NACE SP0176-2022
Revised June 30, 2022

Corrosion Control of Submerged Areas of Permanently Installed Steel Offshore Structures Associated with Petroleum Production

Corrosion Control of Submerged Areas of Permanently Installed Steel Offshore Structures Associated with Petroleum Production

This AMPP standard represents a consensus of those individual members who have reviewed this document, its scope and provisions. Its acceptance does not in any respect preclude anyone, whether he or she has adopted the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not in conformance with this standard. Nothing contained in this AMPP standard is to be construed as granting any right, by implication or otherwise, to manufacture, sell, or use in connection with any method, apparatus, or product covered by Letters Patent, or as indemnifying or protecting anyone against liability for infringement of Letters Patent. This standard represents minimum requirements and should in no way be interpreted as a restriction on the use of better procedures or materials. Neither is this standard intended to apply in all cases relating to the subject. Unpredictable circumstances may negate the usefulness of this standard in specific instances. AMPP assumes no responsibility for the interpretation or use of this standard by other parties and accepts responsibility for only those official AMPP interpretations issued by AMPP in accordance with its governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this AMPP standard are responsible for reviewing appropriate health, safety, environmental, and regulatory documents and for determining their applicability in relation to this standard prior to its use. This AMPP standard may not necessarily address all potential health and safety problems or environmental hazards associated with the use of materials, equipment, and/or operations detailed or referred to within this standard. Users of this AMPP standard are also responsible for establishing appropriate health, safety, and environmental protection practices, in consultation with appropriate regulatory authorities, if necessary, to achieve compliance with any existing applicable regulatory requirements prior to the use of this standard.

CAUTIONARY NOTICE: AMPP standards are subject to periodic review and may be revised or withdrawn at any time in accordance with AMPP technical committee procedures. AMPP requires that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of initial publication and subsequently from the date of each reaffirmation or revision. The user is cautioned to obtain the latest edition. Purchasers of AMPP standards may receive current information on all standards and other AMPP/NACE/SSPC publications by contacting AMPP Customer Support, 15835 Park Ten Place, Houston, Texas 77084-5145 (Tel: +1 281-228-6200, email: customersupport@ampp.org).

Document History

2022-06-30: Revised by AMPP Standards Committee (SC) 14, Oil & Gas: Upstream

2007-03-10: Revised by NACE Task Group (TG) 170, Offshore Steel Platforms—Corrosion Control: Review of NACE Standard RP0176

2003-06-21: Revised by NACE TG 170, Offshore Steel Platforms—Corrosion Control: Review of NACE Standard RP0176

1994 March: Revised by NACE TG T-1-5

1983-May: Revised by NACE TG T-1-2, North Sea Corrosion Problems

1976-April: Approved as RP0176 by NACE TG T-1-2, North Sea Corrosion Problems

AMPP values your input. To provide feedback on this standard, please contact: standards@ampp.org

Corrosion Control of Submerged Areas of Permanently Installed Steel Offshore Structures Associated with Petroleum Production

Figures

Tables

Foreword

Offshore structures represent large capital investments. Structures are being placed in offshore areas worldwide and are being designed to withstand forces resulting from hurricanes, arctic storms, tidal currents, earthquakes, and ice floes. Moreover, platform structures are currently being placed in deeper waters and, therefore, have become larger, more complex, and more expensive. Control of corrosion on structures is necessary for the economic development of oil and gas production, to provide safe support for working and living areas, and to avoid potential harm to the environment. Corrosion on offshore structures can be divided into three major areas: the submerged zone, the splash zone, and the atmospheric zone. The submerged zone also includes that portion of the structure below the mudline. For the purposes of this standard, offshore structures are stationary structures (platforms or subsea facilities) that are fixed to the sea floor by gravity, pilings, or mooring cables.

This AMPP standard is intended for use by corrosion control personnel concerned with the corrosion of steel fixed offshore platforms associated with petroleum production.

Scope

This standard outlines materials, practices, and methods for control of corrosion for steel fixed structures associated with petroleum production located in offshore areas. The purpose is to facilitate more effective corrosion protection of structures by the presentation of reliable information. This standard does not include procedures for the control of internal corrosion of wells, piping, and associated equipment that may be in use on the structure, nor does it include external protection of these items in the atmospheric zone on the structure.

Rationale

The purpose of this revision is to:

- Update out-of-date references to government bodies or earlier works in progress
- Rearrange or relocate some content for clarity
- Reconsider some international design current deficiencies
- Correct minor editorial errors

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

Section 1: General

1.1 This standard provides guidelines for establishing minimum requirements for the control of external corrosion on steel fixed offshore structures associated with petroleum production, and on the external portions of associated oil and gas handling equipment. Fixed structures include platforms, tension leg platforms (TLP), subsea templates, and other similar structures. This standard does not include guidelines for corrosion control of temporarily moored mobile vessels used in petroleum production.

1.2 For this standard, corrosion on structures is divided into three zones: the submerged, splash, and atmospheric zones. However, only the submerged zone is addressed in this standard. The atmospheric and splash zones are addressed in NACE SP0108.[1]

1.3 This standard does not designate guidelines for every specific situation because of the complexity of environmental conditions. In many instances, the problem may have several solutions and, when appropriate, meritorious alternative solutions have been included.

1.4 This standard does not include guidelines for corrosion control of the internal portions of wells, piping, and associated equipment that may be installed on or attached to structures. NACE SP0575 gives guidance on internal corrosion control of oil-treating vessels.[2]