Mooring Integrity Management

API RECOMMENDED PRACTICE 2MIM
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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Washington, DC 20001, standards@api.org.

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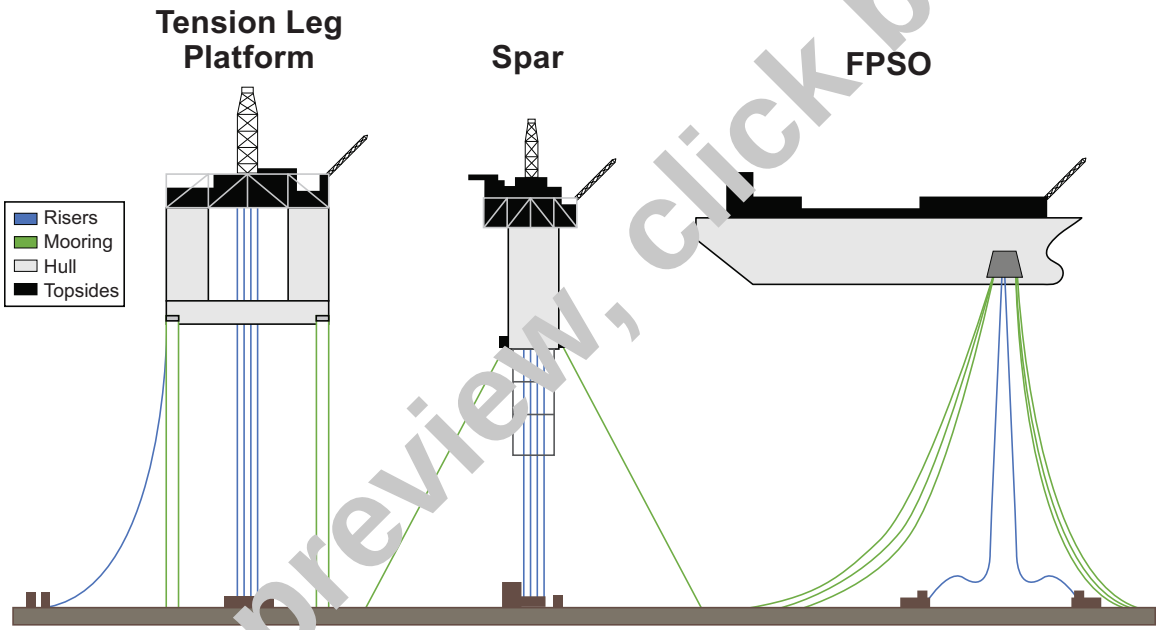
Introduction

This recommended practice (RP) is one of three additions to API's portfolio of offshore floating structures standards that address integrity management (IM) of floating systems (API 2FSIM), mooring systems (API 2MIM), and riser systems (API 2RIM).

This RP is intended to be used by owners and engineers in the development, implementation, and delivery of a process to maintain system integrity of floating production systems (FPSs), *not* including tension leg platforms (TLPs). The specifications, procedures, and guidance provided herein are based on internationally recognized industry standards and on global industry best practices.

API's existing suite of recommended practices such as API 2FPS, API 2T, API 2SK, API 2RD, and API 2MIM address several aspects of life cycle integrity management expectations, and the three new standards add to that suite by capturing experiences from owners, operators, integrity management specialists, recognized classification societies (RCSs), and regulators, establishing a common framework for IM for FPSs. The figure below depicts the interfaces between the hull and mooring and risers for various types of FPSs and the IM standard that addresses the specific systems.



Physical Interfaces between API IM Standards

Implementation of effective integrity management for floating systems requires an understanding of the interfaces between the hull, mooring, and risers and how they translate to stewardship of IM activities in the field. The new standards have been developed with the objective of recognizing and identifying key interfaces, and they emphasize the criticality of a systems level approach.

By having a consistent systems level approach and by pursuing a risk-based framework to develop, evaluate, plan, and implement an integrity management program for a floating system, the user can tailor the IM program around the unique design drivers, in-service and operating conditions while conforming to the owner's organizational safety, health and environment risk management policies and regulatory requirements.

Mooring Integrity Management

1 Scope

This recommended practice (RP) provides guidance for the integrity management (IM) of mooring systems connected to a permanent floating production system (FPS) used for the drilling, development, production, and/or storage of hydrocarbons in offshore areas. The scope of this RP extends from the anchor to the connection to the floating unit (e.g. chain stopper) and includes components critical to the mooring system (e.g. turret bearings, fairleads, chain stoppers, anchors, suction piles).

Specific guidance is provided for the inspection, monitoring, evaluation of damage, fitness-for-service assessment, risk reduction, mitigation planning, and the process of decommissioning. This RP incorporates and expands on the IM recommendations found in API 2I and API 2SK. In the event of any discrepancy between API 2MIM and API 2I/API 2SK, API 2I/API 2SK will govern.

This RP is not intended for:

— structural steelwork of turret systems and TLP tendons, which are addressed by API RP 2FSIM;

— thrusters, power generation, or control system;

— mobile offshore drilling unit (MODU) or other temporary moorings that are deployed and retrieved frequently;

— vessels holding station via a dynamic positioning (DP) system, without the use of mooring.

2 Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Recommended Practice 2I, *In-service Inspection of Mooring Hardware for Floating Structures*

API Recommended Practice 2SM, *Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Rope for Offshore Mooring*

3 Terms, Definitions, and Abbreviations

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and Definitions

3.1.1
anomaly
An observation or finding indicating the possibility that a certain parameter could be outside an acceptable design or performance threshold.

3.1.2
assessment
A technical review process triggered by an assessment initiator (as identified during an evaluation) to demonstrate that a system or structure is fit-for-service or to determine the need for risk reduction.

3.1.3
assessment initiator
Changes in mooring condition or operating experience, such as storms, which require an existing mooring to undergo an assessment to demonstrate fitness-for-service.