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MEMORANDUM

TO: Committee on Legal Services

FROM: Thomas Morris, Office of Legislative Legal Services

DATE: November 4, 2016

SUBJECT: Rules of the Director, Division of Oil and Public Safety, Department of Labor and Employment, concerning underground storage tanks and aboveground storage tanks, 7 CCR 1101-14 (LLS Docket No. 160373; SOS Tracking No. 2016-00307).¹

Summary of Problems Identified and Recommendations

Section 24-4-103 (12.5), C.R.S., requires that a rule must comply with several requirements to incorporate a standard by reference. But while Rule 1-7 purports to contain an exhaustive list of the standards that are incorporated by reference in the Director's rules, numerous other rules refer to standards that are not listed in Rule 1-7. **Because these rules conflict with the statute, we recommend that the definitions of "Fire resistant tank" and "Protected tank" in Rule 1-5 and Rules 2-1-1 (d) (2) (A); 2-1-1 (d) (2) (B); 2-1-1 (d) (2) (D); 2-2-1 (a) (1), including Note (A) and (B); 2-2-1 (a) (2) (iv) Note; 2-2-1 (a) (2) (iv) (A), (B), (C), and (D); 2-2-1 (a) (3) Note; 2-2-1 (a) (3) (A), (B), (C), and (D); 2-2-1 (b) (1) Note; 2-2-1 (b) (1) (A) and (B); 2-2-1 (b) (2) (iv)**

¹ Under § 24-4-103, C.R.S., the Office of Legislative Legal Services reviews rules to determine whether they are within the promulgating agency's rule-making authority. Under § 24-4-103 (8)(c)(I), C.R.S., the rules discussed in this memorandum will expire on May 15, 2017, unless the General Assembly acts by bill to postpone such expiration.

Note; 2-2-1 (b) (2) (iv) (A), (B), (C), (D), and (E); 2-3-4-1 (a) (2) Note; 2-3-6-1 (c) Note; 2-5-2 (d); 2-5-3 (b) (1) (A); 2-5-3 (b) (1) (C); 2-5-3 (b) (1) (D); 2-5-3 (d) (1) (v); 2-5-3 (d) (2) (iii); 3-2-1 (a) (1) (iii); 3-2-1 (c) (2) (i); 3-2-1 (d) (2); 3-2-1 (i) (4); 3-2-2-1 (c) and Table 1; 3-2-2-2 (d) (1) (i) and Table 4; 3-2-2-5 (f); 3-2-3 (c) (1); 3-2-3 (c) (3); 3-2-3 (c) (4); 3-3-1 (d) (6) of the rules of the Director concerning underground storage tanks and aboveground storage tanks not be extended.

Section 24-4-103 (12.5)(a)(II) and (12.5)(a)(IV), C.R.S., require that, to incorporate a standard by reference, a rule must identify (1) the address of the agency where the standard is available for public inspection, (2) where copies of the standard are available for a reasonable charge from the agency adopting the rule, and (3) where copies are available from the organization originally issuing the standard. But the Director did not address these requirements in its incorporation by reference rule regarding the inspection of incorporated material. **Because the Director failed to promulgate rules addressing these incorporation by reference requirements, we recommend that Rule 1-8 of the rules of the Director concerning underground storage tanks and aboveground storage tanks not be extended.**

Section 24-4-103 (12.5)(a)(II), C.R.S., requires that, to incorporate a standard by reference, a rule must fully identify the standard by date. But the Director did not include a date for Standards 653 and 2000 of the American Petroleum Institute in Rule 1-7. **Because this rule conflicts with the statute, we recommend that Rule 1-7 of the rules of the Director concerning underground storage tanks and aboveground storage tanks not be extended.**

Analysis

1. Rules that refer to standards that are not listed in the incorporation by reference rule conflict with the statute.

To incorporate by reference all or any part of a standard that has been published by a nationally recognized organization, a rule must comply with the incorporation by reference statute. Section 24-4-103 (12.5)(a), C.R.S., states in relevant part:

24-4-103. Rule-making - procedure - definitions - repeal.
(12.5) (a) **A rule may incorporate by reference all or any part of a code, standard, guideline, or rule that has been adopted by an agency of the United States, this state, or another state, or adopted or published by a nationally recognized organization or association, if:**

(II) **The reference fully identifies the incorporated code, standard, guideline, or rule by citation and date, identifies the address of the agency where the code, standard, guideline, or rule is available for public inspection, and states that the rule does not include any later amendments or editions of the code, standard, guideline, or rule;**

(IV) **The rule states where copies of the code, standard, guideline, or rule are available for a reasonable charge from the agency adopting the rule and where copies are available from the agency of the United States, this state, another state, or the organization or association originally issuing the code, standard, guideline, or rule; and [Emphases added.]**

Rule 1-7 (attached as **Addendum A**) purports to contain an exhaustive list of the standards that are incorporated by reference in the Director's rules:

Section 1-7 Codes, Documents or Standards incorporated by reference

The following codes, documents or standards are incorporated by reference: ...

Rules 1-8 and 1-9 attempt to comply with the statutory requirements for incorporation by reference and thereby incorporate the standards listed in Rule 1-7 by reference:

Section 1-8 Inspection of incorporated codes

Interested parties may inspect the referenced incorporated materials by contacting the Director.

Section 1-9 Later amendments not included

This rule does not include later amendments to or editions of the incorporated material.

But numerous other rules (which are attached as **Addendum B**) refer to standards that are not listed in Rule 1-7. Because the rules listed in Addendum B attempt to incorporate by reference various standards but none of these standards are listed in Rule 1-7—and thus are not subject to Rules 1-8 or 1-9—the rules listed in Addendum B² conflict with the incorporation by reference statute, §24-4-103 (12.5)(a), C.R.S., and should not be extended.

² Those rules are the definitions of "Fire resistant tank" and "Protected tank" in Rule 1-5 and Rules 2-1-1 (d) (2) (A); 2-1-1 (d) (2) (B); 2-1-1 (d) (2) (D); 2-2-1 (a) (1), including Note (A) and (B); 2-2-1 (a) (2) (iv) Note; 2-2-1 (a) (2) (iv) (A), (B), (C), and (D); 2-2-1 (a) (3) Note; 2-2-1 (a) (3) (A), (B), (C), and (D); 2-2-1 (b) (1) Note; 2-2-1 (b) (1) (A) and (B); 2-2-1 (b) (2) (iv) Note; 2-2-1 (b) (2) (iv) (A), (B), (C), (D), and (E); 2-3-4-1 (a) (2) Note; 2-3-6-1 (c) Note; 2-5-2 (d); 2-5-3 (b) (1) (A); 2-5-3 (b) (1) (C); 2-5-3 (b) (1) (D); 2-5-3 (d) (1) (v); 2-5-3 (d) (2) (iii); 3-2-1 (a) (1) (iii); 3-2-1 (c) (2) (i); 3-2-1 (d) (2); 3-2-1 (i) (4); 3-2-2-1 (c) and Table 1; 3-2-2-2 (d) (1) (i) and Table 4; 3-2-2-5 (f); 3-2-3 (c) (1); 3-2-3 (c) (3); 3-2-3 (c) (4); 3-3-1 (d) (6).

2. Rule 1-8 fails to specify where the standards are available for copying and inspection.

As noted above, §24-4-103 (12.5)(a)(II), C.R.S., requires that rules that incorporate material by reference must identify the "address of the agency where the code, standard, guideline, or rule is available for public inspection", and §24-4-103 (12.5)(a)(IV), C.R.S., requires that the rule must state "where copies of the code, standard, guideline, or rule are available for a reasonable charge from the agency adopting the rule and where copies are available from the agency of the United States, this state, another state, or the organization or association originally issuing the . . . standard".

None of this information is included in the Director's rules. The rule that probably should include this information is Rule 1-8, which states:

Section 1-8 Inspection of incorporated codes

Interested parties may inspect the referenced incorporated materials by contacting the Director.

Because the Director failed to promulgate rules addressing these incorporation by reference requirements, we recommend that Rule 1-8 of the rules of the Director not be extended.

3. Rule 1-7 fails to comply with the statute by not including a date for Standards 653 and 2000 of the American Petroleum Institute.

Section 24-4-103 (12.5)(a)(II), C.R.S. (quoted above on page 2), requires that, to incorporate a standard by reference, a rule must fully identify the standard by date. But Rule 1-7 (located on page 1 of **Addendum A**) does not include a date for Standards 653 and 2000 of the American Petroleum Institute:

American Petroleum Institute (API)

....

Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction

Standard No. 2000, Venting Atmospheric and Low-Pressure Storage Tanks

Because Rule 1-7 fails to comply with the statutory requirement to fully identify incorporated material by date, the rule should not be extended.

4. The Director's grants of rule-making authority do not create any exemptions from the incorporation by reference statute.

The General Assembly has made both broad and specific grants of rule-making authority to the Director (a selection of the most relevant grants are attached as **Addendum C**). None of the grants of rule-making authority give the Director any authority to contravene the express terms of the incorporation by reference statute.

Recommendation

We therefore recommend that the definitions of "Fire resistant tank" and "Protected tank" in Rule 1-5 and Rules 2-1-1 (d) (2) (A); 2-1-1 (d) (2) (B); 2-1-1 (d) (2) (D); 2-2-1 (a) (1), including Note (A) and (B); 2-2-1 (a) (2) (iv) Note; 2-2-1 (a) (2) (iv) (A), (B), (C), and (D); 2-2-1 (a) (3) Note; 2-2-1 (a) (3) (A), (B), (C), and (D); 2-2-1 (b) (1) Note; 2-2-1 (b) (1) (A) and (B); 2-2-1 (b) (2) (iv) Note; 2-2-1 (b) (2) (iv) (A), (B), (C), (D), and (E); 2-3-4-1 (a) (2) Note; 2-3-6-1 (c) Note; 2-5-2 (d); 2-5-3 (b) (1) (A); 2-5-3 (b) (1) (C); 2-5-3 (b) (1) (D); 2-5-3 (d) (1) (v); 2-5-3 (d) (2) (iii); 3-2-1 (a) (1) (iii); 3-2-1 (c) (2) (i); 3-2-1 (d) (2); 3-2-1 (i) (4); 3-2-2-1 (c) and Table 1; 3-2-2-2 (d) (1) (i) and Table 4; 3-2-2-5 (f); 3-2-3 (c) (1); 3-2-3 (c) (3); 3-2-3 (c) (4); 3-3-1 (d) (6) of the rules of the Director concerning underground storage tanks and aboveground storage tanks not be extended because they fail to comply with all incorporation by reference requirements.

ADDENDUM A

Section 1-7 Codes, Documents or Standards incorporated by reference

The following codes, documents or standards are incorporated by reference:

American National Standards Institute (ANSI)

Standard B31, American National Standard Code for Pressure Piping, published October 14, 2003.

Standard B31.3, Petroleum Refinery Piping, published February 14, 2002.

Standard B31.4, Liquid Petroleum Transportation Piping System, published August 5, 2002.

American Petroleum Institute (API)

Recommended Practice 1604, Removal and Disposal of Used Underground Petroleum Storage Tanks, published November 2001.

Publication 650, Welded Steel Tanks for Oil Storage, 11th Edition

Publication 1615, Installation of Underground Petroleum Storage Systems, published November 2001.

Publication 1621, Recommended Practice for Bulk Liquid Stock Control at Retail Outlets, published 1993.

Publication 1626, Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations, published January 18, 2000.

Publication 1627, Storage and Handling of Gasoline-Methanol/Co-solvent Blends at Distribution Terminals and Service Stations, published January 18, 2000.

Publication 1631, Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks, published June 2001.

Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, published June 2002.

Publication 2015, Cleaning Petroleum Storage Tanks, published August 2001.

Publication 2015A, Lead Hazard Associated with Tank Entry, published 1982.

Publication 2015B, Cleaning Open Top and Floating Roof Tanks, published August, 1981.

Publication 2200, Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines, published May 1999.

Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction

Standard No. 2000, Venting Atmospheric and Low-Pressure Storage Tanks

American Society of Testing and Materials (ASTM)

Standard D5, Test for Penetration for Bituminous Materials, published June 1, 2005.

Standard D4021-86, Standard Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks, published June 15, 1992.

Standard D4814-16a, Standard Specification for Automotive Spark-Ignition Engine Fuel, published February 2016.

Association for Composite Tanks (ACT)

ACT-100, Specification for the Fabrication of FRP Clad Underground Storage Tanks, published 1989.

Environmental Protection Agency (EPA)

EPA Form 50 FR 46602, published November 8, 1985

Hazardous and Solid Waste Amendments of 1984, Public Law 98-616

National Association of Corrosion Engineers (NACE)

Standard RP-01-69, Control of External Corrosion on Submerged Metallic Piping Systems, published April 11, 2002.

Standard RP-02-85, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, published April 6, 2002.

National Fire Protection Association (NFPA)

Publication NFPA 30, Flammable and Combustible Liquids Code, 2008 Edition.

Publication NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2008 Edition.

Publication NFPA 70, National Electrical Code, published August 18, 2005.

Publication NFPA 80, Standard for Fire Doors and Fire Windows, published 1999.

Publication NFPA 90A, Standard for the Installation of Air Conditioning and Ventilating Systems, published January 2, 2003.

Publication NFPA 91, Standard for the Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, published August 4, 2004.

Publication NFPA 385, Standard for Tank Vehicles for Flammable and Combustible Liquids, published 1990.

National Institute for Occupational Safety and Health (NIOSH)

Criteria for a Recommended Standard, Working in Confined Spaces, DHHS (NIOSH) Publication No.80-106, December 1979.

National Institute of Standards and Technology

NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Commercial Weighing and Measuring Devices", published 2012

NIST Handbook 130, "Uniform Laws and Regulations in the area of legal metrology and engine fuel quality", published 2012

National Leak Prevention Association (NLPA)

National Leak Prevention Association Standard 631, Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection, published 1991.

Petroleum Equipment Institute (PEI)

Publication RP100, Recommended Practices for Installation of Underground Liquid Storage Systems, published 2005.

Steel Tank Institute (STI)

Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks, published July 2005.

SP001, Standard for the Inspection of Aboveground Storage Tanks, 5th Edition

Underwriters Laboratories/Underwriters Laboratories of Canada (UL)

Subject 971, UL Listed Non-Metal Pipe, published January 2, 2004.

Standard 58, Standard for Steel Underground Tanks for Flammable and Combustible Liquids, published July 27, 1998.

Standard 567, Pipe Connectors for Flammable and Combustible and LP Gas, published October 22, 2004.

Standard 1316, Standard for Glass- Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, published April 2, 1996.

Standard 1746, Corrosion Protection Systems for Underground Storage Tanks, published February 8, 2002.

CAN4-S603-M85, Standard for Steel Underground Tanks for Flammable and Combustible Liquids, published 2000.

CAN4-S603.1-M85, Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids, November 2003.

CAN4-S615-M83, Standard for Reinforced Plastic Underground Tanks for Petroleum Products, published 1998.

CAN4-S631-M84, Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems, published 1998.

CAN4-S633-M81, Flexible Underground Hose Connectors, published August 1999.

Guide ULC-107, Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids, published 1993.

ADDENDUM B

[Emphases added]

Section 1-5 Definitions

Terms in these regulations shall have the same definitions as those found in Articles 20 and 20.5 of Title 8 of the Colorado Revised Statutes. In addition, unless the context otherwise requires:

"Fire resistant tank" is an atmospheric single or double walled AST with thermal insulation that has been evaluated for resistance to physical damage and for limiting the heat transferred to the primary tank when exposed to a hydrocarbon pool fire, and is listed in accordance with **UL 2080** or an equivalent test procedure, and meets **the additional requirements of NFPA**.

"Protected tank" is an atmospheric AST with integral secondary containment and thermal insulation that has been evaluated for resistance to physical damage and for limiting the heat transferred to the primary tank when exposed to a hydrocarbon pool fire and is listed in accordance with **ANSI/UL 2085** or an equivalent test procedure, and meets **the additional requirements of NFPA**.

2-1-1 Applicability

(d) Installation Requirements for Partially Excluded UST Systems

(2) Notwithstanding paragraph (1) of this section, an UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

[Note: The following codes of practice may be used as guidance for complying with this section:

(A) **NACE International Standard Practice SP 0285**, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection";

(B) **NACE International Standard Practice SP 0169**, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems";

(D) **Steel Tank Institute Recommended Practice R892**, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems".

2-2-1 Design and Performance standards for new and replaced UST systems

In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners/operators of new and replaced UST systems must meet the following requirements.

(a) Tanks. Secondary containment and interstitial monitoring is required for all new underground tank installations. Secondary containment must be able to contain regulated substances leaked from the primary containment until they are detected and removed and prevent the release of regulated substances to the environment at any time during the operational life of the UST system. If an existing underground tank is replaced, the secondary containment and interstitial monitoring requirements apply only to the replaced underground tank. The secondary containment requirements do not apply to repairs meant to restore an underground tank to operating condition. Each tank must be properly designed and constructed, and any portion of an underground tank that routinely contains product must be protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below.

(1) The tank is constructed of fiberglass-reinforced plastic; or

[Note: The following codes of practice may be used to comply with paragraph (a)(1) of this section:

(A) **Underwriters Laboratories Standard 1316**, "Glass- Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol-Gasoline Mixtures"; or

(B) **Underwriter's Laboratories of Canada S615**, "Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids".]

(2) The tank is constructed of steel and cathodically protected in the following manner:

[Note: The following codes of practice may be used to comply with paragraph (a)(2) of this section:

(A) **Steel Tank Institute "sti-P3** Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks ";

(B) **Underwriters Laboratories Standard 1746**, "External Corrosion Protection Systems for Steel Underground Storage Tanks";

(C) **Underwriters Laboratories of Canada S603** "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and S603.1 "Standard for External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids," and S631 "Standard for Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems"; or

(D) **NACE International Standard Practice SP 0285**"External Corrosion Control of Underground Storage Systems by Cathodic Protection," and Underwriters Laboratories Standard 58, Standard for Steel Underground Tanks for Flammable and Combustible Liquids.]

(3) The tank is constructed of steel and clad or jacketed with a non-corrodible material; or

[Note: The following codes of practice may be used to comply with paragraph (a)(3) of this section:

- (A) **Underwriters Laboratories Standard 1746**, "External Corrosion Protection Systems for Steel Underground Storage Tanks,"
- (B) **Steel Tank Institute ACT-100®** Specification F894, "Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks."
- (C) **Steel Tank Institute ACT-100-U®** Specification F961, "Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks"; or
- (D) **Steel Tank Institute Specification F922**, "Steel Tank Institute Specification for Permatank®".]

(b) Piping. Secondary containment and interstitial monitoring is required for all new piping installations, including piping to remote fills. Secondary containment must be able to contain regulated substances leaked from the primary containment until they are detected and removed and prevent the release of regulated substances to the environment at any time during the operational life of the UST system. For replaced piping, secondary containment and interstitial monitoring is required for the total length of piping connected to a single UST whenever more than 50% or 50 feet (whichever is less) of the piping connected to that tank is replaced. Installation of new or replaced piping will require the installation of containment sumps (under-dispenser [UDC], submersible turbine pump [STP] or transition) on both ends of the secondarily contained pipe for interstitial monitoring. These secondary containment requirements do not apply to repairs meant to restore piping to operating condition. For the purposes of determining when secondary containment is required by these rules, a repair is any activity that does not meet the definition of "replace". These secondary containment requirements also do not apply to vent piping, vapor recovery piping, and fill pipes not connected to remote fills.

The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below.

- (1) The piping is constructed of non-corrodible material; or

[Note: The following codes and standards may be used to comply with paragraph (b)(1) of this section:

- (A) **Underwriters Laboratories Standard 971**, " Nonmetallic Underground Piping for Flammable Liquids"; or
- (B) **Underwriters Laboratories of Canada Standard S660**, " Standard for Non-metallic Underground Piping for Flammable and Combustible Liquids".]

- (2) The piping is constructed of steel and cathodically protected in the following manner:

[Note: The following codes and standards may be used to comply with paragraph (b)(2) of this section:

- (A) **American Petroleum Institute Recommended Practice 1632**, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems"
- (B) **Underwriters Laboratories Subject 971A**, "Outline of Investigation for Metallic Underground Fuel Pipe";
- (C) **Steel Tank Institute Recommended Practice R892**, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems";
- (D) **NACE International Standard Practice SP 0169**, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems."; or
- (E) **NACE International Standard Practice SP 0285**, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection".]

2-3-4-1 General requirements for all UST systems

- (a) Owners/operators of UST systems that contain a regulated substance or hazardous substance must provide a method, or combination of methods, of release detection that:
 - (2) Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition. Beginning on January 1, 2020, electronic and mechanical components must be tested for proper operation, in accordance with one of the following: manufacturer's instructions; a code of practice developed by a nationally recognized association or independent testing laboratory; or requirements determined by the implementing agency to be no less protective of human health and the environment than the two options listed above. A test of the proper operation must be performed at least annually and, at a minimum, as applicable to the facility, cover the following components and criteria:

[Note: The following code of practice may be used to comply with paragraph (a)(2) of this section: **Petroleum Equipment Institute Publication RP1200**, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities".]

2-3-6-1 Monthly Compliance Inspections

- (c) The owner or operator shall maintain a copy of the monthly inspection checklist and all attachments for the previous twelve months. Records must include a list of each area checked, whether each area checked was acceptable or needed action taken, a description of actions taken to correct an issue, and delivery records if spill prevention equipment is checked less frequently than every 30 days due to infrequent deliveries. The records shall be made available for review to OPS upon request.

[Note: The following code of practice may be used to comply with this section: **Petroleum Equipment Institute Recommended Practice RP 900**, "Recommended Practices for the Inspection and Maintenance of UST Systems".]

2-5-2 General requirements

- (d) In addition to the codes of practice listed in Section 2-2-1, owners and operators may use military construction criteria, such as **Unified Facilities Criteria (UFC) 3-460-01**, Petroleum Fuel Facilities, when designing, constructing, and installing airport hydrant systems and UST systems with field-constructed tanks.

2-5-3 Additions, exceptions, and alternatives for UST systems with field-constructed tanks and airport hydrant systems

- (b) Upgrade requirements. Not later than January 1, 2020, airport hydrant systems and UST systems with field-constructed tanks where installation commenced on or before January 1, 2017 must meet the following requirements or be permanently closed pursuant to 2-4 of this section.

- (1) Corrosion protection. UST system components in contact with the ground that routinely contain regulated substances must meet one of the following:

[Note: The following codes of practice may be used to comply with this paragraph:

- (A) **NACE International Standard Practice SP 0285**, “External Control of Underground Storage Tank Systems by Cathodic Protection”;
- (C) **National Leak Prevention Association Standard 631**, Chapter C, “Internal Inspection of Steel Tanks for Retrofit of Cathodic Protection”; or
- (D) **American Society for Testing and Materials Standard G158**, “Standard Guide for Three Methods of Assessing Buried Steel Tanks”.]

- (d) Release detection. Owners and operators of UST systems with field-constructed tanks and airport hydrant systems must begin meeting the release detection requirements described in this section not later than January 1, 2020.

- (1) Methods of release detection for field-constructed tanks. Owners and operators of field-constructed tanks with a capacity less than or equal to 50,000 gallons must meet the release detection requirements in Section 2-3-4. Owners and operators of field-constructed tanks with a capacity greater than 50,000 gallons must meet either the requirements in 2-3-4 (except 2-3-4-2(e) and (f) must be combined with inventory control as stated below) of this section or use one or a combination of the following alternative methods of release detection:

- (v) Perform inventory control (conducted in accordance with **Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent** procedures) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through; and

- (2) Methods of release detection for piping. Owners and operators of underground piping associated with field-constructed tanks less than or equal to 50,000 gallons must meet the release detection requirements in Section 2-3-4. Owners and operators of

underground piping associated with airport hydrant systems and field-constructed tanks greater than 50,000 gallons must follow either the requirements in 2-3-4 (except 2-3-4-2(e) and (f) must be combined with inventory control as stated below) of this section or use one or a combination of the following alternative methods of release detection:

- (iii) Perform inventory control (conducted in accordance with **Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures**) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through; and

3-2-1 Design

(a) Tank Design and Materials of Construction

- (1) All tanks shall be designed and built in accordance with recognized good engineering standards for the material of construction being used and shall be of steel or approved noncombustible material, with the following limitations and exceptions:

- (iii) Atmospheric tanks shall not be used for the storage of a liquid at a temperature at or above its boiling point. Atmospheric tanks shall be labeled and shall be built, installed, and used within the scope of a nationally recognized construction standard; such as **U.L. 142, or API Standard 650, or an equivalent standard.**

(c) Normal Venting

- (2) For ASTs installed after September 30, 1994, normal vents shall be:

- (i) sized in accordance with **American Petroleum Institute Standard No. 2000, Venting Atmospheric and Low-Pressure Storage Tanks**, or another accepted standard; or

(d) Emergency Relief Venting

- (2) In a vertical tank, the construction referred to in 3-2-1(d)(1) may take the form of a floating roof, lifter roof, a weak roof-to-shell seam, or other approved pressure-relieving construction. The weak roof-to-shell seam shall be constructed to fail preferential to any other seam. Design methods that will provide a weak roof-to-shell seam construction are contained in **API 650, Welded Steel Tanks for Oil Storage**, and **UL 142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids.**

(i) Security

- (4) After December 22, 1996, tanks that are not listed as **UL 2085 Protected Tanks** where fuel is dispensed into vehicles shall be protected against vehicular collision by suitable barriers, which may include buildings and open space which the Director approves in writing.

3-2-2-1 Service Stations (Motor Fuel Dispensing Facilities and Repair Garages)

After September 30, 1994, new ASTs may only be installed at service stations if they meet all the general requirements for ASTs, and the service station requirements of this section. After December 22, 1996, tanks designed and built for underground use shall not be used as ASTs. All of the provisions in this section also apply to marine service stations and airport service stations.

- (c) For ASTs installed on or after April 14, 2011, ASTs shall be located in accordance with Table 1 below.

TABLE 1		AST Separation at Motor Fuel Dispensing Facilities and Repair Garages				
		<i>Minimum Distance (ft)</i>				
<i>Type of Tank</i>	<i>Individual Tank Capacity (gal)</i>	<i>From Nearest Important Building on the Same Property</i>	<i>From Nearest Fuel Dispensing Device</i>	<i>From Property Line That Is or Can Be Built Upon Including Opposite Side of Public Way</i>	<i>From Nearest Side of Any Public Way</i>	<i>Between Tanks</i>
Tanks in vaults <i>(measured from vault perimeter)</i>	0 – 15,000	0	0	0	0	Separate vault compartments for each AST
Protected ASTs (UL 2085)	≤ 6,000	5	0	15	5	3
	6,001 – 12,000	15	0	25	15	3
Fire-resistant ASTs (UL 2080)	0 – 12,000	25	25	50	25	3
Other ASTs meeting NFPA 30 requirements	0 – 12,000	50	50	100	50	3

3-2-2-2 Governmental, Industrial and Commercial AST Facilities (Fleet Vehicle Motor Fuel Dispensing)

AST installations are permitted at commercial, industrial, governmental, and manufacturing facilities where motor fuels are dispensed into vehicles used in connection with their business by employees, but only under one of the following conditions:

- (d) On or after April 14, 2011, fleet vehicle motor fuel dispensing operations shall be allowed where the following requirements are met:

(1) The spacing requirements of Table 4 below are met.

(i) The maximum individual tank capacity of 12,000 gallons, indicated in Table 4 below, shall be permitted to be increased to 20,000 gallons for Class II and Class III liquids, and the aggregate capacity for all tanks shall be 80,000 gallons; and

TABLE 4		AST Separation at Fleet Motor Fuel Dispensing Facilities				
		<i>Minimum Distance (ft)</i>				
<i>Type of Tank</i>	<i>Individual Tank Capacity (gal)</i>	<i>From Nearest Important Building on the Same Property</i>	<i>From Nearest Fuel Dispensing Device</i>	<i>From Property Line That Is or Can Be Built Upon Including Opposite Side of Public Way</i>	<i>From Nearest Side of Any Public Way</i>	<i>Between Tanks</i>
Tanks in vaults <i>(measured from vault perimeter)</i>	0 – 15,000	0	0	0	0	Separate vault compartments for each AST
Protected ASTs (UL 2085)	≤ 6,000	5	0	15	5	3
	6,001 – 12,000	15	0	25	15	3
Fire-resistant ASTs (UL 2080)	0 – 12,000	25	0	50	25	3
Other ASTs meeting NFPA 30 requirements	0 – 12,000	50	50	100	50	3

3-2-2-5 ASTs in Vaults

The provisions in this section apply only to ASTs installed after September 30, 1994.

(f) Vaults that contain tanks of Class I liquids shall be provided with continuous ventilation at a rate of not less than 1 cubic foot per minute per square foot of floor area ($0.3\text{m}^3/\text{min}\text{-m}^2$), but not less than 150 cfm ($4\text{m}^3/\text{min}$). Failure of the exhaust air flow shall automatically shut down the dispensing system. The exhaust system shall be designed to provide air movement across all parts of the vault floor. Supply and exhaust ducts shall extend to within 3 in. (7.6 cm), but not more than 12 in. (30.5 cm), of the floor. The exhaust system shall be installed in accordance with the provisions of **NFPA 91, Standard for Exhaust Systems for**

Air Conveying of Materials. Means shall be provided to automatically detect any flammable vapors and to automatically shut down the dispensing system upon detection of such flammable vapors in the exhaust duct at or above a concentration of 25 percent of the lower flammable limit.

3-2-3 Installation, Upgrade, and Repairs

(c) Denial or Revocation of Permit

- (1) An AST permit application may be denied or revoked if the AST installation or operation is not in conformance with these AST regulations or is not in conformance with **all applicable sections of the National Fire Protection Association codes.**
- (3) An AST permit may be revoked if the AST installation or operation is not in conformance with **the NFPA Codes in effect at the time of installation**, and may be revoked for misrepresentation of facts in the application.
- (4) An AST permit may be revoked if an inspection by the Director reveals that the construction performed is not in accordance with the installation plan submitted for approval; and may be revoked for failure to meet the operating or fire safety rules established by these regulations or established by the various provisions of **the NFPA Codes that apply** to the AST facility.

3-3-1 Spill and Overfill Protection

(d) Secondary Containment Tanks may be installed without special drainage or diking if they are constructed to meet all the following requirements:

- (6) Tanks that are not listed as **UL 2085** Protected Tanks must be protected from collisions as described in 3-2-1(i); and

ADDENDUM C

8-20.5-202. Duties of director of division of oil and public safety.

(1) The director of the division of oil and public safety shall promulgate and enforce rules that are no more stringent than the requirements contained in 42 U.S.C. sec. 6991 et seq., and the regulations promulgated thereunder, except as allowed by federal law, including the federal "Energy Policy Act of 2005", Pub.L. 109-58, as amended, for:

- (a) Notification requirements for owners and operators of underground storage tanks;
- (b) Design, performance, construction, and installation standards for new underground storage tanks;
- (c) Design, performance, construction, and installation standards for the upgrading of existing underground storage tanks;
- (d) General operating requirements;
- (e) Release detection;
- (f) Release reporting, investigation, and confirmation; and
- (g) (Deleted by amendment, L. 2007, p. 980, § 2, effective July 1, 2007.)
- (h) Financial responsibility for underground storage tank systems containing regulated substances.

(1.5) The director of the division of oil and public safety shall promulgate and enforce rules for out-of-service underground storage tank systems and closure of such tanks.

(1.7) Within one hundred twenty days after January 1, 2008, the director of the division of oil and public safety shall promulgate, and the division shall enforce, rules concerning the placement of underground storage tanks that contain renewable fuels. Such rules shall be promulgated with the purpose of developing a uniform statewide standard of issuing permits for underground storage tanks to promote the use of renewable fuels so that the process of obtaining a permit for an underground storage tank that contains renewable fuels may be more efficient and affordable.

8-20.5-302. Duties of director of division of oil and public safety.

(1) The director of the division of oil and public safety shall make, promulgate, and enforce rules for aboveground storage tanks installed before July 1, 1993, which rules shall be no more stringent than the rules in place on the date of installation, except as mandated by federal spill prevention, control, and

countermeasures regulations promulgated by the United States environmental protection agency.

(2) The director of the division of oil and public safety shall make, promulgate, and enforce rules concerning the design, construction, installation, and operation of aboveground storage tanks permitted to be used and installed on or after July 1, 1993, which rules shall be no more stringent, either substantially or procedurally, than the requirements contained in the current edition of the national fire code published by the national fire protection association, as revised by the association from time to time, and in spill prevention control and countermeasures regulations promulgated by the United States environmental protection agency.

(3) Within one hundred twenty days after January 1, 2008, the director of the division of oil and public safety shall promulgate, and the division shall enforce, rules concerning the placement of aboveground storage tanks that contain renewable fuels. Such rules shall be promulgated with the purpose of developing a uniform statewide standard of issuing permits for aboveground storage tanks to promote the use of renewable fuels so that the process of obtaining a permit for an aboveground storage tank that contains renewable fuels may be more efficient and affordable.