

April 2009

AFC 4.3.1.2.(1)

Page 1 of 2

Upgrading Existing API 12F Tanks Under the Alberta Fire Code

Issue:

Numerous oil field companies that service oil and gas wells in the upstream production areas are storing flammable liquids and combustible liquids in storage tanks that are not compliant with the Alberta Fire Code (AFC). Most of these tanks are regulated by the AFC as they are located in industrial parks near built-up areas.

Existing operations that are currently using API 12F storage tanks in contravention of the AFC can apply this Variance to upgrade their applicable existing storage tank systems in order to meet the objectives of the Code through the provision of an alternative solution.

Owners using API 12F storage tanks in contravention of the AFC are encouraged to address the safety concerns without delay.

Background:

Division B, Part 4, Clause 4.1.1.1.(3)(h) of AFC exempts storage tanks at oil and gas sites that are regulated by the Energy Resources Conservation Board (ERCB) Directive 55, "Storage Requirements for the Upstream Petroleum Industry." (Formerly entitled Guide 55).

The Fire Code Bulletin (FCB) "Storage of Flammable and Combustible Liquids" identifies that American Petroleum Institute (API) specification 12F tanks are not permitted under the AFC.

Variance:

This Variance applies to those sites where existing API 12F storage tanks have been installed and come under the scope and application of the AFC. This Variance does not permit the use of API 12F storage tanks to be fitted with upgraded features and be permitted in any installation undertaken after the date of issuance of this variance (March 31, 2009). New installations are required to comply with Part 4 of the AFC.

Owners of existing API 12F tanks have the option to:

1. remove the API 12F tank,
2. replace the API 12F tank with a Code compliant tank, or
3. upgrade the existing API 12F tank in accordance with this Variance.

Upgrading must be completed and the tanks registered with the Petroleum Tank Management Association of Alberta no later than December 31, 2011.

Upgrading:

Where an owner chooses to continue using an existing API 12F storage tank, it shall be upgraded according to the following:

1. Engage the services of a professional engineer licensed to practice in the Province of Alberta to evaluate each tank and prepare drawings and specifications for the purpose of determining the scope of work necessary to comply with this Variance.
2. The professional engineer shall submit stamped and sealed design drawings and specifications to the authority having jurisdiction (AHJ) responsible for administering Part 4 storage tank system requirements, for review and approval in accordance with AFC, Division C, Article 2.2.3.1.

The AHJ for each installation can be determined by contacting the Petroleum Tank Management Association at:

Suite 980, 10303 Jasper Ave
Edmonton, AB T5J 3N6
Phone: (780) 425-8265 Toll Free: 1-866-222-8265
Fax: (780) 425-4722

3. The professional engineer shall ensure that
 - a. local development permits and land use bylaws are complied with,
 - b. necessary permits are taken out to address the scope of work,
 - c. other requirements of Part 4 of the AFC are complied with, and
 - d. written verification is submitted to the AHJ that the upgrading work is complete.
4. Each tank shall be fitted with emergency venting designed to be in conformance with one of the following standards:
 - a. NFPA 30, "Flammable and Combustible Liquids Code," 2008 edition, Section 22.7 Emergency Relief Venting for Fire Exposure for Aboveground Tanks,
 - b. API 2000, "Venting Atmospheric and Low Pressure Storage Tanks: Nonrefrigerated and Refrigerated," 1998 edition.
 - c. ULC-S630, "Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids," 2000 edition, or
 - d. specifically designed by a professional engineer to meet the objectives of one of the above standards.
5. Secondary containment shall consist of a conventional aboveground diking system designed to meet the provisions of Article 4.3.7.2. and 4.3.7.3. of the AFC.
6. Double walled API 12F tanks are not permitted to be located outside of a conventional aboveground diking system.
7. Owners, professional engineers and workers involved in the upgrading of these tanks are reminded that these tanks will likely contain residual flammable or combustible liquids and vapours and they will need to follow safe work practices as required under the Occupational Health and Safety Act and Section 5.2 of the Alberta Fire Code 2006. NFPA 326 "Safeguarding of Tanks and Containers for Entry, Cleaning and Repair" is suggested as a guideline for this work.

This Variance applies throughout Alberta.