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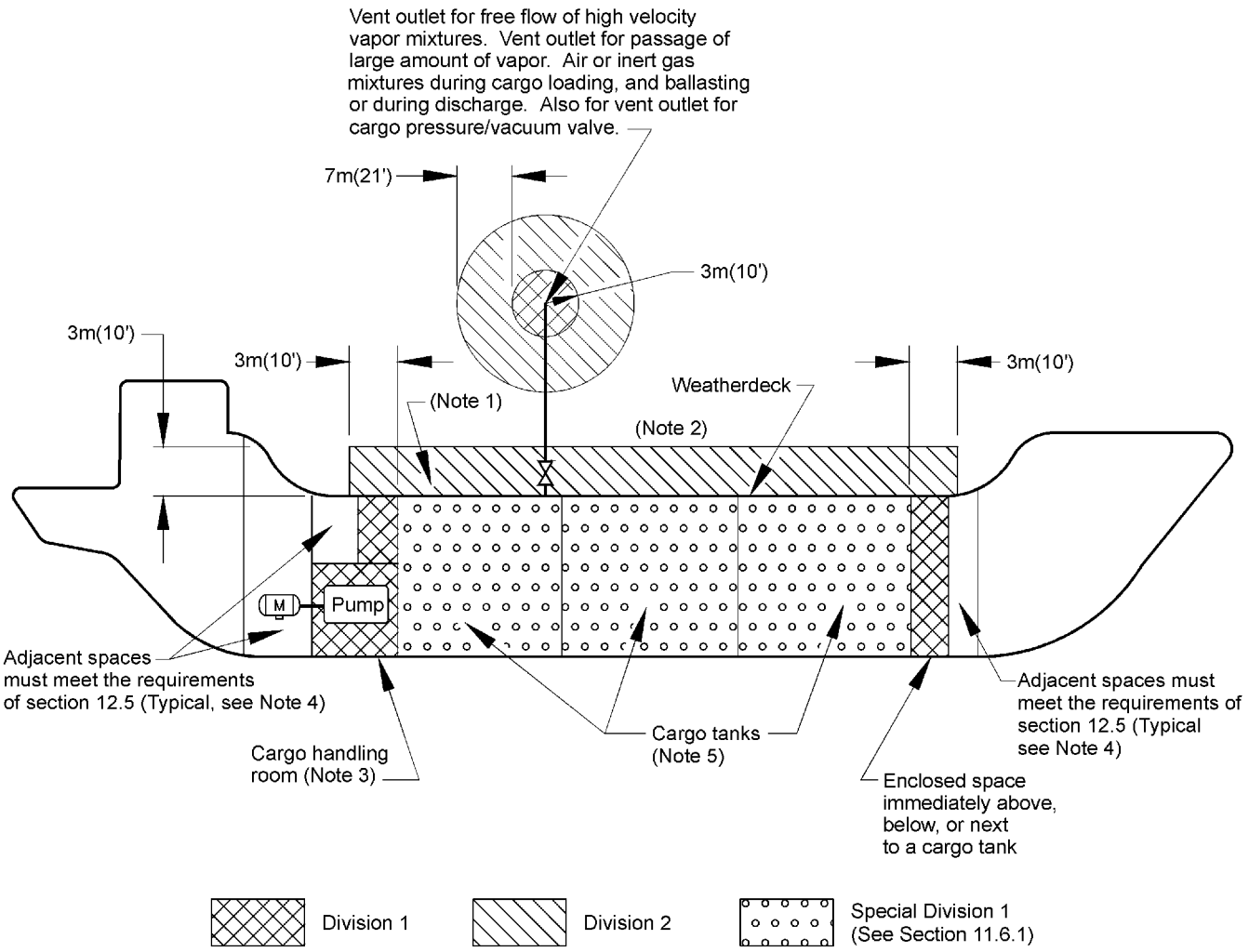
ERRATA

The following figures are replaced by the next three pages:
Page 79, Figure 90
Page 80, Figure 91 and
Page 81, Figure 92.



Notes:

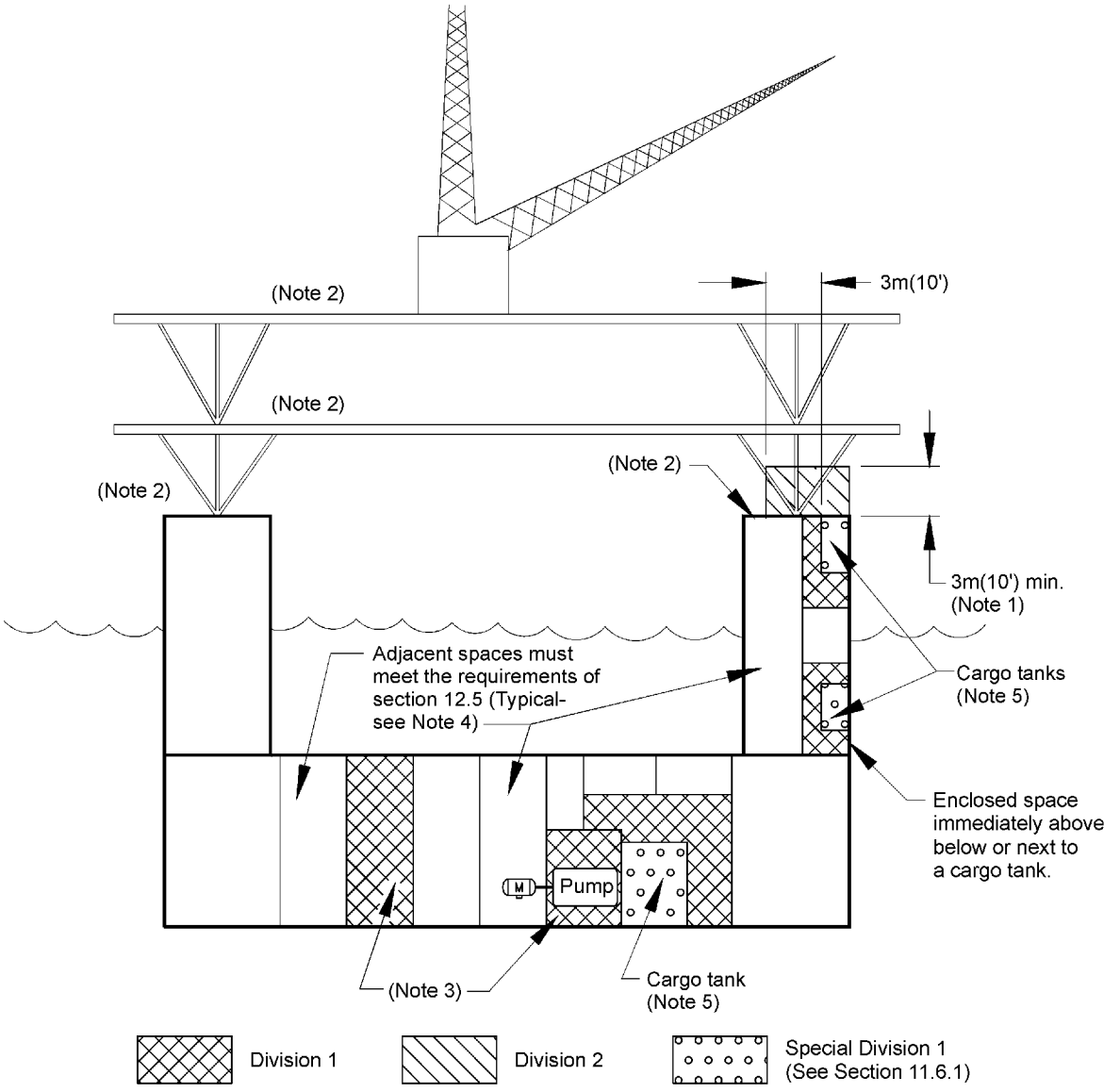
1. This area classified due to proximity to cargo tanks.
2. Areas more than 3m(10') above the weatherdeck are unclassified except as required by this document for production equipment contained therein.
3. Space must be:

   a) continuously ventilated at $\geq$20 air changes per hour, and
   b) loss of ventilation must be alarmed in a manned space, and
   c) combustible gas detection must be installed in accordance with section 6.5.2 .

   or, If ventilated <20 air changes per hour, loss of ventilation is not alarmed, or gas detectors are not installed, then the space is classified a special Division 1 location.

4. All spaces are subject to the adjacent space requirements of section 12.5.
5. Cargo is defined as a flammable gas or vapor or flammable or combustible liquid with a flashpoint below 60°C(140°F)

Figure 90—Typical Floating Production Storage and Offloading Unit (FPSO)
(See Section 12.2.1)

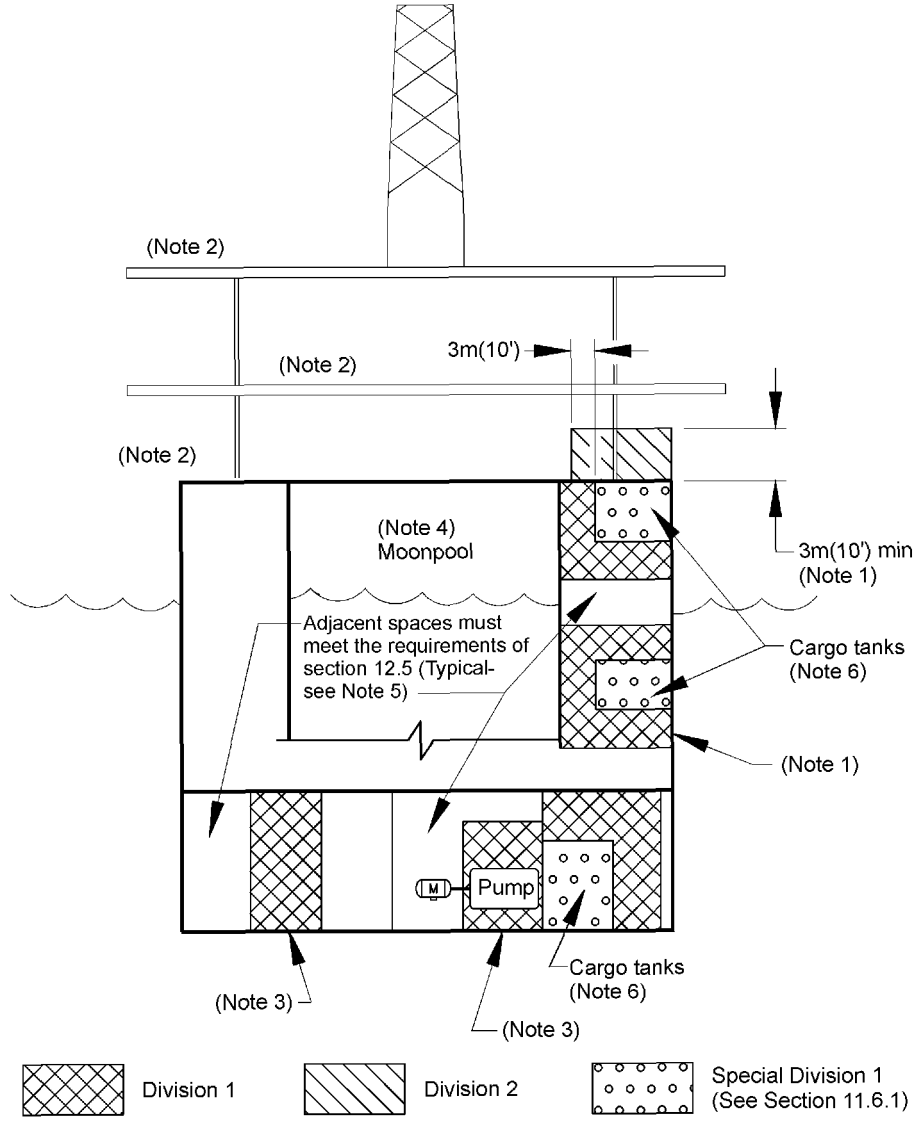


Notes:

1. This area classified due to proximity to cargo tanks.
2. Areas more than 3m(10') above the weatherdeck are unclassified except as required by this document for production and drilling equipment contained therein.
3. Space containing processing equipment or natural gas fueled prime mover with all flammable liquid or gas vents extended to the outside of the area are classified Division 1 if:
   a) continuously ventilated at ≥20 air changes per hour, and
   b) loss of ventilation must be alarmed in a manned space, and
   c) combustible gas detection must be installed in accordance with section 6.5.2 .

   or, If ventilated <20 air changes per hour, loss of ventilation is not alarmed, or gas detectors are not installed, then the space is classified a Special Division 1 location.
4. All spaces are subject to the adjacent space requirements of section 12.5.
5. Cargo is defined as a flammable gas or vapor or flammable or combustible liquid with a flashpoint below 60°C(140°F)

Figure 91—Typical Tension Leg Platform (TLP)
(See Section 12.3.1)



Notes:

1. This area classified due to proximity to cargo tanks.
2. Areas more than 3m(10') above the weatherdeck are unclassified except as required by this document for production and drilling equipment contained therein.
3. Space containing processing equipment or natural gas fueled prime mover with all flammable liquid or gas vents extended to the outside of the area are classified Division 1 if:
   a) continuously ventilated at $\geq$ 20 air changes per hour, and
   b) loss of ventilation must be alarmed in a manned space, and
   c) combustible gas detection must be installed in accordance with section 6.5.2 .

   or, If ventilated <20 air changes per hour, loss of ventilation is not alarmed, or gas detectors are not installed, then the space is classified a Special Division 1 location.
4. Moonpool area is unclassified if it contains all welded closed piping or continuous metallic tubing systems without valves flanges or similar devices, and is not within the hazardous area created by adjacent equipment.
5. All spaces are subject to the adjacent space requirements of section 12.5.
6. Cargo is defined as a flammable gas or vapor or flammable or combustible liquid with a flashpoint below 60°C(140°F)

Figure 92—Typical Spar, Caisson, or Similar Unit
(See Section 12.4.1)

Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2

API RECOMMENDED PRACTICE 500
SECOND EDITION, NOVEMBER 1997

REAFFIRMED: NOVEMBER 2002

Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2

Downstream Segment

API RECOMMENDED PRACTICE 500
SECOND EDITION, NOVEMBER 1997

REAFFIRMED: NOVEMBER 2002

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FOREWORD

This Recommended Practice is under the joint jurisdiction of the API Exploration and Production (E&P) Department, Committee on Production Equipment Standards, the API Manufacturing Distribution and Marketing (MDM) Department, Committee on Refinery Equipment, and the Pipeline Operations Technical Committee. It is based upon a level of knowledge gained through experience and through the successful application of this practice in the refining, drilling and producing, and pipeline segments of the petroleum industry. The First Edition of this Recommended Practice was issued June 1, 1991 under the joint jurisdiction of the API Production, Refining and Transportation Departments.

The first edition of RP 500A was published in February 1955 as RP 500, Recommended Practice for Classification of Areas for Electrical Installations in Petroleum Refineries. The second edition was published in January 1957. The third edition was published as RP 500A in April 1966. The third edition was reaffirmed in 1973. The fourth edition was published in January 1982 as RP 500A, with a new title, Classification of Locations for Electrical Installations in Petroleum Refineries. The fourth edition was reaffirmed in December 1987.

RP 500B was originally issued January 1961 as RP 11J, Recommended Practice for Placement of Electrical Equipment on Production Leases. The first edition of RP 500B was issued in January 1966 under the title, Recommended Practice for Classification in Areas for Electrical Installations at Production Facilities. The title was changed in the second edition, July 1973, to Recommended Practice for Classification of Areas for Electrical Installations at Drilling Rigs and Production Facilities on Land and on Marine Fixed and Mobile Platforms. The third edition of RP 500B, Recommended Practice for Classification of Locations for Electrical Installations at Drilling Rigs and Production Facilities on Land and on Marine Fixed and Mobile Platforms was issued October 1, 1987.

The first edition of API RP 500C was published in September 1966, under the title Recommended Practice for Classification of Areas for Electrical Installations at Petroleum and Gas Pipeline Transportation Facilities. The first edition was re-approved in 1974. The title was changed in the second edition, July 1984, to Classification of Locations for Electrical Installations at Pipeline Transportation Facilities. The second edition was reaffirmed in March 1990.

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Suggested revisions are invited and should be submitted to the director of the Manufacturing, Distribution and Marketing Department, American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005.

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Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2

1 Scope

1.1 PURPOSE

1.1.1 The purpose of this recommended practice is to provide guidelines for classifying locations Class I, Division 1 and Class I, Division 2 at petroleum facilities for the selection and installation of electrical equipment Basic definitions given in the 1996 edition of NFPA 70, the National Electrical Code (NEC), have been followed in developing this recommended practice. This publication is only a guide and requires the application of sound engineering judgment.

Note: Recommendations for determining the degree and extent of locations classified Class I, Zone 0, Zone 1, and Zone 2 are addressed in API RP 505, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1, and Zone 2.

1.1.2 Electrical installations in areas where flammable liquids, gases, or vapors are produced, processed, stored or otherwise handled can be suitably designed if the locations of potential sources of release and accumulation are clearly defined. Once a location has been classified, requirements for electrical equipment and associated wiring should be determined from applicable publications. Applicable publications may include NFPA 70 (NEC) or API RP 14F. Reference Section 2 for publications for other possible applications.

1.2 SCOPE

1.2.1 This document applies to the classification of locations for both temporarily and permanently installed electrical equipment. It is intended to be applied where there may be a risk of ignition due to the presence of flammable gas or vapor, mixed with air, under normal atmospheric conditions. Normal atmospheric conditions are defined as conditions that vary above and below reference levels of 101.3 kPa (14.7 psia) and 20°C (68°F) provided that the variations have a negligible effect on the explosion properties of the flammable materials.

The following items are beyond the scope of this document:

a. Piping systems used for odorized natural gas used as fuel for cooking, heating, air conditioning, laundry and similar appliances;

b. catastrophes such as well blowouts or process vessel ruptures. Such extreme conditions require emergency measures at the time of occurrence;

c. the suitability of locations for the placement of non-electrical equipment; and

d. classification of locations containing combustible dust, ignitible fibers, or flyings.

1.2.2 Recommendations for determining the degree and extent of classified locations for specific examples of situations commonly encountered in petroleum facilities are given in Sections 8 through 14. While it is important for area classifications at refineries, production and drilling facilities, and pipeline facilities to agree to some extent, there are differences in production, drilling, transportation and refining facilities. Some differences include the process conditions, types and quantities of products handled, the physical size of typical facilities, and varying housing and sheltering practices.

1.2.3 Section 8 includes applications that are common to several of the facility types described in Sections 9 through 14.

1.2.4 Section 9 is applicable to locations in which flammable petroleum gases and vapors and volatile flammable liquids are processed, stored, loaded, unloaded, or otherwise handled in petroleum refineries.

1.2.5 Section 10 is applicable to locations surrounding oil and gas drilling and workover rigs and production facilities on land and on marine fixed (bottom-founded, non-floating) platforms where flammable petroleum gas and volatile liquids are produced, processed (for example, compressed), stored, transferred (for example, pumped), or otherwise handled prior to entering the transportation facilities.

1.2.6 Section 11 is applicable to locations on Mobile Offshore Drilling Units (MODUs).

1.2.7 Section 12 is applicable to locations surrounding oil and gas drilling and workover rigs and production facilities on floating production units (FPUs) such as, but not limited to, tension leg platforms (TLPs), floating production systems (FPSs), floating production systems with off-loading (FPSOs), single anchor leg mooring buoys (SALMs), caisson structures, spars, and other floating structures where flammable petroleum gas and volatile liquids are produced, processed (for example, compressed), stored, transferred (for example, pumped) or otherwise handled prior to entering the transportation facilities.

1.2.8 Section 13 is reserved for future use.

1.2.9 Section 14 is applicable to onshore and offshore facilities handling the delivery of flammable or combustible petroleum liquids or flammable gases. Pipeline facilities may include pump and compressor stations, storage facilities, manifold areas, valve sites and pipeline right-of-way areas.