. Name and certificate of competency number of person setting off blast;
- b. The date, time, and location of the blast;
- c. Total amount of explosive detonated;
- d. Amount of explosive in each hole;
- e. Amount, type, and delay time of initiators;
- f. Maximum weight of explosive used in each delay period;

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- g. Diameter of each hole and the distance between the last loaded explosive and the surface of the hole;
- h. Distance between the closest explosive and nearest structure;
- i. Type of matting or cover used to contain fragments and to prevent particles from being discharged in the direction of workers and the general public;
- j. Whether vibration recording instruments were utilized or the scaled distance 50 cited in Table 1625.2 was followed;
- k. Written description or diagram showing:
 - 1. Location and spacing of loaded holes;
 - 2. Location and amount of each delay period;
 - 3. Location of blast site and distance to:
 - (i) The nearest structures;
 - (ii) Overhead wires;
 - (iii) Underground pipes or wires; and
 - (iv) Highways which are close enough to be affected by ground vibration or air blast; and
 - 4. Location of and distance from blast site to vibration recording instruments, if utilized; and
- l. The names and dates of births of those assisting the operator in loading and firing of the blast.

(c) In addition to fulfilling the requirement in (a) above, these records shall be compiled for the purpose of submitting documentation, by an applicant for a certificate of competency, pursuant to Saf-C 1604.03, of experience in the handling and use of explosive materials to the director, to comply with requirements for an original certification or upgrade of a certificate of competency to conduct blasting operations.

(d) All records required by this section shall be kept for 5 years.

Saf-C 1607.04 Notifications.

- (a) A licensee shall promptly notify the director of a change in business address.
- (b) A licensee shall report to the director, within 24 hour of the discovery of any loss, theft, or unlawful removal of explosive materials.
- (c) At least 24 hours prior to blasting, the licensee conducting the blasting operation shall notify the local police chief and local fire chief of the location of the blast area.
- (d) A licensee, prior to the storage of explosives in a magazine, shall notify the director and the local fire chief of the location of each unattended overnight storage magazine and the estimated length of time the storage magazine will be at the location. The director and the local fire chief shall also be notified

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promptly upon removal of the magazine at the end of its use at the location. Notifications to the director shall:

(1) Be made Monday thru Friday (8:15 AM to 4:15 PM) by calling the New Hampshire State Police – Permits and Licensing Unit at (603) 223-3873; or

(2) During nights, weekends, and holidays, ~~the notification can~~ be made by contacting the New Hampshire State Police Communications Center at (603) 223-4381.

(e) A licensee shall immediately notify the director if there is any explosion, fire, or other incident occurring in connection with the keeping, storage, manufacture, handling, transportation, use, or other disposition of explosives causing loss of life or injury to any person or damage to property by:

(1) ~~Notification to~~ Notifying the director ~~shall be made~~ by contacting the New Hampshire State Police Communications Center at (603) 223-4381;

(2) ~~The licensee shall provide~~ Providing a full account of the incident to include the number of persons injured or killed, and the extent of any property damage; and

(3) ~~Be confirmed~~ Confirming in writing pursuant to (f) below.

(f) A written report shall be provided by the licensee who conducted the blasting operation, or was storing explosive materials to the director within 48 hours, which shall contain the following:

(1) The date of the report;

(2) Certificate of competency number of the person(s) conducting the blasting operation or storing explosives;

(3) The name and address of the person(s) conducting the blasting operation or storing explosives;

(4) The time of incident;

(5) The exact location of the incident;

(6) The name and address of any person(s) injured or killed;

(7) The weather conditions at the time of the incident;

(8) The type and amount of explosive;

(9) A detailed description of the incident and total cost of repair;

(10) The cause of the incident, if known;

(11) The names and addresses of any witnesses, if known;

(12) The name of the hospital or doctor to which or whom the injured person(s) was taken, or treated by;

(13) The type of first aid equipment that was available at the scene of the incident; and

(14) The signature of the licensee who conducted the blasting operation or was storing explosives.

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Saf-C 1607.05 Pre-Blast Inspection.

(a) No blasting operation shall be conducted within 100 feet of a structure not controlled by the blaster unless a pre-blast inspection, which shall include both the interior and exterior visible and accessible walls and foundation of the structure or structures has been conducted for the purpose of recording the conditions prior to the blast.

(b) A record of the results of the inspection shall be retained for a period of at least one year from the date of the inspection by the blasting contractor and made available for inspection by the owner of the structure upon request.

(c) The pre-blast inspection requirement shall be considered satisfied if:

(1) The licensee or their designee has made a minimum of 3 attempts to contact the owner or occupant of the structure covering at least a 48 hour period and ~~shall~~ records and retains for a period of at least one year, the date and time of each attempt; or

(2) The owner or occupant of the structure refuses the inspection, and the licensee or their designee ~~shall~~ records and retains for a period of at least one year, the date, time, and if available, the name of the person giving the refusal.

(d) For the purpose of this rule, a structure shall be considered controlled by the licensee when it is owned by the licensee or the structure owner has been made aware of the requirements of this rule by the licensee and has given written permission to the licensee to exceed the limit requirements of Saf-C 1625.04. In such case, the written permission shall be attached to and become part of the blasting record required under Saf-C 1607.03(b)(2).

PART Saf-C 1608 QUALIFIED SIGNERS

Saf-C 1608.01 List of Qualified Signers.

(a) Any person who sells or markets explosive materials within the state of New Hampshire, shall keep on file a list of all persons designated as qualified signers who, under RSA 158:9-a, are entitled to purchase and transport explosive materials in the name of their employer.

(b) Any employer who wishes to purchase explosives shall submit to the seller and the director the name, address, and date of birth of the employee to be designated as a qualified signer.

Saf-C 1608.02 Legible Copy of License. Any person who sells or markets explosive materials within the state of New Hampshire, shall keep on file a legible copy of the employer's use, purchase, and transport license. This copy shall be supplied to the seller by the employer who wishes to purchase explosives.

Saf-C 1608.03 Proof of Authenticity. All copies of use, purchase, and transport licenses, submitted by employers to be used in connection with a qualified signers list, shall be re-signed by the original signer, to prove authenticity.

Saf-C 1608.04 Termination of Employment. Any employer who terminates the services of an employee listed as a qualified signer for the employer, shall immediately notify, in person or by telephone and in writing, all dealers with whom the employee is listed as a qualified signer. The employer shall also notify the director, within 24 hours, advising of that employee's termination and requesting the removal of that employee's name from the list of qualified signers.

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PART Saf-C 1609 STORAGE OF EXPLOSIVE MATERIALS

Saf-C 1609.01 Inspection. All storage magazines shall be subject to periodic and unannounced inspections by the director for the purpose of determining compliance with these rules.

Saf-C 1609.02 Storage of Ammonium Nitrate.

(a) Ammonium nitrate may be stored in the same storage magazine with blasting agents. Ammonium nitrate and blasting agents may be stored in the same storage magazine with explosives.

(b) When ammonium nitrate is stored in the same storage magazine with blasting agents, the storage magazine shall comply with the requirements for the storage of blasting agents.

(c) When ammonium nitrate is stored in the same storage magazine with explosives, the storage magazine shall comply with the requirements for the storage of explosives.

(d) In determining the maximum quantity of explosive materials that may be placed in a storage magazine, one-half the weight of ammonium nitrate shall be added to the weight of explosive materials.

Saf-C 1609.03 Storage of Detonators. Detonators are not to be stored in the same storage magazine with other explosive materials, except under the following circumstances:

(a) In a type 4 storage magazine, as set forth in Saf-C 1613, detonators that will not mass detonate may be stored with electric squibs, safety fuse, shock tube, ignitors, and ignitor cord; or

(b) In a type 1 or 3 storage magazine, as set forth in Saf-C 1610 and Saf-C 1611, detonators may be stored with delay devices and any of the items listed in paragraph (a) of this section.

Saf-C 1609.04 Storage of Multi-part Explosives. Binary or multi-part explosives, the components of which were manufactured with the intention of being combined to form a high explosive, shall be stored in Types 1, 2, or 3 storage magazines when mixed. Unmixed binary or multi-part explosives shall be stored in Types 1, 2, 3, or 4 storage magazines.

Saf-C 1609.05 Storage of Explosives.

(a) High explosives shall be stored in Types 1, 2, or 3 storage magazines as set forth in Saf-C 1610, 1611, and 1612.

(b) Low explosives shall be stored in Types 1, 2, 3, or 4 storage magazines as set forth in Saf-C 1610, 1611, 1612, and 1613.

(c) Blasting agent explosives shall be stored in Types 1, 2, 3, 4, or 5 storage magazines as set forth in Saf-C 1610, 1611, 1612, 1613, and 1614.

Saf-C 1609.06 Storage of Non Cap-Sensitive Explosives. Explosive materials that are not cap-sensitive may be stored in Types 4 or 5 storage magazines.

Saf-C 1609.07 Substitution. Wherever specific types of storage magazines are required by this part, magazines of higher classification, that is, a lower type number, may be substituted.

Saf-C 1609.08 Exceptions. All explosive materials shall be kept in storage magazines unless they are:

(a) In the process of manufacture;

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- (b) Being used; or
- (c) Being transported.

Saf-C 1609.09 Other Storage Requirements.

- (a) Explosive materials shall be kept in storage magazines which meet the requirements of this part.
- (b) No outdoor storage magazine for the storage of explosive materials shall be less than one cubic yard in size, except that Type 3 storage magazines for temporary daytime storage, may be less than one cubic yard in size.

PART Saf-C 1610 CONSTRUCTION OF TYPE 1 STORAGE MAGAZINES

Saf-C 1610.01 Structure.

- (a) A Type 1 storage magazine shall be a permanent structure such as a building, an igloo, a tunnel, or a dugout.
- (b) A Type 1 storage magazine shall be bullet-resistant, fire-resistant, weather-resistant, theft-resistant, and well ventilated.

Saf-C 1610.02 Buildings.

- (a) All Type 1 building-type storage magazines shall be constructed of masonry, wood, metal, or a combination of these materials and shall have no opening except for entrances and ventilation. Ground around such storage magazines shall slope away from the building for drainage purposes.
- (b) If the storage magazine is of a masonry wall construction, the following shall apply:
 - (1) Masonry wall construction shall consist of brick, concrete, tile, cement block, or cinder block and shall be not less than 6 inches in thickness;
 - (2) Hollow masonry units used in construction shall have all hollow spaces filled with well-tamped, coarse, dry sand or weak concrete, the latter being a mixture of one part cement and 8 parts of sand with enough water to dampen the mixture while tamping in place; and
 - (3) Interior walls shall be covered with a non-sparking material.
- (c) If the storage magazine is of a fabricated metal wall construction, the following shall apply:
 - (1) The metal wall construction shall consist of sectional sheets of steel or aluminum not less than number 14 gauge, securely fastened to a metal framework;
 - (2) The metal wall construction shall be either:
 - a. Lined inside with brick, solid cement blocks, or hardwood not less than 4 inches in thickness; or
 - b. Have at least a 6 inch sand fill between interior and exterior walls; and
 - (3) Interior walls shall be constructed of or covered with a non-sparking material.
- (d) If the storage magazine is of a wood frame wall construction, the following shall apply:

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- (1) The exterior of the outer wood walls shall be covered with iron or aluminum not less than number 26 gauge;
- (2) An inner wall of non-sparking material shall be constructed so as to provide a space of not less than 6 inches between the outer and inner walls; and
- (3) The space between the inner and outer walls shall be filled with coarse, dry sand or weak concrete.

Saf-C 1610.03 Floors. Floors shall be constructed of a non-sparking material and shall be strong enough to bear the weight of the maximum quantity to be stored.

Saf-C 1610.04 Foundations.

- (a) Foundations shall be constructed of brick, concrete, cement, block, stone, or wood posts.
- (b) If piers or posts are used in lieu of a continuous foundation, the space under the buildings shall be enclosed with metal.

Saf-C 1610.05 Roof. Except for storage magazines with fabricated metal roofs, the outer roof shall be covered with no less than number 26 gauge iron or aluminum fastened to 7/8 inch sheathing.

Saf-C 1610.06 Bullet-Resistant Ceilings and Roofs.

(a) Where it is possible for a bullet to be fired directly through the roof and into the storage facility at such an angle that the bullet would strike a point below the top of inner walls, storage magazines shall be protected by one of the following methods:

- (1) A sand tray shall be located at the tops of inner walls covering the entire ceiling area, except that portion necessary for ventilation, lined with a layer of building paper, and filled with not less than 4 inches of coarse, dry sand; or
- (2) A fabricated metal roof shall be constructed of 3/16 inch plate steel lined with 4 inches of hardwood and for each additional 1/16 inch of plate steel, the hardwood lining may be decreased by one inch.

Saf-C 1610.07 Doors.

(a) All doors shall be constructed of 1/4 inch plate steel and lined with 2 inches of hardwood. Hinges and hasps shall be attached to the doors by welding, riveting, or by bolting with the nuts on the inside of the door.

(b) The doors shall be installed in such a manner that the hinges and hasps cannot be removed when the doors are closed and locked.

Saf-C 1610.08 Locks.

(a) Each door shall be equipped with:

- (1) 2 mortise locks;
- (2) 2 padlocks fastened in separate hasps and staples;
- (3) A combination of mortise lock and padlock;

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- (4) A mortise lock that requires 2 keys to open; or
- (5) A 3-point lock.
- (b) Locks shall be 5-tumbler locks or its equivalent.
- (c) All padlocks shall be protected with 1/4 inch steel caps constructed so as to prevent sawing or prying action on the locks or hasps.

Saf-C 1610.09 Ventilation.

- (a) Except at doorways, a 2-inch air space shall be left around ceilings and the perimeter of floors.
- (b) Foundation ventilators shall be not less than 4 by 6 inches.
- (c) Vents in the foundation, roof, or gables, shall be screened and offset.

Saf-C 1610.10 Exposed Metal. No sparking metal construction shall be exposed below the top of the walls in the interior of storage magazines, and all nails within shall be blind-nailed countersunk.

Saf-C 1610.11 Igloos, Tunnels, and Dugouts.

- (a) Igloos, tunnels, and dugout storage magazines shall be constructed of reinforced concrete, masonry, metal, or a combination of these materials. They shall have an earthmound covering of not less than 24 inches on the top, sides, and rear.
- (b) Interior walls and floors shall be covered with a non-sparking material.
- (c) Storage magazines of this type shall also be constructed in conformity with the requirements for buildings in reference to:

- (1) Floors, Saf-C 1610.03;
- (2) Doors, Saf-C 1610.07;
- (3) Locks, Saf-C 1610.08;
- (4) Ventilation, Saf-C 1610.09; and
- (5) Exposed metals, Saf-C 1610.10.

PART Saf-C 1611 CONSTRUCTION OF TYPE 2 STORAGE MAGAZINES

Saf-C 1611.01 Structure.

- (a) A Type 2 storage magazine shall be a box, a trailer, a semi-trailer, or other mobile facility. It shall be bullet-resistant, fire-resistant, weather-resistant, theft-resistant, and well ventilated.
- (b) Except as provided in Saf-C 1611.06, hinges and hasps shall be attached to the covers or doors by welding, riveting, or bolting with the nuts on the inside of the door, in such a manner that the hinges and hasps cannot be removed when the covers or doors are closed and locked.
- (c) The locking system shall consist of:

- (1) Two mortise locks;

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- (2) Two padlocks fastened in separate hasps and staples;
 - (3) A combination of mortise lock and a padlock;
 - (4) A mortise lock that requires 2 keys to open; or
 - (5) A 3-point lock.
- (d) Locks shall be 5-tumbler locks or its equivalent.
- (e) All padlocks shall be protected with 1/4 inch steel caps constructed so as to prevent sawing or prying lever action on the locks or hasps.

Saf 1611.02 Outdoor Storage Magazines. Outdoor storage magazines shall be at least one cubic yard in size and supported in such a manner so as to prevent direct contact with the ground. The sides, bottoms, tops, and covers or doors shall be constructed of 1/4 inch steel and shall be lined with 2 inches of hardwood. The edges of metal covers shall overlap the sides by at least one inch. The ground around such storage magazines shall slope away for drainage. When unattended, vehicular storage magazines shall have wheels removed or shall be otherwise effectively immobilized by kingpin locking devices.

Saf 1611.03 Indoor Storage Magazines.

(a) No indoor magazine for the storage of high explosives shall be located in a residence or dwelling. When located in a warehouse, wholesale, or retail establishment, such storage magazines shall be provided with wheels or casters to facilitate removal therefrom.

(b) No more than 2 indoor storage magazines shall be kept in any one building. However, 2 storage magazines may be kept in the same building if one is used for the storage of blasting caps, squibs, or similar items and the other magazine is used for the storage of high explosives.

(c) Each storage magazine shall be located on the floor nearest the ground level and within 10 feet of an outside exit. Indoor storage magazines within one building shall be separated by a distance of not less than 10 feet.

(d) No indoor storage magazine shall contain a quantity of high explosives in excess of 50 pounds or more than 5,000 blasting caps.

(e) Indoor magazines shall be made of wood or metal construction as prescribed in Saf-C 1611.04 or Saf-C 1611.05.

(f) When unattended, the building housing the storage magazine shall be kept locked.

Saf-C 1611.04 Wood Construction. Indoor storage facilities constructed with wood shall have sides, bottoms, and covers or doors constructed of 2 inch hardwood and shall be well braced at corners. They shall be covered with sheet metal of not less than number 20 gauge. Nails exposed to the interior of such facilities shall be counter-sunk.

Saf-C 1611.05 Metal Construction. Indoor storage magazines constructed with metal shall have sides, bottoms, and covers or doors constructed of number 12 gauge metal and shall be lined inside with a non-sparking material. The edges of the metal covers shall overlap the sides by at least one inch.

Saf-C 1611.06 Cap Boxes. Storage magazines for blasting caps in quantities of 100 or less shall have sides, bottoms, and covers constructed of number 12 gauge metal and lined with a non-sparking

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material. Hinges and hasps shall be attached thereto by welding. A single 5-tumbler lock shall be sufficient for locking purposes.

PART Saf-C 1612 CONSTRUCTION OF TYPE 3 STORAGE MAGAZINES

Saf-C 1612.01 Structure.

(a) A type 3 storage magazine shall be fire-resistant, weather-resistant, and theft-resistant. It shall be constructed of not less than 12 gauge steel, lined with at least 1/2 inch plywood or 1/2 inch masonite-type hardboard.

(b) Doors shall overlap sides by at least one inch. Hinges and hasps shall be attached by welding, riveting, or bolting with the nuts on the inside.

(c) One steel padlock, which need not be protected by a steel hood, having at least 5 tumblers and a case-hardened shackle of at least 3/8 diameter, shall be sufficient for locking purposes.

(d) Explosive materials shall not be left unattended in type 3 storage magazines and shall be removed to a magazine approved for unattended storage.

PART Saf-C 1613 CONSTRUCTION OF TYPE 4 STORAGE MAGAZINES

Saf-C 1613.01 Structure.

(a) A Type 4 storage magazine may be a building, an igloo, a tunnel, a dugout, a box, a trailer, or a semi-trailer or other mobile facility and shall be fire-resistant, weather-resistant, and theft-resistant.

(b) A Type 4 storage magazine shall be constructed of masonry, metal-covered wood, fabricated metal, or a combination of these materials. The walls and floors of such storage facilities shall be lined with a non-sparking material. No sparking metal construction shall be exposed below the top of walls in the interior of storage facilities, and all nails therein shall be blind-nailed or counter-sunk.

(c) Foundations shall be constructed of brick, concrete, cement block, stone, or wood posts. If piers or posts are used in lieu of a continuous foundation, the space under the storage magazine shall be enclosed with metal.

(d) The ground under the storage magazine shall be completely covered with gravel or another nonflammable material ~~(e.g. such as concrete)~~. Any gap between the storage magazine and the ground shall be covered with mounded gravel or another nonflammable material such as metal skirting. If skirting is used, it shall be securely attached; and the gravel or skirting between the storage magazine and the ground shall remain intact around the perimeter of the storage magazine so that the underside of the storage magazine does not become exposed or accessible and there shall be ~~(i.e. there must be no gaps in the gravel or skirting)~~.

Saf-C 1613.02 Doors.

(a) The doors or covers thereof shall be metal or solid wood covered with metal. Hinges and hasps shall be attached to the doors by welding, riveting, or bolting with the nuts on the inside of the door. They shall be installed in such a manner that the hinges and hasps cannot be removed when the doors are closed and locked.

(b) Each door shall be equipped with:

- (1) Two mortise locks;

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- (2) Two padlocks fastened in separate hasps and staples;
- (3) A combination of mortise lock and a padlock;
- (4) A mortise lock that requires 2 keys to open; or
- (5) A 3-point lock.

(c) Locks shall be 5-tumbler locks or its equivalent. All padlocks shall be protected with 1/4 inch steel caps constructed so as to prevent locks or hasps from being pried or sawed.

Saf-C 1613.03 Outdoor Storage Magazines. The ground around such storage magazines shall slope away for drainage. When unattended, vehicular storage magazines shall have wheels removed or shall be otherwise effectively immobilized by kingpin locking devices.

Saf-C 1613.04 Indoor Storage Magazines.

(a) No indoor storage magazine for the storage of low explosives shall be located in a residence or dwelling. When located in a warehouse, wholesale, or retail establishment, such storage magazines shall be provided with substantial wheels or casters to facilitate removal therefrom.

(b) No more than one indoor storage magazine shall be kept in any one building. It shall be located on the floor nearest the ground level and within 10 feet of an outside exit.

(c) No indoor storage magazine shall contain a quantity of low explosives in excess of 50 pounds.

(d) When unattended the building housing the storage magazine shall be kept locked.

PART Saf-C 1614 CONSTRUCTION OF TYPE 5 STORAGE MAGAZINES

Saf-C 1614.01 Structure. A Type 5 storage magazine may be a building, an igloo, a tunnel, a dugout, a bin, a box, a trailer, or a semi-trailer or other mobile storage magazine and shall be theft-resistant.

Saf-C 1614.02 Doors.

(a) The doors or covers thereof shall be solid wood or metal. Hinges and hasps shall be attached to the doors by welding, riveting, or bolting with the nuts on the inside of the door. They shall be installed in such a manner that the hinges and hasps cannot be removed when the doors are closed and locked.

(b) Each door shall be equipped with:

- (1) Two mortise locks;
- (2) Two padlocks fastened in separate hasps and staples;
- (3) A combination of mortise lock and a padlock;
- (4) A mortise lock that requires 2 keys to open; or
- (5) A 3-point lock.

(c) Locks shall be 5-tumbler locks or its equivalent. All padlocks shall be protected with 1/4 inch steel caps constructed so as to prevent locks or hasps from being pried or sawed.

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(d) Trailers, semitrailers, and similar vehicular magazines may, for each door, be locked with one steel padlock, which need not be protected by a steel hood, having at least ~~five~~5 tumblers and a case hardened shackle of at least 3/8 inch diameter if the door hinges and lock hasp are securely fastened to the storage magazine and to the door frame.

(e) Bulk storage bins for blasting agents may, for each loading, manway, and access hatch be locked with one steel padlock, which need not be protected by a steel hood, having at least ~~five~~5 tumblers and a case hardened shackle of at least 3/8 inch diameter if the door hinges and lock hasp are securely fastened to the storage magazine and to the door frame.

Saf-C 1614.03 Outdoor Storage Magazines. The ground around such storage magazines shall slope away for drainage. When unattended, vehicular storage magazines shall have wheels removed or shall be otherwise immobilized by kingpin locking devices.

Saf-C 1614.04 Indoor Storage Magazines. No indoor storage magazine for the storage of blasting agents shall be located in a residence or dwelling. When unattended, the building housing the storage magazine shall be kept locked.

PART Saf-C 1615 LOCATION OF STORAGE MAGAZINES

Saf-C 1615.01 Distances and Barricades.

(a) Except as otherwise provided in this section, storage magazines in which any explosive materials are stored shall be located at minimum distances from inhabited buildings, passenger railways, public highways, and from other storage magazines in which explosive materials are stored as specified in Saf-C 1640, provided that this table shall not apply to any indoor storage magazine.

(b) When a storage magazine is not barricaded, the distances shown in the American Table of Distances, June 1991 edition available as noted in Appendix I, shall be doubled.

(c) For purposes of paragraph (b) above, a storage magazine shall be deemed barricaded when it is effectually screened, by a natural or artificial barricade, from inhabited buildings, passenger railways, public highways, and other storage ~~facilities~~magazines in which explosive materials are stored. The natural or artificial barricade shall be of such height that a straight line from the top of any sidewall of the storage magazine to the eave line of such other inhabited building or storage magazine, or to a point 12 feet above the center of a passenger railway or public highway, will pass through such intervening barricade.

Saf-C 1615.02 Grouped Storage Magazines.

(a) If any 2 or more storage magazines are separated from each other by less than the distances specified in Saf-C 1640, then those storage magazines, as a group, shall be considered as one storage magazine.

(b) The total quantity of explosive materials stored in such a grouped magazine shall be treated as if stored in a single magazine and shall comply with the minimum of distances from other storage magazines, inhabited buildings, passenger railways, and public highways, as set forth in Saf-C 1640.

Saf-C 1615.03 Storage of Low Explosives. Storage magazines in which low explosives are stored shall be located at minimum distances from inhabited buildings, passenger railways, public highways, and from other storage magazines in which explosive materials are stored as specified in Saf-C 1640.01, provided that this table shall not apply to any indoor storage magazine. The distances shown therein shall not be reduced by the presence of barricades.

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Saf-C 1615.04 Storage of Ammonium Nitrate and Blasting Agents. Ammonium nitrate and storage magazines in which blasting agents are stored shall be located at minimum distances from storage magazines containing high explosives or blasting agents as specified in Saf-C 1640.02.

PART Saf-C 1616 STORAGE RESTRICTIONS

Saf-C 1616.01 Smoking and Open Flames. Smoking, matches, open flames, and spark-producing devices shall not be permitted in, or within 50 feet of, any storage magazine.

Saf-C 1616.02 Quantity Restrictions. Explosive materials in excess of 300,000 pounds, or blasting caps in excess of 20 million shall not be stored in one storage magazine.

Saf-C 1616.03 Blasting Caps. Blasting caps shall not be stored with other explosive materials in the same storage magazine.

Saf-C 1616.04 Lighting. Battery-activated safety lights or battery-activated safety lanterns may be used in a storage magazine of type 1, 2, 3, or 4. Electric lighting used in any storage magazine shall meet the standards in accordance with the National Electrical Code (NEC), NFPA 70-81, published by the National Fire Protection Association (NFPA), as codified pursuant to RSA 155-A. All electrical switches shall be located outside of the storage magazine and shall also meet the standards prescribed by the National Electrical Code.

PART Saf-C 1617 STORAGE WITHIN TYPES 1, 2, 3, AND 4 FACILITIES MAGAZINES

Saf-C 1617.01 Ventilation. Explosive materials within a storage magazine shall not be placed directly against interior walls. Any devices constructed or placed within a storage magazine shall not interfere with ventilation.

Saf-C 1617.02 Arrangement and Display. Containers of explosive materials shall be stored by being laid flat with top sides up. Corresponding classes, grades, and brands shall be stored together within a storage magazine in such a manner that class, grade, and brand marks are easily visible upon inspection. Stocks of explosive materials shall be stored so as to be easily counted and checked.

Saf-C 1617.03 Unpacking and Repacking. Except with respect to fiberboard containers, containers of explosive materials shall not be unpacked or repacked inside a storage magazine or within 50 feet thereof and shall not be unpacked or repacked in close proximity to other explosive materials. Containers of explosive materials shall be securely closed while being stored.

Saf-C 1617.04 Tools. Tools used for opening or closing containers of explosive materials shall be of non-sparking materials, except that metal slitters may be used for opening fiberboard containers. A wood wedge and a fiber, rubber, or wooden mallet shall be used for opening or closing wood containers of explosive materials. Metal tools other than non-sparking transfer conveyors shall not be stored in any storage magazine containing explosives.

Saf-C 1617.05 Responsibility. At all times storage magazines shall be in the charge of the owner of license or their designee, who shall be at least 21 years of age, and who shall be held responsible for the enforcement of all safety precautions.

Saf-C 1617.06 Inspection of Storage Magazines. All storage magazines containing explosive material shall be opened and inspected at intervals of not greater than 3 business days to determine whether there has been an unauthorized entry or attempted entry into the magazine, or to determine whether there has been unauthorized removal of the contents of the storage magazines. Inspections shall only be required twice per week if:

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(a) An indoor storage magazine is located inside a secure building and is equipped with security monitors or has roving security patrols during non-operating hours; or

(b) An outdoor storage magazine is located within a secured fenced area and is equipped with security monitors or has roving security patrols during non-operating hours.

Saf-C 1617.07 Precautions.

(a) Storage magazine doors shall be kept locked, except during the time of placement and removal of stocks of explosives or during inspection.

(b) When any explosive is removed from a storage magazine for use, the oldest stock shall be removed first.

(c) Black powder, when stored in storage magazines with other explosives, shall be segregated.

(d) No explosive shall be left unattended or unsecured at construction sites or other similar operations.

PART Saf-C 1618 UPKEEP AND REPAIR OF STORAGE MAGAZINES

Saf-C 1618.01 Housekeeping.

(a) Storage magazines shall be kept clean, dry, and free of grit, paper, empty packages and containers, and rubbish. Floors shall be regularly swept.

(b) Brooms and other utensils used in the cleaning and maintenance of storage magazines shall have no spark-producing metal parts.

(c) Floors stained by leakage from explosive materials shall be cleaned according to the instructions of the manufacturer. When any explosive material has deteriorated to the extent that it is in a dangerous condition, or if a liquid leaks therefrom, it shall be destroyed in accordance with the instructions of its manufacturer.

(d) The area surrounding storage magazines shall be kept clear of rubbish, brush, dry grass, or trees for not less than 25 feet in all directions. Any other combustible materials shall be kept a distance of not less than 50 feet from outdoor storage magazines.

Saf-C 1618.02 Repair.

(a) Prior to the interior repair of storage magazines, all explosive materials shall be removed and the interior shall be cleaned.

(b) Prior to the exterior repair of storage magazines, all explosive materials shall be removed if there exists a possibility that such repairs may produce sparks or flames.

(c) The explosive materials removed from storage magazines under repair shall either be placed in other storage facilities appropriate for the storage of such materials or placed a safe distance from the magazines under repair where they shall be properly guarded and protected until the repairs have been completed.

PART Saf-C 1619 CONSTRUCTION OF PADLOCKS, STEEL CAPS, AND HOODS

Saf-C 1619.01 Padlocks.

13937, (eff 4-24-24)

(a) Padlocks for use on outdoor storage magazines shall be constructed of not less than 3/8 inch diameter shackle, case hardened or stainless steel alloy, 420 F or 216 C, and heat treated to Rockwell Hardness of C53.

(b) Shackle clearance shall not be less than one inch.

(c) A padlock may be substituted with a hidden shackle “hockey puck” lock provided the shackle is constructed of case-hardened steel or boron alloy and measures a minimum nominal diameter of 3/8 inch.

Saf-C 1619.02 Steel Caps and Hoods. Whenever steel caps or hoods are required to protect padlocks, the steel cap or hood shall be constructed of not less than 1/4 inch steel and shall be so designed to eliminate access to the hasp between the hood or cap and storage magazine. Extra 1/4 inch steel shall be required to prevent the cutting of any part of the locking assembly.

PART Saf-C 1620 TRANSPORTATION OF EXPLOSIVE MATERIALS ON HIGHWAYS

Saf-C 1620.01 Prohibited Ways. Explosive materials shall not be transported through any prohibited vehicular tunnel, subway, or over any prohibited bridge, roadway, or elevated highway.

Saf-C 1620.02 Prohibited Acts.

(a) No person shall smoke, carry matches or any other flame-producing device, or carry any unauthorized firearms or loaded cartridges while in or within 50 feet of a motor vehicle transporting explosive materials.

(b) No person shall park their motor vehicle transporting explosive materials within 300 feet of an open fire.

(c) The driver shall load or unload a vehicle transporting explosive materials in compliance with 49 CFR 177.834 through 177.843.

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Saf-C 1620.03 Public Conveyance. Explosive materials, other than those that are essential to promote safety of the passengers or the operation of the vehicles, shall not be carried or transported in or upon a public conveyance.

Saf-C 1620.04 Transferral from Vehicle. Explosive materials shall not be transferred from one vehicle to another upon any highway within the state of New Hampshire without informing the local fire and police departments. In the event of breakdown or collision, the driver shall notify the local fire and police departments. Explosive materials shall be transferred from the disabled vehicle to another only when proper and qualified supervision, as provided by the local fire and police departments, is present.

Saf-C 1620.05 Blasting Caps. Blasting caps, blasting caps with safety fuses, blasting caps with metal clad mild detonating fuse, and electric blasting caps may be transported with other explosives in the same motor vehicle only in accordance with 49 CFR 171 through 180.

Saf-C 1620.06 Additional Requirements. In addition to all other applicable requirements set forth in these rules, those transporting explosive materials over all highways shall comply with applicable requirements in 49 CFR 170 to end.

PART Saf-C 1621 VEHICLES TRANSPORTING EXPLOSIVES

Saf-C 1621.01 Condition of Vehicles. Vehicles used for transporting explosive materials shall comply with RSA 265:115, IV.

13937, (eff 4-24-24)

Saf-C 1621.02 Markings of Vehicles. Every vehicle used for transporting explosive materials and those oxidizing materials that are classified as hazardous materials by 49 CFR 172, shall be placarded in accordance with 49 CFR 172.500 through 49 CFR 172.560.

Saf-C 1621.03 Fire Extinguishers. Each motor vehicle used for transporting explosive materials shall be equipped with 2 fire extinguishers having a combined rating of at least 2A:10B:C. Extinguishers shall be filled, ready for immediate use, and located near the driver's seat.

Saf-C 1621.04 Inspection.

(a) A motor vehicle used for transporting explosives shall be inspected daily by the operator prior to operation in order to determine that it is in proper condition for safe transportation of explosives.

(b) Proper condition for safe transportation of explosives means that:

- (1) The fire extinguisher shall be filled and ready for immediate use;
- (2) All electrical wiring shall be completely protected and securely fastened to prevent short-circuiting;
- (3) The chassis, motor, pan, and underside of body shall be ~~reasonably~~ clean and free of excess oil and grease;
- (4) The fuel tank and feed line shall be secure and have no leaks;
- (5) The brakes, lights, horn, windshield wipers, and steering apparatus shall function properly;
- (6) The tires, shall be properly inflated and free of defects; and
- (7) The vehicle shall be in proper condition in every other respect and acceptable for handling explosives.

(c) All inspections shall be documented in accordance with 49 CFR 171-185 and RSA 266:72a.

PART Saf-C 1622 OPERATION OF VEHICLES TRANSPORTING EXPLOSIVES

Saf-C 1622.01 Drivers.

(a) Vehicles transporting explosive materials shall only be driven by and be in the charge of a properly licensed driver who is in compliance with Saf-C 601.03.

(b) Drivers shall be familiar with the traffic regulations, state laws, and all applicable state rules.

Saf-C 1622.02 Parking. Except under conditions that constitute an immediate hazard to the operator, vehicle contents, or nearby persons, no vehicle transporting explosives shall be parked before reaching its destination, even though attended, on any public street adjacent to or in proximity of any bridge, tunnel, dwelling, building, or place where people work, congregate, or assemble.

Saf-C 1622.03 Attendant and Attendant's Duties.

(a) Every driver of a motor vehicle transporting any quantity of high or low explosives shall comply with RSA 265:115, V.

13937, (eff 4-24-24)

(b) Notwithstanding (a) above, an explosive-laden vehicle may be left unattended if parked in an area complying with the requirements of the National Fire Protection Association standard number 498, 2013 edition, Standard for Safe Havens, and Interchange Lots for Vehicles Transporting Explosives, available as noted in Appendix I.

Saf-C 1622.04 Hazardous Materials. Spark-producing metal, spark-producing metal tools, oils, matches, firearms, electric storage batteries, flammable substances, acids, oxidizing materials, or corrosive compounds shall be carried in the body of any motor truck or vehicle transporting explosive materials only if in compliance with other applicable federal regulations.

Saf-C 1622.05 Congested Areas. Vehicles transporting explosive materials shall avoid congested areas and heavy traffic. Where routes through congested areas have been designated by local authorities, such routes shall be followed.

Saf-C 1622.06 Delivery. Delivery shall only be made to persons or storage magazines which have met the requirements of RSA 158:9-a.

PART Saf-C 1623 USE OF EXPLOSIVE MATERIALS FOR BLASTING

Saf-C 1623.01 Prohibitions.

(a) Explosive materials not in unopened original packages shall be transported from storage magazines to the blasting area in closed body vehicles.

(b) When blasting is done in congested areas or in close proximity to a structure, railway, highway, or any other installation shall be assessed by the blaster in charge on site of the blasting area, prior to blasting, to ensure that any potential fly rock or any other debris be safely controlled, if needed to be safely controlled, cover shall be used to safely secure the blast and otherwise protected to prevent fly rock or other debris from damaging any buildings.

(c) Persons authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution, including but not limited to warning signals, flags, barricades, or woven mats to ensure the safety of the general public and workmen.

(d) Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, and steam utilities, the blaster shall notify the representatives of such utilities designated by the utility company or organization for receiving such information, at least 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notice shall be confirmed with a written notice. This time may be waived by the utility.

(e) All 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 sources of extraneous electricity.

(f) 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; or

(2) The posting of signs warning against the use of mobile radio transmitters on all roads within 350 feet of the blasting operations.

PART Saf-C 1624 PACKAGING; DETERIORATING EXPLOSIVES

13937, (eff 4-24-24)

Saf-C 1624.01 Prohibitions.

(a) Wood containers of explosive materials shall not be opened in any magazine or within 50 feet of any magazine. In opening kegs or wooden cases, no sparking metal tools shall be used. Wooden wedges and either wood, fiber, or rubber mallets shall be used. Non-sparking metallic slitters may be used for opening fiberboard cases.

(b) Explosive materials that are obviously deteriorated or damaged shall be destroyed.

(c) Empty boxes, paper, or fiber packing materials which have previously contained high explosives shall not be used again for any purpose, but shall be destroyed by burning at an approved isolated location out of doors, and no person shall be nearer than 100 feet after the burning has started.

(d) For the purposes of (c) above, an out of doors location for burning empty boxes, paper, or fiber packing materials, which previously contained high explosives, shall be approved if it meets all applicable local fire codes.

PART Saf-C 1625 LOADING OF EXPLOSIVE MATERIALS IN BLAST HOLES

Saf-C 1625.01 Drill Holes.

(a) All drill holes shall be sufficiently large to admit freely the insertion of the packages of explosive materials.

(b) Drilling shall not be started until all remaining butts or old holes are examined with a wooden stick for unexploded charges, and if any are found, they shall be refired before work proceeds.

(c) No person shall deepen drill holes that are loaded or being loaded with explosive materials.

(d) No person shall drill holes when adjacent drill holes are within 50 feet and are loaded.

Saf-C 1625.02 Tamping. Tamping shall be done only with wood rods without exposed metal parts, but non-sparking metal connectors may be used for jointed poles. Violent tamping shall be avoided. Primed cartridges shall not be tamped.

Saf-C 1625.03 Loading.

(a) When loading blasting agents pneumatically over electric blasting caps the requirements of Saf-C 1629.07 shall be followed.

(b) No holes shall be loaded except those to be fired in the next round of blasting. After loading, all remaining explosives shall be immediately returned to the appropriate storage magazine for that type of explosive.

(c) After loading for a blast has been completed, all excess blasting caps or electric blasting caps and other explosive materials shall be immediately returned to their separate storage magazines.

Saf-C 1625.04 Vibration Limits.

(a) Blasting shall be conducted so that vibrations adjacent to any structure, not controlled by the blaster, or for which the blaster has received the owner's written permission as described in Saf-C 1607.05, do not exceed the limits cited in ~~T~~table 1625.1 or (e) below:

Table 1625.1 Vibration Limits When Using Instrumentation

13937, (eff 4-24-24)

Frequency of ground vibration in cycles per second	Maximum amplitude of ground motion in inches
Up to 10	0.0305
20	0.0153
30	0.0102
40	0.0076
50	0.0061
60	0.0051
70	0.0043
80	0.0038

(b) A peak particle velocity of 2.0 inches per second shall be the maximum of any one of the 3 mutually perpendicular ground motion velocity components of a vibration. These components shall be measured in directions vertical, longitudinal, and transverse to the vibration source. Any ground vibration over peak particle velocity of 2.0 inches per second shall be reported to the director within 24 hours.

(c) The instrument used to monitor the ground vibrations produced by each blast shall produce printed seismograms of vibrations that are recorded in units of particle velocity in inches per seconds, occurring along 3 mutually perpendicular axes at ground level. The monitoring device shall be placed between the blast location and the nearest structure.

(d) The printed measurements of the blast ground vibrations, as required in (c) above, shall be retained by the blasting contractor for a period of at least 6 months, and shall be made available to the director upon request.

(e) When instrumentation for the measurement of blasting ground vibration is not used, the maximum weight of explosive to be used on a single delay shall be in accordance with the guidelines of the United States Bureau of Mines bulletin number 656 as outlined below:

- (1) For the purposes of this rule "distance" means distance in feet from the nearest structure;
- (2) For the purposes of this rule "weight" means the weight of the explosives in pounds per delay period or 8 milliseconds or greater.
- (3) Table 1625.2 below shall set forth the requirements of the sample scaled distance:

Table 1625.2 Sample Scaled Distance

DISTANCE IN FEET	WEIGHT SCALED 50
10	.04
15	.09
20	.16
25	.25
30	.36
40	.64
50	1.00
60	1.44
70	1.96
80	2.56
90	3.24
100	4.00
110	4.84

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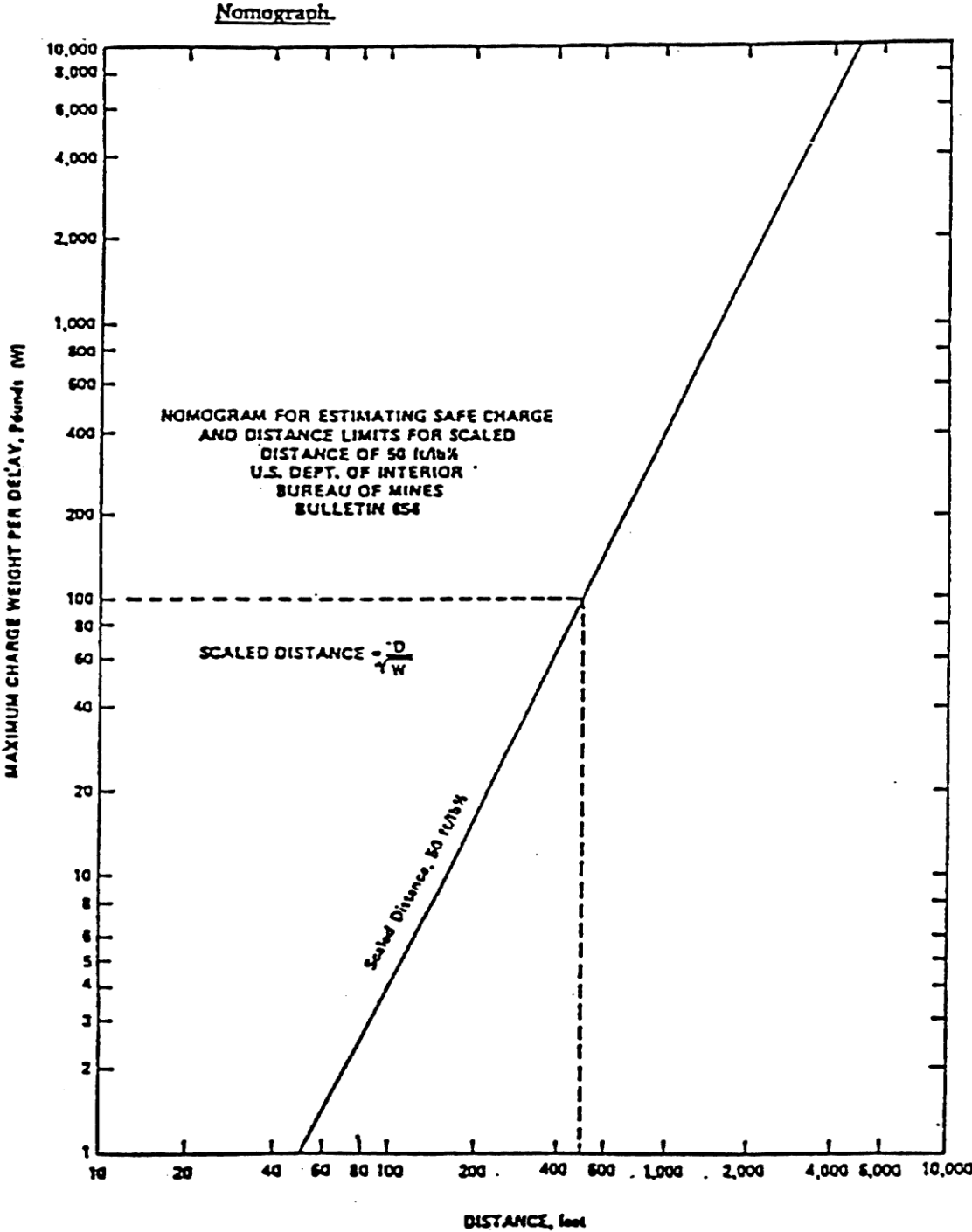
130	6.76
150	9.00
170	11.6
190	14.40
210	17.60
230	21.20
250	25.00
270	29.00
290	33.60
400	64
500	100
600	144
700	196
800	256
900	324
1000	400
1100	484
1200	576
1300	676
1400	784
1500	900
1600	1024
1700	1156
1800	1296
1900	1444
2000	1600
2500	2500
3000	3600
3500	4900
4000	6400
5000	10000

$$\text{WEIGHT} = \frac{(\text{DISTANCE})^2}{50}$$

- (4) At less than 5 feet, the total amount of explosive used shall not exceed one-eighth of a pound.
- (5) For distances not in the table, the formula, weight = (distance/50) X (distance/50), shall be used to determine maximum explosive weight.
- (6) The graph for the scaled distance table shall be a nomograph as illustrated in Figure 1625.1 below:

Figure 1625.1

13937, (eff 4-24-24)



13937, (eff 4-24-24)

PART Saf-C 1626 INITIATION OF EXPLOSIVE CHARGES

Saf-C 1626.01 Primers. Primers for use in surface blasting shall be made up only as required for each round of blasting. Only the number of primers required for the next round to be blasted shall be taken to the face when loading is begun.

Saf-C 1626.02 Blasting Caps and Safety Fuses.

(a) No blasting cap shall be inserted in the explosive materials without first making a hole in the cartridge for the cap with a wooden punch of proper size or standard cap crimper.

(b) Blasting caps for use with safety fuse shall not be used in blasting operations in congested districts, or on highways, or adjacent to highways open to traffic. Where sources of extraneous electricity, that is electricity in excess of 50 milliamperes flowing through a one OHM resistor are present, electric detonators shall not be used unless corrective measures are taken.

(c) When a fuse is used, the blasting cap 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.

Saf-C 1626.03 Blasters, Testing, and Firing.

(a) Blasters, when testing circuits to charged holes, shall use only blasting galvanometers designed for this purpose or other instruments approved for the purpose by a nationally recognized testing laboratory.

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

Saf-C 1626.04 Warning Signal.

(a) Before a blast is fired, a loud warning signal shall be given by the person in charge, who has made certain that:

- (1) All surplus explosives are in a safe place;
- (2) All persons and vehicles are at a safe distance or under sufficient cover; and
- (3) An adequate warning has been given.

(b) For the purposes of this section, a loud warning signal means that it is capable of being heard by people within the landing area of the blasting site in which debris might fall.

Saf-C 1626.05 Misfires.

(a) Explosive materials shall not be extracted from a hole that has once been charged or has misfired unless it is impossible to detonate the unexploded charge by insertion of a fresh additional primer.

(b) If there are any misfires while using cap and fuse, all persons shall remain away from the charge for at least one hour plus burn time. If electric blasting caps are used and a misfire occurs, this waiting period may be reduced to 30 minutes. Misfires shall be handled under the direction of the persons in charge of the blasting and all wires shall be carefully traced and a search made for unexploded charges.

13937, (eff 4-24-24)

(c) If there are any non-electric detonators that misfire, all persons shall remain away from the charge for at least 30 minutes.

PART Saf-C 1627 EXPLOSIVES AT PIERS, RAILWAY, TRUCK, AND AIR TERMINALS

Saf-C 1627.01 Railway Restrictions.

(a) Every railway car containing explosives which has reached its destination, or is stopped in transit so as to be no longer engaged in interstate commerce, shall remain placarded in accordance with Saf-C 1621.02.

(b) Any explosives at a railway storage magazine, truck terminal, pier, wharf, harbor facility, or airport terminal, whether for delivery to a consignee or for being forwarded to some other destination, shall be kept in a safe place, isolated as much as practicable and placed in such a manner that they can be easily and quickly removed.

Saf-C 1627.02 Carriers, Delivery, and Notification.

(a) No person shall deliver any explosive to any carrier unless such explosive complies with all applicable federal regulations.

(b) A consignee, having been notified that a shipment of explosives is in the hands of any carrier, shall remove the explosives within 48 hours, Saturdays, Sundays, and holidays excluded, after receiving such notification, to a location meeting the requirements of Saf-C 1609.

Saf-C 1627.03 Truck Terminals. Truck terminals for explosives vehicles shall be in conformance with National Fire Protection standard number 498, Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives, 2013 edition, available as noted in Appendix I.

PART Saf-C 1628 TRAILER-ON-FLATCAR, CONTAINER-ON-FLATCAR STORAGE MAGAZINES

Saf-C 1628.01 Railway Shipments.

(a) Shipments of explosives by trailer-on-flatcar or container-on-flatcar shall not be unloaded at a non-carrier's station unless the consignee is there to receive them or, unless properly locked and secure, storage magazines are provided at that point for their protection. If delivery cannot be made, the shipment shall be taken to the next or nearest carrier's station for delivery.

(b) For shipment of high explosives, when practicable at any point, the carrier shall assign regular days for receiving trailers and containers for shipment.

(c) To enable the carrier to provide proper flatcars for shipment of high explosives, the shipper shall give to the carrier not less than 24 hours notice of ~~his or her~~ their intention to offer such shipments and state their destinations. When a regular day has been appointed to receive trailers and containers for shipment, this notice may be waived by the carrier, but the explosives shipment shall be delivered on such days in time to permit proper inspection, billing, and loading on that day.

Saf-C 1628.02 Unloading. Carriers shall require the consignee to remove trailer-on-flatcar and container-on-flatcar shipments from the carrier's property within 48 hours, Saturdays, Sundays, and holidays excluded, after notice of arrival has been sent or given. If the trailers or containers are not so removed, the carrier shall immediately dispose of the shipment by storage, by disposal, or when necessary to ensure safety, by destruction under the supervision of a competent person.

13937, (eff 4-24-24)

Saf-C 1628.03 Forwarding Shipments. Carriers shall forward shipments promptly and within 48 hours, Saturdays, Sundays, and holidays excluded, after acceptance at the originating point or receipt at any yard, transfer station, or interchange point, except that where biweekly or weekly service is performed, shipments shall be forwarded on the first available train.

Saf-C 1628.04 Storage. If storage is required, to comply with section Saf-C 1628.03, storage shall be in an interchange lot as prescribed in chapters 2 and 3 of the National Fire Protection Association standard number 498, Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives, 2013 edition available as noted in Appendix I, or in a place that will provide equivalent safety to the public.

Saf-C 1628.05 Precautions. Cars loaded with explosive materials shall be so placed that they will be safe from all probable danger from fire. They shall not be placed under bridges or over-head highway crossings, nor in or alongside of passenger sheds or stations, except when loading or unloading.

PART Saf-C 1629 BLASTING AGENTS

Saf-C 1629.01 Applicability. Unless otherwise set forth in this chapter, blasting agents, excluding water gels, shall be transported, stored, and used in the same manner as explosives.

Saf-C 1629.02 Fixed Location Mixing.

(a) All fuel oil storage magazines shall be separated from the mixing plant and situated in such a manner that in case of tank rupture, the oil shall drain away from the mixing plant building.

(b) Buildings or other storage magazines used for mixing blasting agents shall be located, with respect to inhabited buildings, passenger railroads, and public highways, in accordance with the table of distances cited in Table 1640.2.

(c) All internal-combustion engines used for power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so that any spark emission cannot be a hazard to any materials in or adjacent to the plant.

(d) In determining the distance separating highways, railroads, and inhabited buildings from potential explosions, as prescribed in Saf-C 1640, the sum of all masses which might propagate from either individual or combined donor masses shall be included. However, when the ammonium nitrate is included, only 50 percent of its weight shall be used because of its reduced blast effects.

Saf-C 1629.03 Building Requirements.

(a) The building or other facility used for mixing blasting agents, shall be well ventilated.

(b) Heating units which do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside the mixing building.

(c) Buildings used for the mixing of blasting agents shall conform to the requirements of this section.

(d) Buildings shall be of noncombustible construction or sheet metal on wood studs.

(e) Floors in a mixing plant shall be of concrete or of other nonabsorbent materials.

13937, (eff 4-24-24)

Saf-C 1629.04 Mixer Design. The design of the mixer shall minimize the possibility of frictional heating, compaction, and especially confinement. All bearings and drive assemblies shall be mounted outside the mixer and protected against the accumulation of dust. All surfaces shall be accessible for cleaning.

Saf-C 1629.05 Mixing and Packaging Equipment. Mixing and packaging equipment shall be constructed of materials compatible with the fuel-ammonium nitrate composition.

Saf-C 1629.06 Fire Precautions. Suitable means shall be provided to prevent the flow of fuel oil to the mixer in case of fire. In gravity flow systems, an automatic spring-loaded shutoff valve with fusible link shall be installed.

Saf-C 1629.07 Blasting Agent Compositions.

(a) 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 formulation.

(b) Oxidizers of small particle size, such as crushed ammonium nitrate prills or fines, might be more sensitive than coarser products and shall, therefore, be handled with greater care.

(c) No hydrocarbon liquid fuel with flash point lower than that of ~~No.~~ number 2 diesel fuel oil, 125 F minimum or legal, shall be used.

(d) Crude oil and crankcase oil shall not be used as an explosive component because they might contain light ends that offer increased vapor-explosions hazards or gritty particles that tend to sensitize the resulting blasting agent.

(e) Metal powders such as aluminum shall be kept dry and shall be stored in containers or bins which are moisture-resistant or weather-tight.

(f) Solid fuels shall be used in such manner as to minimize dust explosion hazards.

(~~fg~~) Peroxides and chlorates shall not be used as an explosive component.

Saf-C 1629.08 Electrical Requirements. All electrical switches, controls, motors, and lights located in mixing rooms shall conform to the requirements in the National Electrical Code (NEC), NFPA 70, published by the National Fire Protection Association (NFPA), as codified pursuant to RSA 155-A, Division 2 locations, 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.

Saf-C 1629.09 Safety Precautions.

(a) Floors shall be constructed so as to eliminate floor drains and piping into which molten materials could flow and be confined in case of fire.

(b) Explosives shall not be stored inside of or within 50 feet of any building or storage magazine used for the mixing of blasting agents.

(c) Smoking, matches, open flames, spark-producing devices, and firearms, except firearms carried by guards when authorized by the authority having jurisdiction or those persons authorized by the director, shall not be permitted inside of or within 50 feet of any building or facility used for the mixing of blasting agents.

13937, (eff 4-24-24)

Saf-C 1629.10 Cleaning.

(a) The entire mixing and packaging plant shall be cleaned thoroughly, as often as is necessary to prevent excessive accumulation of dust.

(b) The land surrounding the mixing plant shall be kept clear of brush, dried grass, leaves, and other materials for a distance of at least 25 feet.

(c) The floors and equipment of the mixing and packaging room shall be cleaned thoroughly, as often as is necessary to prevent accumulation of oxidizers of fuels and other sensitizers. Empty ammonium nitrate bags shall be disposed of daily.

Saf-C 1629.11 Welding.

(a) No welding shall be permitted or open flames used in or around the mixing or storage area of the plant unless the equipment or area has been completely washed down and all oxidizer material removed.

(b) Before welding or making repairs to hollow shafts, all oxidizer material shall be removed from the outside and inside of the shaft and the shaft vented with a minimum 1/2 inch diameter opening.

PART Saf-C 1630 BULK DELIVERY AND MIXING VEHICLES FOR BLASTING AGENTS

Saf-C 1630.01 Previous Provisions. The provisions of Saf-C 1627 and Saf-C 1628 shall apply to off-highway private operations as well as to all public highway movements.

Saf-C 1630.02 Construction of Bulk Vehicle Body.

(a) A bulk vehicle body for delivering and mixing blasting agents shall conform to the following:

(1) The body shall be constructed of noncombustible materials;

(2) Vehicles used to transport bulk premixed blasting agents on public highways shall have closed bodies;

(3) All moving parts of the mixing system shall be so designed as to prevent a heat buildup; and

(4) Shafts or axles which contact the product shall have outboard bearings with one inch minimum clearance between the bearings and the outside of the product container with particular attention given to the clearance on all moving parts.

(b) A bulk delivery vehicle shall be strong enough to carry the load without difficulty and be in good mechanical condition.

Saf-C 1630.03 Operations of Bulk Vehicle Body.

(a) Operation of bulk delivery vehicles shall conform to the requirements of this section.

(b) The hauling of ammonium nitrate prills or blasting agents over public highways shall be in compliance with existing local, state, and federal regulation, including placarding requirements as specified in Saf-C 1621.02.

13937, (eff 4-24-24)

(c) Vehicles transporting blasting agents shall only be driven by and be in charge of a properly licensed driver, at least 21 years of age, who is in compliance with Saf-C 601.03. Such a person shall also be familiar with the vehicle and traffic laws of the state of New Hampshire.

(d) The operator shall be trained in the safe operation of the vehicle together with its mixing, conveying, and related equipment. The operator shall also be familiar with procedures for handling an emergency situation.

(e) No person shall ride upon, drive, load, or unload a vehicle containing blasting agents while smoking or under the influence of intoxicants, narcotics, or other dangerous drugs.

(f) Vehicles transporting blasting agents shall be in safe operating condition at all times.

(g) The hauling of either blasting caps or other explosives, but not both, shall be permitted on bulk trucks provided that a special wood or nonferrous-lined container is installed for the explosives. Such blasting caps shall be in shipping containers constructed as outlined in section Saf-C 1620.05.

(h) No person shall smoke, carry matches or any flame-producing device, or carry any firearms while in or about bulk vehicles effecting the mixing transfer or down-the-hole loading of blasting agents at or near the blasting site.

(i) Caution shall be exercised in the movement of the vehicle in the blasting area to avoid driving the vehicle over or dragging hoses over firing lines, cap wires, or explosive materials. The driver, in moving the vehicle, shall obtain the assistance of any second person to guide their movements.

(j) No in-transit mixing of materials shall be performed.

Saf-C 1630.04 Static-Sensitive Systems.

(a) Pneumatic loading from bulk delivery vehicles into blast holes primed with electric blasting caps or other static-sensitive systems shall conform to the requirements of this section.

(b) A positive grounding device shall be used to prevent the accumulation of static electricity.

(c) A semiconductive discharge hose shall be used that has a resistance range that will prevent conduction of stray currents, but which is also conductive enough to bleed off static buildup.

(d) A person familiar with such systems shall evaluate all systems to determine if they will adequately dissipate static electricity under potential field conditions.

Saf-C 1630.05 Repairs to Bulk Delivery Vehicles.

(a) Repairs to bulk vehicles shall conform to the requirements of this section.

(b) No welding or open flames shall be used on or around any part of the delivery equipment unless it has been completely washed down and all oxidizer materials removed.

(c) Before welding or making repairs to hollow shafts, the shafts shall be thoroughly cleaned inside and out and vented with a minimum 1/2 inch diameter opening.

PART Saf-C 1631 BULK STORAGE BINS FOR BLASTING AGENTS

Saf-C 1631.01 Construction of Bins.

13937, (eff 4-24-24)

(a) Bulk storage bins shall be a Type 5 storage magazine as defined in Saf-C 1614 and shall be waterproof.

(b) The bin, including supports, shall be constructed of compatible materials, and adequately supported and braced to withstand the combination of all loads, including impact forces arising from product movement within the bin and accidental vehicle contact with the support legs.

Saf-C 1631.02 Gates and Hatches. The bin discharge gate shall be designed to provide a closure tight enough to prevent leakage of the stored product. Provision shall also be made so that the gate can be locked. Bin loading, manways, or access hatches shall be hinged or otherwise attached to the bin and be designed to permit locking.

Saf-C 1631.03 Conveyors. Any electrically driven conveyors for loading or unloading bins shall conform to the requirements of the National Electrical Code (NEC), NFPA 70, published by the National Fire Protection Association (NFPA), as codified pursuant to RSA 155-A. They shall be designed to minimize damage from corrosion.

Saf-C 1631.04 Location of Bins.

(a) Bins containing blasting agents shall be located, with respect to inhabited buildings, passenger railroads, and public highways, in accordance with Table 1640.2.

(b) Bins containing blasting agents shall be located, with respect to other blasting agent storage and explosive storage, in conformity with the table of separation distances of ammonium nitrate and blasting agents from explosives found in Saf-C 1640.01 or Saf-C 1640.03, or blasting agents, found in Saf-C 1640.02.

(c) Bins containing ammonium nitrate shall be separated from blasting agent storage and explosives storage in conformity with the table of separation distances of ammonium nitrate and blasting agents from explosives found in Saf-C 1640.01 or Saf-C 1640.03, or blasting agents found in Saf-C 1640.02.

Saf-C 1631.05 Housekeeping. Good housekeeping practices shall be maintained around any bin containing ammonium nitrate or blasting agents. This includes keeping weeds and other combustible materials cleared within 25 feet of such bin. Accumulation of spilled product on the ground shall be prevented.

PART Saf-C 1632 STORAGE OF BLASTING AGENT AND SUPPLIES

Saf-C 1632.01 Storage of Blasting Agents.

(a) Blasting agents or ammonium nitrate, when stored in conjunction with explosives shall be stored in the manner as set forth in Saf-C 1609 for explosives. The mass of blasting agents and one-half the mass of ammonium nitrate shall be included when computing the total quantity of explosive materials for determining distance requirements.

(b) Blasting agents, when stored entirely separate from explosives, shall be in a Type 5 magazine or a magazine of higher classification.

Saf-C 1632.02 Storage Magazines. Storage magazines in which blasting agents are stored 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.

Saf-C 1632.03 Temporary Storage in Trailers.

13937, (eff 4-24-24)

(a) Semitrailer or full trailer vans used for highway or on-site transportation of blasting agents shall be satisfactory for temporarily storing these materials provided they are:

- (1) Located in accordance with the table of distances found in Saf-C 1640.1 with respect to inhabited buildings, passenger railways, and public highways; and
- (2) Prearranged according to ~~T~~table 1640.2 regarding separation distances of ammonium nitrate and blasting agents from explosives or blasting agents with respect to one another.

(b) Trailers shall be provided with substantial means for locking, and the trailer doors shall be kept locked, except during the time of placement and removal of stocks of blasting agents.

Saf-C 1632.04 Storage of Ammonium Nitrate. Piles of ammonium nitrate and warehouses containing ammonium nitrate shall be separated by at least 100 feet from readily combustible fuels.

Saf-C 1632.05 Caked Oxidizers. Caked oxidizers, either in bags or in bulk, shall not be loosened by blasting.

Saf-C 1632.06 Supervision of Storage Magazines. Every magazine used for the storage of blasting agents shall be under the supervision of a person who shall be not less than 21 years of age and who is knowledgeable with the laws and rules pertaining to the storage of explosives in storage magazines.

PART Saf-C 1633 TRANSPORTATION OF PACKAGED BLASTING AGENTS

Saf-C 1633.01 Drivers. A vehicle transporting blasting agents shall only be driven by a person at least 21 years of age who is in possession of a valid motor vehicle operator's license. Such person shall also be familiar with the vehicle and traffic laws of the state of New Hampshire.

Saf-C 1633.02 Smoking and Other Prohibitions.

(a) No matches, firearms, acids, or other corrosive liquids shall be carried in the bed or body of any vehicle containing blasting agents.

(b) No person shall ride upon, load, or unload any vehicle containing blasting agents while smoking, or under the influence of intoxicants, narcotics, or other dangerous drugs.

(c) No person shall transport or carry any blasting agents upon any public vehicle carrying passengers for hire.

Saf-C 1633.03 Operating Condition of Vehicles. Vehicles transporting blasting agents shall be in safe operating condition at all times.

Saf-C 1633.04 Transport on Public Highways. Vehicles used for transporting blasting agents on public highways shall be placarded in accordance with Saf-C 1621.02.

PART Saf-C 1634 WATER GELS

Saf-C 1634.01 Special Provisions. Unless otherwise set forth in this chapter, water gels shall be transported, stored, and used in the same manner as explosives or blasting agents in accordance with the classification of the product.

Saf-C 1634.02 Classification-Explosive.

13937, (eff 4-24-24)

(a) Water gels containing a substance in itself classified as an explosive shall be classified as an explosive and shall be manufactured, transported, stored, and used in the same manner specified for explosives in these rules.

(b) Water gels containing no substance in itself classified as an explosive, but which can be detonated by a number 8 test blasting cap, shall be classified as an explosive and manufactured, transported, stored, and used in the same manner specified for explosives in these rules.

Saf-C 1634.03 Classification-Blasting Agent. Water gels containing no substance in itself classified as an explosive and which are not cap-sensitive as defined in Saf-C 1602.06, shall be classified as blasting agents and manufactured, transported, stored, and used in the same manner specified for blasting agents in these rules.

PART Saf-C 1635 FIXED LOCATION MIXING OF WATER GELS

Saf-C 1635.01 Location of Buildings.

(a) Buildings or other storage magazines used for mixing water gels shall be located with respect to inhabited buildings, passenger railroads, and public highways, in accordance with ~~the table of distance cited in~~ Saf-C 1640-1.

(b) In determining the distances separating highways, railroads, and inhabited buildings from potential explosions, as prescribed ~~in the table of distances~~ in accordance with Saf-C 1640, the sum of all masses that might propagate from either individual or combined donor masses shall be included. However, when ammonium nitrate must be included, only one-half of its weight shall be calculated because of its reduced blast effects.

Saf-C 1635.02 Construction of Buildings.

(a) Buildings used for the mixing of water gels shall conform to the requirements of this section.

(b) Buildings shall be of noncombustible construction or sheet metal on wood studs.

(c) Floors in a mixing plant shall be made of concrete or other nonabsorbent materials.

(d) Where fuel oil is used, all fuel oil storage magazines shall be separated from the mixing plant and located in such a manner that in case of a tank rupture, the oil shall drain away from the mixing areas.

(e) The building shall be well ventilated.

(f) Heating units that do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside of the mixing building.

(g) All internal-combustion engines used for power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so any spark emission cannot be a hazard to any materials in or adjacent to the plant.

Saf-C 1635.03 Ingredients Classified as Explosives. Ingredients in themselves classified as explosives shall be stored in conformity with Saf-C 1609.

13937, (eff 4-24-24)

Saf-C 1635.04 Nitrate-Water Solutions. Nitrate-water solutions may be stored in tank cars, tank trucks, or fixed tanks without quantity or distance limitations. Spills or leaks which might contaminate combustible materials shall be cleaned up immediately.

Saf-C 1635.05 Metal Powders. Metal powders such as aluminum shall be kept dry and shall be stored in containers or bins which are moisture-resistant or weather-tight. Solid fuels shall be used in such manner as to minimize dust explosion hazards.

Saf-C 1635.06 Prohibitions.

- (a) Ingredients shall not be stored with incompatible materials.
- (b) Peroxides and chlorates shall not be used as an explosive component.

Saf-C 1635.07 Design of Mixing Equipment.

(a) The design of the processing equipment, including mixing and conveying equipment, shall be compatible with the relative sensitivity of the materials being handled. Equipment shall be designed to minimize the possibility of frictional heating, compaction, over-loading, and confinement.

(b) Both equipment and handling procedures shall be designed to prevent the introduction of foreign objects or materials.

(c) Mixers, pumps, valves, and related equipment shall be designed to permit regular and periodic flushing, cleaning, dismantling, and inspection.

Saf-C 1635.08 Electrical Requirements.

(a) All electrical equipment including wiring, switches, controls, motors, and lights shall conform to the requirements of the National Electrical Code (NEC), NFPA 70, published by the National Fire Protection Association (NFPA), as codified pursuant to RSA 155-A.

(b) All electric motors and generators shall be provided with overload protection devices. Electrical generators, motors, proportioning devices, and all other electrical enclosures shall be electrically bonded. The grounding conductor to all such electrical equipment shall be effectively bonded to the service-entrance ground connection and to all equipment ground connections in a manner so as to provide a continuous path to ground.

Saf-C 1635.09 Mixing Facilities.

(a) Mixing facilities shall comply with the fire prevention requirements of this section.

(b) The mixing, loading, and ingredient transfer areas where residues or spilled materials might accumulate shall be cleaned after each use. A cleaning and collection system for dangerous residues shall be provided.

(c) A daily visual inspection shall be made of the mixing, conveying, and electrical equipment to establish that such equipment is in good operating condition. A regularly scheduled program of systematic-maintenance shall be conducted. All inspections shall be documented in writing and shall list any repairs, modifications, or part replacements conducted on the equipment. All inspection records shall be kept for one year from the date of inspection.

13937, (eff 4-24-24)

(d) Heaters which are not dependent on the combustion process within the heating unit may be used within the confines of processing buildings or compartments, if provided with temperature and safety controls and located away from combustible materials and the finished product.

PART Saf-C 1636 BULK DELIVERY AND MIXING VEHICLES FOR WATER GELS

Saf-C 1636.01 Design of Vehicles. Vehicles used over public highways for bulk transportation of water gels or of ingredients classified as dangerous commodities, shall be in compliance with all applicable federal regulations.

Saf-C 1636.02 Electrical Requirements. When electric power is supplied by a self-contained motor generator located on a vehicle, the generator shall be located in a separate place from where the water gel is discharged.

Saf-C 1636.03 Positive Action Brake for Parking. A positive action parking brake which will set the wheel brakes on at least one axle shall be provided on vehicles equipped with air brakes, and shall be used during bulk delivery operations. Wheel chocks shall supplement parking brakes whenever conditions require, such as unlevel ground.

Saf-C 1636.04 Operation of Vehicles.

(a) Operation of bulk delivery and mixing vehicles shall comply with the requirements of this section.

(b) The hauling of water gels explosive or blasting agents over public highways is subject to existing local, state, and federal regulations. These shall include the placarding requirements in accordance with Saf-C 1621.02.

(c) The carrier shall ensure that the operator is trained in the safe operation of the vehicle together with its mixing, conveying, and related equipment. The operator shall be familiar with the commodities being delivered and the general procedure for handling conditions that constitute an immediate hazard to the operator, vehicle contents, or nearby persons.

(d) Unless otherwise permitted by the U.S. Department of Transportation, the hauling of either detonators or other explosives, but not both, shall be permitted on bulk trucks, provided that a special wood or nonferrous-lined container is installed for the explosives. Such detonators shall be placed in shipping containers constructed as outlined in Saf-C 1620.05.

Saf-C 1636.05 Prohibitions.

(a) No person shall smoke, carry matches or any flame-producing device, or carry any firearms while in or about bulk vehicles effecting the mixing, transfer, or down-the-hole loading of water gels at or near the blasting site.

(b) No in-transit mixing of materials shall be performed.

Saf-C 1636.06 Caution. Caution shall be exercised in the movement of the vehicle in the blasting area to avoid driving the vehicle over or dragging hoses over firing lines, cap wires, or explosive materials. The driver, in moving the vehicle, shall obtain the assistance of any second person to guide their movements.

Saf-C 1636.07 Loading Boreholes. The location for water gel or ingredient transfer from a support vehicle into the borehole loading vehicle shall be away from the blast hole site when the boreholes are loaded or in the process of being loaded.

13937, (eff 4-24-24)

PART Saf-C 1637 STORAGE OF WATER GELS

Saf-C 1637.01 Storage of Water Gels Classified as Explosives.

(a) Water gels classified as explosives shall be stored as specified in Saf-C 1609.

(b) When tests on specific formulations of water gels result in U.S. Department of Transportation classification as low explosives, bullet-resistant magazines shall not be required.

Saf-C 1637.02 Temporary Storage in Trailers.

(a) Semi-trailer or full-trailer vans and tanks used for highway or on-site transportation of water gels shall be acceptable for temporarily storing those materials provided that they are located in accordance with ~~the table of distances~~ Saf-C 1640 for storage of explosives with respect to inhabited buildings, passenger railways, and public highways and according to the table of separation distances of ammonium nitrate and blasting agents from explosives to blasting agents with respect to one another.

(b) Trailers shall be provided with substantial means for locking, and the trailer doors, hatches, or valves shall be kept locked except during the time of placement and removal of stocks of blasting agents. Locking mechanisms shall be as specified for Type 5 storage magazines.

PART Saf-C 1638 BLACK POWDER PROPELLANTS

Saf-C 1638.01 Transport of Black Powder Propellants. Transportation of black powder propellants shall conform with Saf-C 1620 and all applicable federal regulations.

Saf-C 1638.02 Storage of Black Powder Propellants. All black powder propellants shall be stored in shipping containers meeting all applicable federal regulations.

Saf-C 1638.03 Quantity Restrictions.

(a) Black powder propellants intended for personal use in quantity not to exceed 5 pounds, may be stored in original containers in residences in a wooden box or cabinet having walls of at least one inch nominal thickness.

(b) Not more than one pound of black powder propellant shall be displayed in commercial establishments.

(c) Commercial stocks of black powder propellants in a building, in quantities not to exceed 50 pounds, shall be stored in a Type 4 indoor storage magazine constructed as specified in Saf-C 1613.

(d) Quantities of black powder propellant in excess of 50 pounds shall be stored in a Type 4 outdoor storage magazine constructed as specified in Saf-C 1613.

(e) If smokeless propellants are stored in the same storage magazine with black powder propellants, the total quantity shall not exceed that permitted for black powder propellants.

PART Saf-C 1639 SEPARATION DISTANCES OF AMMONIUM NITRATE AND BLASTING AGENTS FROM EXPLOSIVES OR BLASTING AGENTS

Saf-C 1639.01 Applicability.

13937, (eff 4-24-24)

(a) The necessary separation distances to prevent explosion of ammonium nitrate based blasting agents by propagation from nearby stores of high explosives or blasting agents referred to in the table as the "donor" are set forth in Saf-C 1640.02.

(b) Ammonium nitrate, by itself, shall not be considered a donor when applying this table. Ammonium nitrate, ammonium nitrate fuel oil, or combinations thereof shall be considered acceptors. If stores of ammonium nitrate are located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of the ammonium nitrate shall be included in the mass of the donor. These distances shall apply to the separation of stores only. The table of distances set forth in Saf-C 1640 shall be used in determining separation distances from inhabited buildings, passenger railways and public highways.

Saf-C 1639.02 Ammonium Nitrate.

(a) When the ammonium nitrate or blasting agent or both are not barricaded, the distances shown in the table shall be multiplied by 6. 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 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 tables of distances set forth in Saf-C 1640 shall not be required.

(b) The distances in ~~the table~~ 1640.2 shall apply to ammonium nitrate that passes the insensitivity test prescribed in the definition of ammonium nitrate fertilizer, promulgated by the national plant food institute. Ammonium nitrate failing to pass the test shall be stored in accordance with Table 1640.3 below.

Saf-C 1639.03 Nitro Carbo Nitrates. These distances apply to nitro carbo nitrates and blasting agents which pass the insensitivity test prescribed in the U.S. Department of Transportation regulations, 49 CFR part 173.

Saf-C 1639.04 Barricades. Earth, sand dikes, or enclosures filled with the prescribed thickness of at least 3 feet of earth or sand shall be acceptable artificial barricades. Natural barricades such as hills or timber of sufficient density that the surrounding exposures requiring protection cannot be seen from the "donor" when the trees are bare of leaves shall also be acceptable.

PART Saf-C 1640 TABLES OF DISTANCES

Saf-C 1640.01 Storage of Low Explosives. Table 1640.1, cited below, shall set forth the distances for storage of low explosives:

Table 1640.1 Distances for Storage of Low Explosives

Pounds Over	Pounds Not Over	Inhabited Buildings Distance (Feet)	Public Rail Road & Highway Distance (Feet)	Above ground Magazine Separation Distance (Feet)
0	1,000	75	75	50
1,000	5,000	115	115	75
5,000	10,000	150	150	100
10,000	20,000	190	190	125
20,000	30,000	215	215	145
30,000	40,000	235	235	155
40,000	50,000	250	250	165
50,000	60,000	260	260	175

13937, (eff 4-24-24)

60,000	70,000	270	270	185
70,000	80,000	280	280	190
80,000	90,000	295	295	195
90,000	100,000	300	300	200
100,000	200,000	375	375	250
200,000	300,000	450	450	300

Saf-C 1640.02 Separation Distances of Ammonium Nitrate and Blasting Agents. Table 1640.2, cited below, shall set forth recommended separation distances of ammonium nitrate and blasting agents from explosives or blasting agents:

Table 1640.2 Distances of Ammonium Nitrate and Blasting Agents

Pounds Over	Donor Weight Pounds Not Over	Ammonium Nitrate/Blasting Agent	Minimum Separation Distance of Receptor When Barricaded (ft)	Minimum Thickness of Artificial Barricade (in.)
0	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

13937, (eff 4-24-24)

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

Saf-C 1640.03 Storage of High Explosive Materials: Class A. Table 1640.3, cited below, shall set forth the distances for storage of high explosive materials:

Table 1640.3 Distances for Storage of High Explosives

HIGH EXPLOSIVES			DISTANACE IN FEET WHEN STORAGE IS BARRICADED		
2	5	70	30	30	6
5	10	90	35	35	8
10	20	110	45	45	10
20	30	125	50	50	11
30	40	140	55	55	12
40	50	150	60	60	14
50	75	170	70	70	15
75	100	190	75	75	16
100	125	200	80	80	18
125	150	215	85	85	19
150	200	235	95	95	21
200	250	255	105	105	23
250	300	270	110	110	24
300	400	295	120	120	27
400	500	320	130	130	29
500	600	340	135	135	31
600	700	355	145	145	32
700	800	375	150	150	33
800	900	390	155	155	35
900	1,000	400	160	160	36
1,000	1,200	425	170	165	39
1,200	1,400	450	180	170	41
1,400	1,600	470	190	175	43
1,600	1,800	490	195	180	44
1,800	2,000	505	205	185	45
2,000	2,500	545	220	190	49
2,500	3,000	580	235	195	52
3,000	4,000	635	255	210	58
4,000	5,000	685	275	225	61
5,000	6,000	730	295	235	65
6,000	7,000	770	310	245	68
7,000	8,000	800	320	250	72
8,000	9,000	835	335	255	75

13937, (eff 4-24-24)

9,000	10,000	865	345	260	78
10,000	12,000	875	370	270	82
12,000	14,000	885	380	275	87
14,000	16,000	900	405	280	90
16,000	18,000	940	420	285	94
18,000	20,000	975	435	290	98
20,000	25,000	1,055	470	315	105
25,000	30,000	1,130	500	340	112
30,000	35,000	1,205	525	360	119
35,000	40,000	1,275	550	380	124
40,000	45,000	1,340	570	400	129

APPENDIX I

Rule	Material Incorporated	How Material May be Obtained
Saf-C 1615.01(b)	American Table of Distances, June 1991 edition	Institute of Makers of Explosives 1120 19 th Street NW, Suite 310 Washington, DC 20036-3605 Telephone: (202) 429-9280 Fax: (202) 293-2420 \$15.00, excluding S&H
Saf-C 1622.03(b); 1627.03; 1628.04	Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives, NFPA 498, (2013 Edition)	National Fire Protection Association One Batterymarch Park Quincy, MA 02269 Phone: 1-800-344-3555 The document is available for free viewing at: https://www.nfpa.org/codes-and-standards/4/9/8/498 The document is available for purchase at: https://www.nfpa.org/product/nfpa-498-standard/p0498code?Edition=2013&Language=English&Format=PDF&type=physical List Cost: \$149.00 NFPA Member Cost: \$134.10

APPENDIX II

RULE NUMBER	STATUTE IMPLEMENTED
Saf-C 1601.01	RSA 158:9-a
Saf-C 1601.02	RSA 158:9-h
Saf-C 1602	RSA 541-A:1, XV

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Saf-C 1603.01	RSA 158:9-a, VI
Saf-C 1603.02 – 1603.04	RSA 158:9-f, I(a)
Saf-C 1604.01-1604.03	RSA 158:9-h
Saf-C 1604.04	RSA 541-A:16, I(b)(1); RSA 158:9-d
Saf-C 1604.05	RSA 158:9-h
Saf-C 1605.01(a)	RSA 158:9-b, I, I-a, & IV
Saf-C 1605.01(b)	RSA 158:9-b, II
Saf-C 1605.01(c)	RSA 158:9-b, III
Saf-C 1605.02 –1605.08	RSA 158:9-b
Saf-C 1606.01(a)	RSA 158:9-b & RSA 158:9-h
Saf-C 1606.01(b) & (c)	RSA 541-A:31
Saf-C 1606.02 (a)-(b)	RSA 158:9-b, RSA 158:9-h & RSA 158:9-e, IV
Saf-C 1606.02(c)	RSA 541-A:31, III
Saf-C 1606.03	RSA 541-A:16, I(b)(2)
Saf-C 1607 – 1620	RSA 158:9-f, I
Saf-C 1621.01	RSA 265:115
Saf-C 1621.02	RSA 158:16
Saf-C 1621.03	RSA 265:115, III(a)
Saf-C 1621.04	RSA 265:115, III(b)
Saf-C 1622.01 & 1622.02	RSA 21-P:17, I(b)
Saf-C 1622.03	RSA 265:115, V
Saf-C 1622.04 & 1622.05	RSA 21-P:17, I(b)
Saf-C 1622.06	RSA 158:9-f, I(a)
Saf-C 1623 - 1640	RSA 158:9-f, I(a)