

Recommended Practice for Guarding of Pumping Units

API RECOMMENDED PRACTICE 11ER
THIRD EDITION, NOVEMBER 2009

REAFFIRMED, JULY 2020



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Upstream Segment

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Foreword

This recommended practice (RP) is under the jurisdiction of the API Subcommittee 11, Subcommittee on Field Operating Equipment.

It is intended that this RP provide a guideline for the guarding of moving parts of oil well pumping units. It is based on knowledge and experience gained through the application of guards for pumping units by the production segment of the petroleum industry over a period of many years.

In preparing this RP, the group responsible has selected and extracted specifications and recommendations from the following publications: ANSI A1264.1:2007, *Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrails Systems* and ANSI R15.1:2000, *Safety Standard for Mechanical Power Transmission Apparatus*.

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- 2) pounds per linear foot (lb/ft) were converted to kilograms per meter (kg/m) by multiplying by 1.448164 and rounding to two places to right of decimal point;
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Recommended Practice for Guarding of Pumping Units

1 Introduction

1.1 Purpose

This recommended practice (RP) provides a reference or guide for the design, manufacture, and installation of guards for oil well pumping units. It is based on practices which experience has shown to be functionally safe and practical.

1.2 Scope

This RP is intended to provide safeguards for all persons who are required to work around or on oil well pumping units.

- a) These safeguards should prevent bodily injury from contact with moving parts for anyone inadvertently walking into, falling, slipping, tripping, or similar action. The safeguards should also prevent injury from reasonable or predictable breakage of any of the component parts.
- b) It is anticipated that persons who will be exposed to the hazards involved with the moving parts of a pumping unit are adults who are able-bodied and physically capable of performing useful work; they may be expected to be of normal intelligence and able to act with reasonable decorum and caution. They may also be expected to be aware of the potential hazards involved. The general public normally will not have access to the area where pumping units are located. Pumping units generally are in rural and fairly remote locations on private leases where the public would be trespassing.
- c) Where unattended locations present close exposure to a community of people, safety barriers, such as provided by a totally enclosed and locked perimeter, may be required (see 4.4.1.3).

2 Types of Guarding to be Used on Pumping Unit

2.1 General

The general types of guards include those listed as follows or combinations thereof.

2.2 Enclosures and Guardrails

Enclosures usually provide the greatest degree of protection against moving parts of mechanical equipment. Guardrails sometimes offer less effective protection than enclosures of proper dimension and the use of guardrails shall be confined to protecting against slow moving equipment such as cranks, counterweights, air counterbalance tanks, and horseheads. Both enclosures and guardrails should be strong enough to withstand the impacts and loading imposed upon them without collapsing against the moving mechanism they protect against, and their dimensions should be within the limits prescribed in Section 4.

2.3 Location

This refers to equipment which, because of its location, is not accessible to employees performing normal operating or maintenance procedures. Where a hazard would exist during maintenance, the equipment should be shut down and all power locked out or the equipment guarded in accordance with 4.2 or 4.3.