

Recommended Practice for Use and Procedures for Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures

API RECOMMENDED PRACTICE 4G
THIRD EDITION, APRIL 2004

ERRATA, JUNE 2004



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Upstream Segment

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FOREWORD

This edition includes new inspection guidelines for drilling and well servicing structures. Users/owners may require a period of time to bring existing structures into conformance with these new criteria. Due to the number of structures involved and the limited availability of qualified inspectors, the date of the first inspection for existing structures should remain flexible.

This standard shall become effective on the date of publication.

The forms in annexes A through D are intended for free exchange between owners/operators of the equipment or users of API Spec 4G.

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1 Scope

1.1 OBJECTIVE

The objective of this publication is to give guidelines and establish recommended procedures for inspection, maintenance and repair of items for drilling and well servicing structures, in order to maintain the serviceability of this equipment.

These recommendations should be considered as supplemental to, and not as a substitute for, the manufacturer's instructions and the recommendations in the most current edition of API RP 54 *Recommended Practices for Occupational Safety and Health for Oil and Gas Well Drilling and Servicing Operations*.

1.2 STRUCTURES COVERED

Items of drilling and well servicing structures covered by this publication include:

- Masts/derricks and accessories
- Substructures and accessories

Note: Crown block sheaves and bearings are covered under API RP 8B.

Note: Offshore masts, derricks, substructures and accessories are not under the scope of this recommended practice relative to Section 4.2.5 Category IV inspection requirements.

2 References

Note: The following list of standards is supplied for the convenience of the reader, only those portions of the standard listed below which are directly referenced in this specification are considered part of this specification. Documents (sub-tier) that are referenced by those standards are not considered part of this recommended practice.

- a. API RP 9B *Application, Care, and Use of Wire Rope for Oil Field Service*.
- b. API RP 54 *Occupational Safety for Oil and Gas Well Servicing Operations*.
- c. API Spec 4F *Drilling and Well Servicing Structures*.
- d. AISC *Manual for Steel Construction*.
- e. ASNT TC-1A *Recommended Practice for Personnel Qualification and Certification in Non-Destructive Testing*.
- f. ASTM A370 *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*.
- g. AWS D1.1 *Structural Welding Code*.
- h. API RP 8B *Recommended Practice for Procedures for Inspections, Maintenance, Repair, and Remanufacture of Hoisting Equipment*.

Note: All standards referenced should be considered in context and equivalent or higher standards are acceptable in the international arena.

3 Terms, Definitions and Abbreviated Terms

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

3.1 TERMS AND DEFINITIONS

3.1.1 certification: The act of endorsing as meeting set standards or requirements.

3.1.2 critical area: A highly stressed region of a primary load-carrying component as defined by the manufacturer or a qualified person.

3.1.3 derrick: A semi-permanent structure of square or rectangular cross-section having members that are latticed or trussed on all four sides. This unit must be assembled in the vertical or operation position, as it includes no erection mechanism. It may or may not be guyed.

3.1.4 equipment performance: Operational capability of a piece of equipment relative to expected or predetermined parameters or standards.

3.1.5 fish plate: Either one or two steel plates that are welded or bolted to the webs or flanges of adjacent rails or beams on opposite sides to strengthen a member.

3.1.6 inspection: Comparison of equipment conformity to predetermined standards, followed by a determination of action required, if any.

3.1.7 load test: A procedure wherein a load is applied under controlled and monitored conditions to verify the serviceability of equipment.

3.1.8 maintenance: Actions, including inspection; adjustments; cleaning; lubrication; testing; and expendable parts replacement necessary to maintain the serviceability of the equipment.

3.1.9 manufacturer: A term denoting individuals or companies who make or process equipment or materials covered by this standard.

3.1.10 mast: A structural tower comprised of one or more sections and then raised to the operating position. If the unit contains two or more sections, it may be telescoped or unfolded during the erection procedure.