



Shop-fabricated Aboveground Oil Storage Tank Capacity Limit

- Summary:** Application of 18 AAC 75.066 is limited to shop-fabricated tanks with a capacity of 50,000 gallons or less. Shop-fabricated tanks exceeding 50,000 gallons are subject to the requirements of 18 AAC 75.065.
- Applicability:** This guidance applies to the following:
- Owners and operators of oil terminal facilities, crude oil pipelines, and exploration and production facilities that are required to operate under an approved plan per AS 46.04.030.
 - Prevention, Preparedness, and Response personnel engaged in reviewing an oil discharge prevention and contingency plan (plan)
- Discussion:** This guidance provides clarification of the prevention measure requirements that apply to shop-fabricated aboveground oil storage tanks under 18 AAC 75.065 and 18 AAC 75.066 that were placed into service when the requirements went into effect, after December 30, 2008.
- All regulated aboveground oil storage tanks [18 AAC 75.990(165)] with a capacity of greater than 10,000 gallons must meet the applicable prevention measures identified in 18 AAC 75.065 or 18 AAC 75.066. Requirements for field-constructed tanks, which are predominately characterized as stationary vertical tanks, are found in 18 AAC 75.065. Regulations that apply to regulated shop-fabricated tanks are found in 18 AAC 75.066.
- Prevention measures required by regulation include design and construction, maintenance, inspection, overfill protection, cathodic protection, and leak detection. The primary differences between 18 AAC 75.065 and 18 AAC 75.066 are that prevention measures for new field-erected tanks must meet cathodic protection, leak detection, and overfill alarm requirements. The department's stated intent when drafting the regulations found in 18 AAC 75.066 was to acknowledge and recognize "the higher level of spill prevention afforded by"¹ shop-fabricated tank design standards. It was not to reduce the prevention measures of shop-fabricated tanks from those required for field-erected tanks.
- Tank size or capacity limitations are not specifically defined in 18 AAC 75.065 and 18 AAC 75.066 or within the regulatory definitions of a field-constructed

¹ Alaska Department of Environmental Conservation, Division of Spill Prevention and Response. *Oil Pollution Prevention Regulations Discussion, Summary Response to Comments, & Proposed Regulatory Language*, Page 13. 2006. Accessible at https://dec.alaska.gov/spar/ppr/docs/Response_Summary8June06.pdf

aboveground storage tanks contained in 18 AAC 75.990(172) or a shop-fabricated tank contained in 18 AAC 75.990(181). Consistent with the design and construction standard UL 142 codified in regulation, the department has adopted the capacity limitation of 50,000 gallons (1,191 barrels [bbl]) to define the capacity limitations for shop-fabricated tanks, which is aligned with the physical construction limitations of 20 ft. as stated in Appendix J of API 650.

Additional support for this capacity limitation is provided by the five specific design and construction standards called out in 18 AAC 75.066(b)(1)(A)-(E).

- Tanks constructed to Underwriters Laboratories (UL) Steel Aboveground Tanks for Flammable and Combustible Liquids, Eighth Edition, dated July 11, 2002 (UL 142) are limited to a capacity of 50,000 gallons or 1,190 barrels (bbls)²
- Steel Tank Institute's (STI) Standard for Aboveground Tanks with Integral Secondary Containment, revised as of October 21, 2004, (STI F921-03) are of double-wall steel design that meets UL 142 construction and size limitations.
- Underwriters Laboratories (UL) Protected Aboveground Tanks for Flammable and Combustible Liquids, Second Edition, revised as of December 1, 1999, (UL 2085) also meet UL-142 design and construction standards and add additional materials to classify it as a protected tank.
- Appendix J, American Petroleum Institute (API) Welded Steel Tanks for Oil Storage, 10th Edition, November 1998, Addendum 1, January 2000, Addendum 2, November 2001, Addendum 3, September 2003, (API 650) tanks are limited in size to 20 ft. in diameter.³
- API 12 F: Specification for Shop Welded Tanks for Storage of Production Liquids sets nominal capacity limitations of between 3,780 gallons or 90 bbls to 31,500 gallons (750 bbls).

In consideration of these circumstances, the department's position is that horizontal tanks over 50,000 gallons are more appropriately regulated under 18 AAC 75.065. When requested, the department will consider a waiver under 18 AAC 75.015 for horizontal shop-fabricated tanks over 50,000 gallons.

Action: Regulated facility shop-fabricated aboveground oil storage tanks with a capacity of over 50,000 gallons must meet the requirements of 18 AAC 75.065. If the plan holder determines that it is unreasonable to apply the provisions of 18 AAC 75.065 to horizontal tanks exceeding 50,000 gallons (1,191 bbl), the plan holder may request a waiver under 18 AAC 75.015, for the department's

² Underwriters Laboratories (UL) *Steel Aboveground Tanks for Flammable and Combustible Liquids*, Eighth Edition, dated July 11, 2002 (UL 142) Section 15.1.3 – "The capacity of a vertical tank shall not exceed 50,000 gallons".

³ API Standard 650, Appendix J - J.1.1 " This appendix provides requirements for the design and fabrication of vertical storage tanks in sizes that permit complete shop assembly and delivery to the installation site in one piece. Storage tanks designed according to this appendix shall not exceed 6 m (20 ft.) in diameter".

consideration, to design, construct, and operate the tank under 18 AAC 75.066.

If a plan holder has an approved plan with a shop-fabricated aboveground tank greater than 50,000 gallons that was placed in service after December 30, 2008, the department will work with the plan holder to determine whether their tank is also in compliance with 18 AAC 75.065.

In the future, the department will amend the regulations found at 18 AAC 75.066 and the definition of shop-fabricated tanks in 18 AAC 75.990(181). Clarification of the requirements applicable to shop-fabricated tanks will serve to align industry practice with practical application of the prevention measures established in Article 1.

Until the regulations are updated, the department provides this guidance on the interpretation of what is to be categorized as a shop-fabricated tank and to clarify the prevention measure requirements for tanks over 50,000 gallons. This guidance applies to all facilities including those that are currently approved or are under review.

Reference:

AS 46.04.030. Oil Discharge Prevention and Contingency Plans

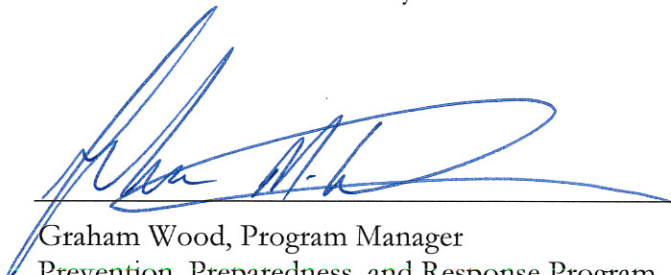
18 AAC 75.065. Aboveground Field-Constructed Oil Storage Tank Requirements

18 AAC 75.066. Aboveground Shop-Fabricated Oil Storage Tanks

18 AAC 75.990. Definitions

18 AAC 75.990 (172) "field-constructed aboveground oil storage tank" means a welded metal aboveground oil storage tank erected on site where it will be placed in service

18 AAC 75.990 (181) "shop-fabricated aboveground oil storage tank" means an oil storage tank that is constructed at a tank manufacturer's plant and transported to a facility for installation.



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