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1. **We are installing a diesel-driven emergency generator in the basement of a building. Does NFPA 31 apply to this installation?**

   No, it does not. NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, applies to the installation of any stationary internal combustion engine, whether fueled by a liquid fuel (e.g., diesel fuel) or a gaseous fuel (e.g., propane or natural gas). NFPA 31, on the other hand, applies to equipment in which the liquid fuel is burned in a combustion chamber to produce heat, as opposed to motive power.

2. **Can an oil-fired water heater and an oil-fired heating appliance both be connected to the same chimney?**

   Subsection 6.3.3 of NFPA 31 allows two or more oil-fired appliances to be connected to the same chimney, provided sufficient draft is maintained for safe operation of the appliances and provided all flue gases are removed.

3. **Does NFPA 31 provide any guidance on how a chimney connector should be joined to a clay or metal thimble in a masonry chimney?**

   Subsection 6.5.5 of NFPA 31 addresses this issue and basically states the same installation rules as does Subsection 9.7.1 of NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances: it requires that the chimney connector extend through to the inner wall of the chimney or the chimney liner and that it be firmly cemented in place.
4. Can a solid fuel burning appliance be connected to a chimney flue that serves a fuel oil-fired appliance?

Subsection 6.5.25 of NFPA 31, which is extracted from NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, generally prohibits this, unless the solid fuel burning appliance is specifically listed for such an installation.

5. Can a gas-fired appliance be connected to a chimney flue that serves a fuel oil-fired appliance?

Subsection 6.5.26 of NFPA 31 does allow such installations, either through separate connections or through a common connection provided certain conditions of Subsection 6.5.20 are met.

6. Must fuel oil storage tanks that are installed inside a building meet the requirements of NFPA 30, Subsection 4.3.4 for storage tank buildings?

No. Chapter 7 of NFPA 31 covers the installation of fuel oil storage tanks in buildings in detail and takes precedence over NFPA 30. Also, 1.1.2(8) of NFPA 30 specifically excludes tanks and containers connected with oil-burning equipment from the scope of NFPA 30. Note, however, that NFPA 31 does require outside aboveground tanks and buried tanks to be installed in accordance with NFPA 30.

7. Under the provisions of Subsection 7.5.5 of NFPA 31, a fuel oil tank is permitted to be installed in an attached garage. Can such a tank be filled inside the garage, i.e., can the delivery hose be brought through the garage door and the fill nozzle inserted directly into the tank?

No. Subsection 8.5.2 of NFPA 31 requires the fill pipe to terminate outside the building in which the tank is installed.

8. There is confusion among oil tank installers regarding the size of the tank vent. Is the minimum nominal pipe diameter 1¼ in. diameter or 2 in.?

Subsection 7.2.5 governs vents for fuel oil storage tanks installed inside a building. In the 1997 edition of NFPA 31, the nominal vent size for such tanks was increased from 1¼ in. to 2 in. This change was based on several incidents involving tank failure
that appeared to be related to overpressure of the tank during filling at high flow rates. After publication of the 1997 edition, problems began to be encountered in the field, particularly with regard to tank replacements: building officials were mandating replacement of the 1¼ in. vent pipe of existing installations.

Since that time, full-scale testing has shown that the 1¼ in. vent is adequate for tank capacities up to 660 gallons, even with the vent whistle installed. The Technical Committee on Liquid Fuel Burning Equipment agreed to return to the 1¼ in. minimum vent size based on these tests. This has considerably eased problems related to retrofits.

9. **Can more than one oil burning appliance be served by one oil storage tank?**

Yes. A typical installation might be an oil-fired boiler for building heat and an oil-fired hot water heater. NFPA 31 does not require the two appliances to be fed by separate oil tanks. This is covered in Subsection 8.9.1 and Figure 8.9.1 for two cross-connected tanks.

10. **Figure 8.9.1 of NFPA 31 show two fuel oil tanks cross-connected to provide a single fuel oil supply feed to an oil burning appliance. The Figure shows a minimum vent size of 1¼ in., but the cross connection must be 2 in. Explain the difference.**

The 1¼ in. vent line has been proven adequate for fill lines up to 2 in. nominal pipe size. The cross connection is, in essence, an extension of the fill line: during delivery, fuel oil fills one tank first, then the second via the cross connection. The cross connection is sized to handle liquid flow and to minimize back-pressure on the first tank as the second is being filled.

11. **Are there any particular rules or procedures to follow if a fuel oil tank is no longer used, as when a residence converts from fuel oil to natural gas or propane for heat and hot water?**

Sections 7.12 and 7.13 of NFPA 31 require the fuel oil tank and any related piping to be disconnected, emptied of contents, cleaned, and then removed from the premises and disposed of in accordance with local regulations. This includes removal of the outside fill and vent lines.

There have been isolated instances where the tank and inside piping were properly
removed, but the outside piping left in place, and a fuel oil delivery subsequently made. This has resulted in costly clean-up of the spill and, on rare occasions, a fire.

An exception to Section 7.12 allows a tank and its piping to remain in place, anticipating a future return to service. The exception includes requirements to ensure the safety of the tank until returned to service and to ensure that the tank cannot be inadvertently filled.

12. **Subsection 9.2.5 of NFPA 31 requires the fuel oil piping from an aboveground tank to be buried. Where a secondary containment-type aboveground tank is used, for environmental protection, can double-wall aboveground piping be used?**

No. The intent of Subsection 9.2.5 is to prevent a spill as a consequence of damage to piping. An aboveground supply pipe would be more susceptible to damage.

13. **Where exactly must the switch governed by Paragraph 10.5.1.2 be located?**

As stated, the switch must be located near the entrance of the room where the oil-fired appliance is located. The intent is that the switch be on the opposite side of the entrance from the appliance, so that the door need not be opened in an emergency situation to operate the switch. For the typical basement installation, the switch would be installed outside the door leading to the basement stairway. If the appliance is installed in a room in the basement, the switch could be installed outside the entrance door to the room.

14. **Why is the information in Annex E, on recommended chimney lining criteria not a mandatory part of NFPA 31?**

As described in Section E.5 of this Annex, the information presented is the product of computer analyses of typical systems. Validation of the computer program used for the analyses still needs to be done before the Technical Committee on Liquid Fuel Burning Equipment will make the criteria mandatory.