Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations

API RECOMMENDED PRACTICE 14F
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Foreword

This recommended practice (RP) contains information for use primarily by engineers with a working knowledge of electrical systems and production operations. Some of the information can be useful to experienced electrical maintenance and operating personnel. The intent of the document is to identify important features of offshore electrical systems and to present generally accepted practices for electrical design and installation that experience in the offshore petroleum industry has shown results in safe, reliable, efficient, and maintainable operations. Nothing in this RP is to be construed as a fixed rule without regard to sound engineering judgment, nor is it intended to supersede or override any federal, state, or local regulation where applicable.

The First Edition of API 14F was published in July 1978 as API 14F, *Design and Installation of Electrical Systems for Offshore Production Platforms*, under the jurisdiction of the API Production Department. The Second Edition was published on July 1, 1985. The Third Edition was published September 1, 1991. The Fourth Edition was published June 1999, with a new title, *Recommended Practice for Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1 and Division 2 Locations*. The Fifth Edition was published in July 2008. A related document, API 14FZ, *Recommended Practice for Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1 and Zone 2 Locations*, First Edition, was published in September 2001 to address zone classifications and wiring methods introduced initially in Article 505 of the 1996 *National Electrical Code* (*NEC*) and referenced the 1999 *NEC*. API RP 14FZ Second Edition was published in May 2013 to address zone classifications and wiring methods in Article 505 in the 2011 *NEC*.

This document includes usage of the verbs *shall and should*—whichever is the more applicable to the function. For the purpose of this document:

Shall: As used in a standard, “shall” denotes a minimum requirement in order to conform to the specification.

Should: As used in a standard, “should” denotes a recommendation or that which is advised but not required in order to conform to the specification.

May: As used in a standard, “may” denotes a course of action permissible within the limits of a specification.

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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

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1 Scope

1.1 General

1.1.1 This document recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Zone 0, Zone 1, or Zone 2, reference API RP 14FZ, *Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1, and Zone 2 Locations*. These facilities include drilling, producing, and pipeline transportation facilities associated with oil and gas exploration and production. This recommended practice is not applicable to mobile offshore drilling units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. These include the following:

a) the inherent electrical shock possibility presented by the marine environment and steel decks;

b) space limitations that require that equipment be installed in or near hazardous (classified) locations;

c) the corrosive marine environment;

d) motion and buoyancy concerns associated with floating facilities.

1.1.2 This recommended practice applies to both permanent and temporary electrical installations. The guidelines presented herein should provide a high level of electrical safety when used in conjunction with well-defined area classifications. This recommended practice emphasizes safe practices for hazardous (classified) locations on offshore petroleum facilities but does not include guidelines for classification of areas; for guidance on the classification of areas refer to API RP 500.

1.2 Applicability of the *National Electrical Code*

Electrical systems for offshore petroleum facilities shall be designed and installed in accordance with the *National Electrical Code* (*NEC*), 2017 edition, except where specific departures are noted.

2 Normative References

2.1 Industry Codes, Guides, and Standards

Various organizations have developed numerous codes, guides, and standards that have substantial acceptance by industry and governmental bodies. Codes, guides, and standards useful in the design and installation of electrical systems are listed below as references only. These are not considered to be a part of this recommended practice except for those specific sections of documents referenced elsewhere in this recommended practice.

API RP 2L, *Recommended Practice for Planning, Designing, and Constructing Heliports for Fixed Offshore Platforms*

API RP 14C, *Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems on Offshore Production Platforms*