

ISSUE G: Fuel oil storage and piping

403.1 Applicability. The provisions of this section shall apply to buildings having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Exception: The provisions of this section shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special industrial occupancies in accordance with Section 503.1.2.
5. Buildings with an occupancy in Group H-1; or H-2 ~~or H-3~~ in accordance with Section 415.
6. Buildings with an occupancy in Group H-3 in accordance with Section 403.19.

403.10 Standby power. A standby power system complying with Section 2702 shall be provided for standby power loads specified in Section 403.10.2.

403.10.1 Special requirements for standby power systems. If the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire-resistance-rated fire barrier assemblies. System supervision with manual start and transfer features shall be provided at the fire command center.

403.10.2 Standby power loads. The following are classified as standby power loads:

1. Power and lighting for the fire command center required by Section 403.8;
2. Electrically powered fire pumps;
3. Ventilation and automatic fire detection equipment for smokeproof enclosures.

Standby power shall be provided for elevators in accordance with Section 3003.

403.10.3 Fuel oil storage. Fuel oil used in conjunction with the standby power system shall be stored in accordance with 403.19

403.11 Emergency power systems. An emergency power system complying with Section 2702 shall be provided for emergency power loads specified in Section 403.11.1.

403.11.1 Emergency power loads. The following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Elevator car lighting;

3. Emergency voice/alarm communications systems;
4. Automatic fire detection systems; and
5. Fire alarm systems.

403.11.2 Fuel oil storage. Fuel oil used in conjunction with the emergency power system shall be stored in accordance with 403.19

403.19 Fuel Oil Storage. Fuel oil storage inside buildings used in conjunction with the emergency power system, the standby power system or an elective, redundant power supply system may exceed the maximum allowable quantity as per Table 307.7(1) provided the storage is in compliance with 403.19.1

403.19.1 Fuel Oil Storage Systems. Fuel oil storage systems shall comply with the requirements of NFPA 31 and as amended below.

403.19.1.1 Control areas. Fuel oil storage tanks with an aggregate capacity of 660 gallons or less may be installed above the lowest level of a building in accordance with 414.2.

403.19.1.2 Inside storage. Inside storage shall be permitted to be increased to 36,000 gal provided all of the following conditions are met:

1. The tank is located on the lowest floor level of the building.
2. The capacity of any one tank does not exceed 12,000 gallons.
3. The tank(s) is in a vault having walls, floor, and top having a fire resistance rating of not less than 3 hours. The walls shall be bonded to the floor. The top and walls of the vault shall be independent of the building structure. An exterior building wall having a fire resistance rating of not less than 3 hours shall be permitted to serve as a wall of the vault; and
4. The vault is located in a room or area of the building that is cut off vertically and horizontally from other areas and floors of the building by assemblies having a fire resistance rating of not less than 2 hours.

403.19.1.3 Secondary Containment. Fuel oil tanks having a capacity of more than 660 gallons storage at the lowest level of a building shall have secondary containment equal to two times the tank capacity.

403.19.1.4 Method of transfer. Storage tanks and utilization equipment installed above the lowest level of a building shall be filled by means of a transfer pump supplied from a primary storage tank located and installed in accordance with 403.19.1.2. A separate transfer pump and piping circuit shall be provided for each storage tank or equipment installed above the lowest floor. No intermediate pumping stations shall be

provided between the storage tank and the transfer pump. Appropriate devices shall be provided for the automatic and manual starting and stopping of the transfer pumps so as to prevent the overflow of oil from these storage tanks.

403.19.1.5 Float switch. A float switch shall be provided with the curb or pan around the storage tank or utilization equipment and shall be arranged so as to sound an alarm and stop the transfer pump in case of failure of the tank or the control in the tank. An alarm bell shall be located in the same room with the tank and a visual and audible alarm shall be located in a emergency command center.