

Closure of Underground Petroleum Storage Tanks

API RECOMMENDED PRACTICE 1604
FOURTH EDITION, FEBRUARY 2021



American
Petroleum
Institute

Currently in preview, click buy full version

Special Notes

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed. The use of API publications is voluntary. In some cases, third parties or authorities having jurisdiction may choose to incorporate API standards by reference and may mandate compliance.

Neither API nor any of API's employees, subcontractors, consultants, committees, or other assignees make any warranty or representation, either express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein, or assume any liability or responsibility for any use, or the results of such use, of any information or process disclosed in this publication. Neither API nor any of API's employees, subcontractors, consultants, or other assignees represent that use of this publication would not infringe upon privately owned rights.

Classified areas may vary depending on the location, conditions, equipment, and substances involved in any given situation. Users of this specification should consult with the appropriate authorities having jurisdiction. Users of this specification should not rely exclusively on the information contained in this document. Sound business, scientific, engineering, and safety judgment should be used in employing the information contained herein.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to ensure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or the violation of any authorities having jurisdiction with which this publication is in conflict.

API publications are published to facilitate the broad availability of proven, sound engineering and operating practices. These publications are not intended to obviate the need for applying sound engineering judgment regarding when and where these publications should be used. The formulation and publication of API publications is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or material in conformance with the marking requirements of an API standard is solely responsible for complying with all of the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

All rights reserved. No part of this work may be reproduced, translated, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. Contact the Publisher, API Publishing Services, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

Foreword

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

The verbal forms used to express the provisions in this document are as follows.

Shall: As used in a standard, “shall” denotes a minimum requirement to conform to the standard.

Should: As used in a standard, “should” denotes a recommendation or that which is advised but not required to conform to the standard.

May: As used in a standard, “may” denotes a course of action permissible within the limits of a standard.

Can: As used in a standard, “can” denotes a statement of possibility or capability.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001.

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

Contents

| | Page |
|--|------|
| 1 Scope..... | 1 |
| 1.1 Scope..... | 1 |
| 1.2 UST Systems, as Defined by Federal Regulations..... | 1 |
| 1.3 If Tank Entry is Required..... | 1 |
| 2 Normative References | 1 |
| 3 Terms and Definitions | 2 |
| 4 Compliance with Regulations and Safety Considerations | 4 |
| 4.1 Compliance with Regulations and Standards | 4 |
| 4.2 Special Precautions | 4 |
| 5 Temporary Closure | 6 |
| 5.1 Notification | 6 |
| 5.2 Applicability | 6 |
| 5.3 Securing Tank Systems | 6 |
| 5.4 Time Limits for Systems in Temporary Closure | 7 |
| 5.5 Re-opening Tanks in Temporary Closure..... | 7 |
| 6 General Requirements for Permanent Closure and Change of Service..... | 7 |
| 6.1 General..... | 7 |
| 6.2 Applicability..... | 7 |
| 6.3 Notification..... | 8 |
| 6.4 Pre-closure Evaluation..... | 8 |
| 6.5 Closure Assessment..... | 8 |
| 6.6 Corrective Action..... | 8 |
| 6.7 Recordkeeping..... | 8 |
| 7 Permanent Closure and Change of Service | 8 |
| 7.1 Applicability..... | 8 |
| 7.2 Preparation | 9 |
| 7.3 Purging and Inerting..... | 9 |
| 7.4 Testing | 10 |
| 7.5 Closure in Place..... | 11 |
| 7.6 Removal..... | 11 |
| 7.7 Change of Service | 13 |
| 8 Temporary Storage of Used Tanks..... | 13 |
| 8.1 Storage Considerations | 13 |
| 8.2 Storage Procedures..... | 13 |
| 8.3 Considerations for Reuse | 13 |
| 8.4 Conditions of Sale..... | 14 |
| 9 Disposal..... | 14 |
| 9.1 Disposal Criteria | 14 |
| 9.2 Disposal Procedures..... | 14 |

Closure of Underground Petroleum Storage Tanks

1 Scope

1.1 Scope

This recommended practice covers procedures for the closure in place, removal, storage, and off-site disposal of underground storage tank (UST) systems that have contained petroleum liquids. In general, it outlines requirements, procedures, and operating conditions to be followed by contractors, engineers, and other individuals who may be involved in these practices. While this recommended practice specifically addresses underground petroleum storage tank systems at service station facilities, the principles outlined may be applied to similar systems used at other petroleum storage facilities. In addition, the principles may be applied to specialized chemicals not specifically addressed by this recommended practice, taking into account the appropriate differences in physical, chemical, and human and environmental effects that may be hazardous.

1.2 UST Systems, as Defined by Federal Regulations

Under applicable federal regulations, including 40 *CFR* Part 280, a UST system consists of the UST and the connected underground piping, underground ancillary equipment, and containment system, if any. The procedures outlined in this recommended practice can be applied to all portions of an UST system.

1.3 If Tank Entry is Required

The procedures outlined in this recommended practice should be performed without entering the tank. If tank entry is required, the procedures outlined in NFPA 326, API Standard 2015, API Recommended Practice 1631, and API Publication 2217A should be followed (see also 29 *CFR* Part 1910.146 regarding "Permit required confined space").

2 Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Publication 1628, *A Guide to the Assessment and Remediation of Underground Petroleum Releases*

API Publication 1629, *A Guide for Assessing and Remediating Petroleum Hydrocarbons in Soils*

API Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*

API Publication 2217A, *Guidelines for Work in Inert Confined Spaces in the Petroleum Industry*

API Publication 2219, *Safe Operating Guidelines for Vacuum Trucks in Petroleum Service*

API Recommended Practice 2003, *Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents*

NFPA 70, *National Electric Code*

NFPA 326, *Safe Entry of Underground Storage Tanks*

NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*

¹ National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169-07471, www.nfpa.org.