

Ship, Barge, and Terminal Hydrocarbon Vapor Collection Manifolds

API RECOMMENDED PRACTICE 1124
FIRST EDITION, MARCH 1991

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005



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Transportation Department

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FOREWORD

This recommended practice was developed under the direction of the API Marine Transportation Committee. The publication is intended to introduce uniformity in vapor manifold arrangements for tank ships, tank barges, and marine terminals required to install vapor collection systems for the transfer of cargo vapors.

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SECTION 1—GENERAL

1.1 Introduction

1.1.1 This recommended practice is intended to introduce uniformity in vapor manifold arrangements for all tank ships, tank barges, and marine terminals required to install vapor collection systems for the transfer of cargo vapors ashore or between vessels while loading or while ballasting in previously loaded cargo tanks.

1.1.2 The recommendations in this publication are offered as references and are not necessarily intended to be mandatory. However, in cases where deviations from these recommendations exist, it is incumbent on the contracting parties to notify each other and provide assurance in advance of cargo operations so that proper vapor manifold connections can be made.

1.2 Background

In 1989, an API-sponsored hazard analysis concluded that overall safety would be enhanced if means were provided to prevent misconnection between liquid and vapor collection piping. This recommended practice is intended to provide safeguards against misconnection, as well as promote a degree of standardization in manifold arrangements.

1.3 Scope

1.3.1 The recommendations in this document supplement U.S. Coast Guard regulations concerning marine vapor control systems, contained in Title 33, *Code of Federal Regulations*, Parts 154-156 and Title 46, *Code of Federal Regulations*, Parts 30, 32, 35, and 39.

1.3.2 This recommended practice is intended for use for all vessels and terminals required to install vapor collection systems. The recommendations cover all vessel and barge size categories; however, it is recognized that the application of the proposed piping arrangements and manifold spacings aboard existing vessels may

be difficult or impossible due to space limitations. In such cases provisions for alternate vapor line locations are included in 2.2.3.2 for tank ships and 3.2.1 through 3.2.3 for tank barges.

1.3.3 This recommended practice is patterned after, and should be used in conjunction with, the Oil Companies' International Marine Forum (OCIMF), *Standards for Oil Tanker Manifolds and Associated Equipment*, Third Edition, 1988.

1.3.4 Specialized tank ships and barges, particularly those employed in chemical and specialty product trades, may require special manifold arrangements. Those arrangements are not addressed in this recommended practice.

1.3.5 This recommended practice does not cover necessary safeguards to prevent or control releases, fire, or explosion in vapor control systems.

1.4 Referenced Publications

The following documents are referenced in this recommended practice:

American National Standards Institute

B16.5 *Pipe Flanges and Flanged Fittings* (ANSI/ASME B16.5)

B31.3 *Chemical Plant and Petroleum Refinery Piping* (ANSI/ASME B31.3)

Code of Federal Regulations (CFR)

Title 33 CFR Parts 154-156

Title 46 CFR Parts 30, 32, 35, and 39

Oil Companies International Marine Forum

Standards for Oil Tanker Manifolds and Associated Equipment, Third Edition, 1988

International Safety Guide for Oil Tankers and Terminals

SECTION 2—TANK SHIP VAPOR MANIFOLD STANDARDS

2.1 Ship Tonnage Categories (Approximate)

This section applies to the following categories of ships:

A 16,000 to 25,000 Summer DWT (metric tons) (see Figure 1)

B 25,001 to 60,000 Summer DWT (metric tons) (see Figure 2)