

# Management of Hazards Associated with Location of Process Plant Permanent Buildings

API RECOMMENDED PRACTICE 752  
THIRD EDITION, DECEMBER 2009

REAFFIRMED, AUGUST 2020



American  
Petroleum  
Institute

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**Downstream Segment**

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## Foreword

This recommended practice (RP) provides guidance for new and existing building siting evaluation and references documents concerning technical aspects of building siting evaluation including hazard identification, consequence modeling, structural analysis, and risk. Among the hazards that potentially could affect building occupants are explosion, fire, and toxic material releases.

This third edition of API RP 752:2009 supersedes all previous editions, including the technical data provided in those documents. Significant research and development of technology pertinent to building siting evaluations has been performed since the publication of the previous editions of API RP 752. Examples of updated technology include prediction of blast damage to buildings, determination of occupant vulnerabilities, and estimates of event frequencies. Prior versions of API RP 752 and the technical data included in them should not be used for building siting evaluations.

The second edition of API RP 752:2003 covered all building types both permanent and portable. This third edition of API RP 752:2009 does not cover portable buildings. Portable buildings are now covered by API RP 753:2007. It is recognized, however, that portable buildings specifically designed for significant blast loads represent a potential area of overlap between API RP 753 and API RP 752. In accordance with 1.3 of this document:

“Buildings described in API RP 753, *Management of Hazards Associated with Location of Process Plant Portable Buildings*, First Edition, June 2007, as ‘portable buildings specifically designed to resist significant blast loads’ and intended for permanent use in a fixed location are covered in this document (API RP 752). All other portable buildings are covered by API RP 753.”

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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

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# Management of Hazards Associated with Location of Process Plant Permanent Buildings

## 1 Scope

### 1.1 General

This recommended practice (RP) provides guidance for managing the risk from explosions, fires and toxic material releases to on-site personnel located in new and existing buildings intended for occupancy. This RP was developed for use at refineries, petrochemical and chemical operations, natural gas liquids extraction plants, natural gas liquefaction plants, and other onshore facilities covered by OSHA 29 CFR 1910.119 [1].

Buildings covered by this RP are rigid structures intended for permanent use in fixed locations. Tents, fabric enclosures, and other soft-sided structures are outside the scope of this document.

### 1.2 Guiding Principles

This RP is based on the following guiding principles:

- a) locate personnel away from process areas consistent with safe and effective operations;
- b) minimize the use of buildings intended for occupancy in close proximity to process areas;
- c) manage the occupancy of buildings in close proximity to process areas;
- d) design, construct, install, modify, and maintain buildings intended for occupancy to protect occupants against explosion, fire, and toxic material releases;
- e) manage the use of buildings intended for occupancy as an integral part of the design, construction, maintenance, and operation of a facility.

### 1.3 Relationship with API RP 753, First Edition

Buildings described in API RP 753, *Management of Hazards Associated with Location of Process Plant Portable Buildings*, First Edition, June 2007, as "portable buildings specifically designed to resist significant blast loads" and intended for permanent use in a fixed location are covered in this document (API RP 752). All other portable buildings are covered by API RP 753.

## 2 Normative References

There are no normative references for this document.

References in this document and the bibliography are provided for information only and are not part of this RP.

## 3 Terms and Definitions

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

### 3.1

#### **blast load**

The load applied to a structure or object from a blast wave, which is described by the combination of overpressure and either impulse or duration.