

## FACILITY CLASS 4, SUPPLY

### Category Group 41, Liquid Storage - Fuel and Nonpropellant.

#### 1.1. Storage Requirement.

1.1.1. Calculate the total requirement for liquid fuel storage on the basis of programming guidance furnished by Defense Energy Support Center (DESC) and requirements established in the Inventory Management Plan. Program tankage in standard size tanks using guidance in UFC 3-460-01.

1.1.2. Storage tanks for base liquids and liquid fuel, such as described in this chapter, require security protection under policies given in AFI 31-101. Areas containing these tanks are protected by lights (**CATCODE 812926**), fences (**CATCODE 872274**), and security alarms (**CATCODE 872841**). See criteria provided in this Manual for the individual category codes. Additional security aids such as sensors and other detection devices are provided as feasible. Storage areas may include dispensing and operating facilities, such as described under Liquid Oxygen Storage (**CATCODE 442258**).

1.1.3. Projects for facilities storing or handling bulk fuel supplied by DESC are normally programmed through the appropriate MAJCOM to DESC for funding/MILCON program management. Locate facilities to comply with explosives safety standards.

1.2. **Number and Size of Tanks.** Base the determination of the number of tanks to be used for a particular storage requirement following requirements and Jet Fuel Storage (**CATCODE 411135**).

1.2.1. A minimum of two bulk tanks are necessary, regardless of the storage quantity, due to fuels quantity control measures.

1.2.2. Three or more tanks are necessary for all requirements over 31,800 m<sup>3</sup> (200,000 barrels).

1.2.3. Individual capacity of any tank may not exceed 15,900 m<sup>3</sup> (100,000 barrels) unless authorization is obtained from AFCEC/COS.

#### 1.3. Use of Aboveground and Underground Tanks.

1.3.1. Use aboveground tanks for bulk storage of petroleum products within CONUS unless special authorization for underground tanks is obtained from the DoD Fuel Facility Engineering Panel through the Air Force representative from AFCEC/COS. The use of underground tanks is normally limited to small size operating tanks, storage at highly essential overseas bases, and war reserve storage. Provide control devices such as leak detection and automatic tank gauging as an integral component of all tanks. See section 8.5 of UFC 3-460-01 for secondary containment requirements for aboveground tanks.

1.3.2. Underground tanks include completely buried tanks, semi-buried, and cut and cover tanks, and surface-installed and mounded-over tanks.

#### **1.4. Types of Tanks.**

1.4.1. Aboveground covered floating pan tanks in capacities of 159 m<sup>3</sup> (1,000 barrels) or greater IAW UFC 3-600-01.

1.4.2. Aboveground cone roof tanks for low volatile products in all capacities. These are also used for highly volatile products in capacities under 1,000 barrels.

1.4.3. Horizontal aboveground cylindrical tanks for operating storage of all types of products, usually in small-capacity tanks. Do not use tanks of this type in capacities of 151 m<sup>3</sup> (40,000 gallons) or more.

1.4.4. Vertical underground tanks, when authorized, for all types of products, regardless of the volatility.

1.4.5. Horizontal underground tanks for all types of products, usually in small-capacity tanks. They are provided for operating tanks serving vehicle service stations, for alcohol storage tanks, and for operating tanks at truck fill stands where required. Use double wall construction for all underground storage tanks and do not use tanks of this type in capacities of 189,000 liters (50,000 gallons) or more.

#### **1.5. Siting Requirements and Pollution Control.**

1.5.1. In planning storage areas, the criteria given in UFC 3-460-01 on siting clearances and dikes should be followed.

1.5.2. Provide all liquid fuel storage facilities with positive methods to preclude discharge of pollutants to the surrounding atmosphere, ground, or waters. Use tanks with cone roofs and internal floating pans for above-ground storage of all types of jet fuel and for volatile petroleum products having a flashpoint under 38°C (100°F). Enclose all aboveground storage tanks 2.5 m<sup>3</sup> (55 gal) capacity and larger within a diked area in accordance with Section 311(j) of the CWA, requirements set forth in 40 CFR part 12, and UFC 3-460-01. Make provisions for removing water from diked areas through a drain pipe with a lock-type shutoff valve. Ensure the valve remains closed at all times except when draining water from the diked basin. Additionally, ensure a designated/authorized person is physically present at all times in the immediate area when the dike drain valve(s) is in the open position.