

# Operation and Maintenance of Offshore Cranes

API RECOMMENDED PRACTICE 2D  
SIXTH EDITION, MAY 2007



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**Upstream Segment**

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## FOREWORD

This Recommended Practice is under the jurisdiction of the API Executive Committee on Drilling and Production Operations and was developed in cooperation with the Offshore Operators Committee. Detailed requirements for the design and construction of offshore cranes are given in API Specification 2C *Specification for Offshore Cranes* (latest edition).

Guidelines provided herein on the operation, inspection and maintenance of offshore cranes are based in part on an understanding of the cranes' design and construction. Therefore, this document should be read in conjunction with API Spec 2C.

The material in this publication represents the contribution of industry representatives of crane users, crane manufacturers, wire rope manufacturers and ancillary crane device or component manufacturers. It is based on industry experience and expertise involving worldwide operations.

This publication is organized into text sections and associated supporting appendices. In the Text Sections, practices and procedures considered to be mandatory; standards and minimums that are deemed necessary minimum; and the overall intent, goals and objectives of crane operating, inspection and maintenance practices, programs and procedures, are defined.

In the appendices, the basis for the recommended mandatory practices, minimum standards and program goals, are substantiated; non-mandatory practices are discussed and illustrated; and examples of programs, which meet the intent of the guidelines, are given.

It should be understood that the crane operating and maintenance practices recommended herein by necessity collectively cover a wide range of crane types and configurations. Not all practices are applicable to all cranes. When applying this RP, care should be taken to review each item as stated, and use those items specifically applicable to the crane's type, usage and duty-cycle. It may be necessary to modify a procedure due to a particular crane requirement. This modification would be wholly acceptable as long as the original intent of the practice or procedure is met.

This RP shall become effective on the date printed on the cover but may be used voluntarily from the date of distribution.

This publication includes use of the verbs shall and should, whichever is deemed the most applicable for the specific situation. For the purposes of this publication, the following definitions are applicable:

*Shall*: Indicates that the recommended practice has universal applicability to that specific activity.

*Should*: Denotes a recommended practice a) where a safe comparable alternative practice is available; b) that may be impractical under certain circumstances; or c) that may be unnecessary under certain circumstances or applications.

Changes in the uses of these verbs are not to be effected without risk of changing the intent of recommendations set forth herein.

In general, the numbers in the appendices of this document coincide with the applicable sections or subsections in the body of the recommended practice.

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Suggested revisions are invited and should be submitted to the Standards and Publications Department, API, 1220 L Street, NW, Washington, D.C. 20005, [standards@api.org](mailto:standards@api.org).

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# Recommended Practice for Operation and Maintenance of Offshore Cranes

## 1 Scope

This Recommended Practice is intended to serve as a guide to Crane Owners and Crane Operators in developing operating and maintenance practices and procedures for use in the safe operation of pedestal-mounted revolving cranes on fixed or floating offshore platforms, jackup drilling rigs, semi-submersible drilling rigs and other types of mobile offshore drilling units (MODUs). Guidelines are also given for the pre-use inspection and testing of temporary cranes (also called self-erecting, leapfrog or bootstrap cranes) that are erected offshore. These minimum practices are presented on the premise that:

- a. Inspections are intended to identify all deficiencies or items, which would affect the safe operation or reduce the lifting capability of the crane. Inspections should utilize methods and procedures appropriate for the crane type and its past and anticipated usage, as determined by the Crane Owner.
- b. Action taken to correct a deficiency should be made as soon as practicable.
- c. Limited (restricted) service may, in some cases, be continued after the identification and before correction of a deficiency. In such cases, it is the responsibility of the Qualified Crane Operator or Qualified Inspector to document the deficiency, reporting it to the Crane Owners. Based on this information, the Crane Owner should define the appropriate restriction and post necessary cautionary notices, after consultation with the Crane Manufacturer, Authorized Surveyor, certifying authority or other qualified source (such as an API-licensed 2C Crane Manufacturer, or an engineer experienced in the design of the crane, as determined by the Crane Owner).
- d. Conformance to the intent of the programs and practices recommended herein is intended to result in cranes that operate safely and efficiently between inspection periods and in accordance with a company's Safety and Environmental Management Program (SEMP) (see API RP 75).

Each Crane Owner, Qualified Crane Operator, Qualified Inspector, and Qualified Rigger is encouraged to follow the recommendations outlined herein, and to modify or supplement them with any practices or procedures which are more appropriate for the type and duty cycle—both past and future—of the crane, provided the minimum recommendations and the intent of the programs stated herein are met.

## 2 Definitions

- 2.1 Authorized Surveyor:** See the definition for **Qualified Inspector**.
- 2.2 bearing raceway:** The surface of the bearing rings which contact the rolling element (balls or rollers) of the swing-bearing assembly.
- 2.3 boom:** A member hinged to the revolving upper-structure and used for supporting the hoist tackle.
- 2.4 boom angle:** The angle above or below horizontal of the longitudinal axis of the base boom section.
- 2.5 boom angle indicator:** An accessory which measures the angle of the boom above horizontal.
- 2.6 boom hoist:** The hoist mechanism responsible for raising and lowering the boom.
- 2.7 boom length:** The straight-line distance from the centerline of boom foot-pin to the centerline of the boom-point load hoist sheave pin, measured along the longitudinal axis of the boom.
- 2.8 boom stop:** A device used to limit the angle of the boom at the highest recommended position.
- 2.9 brake:** A device used for retarding or stopping motion or holding.
- 2.10 bridle sling:** A multi-leg wire or synthetic rope sling attached to a single point ring. The legs of the sling are spread to divide and equalize the load.
- 2.11 cab:** An enclosure for the operator and the machine operation controls.
- 2.12 clutch:** A means for engagement or disengagement of power.
- 2.13 counterweight:** Weight used to supplement the weight of the machine in providing stability for lifting working loads and usually attached to the rear of the revolving upper-structure.