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CITY OF SEATTLE
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CITY CLERK

Date: October 23, 2014

To: Monica Martinez Simmons, City Clerk

From: John Nelsen, Fire Marshal, Fire Department

Subject: Rescind two Seattle Fire Department Administrative Rules

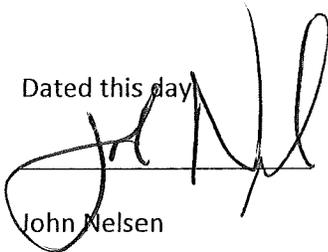
Seattle Fire Department is updating and reviewing numerous existing Administrative Rules to ensure they are current and necessary given that the fire code is revised every three years. Both of the Administrative Rules being rescinded were written to provide regulations for specific issues not addressed in the fire code at the time. Provisions similar to those contained in the rescinded rules have been incorporated into the current fire code and the rules no longer serve a purpose. A proposal to rescind both of the rules was presented to the Fire Code Advisory Board on September 16, 2014 and was approved. In addition a notice of the proposed rescinding was placed in the Daily Journal Commerce.

The two rules being rescinded are:

34.01.04 Use of Protected Aboveground Tanks for Fuel Storage Inside Buildings

34.03.04 Flammable Liquid Storage and Use in Basement Level Laboratories

Dated this day



John Nelsen

October 23, 2014



Joint Ruling

DPD Director's Rule 8-2005 SFD Administrative Rule 34.01.04

Applicant: CITY OF SEATTLE Department of Planning and Development Seattle Fire Department	Page 1 of 33	Supersedes: DPD DR 8-98
	Publication: 1/6/05	Effective: 2/15/05
Subject: Use Of Protected Aboveground Tanks For Fuel Storage Inside Buildings	Code and Section Reference: 2003 Seattle Building Code Sec 307, 4142003 Seattle Fire Code Ch. 27, 34 NFPA 30 Section 2.2.5.2	
	Type of Rule: Code Interpretation	
	Ordinance Authority: SMC 3.06.040	
	Approved (signature on file) John H. Nelsen, Fire Marshal, SFD	Date 2/9/05
Index: Building Code	Approved (signature on file) Diane M. Sugimura, Director, DPD	Date 2/12/05

BACKGROUND AND PURPOSE

Seattle Building and Fire Codes require that fuel storage inside buildings in quantities exceeding the maximum allowable quantities established by Seattle Building Code (SBC) Table 307.7(1) and Seattle Fire Code (SFC) Table 2703.1.1(1) must comply with the requirements of SBC Section 307.5 for High Hazard Group H-3 occupancies and SFC Section 3404.3.7 for liquid storage rooms. The purpose of this rule is to provide an alternative storage method for combustible liquids used in closed systems to fuel equipment, such as emergency generators and fire pumps, without having to meet liquid storage room requirements.

DEFINITIONS

CLOSED SYSTEM: The use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operation; and all uses of compressed gases. Examples of closed systems for solids and liquids include product conveyed through a piping system into a closed vessel, system or piece of equipment.

COMBUSTIBLE LIQUID: A liquid having a closed cup flash point at or above 100°F. Combustible liquids shall be subdivided as follows:

Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).

Class III-A. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).

Class III-B. Liquids having a closed cup flash point at or above 200°F (93°C).

PROTECTED ABOVE GROUND TANK: A tank listed in accordance with UL 2085 consisting of a primary tank provided with protection from physical damage and fire-resistive protection from a high-intensity liquid pool fire exposure. The tank may provide protection elements as a unit or may be an assembly of components, or a combination thereof.

APPLICABILITY

This Rule applies to combustible liquids stored in approved protected aboveground tanks inside buildings.

RULE

When combustible liquids are used in closed systems for fueling equipment such as emergency or standby generators and fire pumps, the requirements of Seattle Building Code Section 307.5 for High Hazard Group H -3 occupancy and Seattle Fire Code (SFC) Section 3404.3.7 for liquid storage rooms may be waived provided all of the following conditions are met:

1. The combustible liquids shall be stored only in approved protected above ground tanks installed in accordance with SFC Section 3404.2.9.6 and all other applicable requirements SFC Chapter 34 for installation of tank systems except as modified by this rule.

2. In Groups A, B, E, I, M, and R occupancies, aboveground tanks storing combustible liquids shall be located in accessory use areas such as parking garages, storage, boiler and mechanical rooms, maintenance shops, and rooftop locations.
3. Individual tank capacities shall not exceed 3,000 gallons.
4. The aggregate capacity of tanks for storage of combustible liquids in approved protected aboveground tanks enclosed by a one-hour fire barrier shall not exceed 6,000 gallons.
5. The room where the tank(s) is located shall be protected by an approved automatic sprinkler system.
6. Filling, emptying and vapor recovery connections to tanks containing Class II or III liquids shall be located outside of buildings at a location free from sources of ignition and not less than 5 feet away from building openings or lot lines of property that can be built on. Such tank openings shall be provided with a liquid-tight cap that shall be closed when not in use and shall be properly identified. Note: The fire code official may approve distances to building openings and property lines less than 5 feet when a practical difficulty exists due to site constraints.
7. Emergency relief venting shall be provided in accordance with SFC Section 3404.2.7.4 except that emergency relief vents may discharge inside a building. Emergency relief vents which discharge to the outside shall be designed to provide the venting capacity required by Section 2.2.5.2 of NFPA 30. The vent capacity reduction factor shall not be allowed.
8. One or more portable fire extinguishers having a rating of not less than 20-B shall be located not less than 10 feet nor more than 50 feet from the tank storage area.

FIRE DEPARTMENT PERMITS

Fire Department permits are required to store, handle or use Class II or Class III-A combustible liquids in excess of 25 gallons inside a building or Class III-B liquids in excess of 1,000 gallons. Call 386-1025 for permit application and information.

**SEATTLE
FIRE
DEPARTMENT**

Administrative Rule 34.03.04

SUBJECT: FLAMMABLE LIQUID STORAGE AND USE IN BASEMENT LEVEL LABORATORIES	EFFECTIVE DATE: August 20, 2004
REFERENCES: 2003 Seattle Fire Code Chapters 27 and 34 Seattle Building Code NFPA 30 NFPA 45	SUPERSEDES: Not applicable
	FCAB REVIEW DATE: August 17, 2004
NOTICE: Administrative Rules are established per Seattle Fire Code Section 102.8, and they are subject to the Administrative Sections 104.9, Alternate Materials and Methods, 104.8, Modifications and Appendix A, Board of Appeals.	APPROVED: _____ JOHN H. NELSEN, FIRE MARSHAL

PURPOSE AND APPLICABILITY:

Seattle Fire Code (SFC) Section 3404.3.5.1 prohibits flammable liquid storage in basements. The purpose of this rule is to provide an alternative to this strict prohibition and allow limited quantities of flammable liquids within laboratories located below the ground floor. The rule applies to both new and existing educational, research, analytical and other laboratories where work is performed on a non-production basis.

DEFINITIONS:

Laboratory. A facility where the containers used for reactions, transfers, and other handling of chemicals are designed to be easily and safely manipulated by one person. It is a workplace where chemicals are used or synthesized on a non-production basis.

Laboratory Unit. An enclosed space used for experiments or tests. A laboratory unit can include offices, lavatories and other incidental contiguous rooms maintained for or used by laboratory personnel, and corridors within the unit. It can contain one or more laboratory work areas. It can be an entire building.

REQUIREMENTS:

1. Laboratory units shall be separated from other laboratory units by a one-hour fire barrier. Lab suites or lab rooms/areas without separation by a minimum one-hour fire barrier shall be considered a single laboratory unit.
Exception: For existing laboratory units, the level of compliance with this provision will be determined by the fire code official on a case-by-case basis.
2. Storage and/or use of Class I flammable liquids in basements shall only be allowed when stored or used in laboratories located in buildings that are protected throughout by an approved automatic sprinkler system. The design of the sprinkler system in the basement shall not be less than that required for Ordinary Hazard Group 2 in accordance with NFPA 13 with a minimum design area of 1,500 square feet with no reductions.
Exception: For existing laboratory units, the level of compliance with the sprinkler design criteria will be determined by the fire code official on a case-by-case basis.
3. Mechanical exhaust ventilation shall be provided in the laboratory unit at a rate of not less than 1 cubic feet per minute per square foot of floor area, or six (6) air changes an hour, whichever is greater. The system shall operate continuously and shall include exhaust taken from a point within 12 inches of the floor. The location and arrangement of both the exhaust and inlet air opening shall be arranged to provide air movement across all portion of the floor or laboratory to prevent the accumulation of vapors. Ventilation shall not be recirculated within the laboratory or building if the materials are capable of emitting hazardous vapors. For additional ventilation requirements in laboratories see Department of Planning and Development Director's Rule, Guidelines for Preparation and Review of Building Permit Applications for Laboratory Construction and Laboratory Hood Installation.
4. A secondary power source (standby power) shall be provided to automatically supply electrical power to the mechanical ventilation system in the event of a loss of primary power.
5. Quantities of flammable liquids within individual laboratory units and basement levels shall not exceed the maximum quantities set forth in Table 34.1-A.

**TABLE 34.1-A
Maximum Allowable Quantities of Flammable Liquids
in Basement Level Laboratories**

Class of Liquid	Maximum Allowable Quantity per Laboratory Unit (gallons)	Maximum Allowable Quantity per Basement Level⁴ (gallons)
Class I-A	2	10
Class I-B	30	60
Class I-C	45	90
Combination of Class I-A, I-B and I-C	60 ¹	120 ¹

¹Containing not more than the maximum allowable quantity of each individual class.

6. Maximum container sizes and types for flammable liquids in basement level laboratories shall be in accordance with Table 34.1-B:

**TABLE 34.1-B
MAXIMUM ALLOWABLE CONTAINER SIZES**

Container Type	Class I-A	Class I-B	Class I-C
Glass ¹	1 pt.	1 qt.	1 gal.
Metal or listed approved plastic	1 gal.	1 gal.	1 gal.
Safety cans	1 gal.	1 gal.	1 gal.
Polyethylene ²	NA	Footnote 2	Footnote 2

¹ Class I-A and I-B liquids are allowed to be stored in glass containers of not more than 4 liters capacity if the required liquid purity, such as American Chemical Society analytical reagent grade or higher, would be affected by storage in metal containers or if the liquid would cause excessive corrosion of a metal container.

² Polyethylene containers in accordance with nationally recognized standards.

7. Flammable liquids in excess of 10 gallons per laboratory unit, regardless of class of liquid or container size, shall be stored in approved flammable liquid storage cabinets in accordance with SFC Section 3404.3.2.1.

8. Quantities of flammable liquids outside of approved flammable liquid storage cabinets shall not exceed amounts necessary for demonstration, treatment, laboratory work and maintenance purposes or 10 gallons per laboratory unit, whichever is less. [SFC 3404.3.4.4]
9. Flammable liquid storage cabinets shall be exhausted in accordance with NFPA 30 to maintain a negative pressure. Cabinet exhaust shall discharge to a safe location outside the building.
10. Flammable liquid storage cabinets shall be seismically braced in accordance with the Building Code.
11. Fire suppression shall be provided in non-metallic ducts serving fume hoods in basement level labs where Class I flammable liquids are used in accordance with SMC Section 510.7.
12. An approved fire suppression system shall be provided in fume hoods in basement level labs where Class I flammable liquids are used.
13. Shelving shall be of substantial construction, adequately braced and anchored, of sufficient depth and provided with a lip or guard to prevent individual containers from being easily displaced.
Exception: Shelves in storage cabinets or on laboratory furniture specifically designed for such use.
14. One or more portable fire extinguisher having a minimum rating of not less than 20-B shall be located not less than 10 feet or more than 50 feet from any Class I flammable liquid storage area.
15. Uses or operations that have the potential to increase volatilization of flammable liquids (such as warming and stirring), shall be performed in an exhausted enclosure or provided with equivalent ventilation control approved by the fire code official.
16. Containers of flammable liquids shall be delivered to and stored at their end-use locations. Centralized distribution and storage rooms/areas, and centralized dispensing are not allowed in basements.
17. The permit holder shall be responsible for monitoring and tracking inventories in each basement to ensure compliance with the above-noted provisions.
18. Basements shall be considered a part of, or a separate control area. Quantities of flammable liquids allowed in a basement shall be limited to maximum allowable quantities per control area (MAQ) without increases for sprinklers or cabinets, even though they are provided. If a control area includes a basement and other floors, then the other floors may utilize the increases, but the quantity in the basement portion shall not exceed the MAQ without increases. For example, if a basement and first floor are a single control area and all flammable liquids are stored in cabinets, the maximum aggregate quantity of Class I-B liquids allowed by SFC Table 2703.1.1(1) is 480 gallons (120 gallons x 2 for sprinklers x 2 for cabinets) – however the maximum quantity allowed in the basement portion is limited to 60 gallons. So, the balance (420 gallons) could be stored on the first floor. Regardless of whether part of, or a separate control area, the maximum quantity allowed in a basement shall not exceed maximum allowable quantities per control area WITHOUT INCREASES.



Joint Ruling

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