Installation of Underground Petroleum Storage Systems

API RECOMMENDED PRACTICE 1615
SIXTH EDITION, APRIL 2011

REAFFIRMED, MAY 2020

AMERICAN PETROLEUM INSTITUTE

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Marketing Segment

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Introduction

The proper installation of an UST system can contribute toward ensuring that the maximum utilization of the various components and equipment comprising an UST system are achieved at the lowest total cost of ownership. This will help prevent, as well as reduce, the frequency and magnitude of releases that may result from equipment failure or malfunction.

The benefits from proper installation include, but are not limited to, improved protection of the environment and reduced environmental liabilities for the UST system owner and operator.

Construction plans and written documents are often required for obtaining permits, soliciting bids, and providing precise guidance for installers. Obtaining and providing the following documentation is the responsibility of various stakeholders (e.g. general contractors, electrical contractors, equipment manufacturers, environmental assessment contractors, regulatory agencies, etc.). Those responsibilities can be designated during initial construction planning meetings with the UST owner and operator. (See also Annex A—"UST System Installation Documents Checklist")

The choice of proper equipment and materials is necessary to help provide long-term system operation and integrity. Installation checklists tailored to the intended installation site provide a convenient method for planning and documenting work. Any municipal, county, or state codes and regulations, as well as nationally-recognized industry standards or recommended practices that address the installation of the UST system should also be referenced and/or included in the document package. Any other requirements specific to local conditions that may provide information regarding safety and/or environmental considerations during construction should also be included. (See also Annex A—"UST System Installation Checklist" of items discussed in this Introduction)

Installation of Underground Petroleum Storage Systems

1 Scope

1.1 This Recommended Practice (RP) is a guide to procedures and equipment that should be used for the proper installation of underground storage systems for bulk petroleum products or used oil at retail and commercial facilities. The stored products include gasoline, diesel fuel, kerosene, lubricating oils, used oil, and certain bio-fuel blends. (For information on alcohol/gasoline blends, see API 1626. The product manufacturer and the authority having jurisdiction (AHJ) should be consulted with regard to the proper storage of all products.)

NOTE All drawings provided in this document are for reference and illustration purposes only. Drawings are not to scale and may not reflect exact details of UST system configurations, components and equipment provided by manufacturers. For exact specifications and details of components and equipment consult the manufacturer(s).

1.2 This RP is intended for use by architects, engineers, tank owners, tank operators, and contractors. Contractors, engineers, and owners or operators who are preparing to design or install an UST system should investigate the federal, state, and local requirements and current methods of compliance for vapor recovery in that region. Vapor recovery is covered in detail in Section 17 of this document. For more information on the design and installation of vapor recovery systems, see NFPA 30A, and PEI RP 300

NOTE An AHJ may reference different codes.

1.3 This RP is not intended to cover specialized installations, such as fuel storage systems at marinas or airports, heating oil storage systems (either residential or bulk), or systems installed inside buildings. However, it does outline recognized and generally accepted good engineering practices which may be of use for these specialized installations. This RP does not apply to the installation of below ground or above ground bulk storage systems greater than 60,000 gal. The reader is referred to the following standards for information on specialized storage systems:

a) marinas: NFPA 30A and PEI RP 1000;

b) residential storage of heating oil: NFPA 31;

c) storage inside buildings: NFPA 30;

d) bulk storage—general: PEI RP 800;

e) aboveground storage: NFPA 30, NFPA 30A, API 650, API 651, API 652, API 653, API 2601, and PEI RP 200.

NOTE An AHJ may reference different codes.

1.4 This RP shall not preempt any federal, state, or local laws and regulations; specifically, those referenced in 3.2.

2 Definitions and Acronyms

For the purposes of this document, the following definitions and acronyms apply:

2.1
ACGIH
American Conference of Governmental Industrial Hygienists

2.2
anode
The positive electrode from which electrons leave a device and corrosion occurs.