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Engineering the Future.

Since 1924, the American Petroleum Institute has been a cornerstone in establishing, maintaining and publishing standards for the worldwide oil and natural gas industry. Our work helps the industry invent and manufacture superior products consistently, provide critical services and ensure fairness in the marketplace for businesses and consumers alike, and promotes the acceptance of products and practices globally.

API now maintains some 550 standards covering all segments of the oil and natural gas industry. Today, API standards and publications have gone global, through active involvement in the development of International Standards Organization (ISO) standards suitable for use by a global industry. They are the industry's collective wisdom on everything from drilling equipment to environmental protection. They are the information the industry relies on to get the job done right.

API distributes more than 100,000 publications every year, to every corner of the globe. The publications, technical standards, and electronic and online products we furnish are designed to help the industry improve the efficiency and cost-effectiveness of their operations, comply with legislative and regulatory requirements, safeguard the health and safety of industry employees and the public, and protect the environment.

API produces standards, recommended practices, equipment specifications, codes and technical publications, reports and studies that cover all parts of the industry. For upstream, API publications cover offshore structures and floating production systems, tubular goods, valves and wellhead equipment, plus drilling and production equipment. In the downstream arena, API publications address marketing and pipeline operations and refinery equipment, including storage tanks, pressure-relieving systems, compressors, turbines and pumps. API also has a number of publications that cut across industry sectors, covering fire and safety protection and petroleum measurement.

We also publish information technology standards covering a range of issues such as EDI, e-business, telecommunications, and information technology applications for the oil and natural gas industry. As the oil and natural gas industry's "think tank," API sponsors research that runs the gamut from economic analysis to toxicological testing to opinion research. We gather and maintain statistics on subjects ranging from domestic oil and gas production to environmental expenditures. Whatever the issue, making a persuasive case begins with gathering the facts, and you'll find them in our wide array of policy and economic papers.

For basic information about the oil and natural gas industry and how technology is transforming it, people turn to our educational materials. Students and educators alike find our free information to be concise and helpful, giving them the answers they need to become more aware of a sophisticated industry.

API's members are firmly committed to protecting the environment and health and safety of the people who share it, and our regulatory and scientific papers address our responsibility. Through research, standards development, training, information transfer, and advocacy efforts, API member companies continually strive to enhance the industry's environmental, health, and safety performance.

This catalog is a clear reflection of the new ideas that continue to transform our industry and the way we find, produce, and deliver the products that touch people's lives every day. It is a reflection of how we're engineering the future.

Sincerely,

Red Cavaney
President and Chief Executive Officer
American Petroleum Institute

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API

Table of Contents

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Table of Contents

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For information on training programs see the Training Section; a ▲ by a listing indicates that a license to use the API monogram can be obtained under this specification. Please contact (202) 682-8574 for information.

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

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Report of survey conducted in January 1996 by KPMG Peat Marwick LLP on behalf of an international steering committee. Data represents results from 200 respondents in 26 countries. Five key messages are presented in this Executive Summary Report. Pages: 44
Product Number: G00007 / Price: $72.00

Spec Q1/ISO TS 29001 ▲
Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry

This specification defines the quality management system requirements for the design, development, production, installation and service of products for the petroleum, petrochemical and natural gas industry. This specification also sets forth the minimum quality management system requirements, which applied in conjunction with API industry standards, are necessary to obtain a license to use the API monogram. Pages: 34
7th Edition / June 2003 / Effective Date: December 15, 2003
Product Number: GXQ1007 / Price: $82.00

API S1
Organization and Procedures for Standardization of Oilfield Equipment and Materials

Provides information on policies and procedures for the API Upstream Segment standardization activities and guidelines for their conduct. Pages: 68
Available on www.api.org

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This is a directory of companies licensed to use the API Monogram and APIQR Registration Mark. This directory also lists the companies who have registered Perforator Designs with API. It provides an alphabetical list of approximately 1,400 manufacturers licensed (at the time of publication) to mark their products with the API Monogram. It also contains a classified listing (by specific API specification) of these licensed manufacturers, as well as over 200 APIQR ISO 9000 registered firms. This directory was developed to assist those individuals desiring to purchase products and services meeting API specifications from companies whose quality systems and capabilities are verified by API's Quality Programs. It is updated and published quarterly.

A searchable on-line version of the composite list is updated weekly and can be found at **www.api.org/compositelist**
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6th Edition / January 1, 1995 / Reaffirmed, January 2000
Product Number: G01B06 / Price: $87.00

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Planning, Designing and Constructing Fixed Offshore Platforms—Load and Resistance Factor Design
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Contains engineering design principles and practices using LRFD design criteria for development of offshore oil resources. The LRFD provisions have been developed from the WSD provisions using reliability-based calibration. Contains the full text of ISO 13819, Part 2. Pages: 224
1st Edition / July 1, 1993 / Reaffirmed, May 16, 2003
Product Number: G00210 / Price: $238.00

RP 2A-LRFD-S1 ✣
Supplement 1 to Planning, Designing and Constructing Fixed Offshore Platforms—Load and Resistance Factor Design

Contains revised Sections A and O and new Sections R and S. The new material covers assessment of existing platforms, and fire, blast, and accidental loading of offshore platforms. Pages: 49
1st Edition / February 1997 / Reaffirmed, May 16, 2003
Product Number: G0021S / Price: $87.00

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Planning, Designing and Constructing Fixed Offshore Platforms—Working Stress Design
(includes Errata/Addenda dated December 2002)

Contains engineering design principles and practices that have evolved during the development of offshore oil resources. Metric conversions of customary English units are provided throughout the text and are shown in parentheses. Pages: 226
21st Edition / December 2000 / Product Number: G2AWSD / Price: $234.00

Spec 2B ▲
Fabrication of Structural Steel Pipe

Covers the fabrication of structural steel pipe formed from plate steel with longitudinal and circumferential butt-welded seams, typically in sizes of a 14-inch outside diameter and larger with a wall thickness 3/8 inch and greater (up to a nominal 40 feet in length) suitable for use in construction of welded offshore structures. Pages: 8
6th Edition / July 2001 / Product Number: G02B06 / Price: $66.00

Spec 2C ▲
Offshore Cranes

Details the requirements for design, construction, and testing of offshore pedestal mounted cranes. Offshore cranes are defined herein as pedestal mounted elevating and rotating lift devices for transfer of materials or personnel to or from marine vessels and structures. Offshore cranes are typically mounted on a fixed (bottom supported) or floating platform structure used in drilling and production operations. API Spec 2C is not intended to be used for the design, fabrication, and testing of davits and/or emergency escape devices. API Spec 2C is also not intended to be used for shipboard cranes or heavy lift cranes. Pages: 58
6th Edition / March 2004 / Effective Date: September 2004
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Operation and Maintenance of Offshore Cranes

This recommended practice is to be used by crane owners and operators in developing operating and maintenance practices and procedures for use in the safe operation of pedestal-mounted revolving cranes on offshore platforms and drilling rigs. The document outlines criteria for training and qualifying crane operators, inspectors, and riggers as well as providing guidelines for the inspection, testing and maintenance of offshore cranes. Pages: 41

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Mooring Chain
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Covers flash-welded chain used for mooring of offshore floating vessels such as drilling vessels, pipe lay barges, derrick barges, and storage tankers. Pages: 16

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The recommended practice is based on sound engineering principles and many years of experience gained by the offshore floating system owners, operators, designers, fabricators, suppliers, and certifiers. In no case is any specific recommendation included that could not be accomplished by presently available techniques and equipment. Consideration is given in all cases to the safety of personnel, compliance with existing regulations, and prevention of pollution. Pages: 95

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Spec 2H ▲
Carbon Manganese Steel Plate for Offshore Platform Tubular Joints

Covers two grades of intermediate strength steel plates up to 4 inches thick for use in welded construction of offshore structures, in selected critical portions that must resist impact, plastic fatigue loading, and lamellar tearing.

8th Edition / August 1999 / Product Number: G02H08 / Price: $66.00

RP 2I
In-service Inspection of Mooring Hardware for Floating Drilling Units

Provides comprehensive guidelines for inspecting catenary mooring components of floating drilling units. Pages: 50

2nd Edition / November 1996 / Reaffirmed, May 16, 2003
Product Number: G02I02 / Price: $92.00

RP 2L
Planning, Designing and Constructing Heliports for Fixed Offshore Platforms

Provides a guide for planning, designing, and constructing heliports for fixed offshore platforms. It includes operational consideration guidelines, design load criteria, heliport size and marking recommendations, and other heliport design recommendations. Pages: 14

4th Edition / May 1996 / Effective Date: June 1, 1996
Product Number: G02L04 / Price: $66.00

Spec 2MT1 ▲
Carbon Manganese Steel Plate with Improved Toughness for Offshore Structures

API Spec 2MT1 covers one grade of intermediate strength steel plates for use in welded construction of offshore structures. These steels are intended for fabrication primarily by cold forming and welding as per API Spec 2B. Pages: 6

2nd Edition / September 2001 / Product Number: G2MT12 / Price: $66.00

Spec 2MT2 ▲
Rolled Shapes with Improved Notch Toughness

This specification covers rolled shapes (wide flange shapes, angles, etc.), having a specified minimum yield strength of 50 ksi (345 Mpa), intended for use in offshore structures. Commonly available Class A, Class B, and Class C beams refer to degrees of fracture criticality as described in section 8.1.3 of API RP 2A, with Class C being for the least critical applications. Pages: 8

1st Edition / June 2002 / Effective Date: December 1, 2002
Product Number: G2MT21 / Price: $63.00

RP 2N
Planning, Designing, and Constructing Structures and Pipelines for Arctic Conditions

Contains considerations that are unique for planning, designing, and constructing Arctic systems. Used with other applicable codes and standards like API RP 2A or 1111, this recommended practice will be helpful in providing guidance to those involved in the design of Arctic systems. Pages: 82

2nd Edition / December 1, 1995 / Reaffirmed, January 2001
Product Number: G02N02 / Price: $117.00

RP 2RD
Design of Risers for Floating Production Systems (FPSs) and Tension-Leg Platforms (TLPs)
(ANSI/API RP 2RD-1998)

Addresses structural analysis procedures, design guidelines, component selection criteria and typical designs for all new riser systems used on FPSs. Guidance is also given for developing load information for the equipment attached to the ends of the risers. Pages: 163

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Design of Windlass Wildcats for Floating Offshore Structures

Covers the design of windlass wildcats to ensure proper fit and function between wildcat and mooring chain. Pages: 7

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Design and Analysis of Stationkeeping Systems for Floating Structures (replaces API RP 2FP1)

Presents a rational method for analyzing, designing or evaluating mooring systems used with floating units. This method provides a uniform analysis tool which, when combined with an understanding of the environment at a particular location, the characteristics of the unit being moored, and other factors, can be used to determine the adequacy and safety of the mooring system. Some design guidelines for dynamic positioning systems are also included.

3rd Edition/ to be published Q1, 2005

RP 2SM
Recommended Practice for Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Ropes for Offshore Mooring

This document provides guidelines on the use of synthetic fiber ropes for offshore mooring applications. The secondary purpose of this document is to highlight differences between synthetic rope and traditional steel

mooring systems, and to provide practical guidance on how to handle these differences during system design and installation. Pages: 55
1st Edition / March 2001 / Product Number: G02SM1 / Price: $141.00

RP 2T ✣
Planning, Designing and Constructing Tension Leg Platforms (ANSI/API RP 2T-1997)

Summarizes available information and guidance for the design, fabrication and installation of a tension leg platform. Pages: 129
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Provides guidance for the design of steel flat plate structures. Pages: 139
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Spec 2W ▲
Steel Plates for Offshore Structures, Produced by Thermo-Mechanical Control Processing (TMCP)

Covers four grades of intermediate strength steel plates for use in welded construction of offshore structures, in selected critical portions which must resist impact, plastic fatigue loading, and lamellar tearing. Grades 42, 50, and 50T are covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive. Pages: 10
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RP 2X
Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians

Contains recommendations for determining the qualifications of technicians conducting inspections of offshore structural fabrication using ultrasonic and magnetic devices. Recommendations are also given for control of inspections in a general quality control program. Pages: 77
4th Edition / May 2004 / Product Number: G02X04 / Price: $121.00

Spec 2Y ▲
Steel Plates, Quenched-and-tempered, for Offshore Structures

Covers four grades of intermediate strength steel plates for use in welded construction of offshore structures, in selected critical portions which must resist impact, plastic fatigue loading, and lamellar tearing. Grades 42, 50, and 50T are covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive.
4th Edition / August 1999 / Effective Date: February 1, 2000
Product Number: G02Y04 / Price: $66.00

RP 2Z
Preproduction Qualification for Steel Plates for Offshore Structures (ANSI/API RP 2Z-1998)

Covers requirements for preproduction qualification, by special welding and mechanical testing of specific steel-making processing procedures for the manufacture of steel by a specific producer. It was developed in conjunction with, and is intended primarily for use with API Specs 2W and 2Y. However, it may be used to supplement API Spec 2H. Pages: 15
3rd Edition / August 1998 / Product Number: G02Z03 / Price: $86.00

Series 4: Derricks and Masts

Spec 4F ▲
Drilling and Well Servicing Structures

Covers the design, manufacture, and use of steel derricks, portable masts, crown block assemblies, and substructures suitable for drilling and servicing of wells. It includes stipulations for marking, inspection, standard ratings, design loading, and design specification of the equipment. Pages: 17
2nd Edition / June 1, 1995 / Reaffirmed, February 2001
Product Number: G04F02 / Price: $78.00

RP 4G ✪
Recommendation Practice for Use and Procedures for Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures (includes Errata dated, June 2004)

Provides guidelines and establishes recommended procedures for inspection, maintenance and repair of items for drilling and well servicing structures to maintain equipment serviceability. Items covered by this publication include masts/derricks, substructures, and accessories. This edition is a general revision and includes enhanced recommendations on inspection and personnel qualifications. Pages: 49
3rd Edition / April 2004 / Product Number: G04G03 / Price: $86.00

Series 5: Tubular Goods

Report of Eastern/Western Hemisphere Production of Casing, Tubing, and Drill Pipe ✪
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RP 5A3/ISO 13678
Recommended Practice on Thread Compounds for Casing, Tubing, and Line Pipe Petroleum and natural gas industries–Evaluation and testing of thread compounds for use with casing, tubing and line pipe

Provides the means for evaluating the suitability of thread compounds for use on API round thread and buttress casing, tubing, and line pipe connections in high-pressure service. The tests outlined in this publication are used to evaluate the critical performance properties of thread compounds under laboratory conditions. Pages: 35
2nd Edition / July 2003 / Product Number: GX5A302 / Price: $103.00

RP 5A5
Field Inspection of New Casing, Tubing, and Plain End Drill Pipe
(includes Supplement 1, April 15, 1999)

Includes recommended procedures for field inspection and testing of new casing, tubing, and plain-end drill pipe. Pages: 70
6th Edition / December 1997 / Effective Date: March 1, 1998
Product Number: G05A56 / Price: $130.00

Spec 5B ▲
Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads
(includes Errata dated April 1998)

Covers dimensions and marking requirements for API master thread gauges. Additional product threads and thread gauges, as well as instruments and methods for the inspection of threads for line pipe, round thread casing, buttress casing, and extreme-line casing connections are included. Pages: 79
14th Edition / August 1996 / Effective Date: December 1, 1996
Product Number: G05B14 / Price: $130.00

RP 5B1
Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads
(includes Addendum dated September 2004)

Covers threading, gauging, gauging practice, and inspection of threads for casing, tubing, and line pipe made under Specifications 5CT, 5D, and 5L. Also covers gauge specifications and certification for casing, tubing, and line pipe gauges. Pages: 48
5th Edition / August 1999 / Product Number: G05B15 / Price: $117.00

RP 5C1
Care and Use of Casing and Tubing

Covers use, transportation, storage, handling, and reconditioning of casing and tubing. Pages: 31
18th Edition / May 1999 / Product Number: G05C18 / Price: $92.00

Bull 5C2
Performance Properties of Casing, Tubing, and Drill Pipe

Covers collapsing pressures, internal yield pressures, and joint strengths of API casing, tubing, and drill pipe. Pages: 50
21st Edition / October 1999 / Product Number: G05C21 / Price: $98.00

Bull 5C3
Formulas and Calculations for Casing, Tubing, Drill Pipe, and Line Pipe Properties
(includes Supplement 1, April 15, 1999)

Provides formulas used in the calculations of various pipe properties, and background information regarding their development and use. Pages: 47
6th Edition / November 1, 1994 / Product Number: G05C36 / Price: $87.00

RP 5C5/ISO 13679
Recommended Practice on Procedures for Testing Casing and Tubing Connections
Petroleum and natural gas industries—Procedures for testing casing and tubing connections

Establishes minimum design verification testing procedures and acceptance criteria for casing and tubing connections for the oil and natural gas industries. These physical tests are part of a design verification process and provide objective evidence that the connection conforms to the manufacturer's claimed test load envelope and limit loads. Pages: 139
3rd Edition / July 2003 / Product Number: GX5C503 / Price: $135.00

RP 5C6
Welding Connections to Pipe

Provides a standard industry practice for the shop and field welding of connectors to pipe. The technical content provides requirements for welding procedure qualifications, welder performance qualifications, materials, testing, production welding, and inspection. Pages: 8
1st Edition / December 1996 / Reaffirmed, September 2003
Product Number: G05C61 / Price: $66.00

RP 5C7
Coiled Tubing Operations in Oil and Gas Well Services

Provided to meet the need for design and operating recommendations covering the coiled tubing industry. Pages: 70
1st Edition / December 1996 / Reaffirmed, May 2002
Product Number: G05C71 / Price: $110.00

Spec 5CT/ISO 11960 ▲
Specification for Casing and Tubing
Petroleum and natural gas industries—Steel pipes for use as casing or tubing for wells

This standard specifies the technical delivery conditions for steel pipes (casing, tubing, plain end casing liners and pup-joints) and accessories. It is the U.S. National adoption of ISO 11960. This standard is applicable to the following connections in accordance with API Spec 5B:
short round thread casing (STC);
long round thread casing (LC);
buttress thread casing (BC);
extreme-line casing (XC);
non-upset tubing (NU);
external upset tubing (EU);
integral joint tubing (IJ).
7th Edition / October 1, 2001 / Effective Date: April 1, 2002
Product Number: GX05CT7 / Price: $161.00

Spec 5D ▲
Specification for Drill Pipe

API Spec 5D covers Groups 1 and 3 drill pipe; specifically, those in certain designations and wall thicknesses as provided in the standards list and tables. Pages: 34
5th Edition / October 2001 / Effective Date: April 30, 2002
Product Number: G05D05 / Price: $100.00

Spec 5L ✪ ▲
Specification for Line Pipe
(includes Addendum dated December 2004)

Provides standards for pipe suitable for use in conveying gas, water, and oil in the oil and natural gas industries. Covers seamless and welded steel line pipe. It includes plain-end, threaded-end, and belled-end pipe, as well as through-the-flowline (TFL) pipe and pipe with ends prepared for use with special couplings. Pages: 155
43rd Edition / March 2004 / Effective Date: October 2004
Product Number: G05L43 / Price: $194.00

RP 5L1
Railroad Transportation of Line Pipe

The recommendations provided herein apply to the transportation on railcars of API Specification 5L steel line pipe in sizes $23/8$ and larger in lengths longer than single random. These recommendations cover coated or uncoated pipe, but they do not encompass loading practices designed to protect pipe coating from damage. Pages: 6
6th Edition / July 2002 / Product Number: G5L106 / Price: $66.00

RP 5L2
Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service

This Recommended Practice provides for the internal coating of line pipe used for non-corrosive natural gas service. It is limited to the application of internal coatings on new pipe prior to installation. Pages: 21
4th Edition / July 2002 / Product Number: G5L204 / Price: $66.00

RP 5L3
Conducting Drop-weight Tear Tests on Line Pipe

Describes procedures for a recommended method for conducting drop-weight tear tests to measure the fracture appearance or fracture ductility of line pipe as referenced in API Specification 5L. Pages: 9
3rd Edition / January 1996 / Reaffirmed, September 2003
Product Number: G05L33 / Price: $66.00

RP 5L7
Unprimed Internal Fusion Bonded Epoxy Coating of Line Pipe (ANSI/API RP 5L7-1993)

Provides recommendations for materials, application, testing and inspection of internal fusion bonded epoxy coatings on line pipe. Pages: 25
2nd Edition / June 30, 1988 / Reaffirmed, December 2004
Product Number: G02906 / Price: $72.00

RP 5L8
Field Inspection of New Line Pipe

Covers the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected new line pipe are included. Also included are recommended procedures for field inspection and testing of new plain-end line pipe. This document was prepared specifically to address the practices and technology used in field inspection of line pipe, and certain parts are not suitable or appropriate for mill inspections. Pages: 39
2nd Edition / December 1996 / Reaffirmed, September 2003
Product Number: G05L82 / Price: $103.00

RP 5L9 ▲
Recommended Practice for External Fusion Bonded Epoxy Coating of Line Pipe

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Covers seamless and welded steel line pipe, including standard-weight and extra-strong threaded line pipe; and standard-weight plain-end, regular-weight plain-end, special plain-end, extra-strong plain-end, and double-extra-strong plain-end pipe; as well as bell and spigot and through-flowing (TFL) pipe. Pages: 35
1st Edition / December 2001 / Reaffirmed, December 2004
Product Number: G5L901 / Price: $63.00

Spec 5LC ▲
CRA Line Pipe

Covers seamless, centrifugal cast and welded corrosion resistant alloy line pipe. Austenitic Stainless, and Martensitic Stainless, Duplex Stainless and Ni Base Alloys. Includes standard weight, regular weight, special, extra-strong, and double extra-strong plain-end line pipe. Processes of manufacturer, chemical and physical requirements and methods of test. Metric units in this specification are shown in italic type in parentheses in the text and in many tables. Pages: 72
3rd Edition / July 1998 / Effective Date: December 31, 1998
Product Number: G05LC3 / Price: $130.00

Spec 5LCP ▲
Coiled Line Pipe

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. This specification covers welded steel continuously milled pipe in the size range 0.5 in. (12.7 mm) to 6.625 in. (168.3 mm). Pipe that is pipe-to-pipe welded outside the confines of the manufacturing plant is not included within this document. Pages: 42
1st Edition / November 1999 / Product Number: G05LCP / Price: $110.00

Spec 5LD ▲
CRA Clad or Lined Steel Pipe

Covers seamless, centrifugal cast, and welded clad steel line pipe, and lined steel pipe with improved corrosion-resistant properties. The clad and lined steel line pipe specified in this document shall be composed of a base metal outside and CRA layer inside the pipe. The base material shall conform to API Spec 5L *Specification for Line Pipe* except as modified in the 5LC document. Provides standards for pipe with improved corrosion resistance suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Pages: 23
2nd Edition / July 1998 / Effective Date: December 31, 1998
Product Number: G05LD2 / Price: $98.00

RP 5LW
Transportation of Line Pipe on Barges and Marine Vessels

Applies to the transportation of API Specification 5L steel line pipe by ship or barge. Covers both inland and marine waterways except in cases where the specific requirement of a paragraph references only marine or only inland-waterway transport. Pages: 6
2nd Edition / December 1996 / Reaffirmed, September 2003
Product Number: G05LW2 / Price: $66.00

Std 5T1
Imperfection Terminology

Provides definitions in English, French, German, Italian, Japanese, and Spanish for a number of defects which commonly occur in steel pipe. Pages: 44
10th Edition / November 1996 / Product Number: G05T10 / Price: $92.00

TR 5TRSR22
Technical Report in SR22 Supplementary Requirements for Enhanced Leak Resistance LTC

This document covers the supplemental requirements for Enhanced Leak Resistance LTC (SC22) connections and the changes in API Spec 5CT, API Std 5B, API 5B1, and API RP 5C1 needed to produce and inspect these connections. By agreement between the purchaser and manufacturer, the supplemental requirements for SR22 shall apply to connections manufactured in accordance with API Spec 5CT. Pages: 24
1st Edition / June 2002 / Product Number: GSR221 / Price: $71.00

RP 5UE
Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections

This recommended practice (RP) describes procedures that may be used to "prove-up" the depth or size of imperfections. Included in this practice are the recommended procedures for ultrasonic prove-up inspection of new pipe using the Amplitude Comparison Technique (ACT) and the Amplitude Distance Differential Technique (ADDT) for 1) evaluation of surface breaking imperfections in the body of pipe, and 2) surface breaking and subsurface imperfections in the weld area of electric-resistance, electric-induction, or laser welded pipe. The applicable specification shall be the basis to determine the type and location of imperfection that is to be detected by inspection, and the acceptance/rejection criteria for the imperfection. For the purpose of this document, pipe is defined as including casing, plain-end casing liners, tubing, plain-end drill pipe, line pipe, coiled line pipe, pup joints, coupling stock, and connector material. Pages: 16
1st Edition / March 2002 / Product Number: G5UE01 / Price: $63.00

Series 6: Valves and Wellhead Equipment

Spec 6A ✪ ▲

Specification for Wellhead and Christmas Tree Equipment
(includes Errata dated September 2004)

Specifies requirements and gives recommendations for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment and purchasing, of wellhead and christmas tree equipment for use in the petroleum and natural gas industries.

This edition of API Spec 6A is the modified national adoption of ISO 10423:2003. *An informative annex is included covering the requirements of the API Monogram Program for equipment covered in the specification.* Pages: 414

19th Edition / July 2004 / Effective Date: February 2005
Product Number: GX06A19 / Price: $221.00

Spec 6A718 ✪

Specification of Nickel Base Alloy 718 (UNS N07718) for Oil and Gas Drilling and Production Equipment

Provides specification requirements for Nickel Base Alloy 718 (UNS N07718) that are intended to supplement the existing requirements of API Spec 6A and ISO 10423. These additional specification requirements include detailed process control requirements and detailed testing requirements. Pages: 17

1st Edition / March 2004 / Product Number: G6A7181 / Price: $69.00

TR 6AF

Capabilities of API Flanges Under Combinations of Load

Presents the results of analysis work done in API research project 86-21 to establish the load capacity of all flanges give in the April 1986 editions of API Specifications 6A and 6AB. A total of 69 different geometries were analyzed. The various loads considered were bolt makeup (preload), internal pressure, tension, and bending moment. Pages: 76

2nd Edition/ September 1995/ Reaffirmed, January 2003
Product Number: G06AF2 / Price: $117.00

TR 6AF1

Temperature Derating of API Flanges Under Combination of Loading

Continuation to the report on the capabilities of flanges under combined loadings (PRAC 86-21) which resulted in the publication of API Bulletin 6AF. Included in this technical report is an in-depth look into the effect of elevated temperatures of API flanges. The results in this report are analytical and assume a temperature gradient across the flange as stated in this report. Pages: 256

2nd Edition/ November 1998 / Product Number: G06AF1 / Price: $130.00

TR 6AF2

Capabilities of API Integral Flanges Under Combination of Loading

Indicates increased load carrying capacity for several flanges based on separate stress limiting criteria. These stress limiting charts were not provided separately in the original work in API Bulletin 6AF, which combined them with leakage criteria. The three-dimensional model analyses of this study provide verification that exisymmetric finite elements results of flanges, as used in Bulletin 6AF, are conservative. Additionally, this study determined a few flanges to have less loading capacity than originally defined in API Spec 6A for makeup loading, and thus have been reduced to meet design requirements. Pages: 109

2nd Edition / April 1999 / Product Number: G6AF22 / Price: $149.00

TR 6AM

Material Toughness

Includes CVN toughness requirement that can be used as a quality assurance measure in API Spec 6A equipment to screen materials with poor notch toughness. Pages: 12

2nd Edition/ September 1, 1995/ Reaffirmed, January 2003
Product Number: G06AM2/ Price: $60.00

Spec 6AV1 ✣ ▲

Verification Test of Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service
(includes Errata dated December 1996)

Establishes testing requirements to verify the design of surface safety valves (SSVs) and underwater safety valves (USVs), and SSV/USV actuators, manufactured in accordance with API Specification 6A. Includes requirements for verification testing of SSVs and USVs for two performance requirement levels. Pages: 14

1st Edition / February 1, 1996 / Reaffirmed, January 2003
Product Number: G06AV1 / Price: $60.00

Spec 6D/ISO 14313 ▲

Specification for Pipeline Valves

API Specification 6D is the (proposed) national adoption of ISO 14313: 1999 MOD, *Petroleum and Natural Gas Industries—Pipeline Transportation Systems—Pipeline Valves*. This International Standard specifies requirements and gives recommendations for the design, manufacturing, testing and documentation of ball, check, gate and plug valves for application in pipeline systems. Valves for pressure ratings exceeding PN 420 (Class 2500) are not covered by this International Standard. Annex A of this Spec 6D provides guidelines to assist the purchaser with valve type selection and specification of specific requirements when ordering valves. Annex E provides information on API Monogram Licensing requirements. Annex F includes the technical modifications and editorial changes. Pages: 72

22nd Edition / January 2002 / Effective Date: July 1, 2002
Product Number: GX06D22 / Price: $104.00

TR 6F1

Performance of API and ANSI End Connections in a Fire Test According to API Specification 6FA

This Technical Report is the summarization of results of four projects to test the performance of API and ANSI end connections in a fire test according to API Specification 6FA. The appendices present the analytical procedures used to generate performance prediction. Pages: 29

3rd Edition / April 1999 / Product Number: G06F13 / Price: $92.00

TR 6F2

Fire Resistance Improvements for API Flanges

Establishes recommended methods for improving the performance of standard API flanges when subjected to the adverse effects of external high temperatures induced by exposure to fires. This publication does not cover fire prevention, suppression, or firefighting practices.

3rd Edition / April 1999 / Product Number: G06F23 / Price: $87.00

Spec 6FA ✣

Fire Test for Valves

Covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves when exposed to specifically defined fire conditions. Pages: 7

3rd Edition / April 1999 / Product Number: G06FA3 / Price: $78.00

Spec 6FB ✣
Fire Test for End Connections

Covers facility requirements and procedures for fire testing of end connections. Pages: 20
3rd Edition / May 1998 / Effective Date: November 30, 1998
Product Number: G06FB3 / Price: $87.00

Spec 6FC ✣
Fire Test for Valve With Automatic Backseats

Covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves with automatic backseats when exposed to specifically defined fire conditions. Pages: 7
3rd Edition / April 1999 / Product Number: G06FC3 / Price: $78.00

Spec 6FD ✣
Fire Test for Check Valves

Establishes the requirement for testing and evaluating the pressure containing performance of API Specs 6A and 6D check valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. Pages: 9
1st Edition/February 15, 1995/ Reaffirmed, January 2003
Product Number: G06FD1 / Price: $72.00

Spec 6H ▲
End Closures, Connectors, and Swivels

Covers pipeline closures, connections, couplings, misalignment devices (swivels) and split mechanical fittings. Pages: 28
2nd Edition / May 1998 / Effective Date: November 1, 1998
Product Number: G06H02 / Price: $78.00

Bull 6J
Testing of Oilfield Elastomers (A Tutorial)
(ANSI/API Bull 6J-1992)

A tutorial for the evaluation of elastomer test samples of actual elastomeric seal members intended for use in the oil and gas industry. It is also a review of the testing criteria, environments, evaluation procedures, guidelines for comparisons, and effects of other considerations on the evaluation of elastomeric seal materials and members. Pages: 15
2nd Edition / May 1998 / Effective Date: November 1, 1998
Reaffirmed, January 2000 / Product Number: G03230 / Price: $66.00

TR 6J1
Elastomer Life Estimation Testing Procedures

The proposed procedure discussed in this publication outlines a technique based on the Arrhenius principle of chemical reaction rates, which permits the life of an elastomeric material to be estimated when exposed to a severe service environment. This is a companion document to API Bulletin 6J, 2nd Edition.
1st Edition / August 2000 / Product Number: G06J11 / Price: $66.00

Series 7: Drilling Equipment

Spec 7 ▲
Rotary Drill Stem Elements
(includes Addendum dated August 2004)

Covers dimensional requirements on drill stem members (except drill pipe), including threaded connections, gauging practice, and master gauges. Pages: 89
40th Edition / November 2001 / Effective Date: March 2002
Product Number: G07040 / Price: $144.00

RP 7A1 ✣
Testing of Thread Compound for Rotary Shouldered Connections
(ANSI/API RP 7A1-1992)

Provides recommendations for testing the frictional performance of thread compounds for rotary shouldered connections.
1st Edition / November 1, 1992 / Reaffirmed, September 1999
Product Number: G03305 / Price: $52.00

Spec 7F ▲
Oil Field Chain and Sprockets

Covers the manufacture of the components for, and the assembly and packaging of, single and multiple strand, number 40 through 240, standard and heavy series roller chains for oil field applications, including chain designation, chain length tolerance, tensile strength specifications, pin and bushing press-out specifications, and dynamic test requirements.

For informational purposes, appendices have been included on recommendations for installation, lubrication, and maintenance of oil field chain drives and a basic description of roller chain sprockets. Pages: 21
7th Edition / January 2003/ Effective Date: June 1, 2003
Product Number: G07F07 / Price: $93.00

RP 7G ✣
Drill Stem Design and Operating Limits
(includes Errata dated May 2000, and Addendum dated November 2003)

Covers recommendations for the design and selection of drill string members and includes considerations of hole angle control, drilling fluids, weight, and rotary speed. Tables and graphs are included that present dimensional, mechanical, and performance properties of new and used drill pipe; new tool joints used with new and used drill pipe; drill collars; and kellys. Recommended standards for inspection of used drill pipe, used tubing work strings, and used tool joints are included. Pages: 154
16th Edition / August 1998 / Effective Date: December 1, 1998
Product Number: G07G6A / Price: $161.00

Spec 7K ▲
Specification for Drilling and Well Servicing Equipment
(includes Addendums Dated September 2002 and April 2004)

This specification provides general principles and standards for design, manufacture and testing of new drilling and well servicing equipment and replacement primary load carrying components manufactured subsequent to the publication of this specification. Pages: 55
3rd Edition / October 2001 / Effective Date, April 1, 2002
Product Number: G07K03 / Price: $118.00

RP 7L
Inspection, Maintenance, Repair, and Remanufacture of Drilling Equipment

Provides owners and users of drilling equipment with guidelines for inspection, maintenance, repair, and remanufacture procedures that may be utilized to maintain serviceability of the drilling equipment. Covers the following drilling equipment: rotary tables; rotary bushings; rotary slips; rotary hoses; slush pump connectors; drawworks components; spiders not used as elevators; manual tongs; and safety clamps not used as hoisting devices. Pages: 26
1st Edition / December 1995 / Effective Date: April 1, 1996
Reaffirmed, September 2002 / Product Number: G07L01 / Price: $87.00

Series 8: Hoisting Tools

Spec 8A ▲
Drilling and Production Hoisting Equipment
(includes Addendum 1 dated May 2001,
Effective Date: November 2001)

Covers material requirements for, and methods of rating and testing, certain hoisting equipment used in drilling and production operations. Pages: 26

13th Edition / December 1997 / Effective Date: May 1998
Product Number: G08A13 / Price: $87.00

RP 8B/ISO 13534
Inspection, Maintenance, Repair, and Remanufacture of Hoisting Equipment
Petroleum and natural gas industries–Drilling and production equipment–Inspection, maintenance, repair and remanufacture of hoisting equipment
(includes Addendum dated November 2003)

API Recommend Practice 8B provides guidelines and establishes requirements for inspection, maintenance, repair, and remanufacture of items of hoisting equipment used in drilling and product operations to maintain equipment serviceability.

More specifically, this recommended practice covers such items as crown-block sheaves and bearings, drilling hooks, elevator links, rotary swivels, dead-line tie-down/wireline anchors, and safety clamps. This edition of API RP 9B is an identical adoption of ISO 13534:2000. Pages: 13

7th Edition / March 2002 / Product Number: GX08B07 / Price: $66.00

Spec 8C/ISO 13535 ▲
Specification for Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)
(Modified), Petroleum and natural gas industries–Drilling and production equipment-Hoisting equipment
(includes Addendum dated May 2004)

Provides requirements for the design, manufacture and testing of hoisting equipment suitable for use in drilling and production operations. Is applicable to numerous drilling and production hoisting equipment, some of which include: travelling and hook blocks; elevator links and rotary swivels. Pages: 60

4th Edition / February 2003 / Effective Date: July 1, 2003
Product Number: GX08C04 / Price: $107.00

Series 9: Wire Rope

Spec 9A/ISO 10425 ✪ ▲
Specification for Wire Rope
Steel wire ropes for the petroleum and natural gas industries–Minimum requirements and terms for acceptance

Specifies the minimum requirements and terms of acceptance for the manufacture and testing of steel wire ropes not exceeding rope grade 2160 for the petroleum and natural gas industries.

This edition of API Spec 9A is a identical adoption of ISO 10425 and *includes the addition of an API Monogram Annex*.

25th Edition / February 2004 / Effective Date: August 2004
Product Number: GX9A25 / Price: $79.00

RP 9B ✣
Application, Care, and Use of Wire Rope for Oil Field Service

Covers size and construction, field care and use, field problems and their causes, recommended design features of wire rope, and evaluation of rotary drilling lines. Pages: 30

11th Edition / September 2002 / Product Number: G09B11 / Price: $92.00

Series 10: Oil Well Cements

Spec 10A/ISO 10426-1 ▲
Specification for Cements and Materials for Well Cementing
Petroleum and natural gas industries–Cements and materials for well cementing–Part 1: Specification

Specifies requirements and gives recommendations for eight classes of well cements, including their chemical and physical requirements and procedures for physical testing. This specification is applicable to well cement Classes A, B, C, D, E and F, which are the products obtained by grinding Portland cement clinker and, if needed, calcium sulfate as an interground additive. Processing additives may be used in the manufacture of cement of these classes. Suitable set-modifying agents may be interground or blended during manufacture of Classes D, E and F. API Spec 10A is also applicable to well cement Classes G and H, which are the products obtained by grinding Portland cement clinker with no additives other than calcium sulfate or water. This edition of API Spec 10A is an adoption of ISO 10426-1:2000 with editorial changes and *includes the addition of an API Monogram Annex*. Pages: 46

23rd Edition / April 2002 / Product Number: GX10A23 / Price: $110.00

RP 10B
Testing Well Cements
(includes Addendums 1 and 2, dated October 1999 and November 2000)

Provides guidance for the testing of cement slurries and related materials under simulated well conditions. Pages: 144

22nd Edition / December 1997 / Product Number: G10B22 / Price: $161.00

RP 10B-3/ISO 10426-3 ✪
Recommended Practice on Testing of Deepwater Well Cement Formulations
Petroleum and natural gas industries–Cements and materials for well cementing–Part 3: Testing of deepwater well cement formulations

Provides procedures for testing well cements and cement blends for use in the petroleum and natural gas industries in a deepwater environment.

This edition of API RP 10B-3 is the identical national adoption of ISO 10426-3.

1st Edition / July 2004 / Product Number: GG10B31 / Price: $61.00

RP 10B-4/ISO 10426-4 ✪
Recommended Practice on Preparation and Testing of Foamed Cement Slurries at Atmospheric Pressure
Petroleum and natural gas industries–Cements and materials for well cementing–Part 4: Preparation and testing of foamed cement slurries at atmospheric pressure

Defines the methods for the generation and testing of foamed cement slurries and their corresponding unfoamed base cement slurries at atmospheric pressure.

This edition of API RP 10B-4 is the identical national adoption of ISO 10426-4.

1st Edition / July 2004 / Product Number: GG10B41 / Price: $61.00

Spec 10D/ISO 10427-1 ▲

Specification for Bow-Spring Casing Centralizers

Petroleum and natural gas industries–Casing centralizers–Part 1: Bow-spring casing centralizers

Provides minimum performance requirements, test procedures and marking requirements for bow-spring casing centralizers for the petroleum and natural gas industries. The procedures provide verification testing for the manufacturer's design, materials and process specifications, and periodic testing to confirm the consistency of product performance. API Spec 10D is not applicable to rigid or positive centralizers. This edition of API Spec 10D is an adoption of ISO 10427-1:2001 with the addition of an annex for the API Monogram. Pages: 12

6th Edition / March 2002 / Product Number: GX10D06 / Price: $72.00

RP 10D-2/ISO 10427-2 ✪

Centralizer Placement and Stop Collar Testing

Petroleum and natural gas industries–Equipment for well cementing–Part 2: Centralizer placement and stop-collar testing

Provides calculations for determining centralizer spacing, based on centralizer performance and desired standoff, in deviated and dogleg holes in wells for the petroleum and natural gas industries. It also provides a procedure for testing stop collars and reporting test results.

This edition of API RP 10D-2 is the identical national adoption of ISO 10427-2.

1st Edition / August 2004 / Product Number: GG10D21 / Price: $61.00

RP 10F/ISO 10427-3

Recommended Practice for Performance Testing of Cementing Float Equipment

Petroleum and natural gas industries–Performance testing of cementing float equipment

(includes Errata dated September 2003)

Describes testing practices to evaluate the performance of cementing float equipment for the petroleum and natural gas industries. This recommended practice is applicable to float equipment that will be in contact with water-based fluids used for drilling and cementing wells. It is not applicable to float equipment performance in non-water-based fluids. This edition of API RP 10F is an identical adoption of ISO 18165:2001. Pages: 12

3rd Edition / April 2002 / Product Number: GX10F03 / Price: $52.00

TR 10TR1 ✣

Cement Sheath Evaluation

Provides the current principles and practices regarding the evaluation and repair of primary cementations of casing strings in oil and gas wells. Cement bond logs, compensated logging tools, ultrasonic cement logging tools, and borehole fluid-compensated logging tools are covered. Pages: 39

1st Edition / June 1996 / Reaffirmed, August 2003
Product Number: G10TR1 / Price: $98.00

TR 10TR2

Shrinkage and Expansion in Oilwell Cements

Presents the results of research into shrinkage and expansion of oil well cements in the wellbore as well as a series of test methods and procedures developed to measure these phenomena. Pages: 57

1st Edition / July 1997 / Reaffirmed, September 2002
Product Number: G10TR2 / Price: $98.00

TR 10TR3

Temperatures for API Cement Operating Thickening Time Tests

Work performed by the 1984–1991 API Task Group on Cementing Temperature Schedules to update the temperatures in API well-simulation test schedules found in RP 10B are summarized in this report. The Task Group reviewed the largest set of temperature data available to the industry to date, resulting in significant improvements to the temperatures in the well-simulation test schedules. Pages: 97

1st Edition / May 1999 / Product Number: G10TR3 / Price: $130.00

Worldwide Cementing Practices

Covers cements and well cementing. Each chapter pertains to such subjects as cementing history, cementing chemistry, job planning, plugging, cement evaluation, and special conditions such as Arctic cementing, and horizontal cementing. Intended as a practical text for use by both the beginning and practicing engineer, and by working field personnel. Pages: 465

1st Edition / 1991 / Reaffirmed, October 2000
Product Number: G04400 / Price: $142.00

Series 11: Production Equipment

Spec 7B-11C

Internal-Combustion Reciprocating Engines for Oil Field Service

Covers methods for determining maximum brake horsepower and fuel consumption rates of internal-combustion bare engines and power units; provides for the manufacturer's maximum horsepower rating of such equipment for specific service applications; and gives methods for testing and rating of radiator-type cooling units. Pages: 13

9th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G03409 / Price: $67.00

RP 7C-11F

Installation, Maintenance, and Operation of Internal-Combustion Engines

Covers recommendations and information of a general nature pertaining to installation; daily, weekly, and monthly maintenance check-off lists; and operating problems and their causes for all types of internal combustion engines in all types of service. Pages: 17

5th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G03505 / Price: $66.00

RP 11AR

Care and Use of Subsurface Pumps

Provides information on the proper selection, operation and maintenance of subsurface pumps so the best economical life can be obtained. Pages: 50

4th Edition / June 2000 / Product Number: G11AR4 / Price: $103.00

Spec 11AX ▲

Subsurface Sucker Rod Pumps and Fittings

Covers rod pumps and tubing pumps in commonly used bore sizes. Sufficient dimensional requirements are provided to assure interchangeability and standardization of all component parts; however, details of design are not specified. Standard materials are specified. Pages: 61

11th Edition / June 2001 / Product Number: G11AX1 / Price: $112.00

Spec 11B ▲

Sucker Rods

Covers dimensional requirements for metal and fiberglass sucker rods, couplings and subcouplings; also stipulations on gauges, gauging practices, and the use of the API Monogram. Pages: 58

26th Edition / January 1998 / Effective Date: July 1, 1998
Product Number: G11B26 / Price: $92.00

Spec 11B

Sucker Rods–Russian

The Russian translation of Spec 11B.

26th Edition / January 1998 / Effective Date: July 1, 1998
Product Number: G11B0R / Price: $98.00

RP 11BR
Care and Handling of Sucker Rods
(ANSI/API RP 11BR-1992)
(includes Supplement 1, July 1, 1991)

Covers recommendations on the storage, transportation, running, and pulling of sucker rods. Pages: 18
8th Edition / October 1989 / Reaffirmed, October 2003
Product Number: G05000 / Price: $72.00

RP 11BR
Care and Handling of Sucker Rods–Russian
(ANSI/API RP 11BR-1992)

The Russian translation of RP 11BR.
8th Edition / October 1989 / Product Number: G11BRR / Price: $78.00

Spec 11D1/ISO 14310 ▲
Petroleum and Natural Gas Industries–Downhole Equipment–Packers and Bridge Plugs

Provides requirements for packers and bridge plugs for use in the petroleum and natural gas industry. Application of this International Standard is limited to those products meeting the definition of a packer or ridge plug intended for petroleum and natural gas industry subsurface operations. This International Standard applies only to product applications within a conduit. Installation and maintenance of these products is outside the scope of this document. This edition of API Spec 11D1 is an adoption of ISO 14310:2001 with the addition of an API Monogram Annex. Pages: 25
1st Edition / July 2002 / Product Number: GG11D11 / Price: $51.00

Spec 11E ▲
Pumping Units

Covers designs and ratings of beam-type pumping units. Pages: 61
17th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G11E17 / Price: $110.00

RP 11ER ✣
Guarding of Pumping Units
(ANSI/API RP 11ER-1992)
(includes Supplement 1, July 1, 1991)

Provides a reference guide for the design, manufacture, and installation of guards for oil well pumping units. Pages: 17
2nd Edition / January 1, 1990 / Reaffirmed, December 2002
Product Number: G05205 / Price: $66.00

RP 11G
Installation and Lubrication of Pumping Units

Covers installation of beam-type pumping units and lubrication of pumping-unit reducers. Pages: 8
4th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G11G04 / Price: $66.00

Spec 11IW ▲
Independent Wellhead Equipment

Spec 11IW provides for the availability of safe, dimensionally and functionally interchangeable independent wellhead equipment. Spec 11IW also contains requirements for performance, design, materials, testing, inspection, welding, handling, storing and shipping. Pages: 21
1st Edition / June 2000 / Product Number: G11IW1 / Price: $66.00

Bull 11K
Data Sheet for the Design of Air Exchange Coolers

Standard form for specifying engineering data for the design, rating, and purchase of air exchange coolers for packaged compressor units. Pages: 10
2nd Edition / June 1988 / Reaffirmed, January 2000
Product Number: G05400 / Price: $66.00

RP 11L
Design Calculations for Sucker Rod Pumping Systems
(Conventional Units)
(includes Errata dated October 1, 1988)

Covers recommendations for design calculations for conventional unit sucker rod pumping systems based on test data submitted to API by Sucker Rod Pumping Research, Inc. Pages: 24
4th Edition / June 1988 / Reaffirmed, January 2000
Product Number: G05500 / Price: $78.00

Bull 11L2
Catalog of Analog Computer Dynamometer Cards

Contains over 1,100 polished rod dynamometer cards taken with the electronic analog simulator and arranged in convenient form for comparison with field tests. Pages: 77
1st Edition / December 1969 / Reaffirmed, September 1999
Product Number: G05700 / Price: $98.00

Bull 11L3
Sucker Rod Pumping System Design Book

Contains print-out tables of computer calculated values for selecting sucker rod systems. Values are included for depths of 200 feet to 12,000 feet in increments of 500 feet; and production rates of 100 barrels per day to over 1,500 barrels per day in varying increments. Various rod string pump stroke, pump size and pumping speed combinations that will do the job within the limiting parameters are listed. Includes errata to the 1st Edition, November 1973, and a Supplement, February 1977. Pages: 574
1st Edition / May 1970 / Reaffirmed, September 1999
Product Number: G05800 / Price: $110.00

Bull 11L4
Curves for Selecting Beam Pumping Units

Contains 160 master curves for selecting beam pumping units, derived from the application of a computer program to portions of RP 11L. Included are curves for torque ratings of 57,000 through 912,000 in.-lb. from Table 3, Std 11E and for various stroke and rod designs. Pages: 160
1st Edition / April 1970 / Reaffirmed, September 1999
Product Number: G05900 / Price: $110.00

Spec 11L6 ▲
Electric Motor Prime Mover for Beam Pumping Unit Service
(includes Supplement 1, November 1996)

Covers polyphase, squirrel-cage, induction motors for use as the prime mover for beam pumping units (size range of 200 hp and below). Pages: 10
1st Edition / June 1, 1993 / Product Number: G05914 / Price: $66.00

Spec 11N ▲
Lease Automatic Custody Transfer (LACT) Equipment

Describes requirements for assemblies designed for the unattended automatic custody transfer (ACT) of liquid hydrocarbons, such as crude oil and condensate, at rates below 11,000 U.S. barrels (1750 my), in field applications at less than 500 psig (3447 kPa) operating pressure. Pages: 13
4th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G11N04 / Price: $66.00

RP 11PGT
Packaged Combustion Gas Turbines

Covers the minimum requirements for a complete self- sufficient packaged combustion gas turbine prime mover with or without driven equipment for onshore/offshore oil and gas production services. Pages: 73
1st Edition / May 1992 / Reaffirmed, September 1999
Product Number: G05925 / Price: $117.00

RP 11S
The Operation, Maintenance and Troubleshooting of Electric Submersible Pump Installations

Presents recommended practices covering all the major components that comprise a standard electric submersible pumping system (their operation, maintenance, and troubleshooting). Pages: 18
3rd Edition / November 1994 / Reaffirmed, January 2000
Product Number: G11S03 / Price: $66.00

RP 11S1
Electrical Submersible Pump Teardown Report (ANSI/API RP 11S1-1998)

Covers a recommended electric submersible pump teardown report form. Pages: 36
3rd Edition / September 1997 / Effective Date: December 15, 1997
Reaffirmed, October 2003 / Product Number: G11S13 / Price: $98.00

RP 11S2
Electric Submersible Pump Testing

Provides guidelines and procedures covering electric submersible pump performance testing intended to establish product consistency. These recommended practices are generally considered appropriate for the majority of pump applications. Covers the acceptance testing of electric submersible pumps (sold as new) by manufacturers, vendors, or users to the prescribed minimum specifications. Pages: 12
2nd Edition / August 1997 / Effective Date: October 1, 1997
Reaffirmed, October 2003 / Product Number: G11S22 / Price: $66.00

RP 11S3
Electric Submersible Pump Installations (formerly API RP 11R)

Addresses the installation and replacement of all major components comprising an electrical submersible pumping system. Specifically, it addresses equipment installation on tubing in oil and gas production operations. Pages: 11
2nd Edition / March 1999 / Reaffirmed, October 2003
Product Number: G11S32 / Price: $72.00

RP 11S4
Recommended Practice for Sizing and Selection of Electric Submersible Pump Installation

Discusses in some detail each component of the ESP system (pump, motor, intake, seal or protector, cable, switchboard, etc.) as far as what must be considered for the best selection at a desired rate and well conditions. Examples are given to illustrate the basic design procedure and illustrate how PVT correlations, multiphase flow correlations, and inflow performance relationships are used.

Summary designs and computer examples using the detailed design principles are presented which show how design considerations fit together, and how tools such as computer programs allow faster solutions resulting in easier trial and error calculations for optimization of designs and study of existing installations.

Topics such as PVT correlations, multiphase flow correlations, and inflow performance relationships are discussed in the appendices. Pages: 38
3rd Edition / June 2001 / Product Number: G11S43 / Price: $63.00

RP 11S5
Application of Electric Submersible Cable Systems

Covers application of electrical submersible cable systems by manufacturer, vendor, or user. Pages: 32
1st Edition / February 1993 / Reaffirmed, January 2000
Product Number: G05944 / Price: $87.00

RP 11S6
Testing of Electric Submersible Pump Cable Systems

Covers field testing of electric submersible pump cable systems. This document is organized into three major topic categories. The first category provides general definitions and an overview of terms, safety considerations, and cable system preparation guidelines. The second category identifies various situations under which testing is performed. The third category identifies test methods and procedures. Pages: 18
1st Edition / December 1995 / Reaffirmed, October 2003
Product Number: G11S61 / Price: $72.00

RP 11S7
Application and Testing of Electric Submersible Pump Seal Chamber Section

Contains tutorial, testing, and failure evaluation information on the seal chamber section used in support of an electric submersible motor. Provides a general understanding of construction and functioning of seal chamber sections, identification of well conditions, system requirements, and characteristics that influence component section and application. Pages: 28
1st Edition / July 1993 / Reaffirmed, October 2003
Product Number: G05947 / Price: $72.00

RP 11S8
Electric Submersible Pump System Vibrations

Provides guidelines to establish consistency in control and analysis of ESP system vibrations. Pages: 15
1st Edition / May 1993 / Reaffirmed, January 2000
Product Number: G05948 / Price: $60.00

RP 11T
Installation and Operation of Wet Steam Generators

Includes drawings, illustrations, and design criteria most commonly used in wet steam generators. Pages: 25
2nd Edition / November 1994 / Reaffirmed, January 2000
Product Number: G11T02 / Price: $78.00

Spec 11V1 ▲
Gas Lift Valves, Orifices, Reverse Flow Valves and Dummy Valves

Covers specifications on gas lift valves, orifices, reverse flow valves, and dummy valves. Pages: 37
2nd Edition / February 1995 / Reaffirmed, January 2000
Product Number: G11V12 / Price: $92.00

RP 11V2
Gas Lift Valve Performance Testing

Covers the test procedures for flow performance testing of wireline-retrievable and tubing-retrievable IPO (injection pressure operated), and PPO (production pressure operated) gas lift valves. Pages: 56
2nd Edition / March 2001 / Product Number: G11V22 / Price: $84.00

RP 11V5
Operation, Maintenance, and Trouble-Shooting of Gas Lift Installations

Covers recommended practices on kickoff and unloading, adjustment procedures, troubleshooting diagnostic tools, and location of problem areas for gas lift operations.
2nd Edition / June 1999 / Product Number: G11V52 / Price: $92.00

RP 11V6
Design of Continuous Flow Gas Lift Installations Using Injection Pressure Operated Valves

Sets guidelines for continuous flow gas lift installation designs using injection pressure operated valves.
2nd Edition / July 1999 / Product Number: G11V62 / Price: $123.00

RP 11V7
Repair, Testing and Setting Gas Lift Valves

Applies to repair, testing, and setting gas lift valves and reverse flow (check) valves. It presents guidelines related to the repair and reuse of valves; these practices are intended to serve both repair shops and operators. The commonly used gas pressure-operated bellows valve is also covered. Other valves, including bellows charged valves in production pressure (fluid) service should be repaired according to these guidelines.
2nd Edition / June 1999 / Product Number: G11V72 / Price: $87.00

RP 11V8
Recommended Practice for Gas Lift System Design and Performance Prediction

The primary purpose of this API Recommended Practice (RP) is to emphasize gas lift as a system and to discuss methods used to predict its performance. Information must be gathered and models validated prior to a system design, which must precede wellbore gas lift mandrel and valve design. The subsurface and surface components of the system must be designed together to enhance the strengths of each and to minimize the constraints. Pages: 79
1st Edition / September 2003 / Product Number: G11V81 / Price: $95.00

RP 500 ✣
Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I Division 1 and Division 2
(ANSI/API RP 500-1998)

See Also Refining, Electrical Installations and Equipment
2nd Edition/ November 1997 / Reaffirmed, November 2002
Product Number: C05002 / Price: $168.00

RP 505
Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2
(ANSI/API RP 505-1998)

See Also Refining, Electrical Installations and Equipment
1st Edition/ November 1997 / Reaffirmed, November 2002
Product Number: C50501 / Price: $168.00

Series 12: Lease Production Vessels

Spec 12B ▲
Bolted Tanks for Storage of Production Liquids

Covers material, design, and erection requirements for vertical, cylindrical, aboveground, bolted steel tanks in nominal capacities of 100 to 10,000 barrels (in standard sizes) for production service. It also includes appurtenance requirements. Pages: 25
14th Edition / February 1995 / Reaffirmed, May 2000
Product Number: G12B14 / Price: $78.00

Spec 12D ▲
Field Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and erection requirements for vertical, cylindrical, aboveground, welded steel tanks in nominal capacities of 500 to 10,000 bbl (in standard sizes) for production service. Pages: 22
10th Edition / November 1994 / Reaffirmed, May 2000
Product Number: G12D10 / Price: $78.00

Spec 12F ▲
Shop Welded Tanks for Storage of Production Liquids

Covers material, design, and construction requirements for vertical, cylindrical, aboveground, shop-welded steel tanks in nominal capacities of 90 to 500 bbl (in standard sizes) for production service. Pages: 22
11th Edition / November 1994 / Reaffirmed, May 2000
Product Number: G12F11 / Price: $78.00

Spec 12GDU ▲
Glycol-Type Gas Dehydration Units
(ANSI/API Spec 12GDU-1992)

Covers minimum requirements for materials, design, fabrication, and testing of a conventional lease glycol-type gas dehydration system utilizing trimethylene glycol as the desiccant. Encompasses a system that includes an inlet separator, a glycol/gas contractor, gas/glycol heat exchanger, glycol reboiler, glycol surge tank, glycol circulating pump(s), filter(s), glycol/glycol heat exchanger, glycol flash separator (optional) and skid(s). Pages: 39
1st Edition / December 15, 1990 / Reaffirmed, September 1999
Product Number: G06420 / Price: $92.00

Spec 12J ▲
Oil and Gas Separators
(ANSI/API Spec 12J-1992)

Covers minimum requirements for the design, fabrication, and plant testing of oil and gas separators, and oil-gas-water separators, that are used in the production of oil and gas, and are located at some point on the producing flow line between the wellhead and pipeline. Pages: 23
7th Edition / October 1, 1989 / Reaffirmed, September 1999
Product Number: G06500 / Price: $78.00

Spec 12K ▲
Indirect-type Oil Field Heaters
(ANSI/API Spec 12K-1992)

Covers minimum requirements for the design, fabrication, and plant testing of indirect heaters that are used in the production of oil and gas, and are located at some point on the producing flow line between the wellhead and pipeline. Pages: 31
7th Edition / June 1, 1989 / Reaffirmed, September 1999
Product Number: G06600 / Price: $92.00

Spec 12L ▲
Vertical and Horizontal Emulsion Treaters

Covers minimum requirements for material, design, and fabrication of vertical and horizontal emulsion treaters. Pages: 29
4th Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G12L04 / Price: $78.00

RP 12N ✣
Operations, Maintenance and Testing of Firebox Flame Arrestors

Covers practices that should be considered in the installation, maintenance, and testing of firebox flame arrestors installed on the air intake of oilfield production equipment. Pages: 6
2nd Edition / November 1, 1994 / Reaffirmed, January 2000
Product Number: G12N02 / Price: $66.00

Spec 12P ▲
Fiberglass Reinforced Plastic Tanks

Covers minimum requirements for material, design, fabrication, and testing of fiberglass reinforced plastic tanks. Pages: 19

2nd Edition / January 1, 1995 / Reaffirmed, January 2000
Product Number: G12P02 / Price: $78.00

RP 12R1 ✣
Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service

A guide for new tank battery installations and a guide for revamping existing batteries if this is necessary for any reason. Pages: 52

5th Edition / August 1997 / Effective Date: October 1, 1997
Reaffirmed, December 2002 / Product Number: G12R15 / Price: $110.00

Series 13: Drilling Fluid Materials

Spec 13A/ISO 13500 ✪ ▲
Specification for Drilling Fluid Materials (Modified)
Petroleum and Natural gas industries—Drilling and production equipment—Drill-through equipment

Covers physical properties and test procedures for materials manufactured for use in oil-and gas-well drilling fluids. The materials covered are barite, haematite, bentonite, nontreated bentonite, OCMA grade bentonite, attapulgite, sepiolite, technical grade low-viscosity carboxymethylcellulose (CMC-LVT), technical grade high-viscosity carboxymethylcellulose (CMC-HVT), and starch. This International Standard is intended for the use of manufacturers of named products.

This edition of API Spec 13A is a modified adoption of ISO 13500 and *includes the addition of an API Monogram Annex*. Pages: 84

16th Edition / February 2004 / Effective Date: July 2004
Product Number: GX13A16 / Price: $137.00

RP 13B-1/ISO 10414-1
Recommended Practice for Field Testing Water-Based Drilling Fluids
Petroleum and natural gas industries-Field testing of drilling fluids- Part I –Water based fluids (Modified)
(includes Errata, July 2004)

Covers equipment and standard procedures for field testing water-based drilling fluids. This edition of API RP 13B-1 is a modified adoption of ISO 10414-1 and *includes the addition of an API Monogram Annex.* Pages: 82

3rd Edition/December 2003/Product Number: GX13B13/Price: $168.00

RP 13B-2
Standard Procedure for Field Testing Oil-based Drilling Fluids
(includes Addendum 1)

Covers equipment and standard procedures for field testing oil-based drilling fluids. Pages: 66

3rd Edition / February 1998 / Product Number: G13B23 / Price: $135.00

RP 13B-2-A1
Addendum 1 to Standard Procedure for Field Testing Oil-based Drilling Fluids

3rd Edition / Addendum date: May 2000
Product Number: G13B2A1 / Price: $46.00

RP 13C ✪
Recommended Practice on Drilling Fluids Processing Systems Evaluation
(supersedes RP 13E)

Covers the standard procedure for assessing and modifying the performance of a solids control equipment system in the field. These guidelines can be used to modify the operation of the equipment and the removal system, and thus improve the efficiency of the equipment in use. Pages: 52

3rd Edition / December 2004 / Product Number: G13C03 / Price: $78.00

RP 13D
Recommended Practice on the Rheology and Hydraulics of Oil-well Drilling Fluids

Provides a basic understanding of and guidance about drilling fluid rheology and hydraulics, and their application to drilling operations. The methods for the calculations used in RP 13D do not take into account the effects of temperature and compressibility on the density of the drilling fluid. For this RP, rheology is the study of the flow characteristics of a drilling fluid and how these characteristics affect movement of the fluid. Pages: 35

4th Edition / May 2003 / Product Number: G13D04 / Price: $78.00

RP 13I/ISO 10416 ✪
Recommended Practice for Laboratory Testing Drilling Fluids (Modified)
Petroleum and natural gas industries—Drilling fluids—Laboratory Testing

RP13I provides procedures for the laboratory testing of both drilling fluid materials and drilling fluid physical, chemical and performance properties. It is applicable to both water-based and oil-based drilling fluids, as well as the base or "make-up" fluid.

It is not intended as a detailed manual on drilling fluid control procedures. Recommendations regarding agitation and testing temperature are presented because the agitation history and temperature have a profound effect on drilling fluid properties.

This edition of API RP 13I is a modified adoption of ISO 10416.

7th Edition / February 2004 / Product Number: GX13I07 / Price: $153.00

RP 13J ✪
Testing of Heavy Brines

Covers heavy brines commonly used in petroleum and natural gas completion, workover and drill-in fluids. These brines can be purchased or rented from multiple sources, and are available worldwide. No single source or limited source of supply is included, either by inference or reference.

Also provides methods for assessing the performance and physical characteristics of heavy brines for use in field operations. It includes procedures for evaluating the density or specific gravity, clarity or amount of particulate matter carried in the brine, crystallization point or the temperature (both ambient and under pressure) at which the brines make the transition between liquid and solid, pH, and iron contamination. It also contains a discussion of gas hydrate formation and mitigation, buffering capacity and a standardized reporting form.

3rd Edition / January 2004 / Product Number: G13J03 / Price: $72.00

RP 13K
Chemical Analysis of Barite
(includes Errata dated April 1998)

Provides a comprehensive, detailed description of the chemical analytical procedures for quantitatively determining the mineral and chemical constituents of barite. Pages: 25

2nd Edition / February 1996 / Reaffirmed, November 2001
Product Number: G13K02 / Price: $72.00

RP 13L
Recommended Practice for Training and Qualification of Drilling Fluid Technologists

A written summary of basic training and knowledge that an employee or contractor shall possess to be identified as a drilling fluids technologist. This RP seeks to formalize the specific knowledge base, professional skills, and application skills needed to ensure the competency and professionalism of individuals working in the drilling fluids industry. Drilling fluids technologists should use this RP as an outline to self-determine any gaps in learning and seek to improve their skills. A company contracting the service of a drilling fluids technologist should use this RP as a checklist of knowledge that a technologist should be able to demonstrate proficiency in applying. Pages: 7

1st Edition / February 2003 / Product Number: G13L01 / Price: $42.00

RP 13M/ISO 13503-1 ✪
Recommended Practice for the Measurement of Viscous Properties of Completion Fluids

Petroleum and natural gas industries–Completion fluids and materials–Part 1: Measurement of viscous properties of completion fluids

Recommended Practice 13M provides consistent methodology for determining the viscosity of completion fluids used in the petroleum and natural gas industries. For certain cases, methods are also provided to determine the rheological properties of a fluid. RP 13M replaces API Recommended Practice RP 39.

This edition of API RP 13M is the identical national adoption of ISO 13503-1.

1st Edition / July 2004 / Product Number: GX13M01 / Price: $79.00

Series 14: Offshore Safety and Anti-Pollution

Spec 14A/ISO 10432:1999 ▲
Specification for Subsurface Safety Valve Equipment

Petroleum and natural gas industries–Downhole equipment–Subsurface safety valve equipment

Covers subsurface safety valves, safety valve locks, and safety valve landing nipples. Includes minimum acceptable standards for materials, manufacturing, and testing of both surface- and subsurface-controlled safety valves for three classes of service. Pages: 79

10th Edition / November 2000 / Effective Date, May 15, 2001
Product Number: GX14A10 / Price: $142.00

RP 14B ✣
Design, Installation, Repair and Operation of Subsurface Safety Valve Systems

(includes Errata dated June 1996)

Covers procedures for design calculations, instructions for safe installation and guidelines for operating and testing to assure safe and efficient performance of subsurface safety valve systems (SSSVs), and covers repair and remanufacture of SSSV equipment. Pages: 23

4th Edition / July 1994 / Reaffirmed, January 2003
Product Number: G14B04 / Price: $92.00

RP 14C ✣
Analysis, Design, Installation and Testing of Basic Surface Safety Systems on Offshore Production Platforms

Presents a standardized method to design, install, and test surface safety systems on offshore production platforms. Uses recognized systems analysis methods to develop requirements for a safety system, and includes procedures to document the safety system and verify conformance. Pages: 110

7th Edition / March 2001 / Product Number: G14C07 / Price: $167.00

RP 14E
Design and Installation of Offshore Production Platform Piping Systems (ANSI/API RP 14E-1992)

Recommends minimum requirements and guidelines for the design and installation of new piping systems on offshore production platforms. Includes general recommendations on design and application of pipe, valves, and fittings for typical processes; general information on installation, quality control, and items related to piping systems such as insulation; and specific recommendations for the design of particular piping systems. Pages: 61

5th Edition / October 1, 1991 / Reaffirmed, June 2000
Product Number: G07185 / Price: $123.00

RP 14F
Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations

Recommends minimum requirements for design and installation of electrical systems for offshore production platforms. Includes recommendations on electrical equipment for classified areas, power generating stations, distribution systems, motors, transformers, lighting, DC power systems, and recommendations on systems checkout.

4th Edition / June 1999 / Product Number: G14F04 / Price: $142.00

RP 14FZ
Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1 and Zone 2 Locations

API RP 14FZ recommends minimum requirements and guidelines for the design and installation of electrical systems on fixed and floating petroleum facilities located offshore when hazardous locations are classified as Zone 0, Zone 1, or Zone 2. These facilities include drilling, producing and pipeline transportation facilities associated with oil and gas exploration and production. RP 14FZ describes basic desirable electrical practices for offshore electrical systems. This document recognizes that special electrical considerations exist for offshore petroleum facilities. These special considerations include the inherent electrical shock possibility presented by the marine environment and steel decks; space limitations that require equipment be installed in or near classified locations; the corrosive marine environment; motion and buoyancy concerns associated with floating facilities. RP 14FZ applies to both permanent and temporary electrical installations, and the guidelines provide a high level of electrical safety when used in conjunction with well-defined area classifications. This document emphasizes safe practices for classified locations on offshore petroleum facilities but does not include guidelines for classification of areas. Pages: 117

1st Edition/ September 2001 / Product Number: G14FZ1 / Price: $153.00

RP 14G ✣
Fire Prevention and Control on Ope-type Offshore Production Platforms

Presents recommendations for minimizing the likelihood of an accidental fire, and for designing, inspecting, and maintaining fire control systems. It emphasizes the need to train personnel in fire fighting, to conduct routine drills, and to establish methods and procedures for safe evacuation. The fire control systems discussed are intended to provide an early response to incipient fires and prevent their growth. Applicable to fixed open-type offshore production platforms that are generally installed in moderate climates and that have sufficient natural ventilation to minimize the accumulation of vapors. Enclosed areas, such as quarters, buildings, and equipment enclosures, normally installed on this type platform, are addressed. Pages: 37

3rd Edition / December 1993 / Reaffirmed, June 2000
Product Number: G07194 / Price: $103.00

RP 14H ✣
Installation, Maintenance and Repair of Surface Safety Valves and Underwater Safety Valves Offshore
(includes Errata dated September 23, 1996)

Covers guidelines for inspecting, installing, maintaining, repairing, and operating of SSVs/USVs. Pages: 16

4th Edition / July 1, 1994 / Product Number: G14H04 / Price: $92.00

RP 14J
Design and Hazards Analysis for Offshore Production Facilities

Provides useful procedures and guidelines for planning, designing, and arranging offshore production facilities; and performing a hazards analysis on open-type offshore production facilities. Discusses several procedures that can be used to perform a hazards analysis, and presents minimum requirements for process safety information and hazards analysis that can be used for satisfying API RP 75 *Development of a Safety and Environmental Management Program for Outer Continental Shelf (OCS) Operations and Facilities*. Pages: 75

2nd Edition / April 2001 / Product Number: G14J02 / Price: $94.00

Spec 14L/ISO 16070 ▲
Lock Mandrels and Landing Nipples

API Spec 14L provides the requirements for lock mandrels and landing nipples within the production/injection conduit for the installation of flow control or other equipment used in the petroleum and natural gas industries. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit. This edition of API Specification 14L is an identical adoption of ISO 16070. Pages: 26

1st Edition / October 2002 / Product Number: GG14L01 / Price: $92.00

Series 15: Fiberglass and Plastic Pipe

Spec 15HR ▲
High Pressure Fiberglass Line Pipe
(includes Addendum dated December 2004)

This specification was formulated to provide for the availability of safe, dimensionally and functionally interchangeable high pressure fiberglass line pipe with a Spec 15HR Standard Pressure Rating from 500 psi to 5000 psi, inclusive, in 250 psi increments. This specification is limited to mechanical connections. Pages: 25

3rd Edition / August 2001 / Product Number: G15HR3 / Price: $78.00

Spec 15LE ▲
Polyethylene (PE) Line Pipe

Provides standards for polyethylene line pipe suitable for use in conveying gas, oil and non-potable water in underground service for the oil and gas producing industries. Dimensions, materials, physical properties, and service factors are included. Pages: 25

3rd Edition / April 1, 1995 / Product Number: G15LE3 / Price: $78.00

Spec 15LR ▲
Low Pressure Fiberglass Line Pipe

This specification covers filament wound (FW) and centrifugally cast (CC) fiberglass line pipe and fittings for pipe in diameters up to and including 24 in. in diameter and up to and including 1000 psig cyclic operating pressures. In addition, at the manufacturer's option, the pipe may also be rated for static operating pressures up to 1000 psig. It is recommended that the pipe and fittings be purchased by cyclic pressure rating. The standard pressure ratings range from 150 psig to 300 psig in 50 psig increments, and from 300 psig to 1000 psig in 100 psig increments, based on either cyclic pressure or static pressure. Pages: 25

7th Edition / August 2001 / Effective Date: February 1, 2002
Product Number: G15LR7 / Price: $78.00

RP 15TL4 ✣
Care and Use of Fiberglass Tubulars

Provides information on the transporting, handling, installing, and reconditioning of fiberglass tubulars in oilfield usage. Appendices are also included to cover adhesive bonding, repair procedures, and inspection practices. Pages: 20

2nd Edition / March 1999 / Product Number: G15TL4 / Price: $78.00

Series 16: Drilling Well Control Systems

Spec 16A/ISO 13533 ▲
Drill-through Equipment
Petroleum and natural gas industries—Drilling and production equipment: Drill-through equipment (Modified)
(includes Supplement/Errata dated, November 2004)

Provides requirements for performance, design, materials, tests and inspections, welding, marking, handling, storing and shipping of drill-through equipment (BOPs, spools, hubs).

3rd Edition / June 2004 / Effective Date: December 2004
Product Number: GX16A03 / Price: $137.00

Spec 16C ▲ ✪
Choke and Kill Systems

Provides for safe and functionally interchangeable surface and subsea choke and kill systems equipment utilized for drilling and gas wells. Other parts of the choke and kill system not specifically addressed in this document shall be in accordance with the applicable sections of this specification. Technical content of this document provides the minimum requirement for performance, design, materials, welding, testing, inspection, storing, and shipping. Pages: 61

1st Edition / January 29, 1993 / Reaffirmed, July 2001
Product Number: G07242 / Price: $110.00

Spec 16D ▲
Control Systems for Drilling Well Control Equipment

Establishes design standards for systems, subsystems, and components used to control BOPs (blowout preventers) and associated valves that control well pressure during drilling operations. Each operation of a BOP or other well control component is referred to as a control function. Six control system categories are addressed.

2nd Edition / July 2004 / Effective Date: January 2005
Product Number: G16D02 / Price: $147.00

Spec 16D
Accumulator Sizing Software

This software will allow the user to determine the accumulator volume requirements for their specific well control system using the methodologies presented in API Specification 16D.

1st Edition / Product Number: G16D0S / $400.00
(There is no member discount for this software)

Spec 16F ✪ ▲
Specification for Marine Drilling Riser Equipment

Establishes standards of performance and quality for the design, manufacture, and fabrication of marine drilling riser equipment used in conjunction with a subsea blowout preventer (BOP) stack. This specification covers the following major subsystems in the marine drilling riser system:
- Riser tensioner equipment
- Flex/ball joints
- Choke, kill and auxiliary lines
- Drape hoses and jumper lines for flex/ball joints
- Telescopic joint (slip joint) and tensioner ring
- Riser joints
- Buoyancy equipment
- Riser running equipment
- Special riser system components
- Lower riser adapter

1st Edition / August 2004 / Product Number: G16F01 / Price: $95.00

RP 16Q ✣
Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems

(formerly API RP 2Q and RP 2K)

Includes guidelines for the design, selection, operation, and maintenance of marine riser systems for floating drilling operations. Organized as a reference for designers, for those who select system components, and for those who use and maintain this equipment. Pages: 48

1st Edition / November 1993 / Reaffirmed, August 2001
Product Number: G07249 / Price: $87.00

Spec 16R ▲
Marine Drilling Riser Couplings

(replaces API RP 2R)

Pertains to the design, rating, manufacturing, and testing of marine drilling riser couplings. Pages: 28

1st Edition / January 1997 / Product Number: G16R01 / Price: $78.00

Series 17: Subsea Production Systems

RP 17A/ISO 13628-1
Design and Operation of Subsea Production Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 1: General requirements and recommendations

Provides guidelines for the design, installation, operation, repair, and decommissioning of subsea production systems. The elements of subsea production systems included are wellheads (both subsea and mudline casing suspension systems) and trees; pipelines and end connections; controls, control lines and control fluids; templates and manifolds; and production riser (both rigid and flexible). Other sections cover operations, quality assurance, materials, and corrosion. This edition of API RP 17A is an identical adoption of ISO 13628-1. Pages: 128

3rd Edition / September 2002 / Product Number: GX17A03 / Price: $131.00

RP 17B
Flexible Pipe

Applies to flexible pipe with a design pressure greater than 225 psi used in a variety of offshore oil production applications. Covers guidelines for the design, analysis, quality assurance, storage, handling, transportation, and installation of flexible pipe systems for subsea and riser applications. Contains the full text of ISO 10420.

3rd Edition / March 2002 / Product Number: G17B03 / Price: $150.00

RP 17C/ISO 13628-3
TFL (Through Flowline) Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 3: Through flowline (TFL) systems

Presents recommendations for designing, fabricating, and operating TFL equipment. Procedures and guidelines presented are for hydraulic servicing of downhole equipment, subsea tree and tubing hanger, and pipelines and equipment within the pipelines. This edition of API RP 17C is an identical adoption of ISO 13628-3. Pages: 67

2nd Edition / September 2002 / Product Number: GX17C02 / Price: $103.00

Spec 17D ▲
Subsea Wellhead and Christmas Tree Equipment

(includes Supplement 1, March 1, 1993 and Supplement 2, June 1996; Effective Date: August 1, 1996)

Provides the specification for safe, dimensionally and functionally interchangeable subsea wellhead, mudline, and tree equipment. Technical content includes requirements for performance, design, materials, testing, inspection, welding, marking, handling, storing, and shipping. Pages: 116

1st Edition / October 30, 1992 / Product Number: G07265 / Price: $110.00

Spec 17E/ISO 13628-5 ▲
Specification for Subsea Umbilicals

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 5: Subsea umbilicals

Specifies requirements and gives recommendations for the design, material selection, manufacture, design verification, testing, installation and operation of subsea control systems, chemical injection, gas lift, utility and service umbilicals and associated ancillary equipment for the petroleum and natural gas industries. Also applies to umbilicals containing electrical conductors, optical fibres, thermoplastic hoses and metallic tubes, either alone or in combination; and applies to umbilicals that are for static or dynamic service, and with routings of surface-surface, surface-subsea and subsea-subsea. Pages: 105

3rd Edition / June 2003 / Effective Date: December 2003
Product Number: GX17E03 / Price: $116.00

Spec 17F/ISO 13628-6:2000
Specification for Subsea Production Control Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 6: Subsea production control systems

(ANSI Adoption Date: July 17, 2002)

This part of ISO 13628 is applicable to design, fabrication, testing, installation and operation of subsea production control systems.

This part of ISO 13628 covers surface control system equipment, subsea-installed control system equipment and control fluids. This equipment is utilized for control of subsea production of oil and gas and for subsea water and gas injection services. Where applicable, this part of ISO 13628 may be used for equipment on multiple-well applications.

1st Edition / December 2002 / Effective Date: June 2003
Product Number: GX17F01 / Price: $110.00

RP 17G
Design and Operation of Completion/Workover Riser Systems

Provides guidelines for the design and operation of subsea completion/workover riser systems run from a floating vessel. Serves as a reference for designers and those responsible for the selection of system components. Pages: 33

1st Edition / January 1, 1995 / Reaffirmed, November 14, 2003
Product Number: G17G01 / Price: $92.00

RP 17H/ISO 13628-8

Remotly Operated Vehicle (ROV) Interfaces on Subsea Production Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 8: Remotly Operated Vehicle (ROV) interfaces on subsea production systems

Gives functional requirements and guidelines for ROV interfaces on subsea production systems for the petroleum and natural gas industries. It is applicable to both the selection and use of ROV interfaces on subsea production equipment, and provides guidance on design as well as the operational requirements for maximizing the potential of standard equipment and design principles. The framework and detailed specifications set out will enable the user to select the correct interface for a specific application.

1st Edition / July 2004 / Product Number: GX17H04 / Price: $105.00

Spec 17J ▲

Unbonded Flexible Pipe

(includes Addendum dated June 2002)

Defines the technical requirements for safe, dimensionally, and functionally interchangeable flexible pipes that are designed and manufactured to uniform standards and criteria. Pages: 46

2nd Edition / November 1999 / Effective Date: July 1, 2000
Product Number: G17J01 / Price: $87.00

Spec 17K ▲

Specification for Bonded Flexible Pipe

This specification defines the technical requirements for safe, dimensionally and functionally interchangeable bonded flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking and packaging of bonded flexible pipes, with reference to existing codes and standards where applicable. Pages: 58

1st Edition / September 2001 / Product Number: G17K01 / Price: $87.00

RP 17M/ISO 13628-9 ✪

Remotely Operated Tool (ROT) Intervention Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 9: Remotely operated tool (ROT) intervention systems

Provides functional requirements and recommendations for ROT intervention systems and interfacing equipment on subsea production systems for the petroleum and natural gas industries.

This RP does not cover manned intervention and ROV-based intervention systems (e.g. for tie-in of sealines and module replacement). Vertical wellbore intervention, internal flowline inspection, tree running and tree running equipment are also excluded from this RP.

This edition of API RP 17M is the identical national adoption of ISO 13628-9.

1st Edition / April 2004 / Product Number: GG17M1 / Price: $90.00

TR 17TR1

Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes

Defines the methodology and test procedures necessary for the evaluation of polymeric materials suitable for use as the internal pressure sheath of an unbonded flexible pipes in high temperature applications. It describes the processes by which the critical material properties, both static and dynamic, can be measured and evaluated against relevant performance criteria. Pages: 47

1st Edition / March 2003 / Product Number: G17TR11 / Price: $110.00

TR 17TR2

The Ageing of PA-11 in Flexible Pipes

This document provides comprehensive guidance on materials and pipe issues regarding the use and operation of PA-11 in flexible pipe applications, and concentrates on the use of PA-11 in the internal sheath of flexible pipes. The collective goal of this document is to prevent failure of the internal pressure sheath, as a result of ageing and associated loss of mechanical properties, by determining and disseminating the necessary scientific and practical information. Pages: 31

1st Edition / June 2003 / Product Number: G17TR21 / Price: $82.00

TR 17TR3 ✪

An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads below the BOP Stack

The purpose of this study is to provide an evaluation of the risks and benefits of allowing penetrations in subsea wellheads below the blowout preventer (BOP) stack so annuli other than the production tubing (commonly referred to as the "A" annulus) could be monitored.

Current industry standards (API Spec 17D and ISO 13628-4) for the design of subsea wellheads prohibit penetrations below the (BOP) stack. In contrast, Minerals Management Service (MMS) regulations (30 CFR 250.517) require that all annuli be monitored for sustained casing pressure and that every occurrence of sustained casing pressure be reported immediately.

The study concludes that the risks outweigh the benefits since the risk of maintaining the pressure barrier using a wellhead with penetrations is approximately two-and a-half times that of a system without penetrations. Pages: 123

November 2004 / Product Number: G17TR31 / Price: $110.00

Series 19: Completion Equipment

RP 19B

Evaluation of Well Perforators

(formerly RP 43)

(includes Errata dated September 28, 2001)

Describes test procedures for the evaluation of perforators under surface conditions; and the evaluation of the physical and flow characteristics of perforations obtained under temperature and pressure. A form for certification of data is included as a part of the recommended testing procedures. Pages: 30

1st Edition / November 2000 / Product Number: G019B1 / Price: $98.00

Drilling and Production Operations: Recommended Operating Practices

RP 31A

Standard Form for Hardcopy Presentation of Downhole Well Log Data

Provides an improved standard format for hardcopy presentation of downhole well log data. Standardizing the log form and data presentation allows the user to more easily combine a broad range of log data to interpret well status and performance. Pages: 18

1st Edition / August 1997 / Reaffirmed, September 2004
Product Number: G31A01 / Price: $78.00

RP 41

Standard Procedure for Presenting Performance Data on Hydraulic Fracturing Equipment

Provides a standard procedure for measuring, reporting, and certifying the hydraulic horsepower rating of pumping units used in well cementing and fracturing services. It is applicable to any type of pumping unit regardless of components such as engines, transmissions, and fracturing pumps. Pages: 8

2nd Edition / February 1, 1995 / Reaffirmed, June 2000
Product Number: G41002 / Price: $60.00

RP 44
Sampling Petroleum Reservoir Fluids

Proper management of production from a natural gas or petroleum reservoir can maximize the recovery of the hydrocarbon fluids (gas and oil) originally in the reservoir. Developing proper management strategies requires accurate knowledge of the characteristics of the reservoir fluid. Practices are recommended herein for obtaining samples of the reservoir fluid, from which the pertinent properties can be determined by subsequent laboratory tests. Pages: 49
2nd Edition / April 2003 / Product Number: G44002 / Price: $84.00

RP 45
Analysis of Oilfield Waters

Provides analysis methods for the determination of dissolved and dispersed components in oilfield waters (produced water, injected water, aqueous workover fluids, and stimulation fluids). Also includes the applications of oilfield water analyses; the proper collection, preservation, and labeling of field samples; a description of the various analytical methods available, including information regarding interferences, precision, accuracy, and detection limits; as well as the appropriate reporting formats for analytical results. Pages: 60
3rd Edition / August 1998 / Reaffirmed, September 2004
Product Number: G45003 / Price: $117.00

RP 49
Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide

Recommendations set forth in this publication apply to oil and gas well drilling and servicing operations involving hydrogen sulfide. These operations include well drilling, completion, servicing, workover, downhole maintenance, and plug and abandonment procedures conducted with hydrogen sulfide present in the fluids being handled. Coverage of this publication is applicable to operations confined to the original wellbore or original total depth and applies to the selection of materials for installation or use in the well and in the well drilling or servicing operation(s). The presence of hydrogen sulfide in these operations also presents the possibility of exposure to sulfur dioxide from the combustion of hydrogen sulfide. Pages: 29
2nd Edition / May 2001 / Product Number: G04902 / Price: $71.00

RP 50 ✣
Natural Gas Processing Plant Practices for Protection of the Environment

Assists gas plant operators in understanding their environmental responsibilities. It is intended to be used primarily by environmental, engineering, and operations personnel; and by management involved in building, maintaining, modifying, and operating gas processing plants. Operations within the scope of this standard include natural gas processing and associated gas compression facilities. This publication begins with initial plant planning, permitting, and construction and ends with plant closure and site restoration procedures. General guidelines are provided to be used at gas plant locations to develop site-specific environmental programs. Pages: 23
2nd Edition / December 1995 / Reaffirmed, June 2000
Product Number: G50002 / Price: $87.00

RP 51 ✣
Onshore Oil and Gas Production Practices for Protection of the Environment

Provides environmentally sound practices to promote protection of the environment in domestic onshore oil and gas production operations. Production facilities, including produced water handling facilities, are covered. Coverage begins with design and construction of access roads and well locations and carries through to abandonment and site restoration activities. Pages: 17
3rd Edition / March 2001 / Product Number: G51003 / Price: $60.00

RP 52 ✣
Land Drilling Practices for Protection of the Environment

Provides guidelines to promote the protection of the environment in land drilling operations. Pages: 40
2nd Edition / July 1, 1995 / Reaffirmed, June 2000
Product Number: G52002 / Price: $92.00

RP 53 ✣
Blowout Prevention Equipment Systems for Drilling Operations

Provides information that can serve as a guide for installation and testing of blowout prevention equipment systems on land and marine drilling rigs (barge, platform, bottom-supported, and floating). Pages: 81
3rd Edition / March 1997 / Reaffirmed, September 2004
Product Number: G53003 / Price: $110.00

RP 54 ✣
Occupational Safety for Oil and Gas Well Drilling and Servicing Operations

Includes procedures for promotion and maintenance of safe working conditions for employees engaged in rotary drilling operations and well servicing operations, including special services. Applies to rotary drilling rigs, well servicing rigs, and special services as they relate to operations on locations. Pages: 35
3rd Edition / August 1999 / Product Number: G54003 / Price: $103.00

RP 55 ✣
Conducting Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide

Covers recommendations for protection of employees and the public, as well as conducting oil and gas producing and gas processing plant operations where hydrogen sulfide is present in the fluids being produced. Pages: 40
2nd Edition / February 15, 1995 / Reaffirmed, June 2000
Product Number: G55002 / Price: $92.00

RP 56
Testing Sand Used in Hydraulic Fracturing Operations

Describes procedures and equipment that can best be used in testing and evaluating sand for use in hydraulic fracturing operations. The objective of the recommended tests is to improve the quality of frac sand delivered to the well site. Suggested procedures are presented for sand sampling; sample storage and retention; sand sieve analysis; determining average particle sphericity and roundness; evaluating sand acid solubility, analysis of silt content; determination of sand crush resistance, and sand mineralogical analysis tests. Pages: 12
2nd Edition / December 1995 / Reaffirmed, June 2000
Product Number: G56002 / Price: $66.00

RP 58
Testing Sand Used in Gravel Packing Operations

Describes procedures and equipment that can best be used in testing and evaluating sand used in gravel packing operations. The objective of the recommended tests is to improve the quality of gravel packing sand delivered to the well site. Suggested procedures are presented for sand sampling, sample storage and retention, sand sieve analysis, determining average particle sphericity and roundness, evaluating sand acid solubility, analysis of silt and clay content, determination of sand crush resistance tests. Pages: 12
2nd Edition / December 1995 / Reaffirmed, June 2000
Product Number: G58002 / Price: $66.00

RP 60
Testing High-strength Proppants Used in Hydraulic Fracturing Operations

Describes procedures and equipment that can be used in testing and evaluating of high-strength proppants stronger than silica sand. The

objective of the recommended tests is to improve the quality of high-strength proppant materials delivered to the well site. Suggested procedures are presented for proppant sampling; samples handling, storage, and retention; sieve analysis of proppant samples; determining average particle sphericity and roundness; determining proppant crush resistance; and determining density of proppant materials. Pages: 14
2nd Edition / December 1995 / Reaffirmed, June 2000
Product Number: G60002 / Price: $66.00

RP 63
Evaluation of Polymers Used in Enhanced Oil Recovery Operations

Describes test procedures and equipment that can be used to evaluate and compare polymer performance under standard laboratory conditions. These recommended tests are for qualitative comparison of performance and general screening of polymers under specific conditions. Suggested procedures are presented for sample preparation; evaluation of polymer solution rheology and flow through porous media; filterability testing of polymer solutions; determining concentration of polymers in solutions; and evaluation of polymer retention. Pages: 74
1st Edition / June 1990 / Reaffirmed, June 2000
Product Number: G63001 / Price: $117.00

RP 64 ✣
Diverter Systems Equipment and Operations

Covers surface and subsea diverter systems and components, including design, controls, operating procedures, and maintenance for land, bottom-supported offshore, and floating offshore, and floating offshore installations. Pages: 61
2nd Edition / October 2001 / Product Number: G64002 / Price: $86.00

RP 65
Cementing Shallow Water Flow Zones in Deep Water Wells

This document is the compilation of technology and practices used by many operators drilling wells in deep water. It is meant to highlight key parameters for increasing the chance of successfully drilling and cementing casings where there is a risk of shallow water flow and to discuss options that are available. Pages: 44
1st Edition / September 2002 / Product Number: G56001 / Price: $97.00

RP 67 ✣
Oilfield Explosives Safety

Applicable to explosives used in oil and gas well operations, more specifically, explosives used inside the wellborne. Guidance is provided for explosives transportation, on-site explosives loading and unloading operations, electrical wireline operations, tubing conveyed operations, self-contained activating tools, setting tools, sidewall sample taker tools, select fire perforating guns, and bullet perforating guns. Recommendations are presented regarding surface equipment and downhole equipment. Recommended training and minimum qualifications are presented for personnel who participate in handling and using explosives at the well site. Pages: 16
1st Edition / March 1, 1994 / Reaffirmed, June 2000
Product Number: G09308 / Price: $87.00

RP 70
Security for Offshore Oil and Natural Gas Operations

Intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations. It includes information on security awareness, conducting security vulnerability assessments when warranted, and developing security plans for offshore facilities. Pages: 16
1st Edition / March 2003 / Product Number: G07001 / Price: $45.00

RP 70I ✪
Security for Worldwide Offshore Oil and Natural Gas Operations

This publication is intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations worldwide.
1st Edition / April 2004 / Product Number: G70I03 / Price: $48.00

RP 74
Occupational Safety for Onshore Oil and Gas Production Operations

API RP 74 recommends practices and procedures for promoting and maintaining safe working conditions for personnel engaged in onshore oil and gas production operations, including special services. Pages: 23
1st Edition / October 2001 / Product Number: G74001 / Price: $49.00

RP 75
Development of a Safety and Environmental Management Program for Outer Continental Shelf Operations and Facilities

Provides guidance for use in preparing safety and environmental management programs (SEMP) for oil, gas, and sulphur operations and facilities located on the outer continental shelf (OCS). These guidelines are applicable to well drilling, servicing, and production; and pipeline facilities and operations that have the potential for creating a safety or environmental hazard at OCS platform sites. Eleven major program elements are included for application to these facilities and operations. Identification and management of safety and environmental hazards are addressed in design, construction, startup, operation, inspection, and maintenance of new, existing, and modified facilities.
3rd Edition / May 2004 / Product Number: G07503 / Price: $74.00

RP 76
Contractor Safety Management for Oil and Gas Drilling and Production Operations

This publication is intended to assist Operators, Contractors, and subcontractors (Third Parties) in the implementation of a Contractor safety program and improve the overall safety performance while preserving the independent contractor relationship. It is intended for the Upstream segment of the petroleum industry; however, since the Operator requirements and the contracted work are diverse, this publication may not be applicable to all operations at each company or to all contract work performed in those operations.
1st Edition / April 2004 / Product Number: G07601 / Price: $63.00

RP 80
Guidelines for the Definition of Onshore Gas Gathering Lines

API RP 80, developed by an Industry Coalition that included representatives from over 20 petroleum industry associations, provides a functional description of onshore gas gathering pipelines for the sole purpose of providing users with a practical guide for determining the application of the definition of gas gathering in the federal *Gas Pipeline Safety Standards*, 49 *CFR* Part 192, and state programs implementing these standards. Pages: 53
1st Edition / April 2000 / Product Number: G80001 / Price: $103.00

RP 85
Use of Subsea Wet-gas Flowmeters in Allocation Measurement Systems

This RP presents a recommended allocation methodology that best fits the application, and that equitably accommodates variances in the uncertainty level between meters in the system. It is intended to advise the user on various aspects of the use of subsea wet-gas flowmeters in allocation measurement systems. Marinization, operation, abnormal operation, and meter testing are important topics included here, but, foremost, this document proposes techniques to be used in the allocation of total production to individual contributing streams. Pages: 64
1st Edition / March 2003 / Product Number: G08501 / Price: $99.00

Are you using training on RP T-2 and RP T-6 that meets the standards of the people who wrote the book? Does your training program have the right stuff? API sets the standard in training for the oil and gas industry with its **Training Provider Certification Program (TPCP)**. Learn more about API's TPCP at www.api.org/TPCP or call 202-682-8490.

Drilling and Production Operations: Training

RP T-1
Orientation Programs for Personnel Going Offshore for the First Time

Serves as a guide to developing orientation standards and programs applicable to all employees and visitors going offshore. Orientation programs ensure that all new personnel know what is expected of them during their first trip offshore, as well as what they may expect to encounter during this trip. Employers have the option to institute broader procedures commensurate with their own policies and standards. Pages: 4

4th Edition / October 1995 / Reaffirmed, June 2000
Product Number: GT1004 / Price: $47.00

RP T-2 ▲
Qualification Programs for Offshore Production Personnel Who Work with Safety Devices

API RP T-2 provides guidelines for the qualification of personnel engaged in installing, inspecting, testing, and routinely maintaining surface and subsurface devices that are used to insure safety and to prevent pollution during the production of oil and gas on offshore platforms. The guidelines provide expected candidate performance levels, instructional content and recommendations for testing. The guidelines are divided into instructional and testing phases. Pages: 3

2nd Edition / December 2001 / Product Number: GT2002 / Price: $47.00

RP T-4
Training of Offshore Personnel in Nonoperating Emergencies

Represents an industry guide for the training of workers who work offshore. It presents recommendations for training these personnel in handling nonoperating emergencies, such as fires, transportation emergencies, platform abandonment procedures, use of survival crafts, and water survival guidelines. Pages: 3

2nd Edition / November 1995 / Reaffirmed, June 2000
Product Number: GT4002 / Price: $47.00

RP T-6
Recommended Practice for Training and Qualification of Personnel in Well Control Equipment and Techniques for Wireline Operations on Offshore Locations

This Recommended Practice (RP) provides criteria for the qualification of wireline personnel in well control equipment operations and techniques. Although it does include recommendations for training wireline personnel on general rig well control equipment and theory, it should be noted that the main focus for training should be those operations using a lubricator as the primary well control mechanism. Wireline personnel classifications to which this RP is applicable are the Helper/Assistant and Operator/Supervisor. Pages: 2

1st Edition / October 2002 / Product Number: GT0601 / Price: $47.00

RP T-7
Training of Personnel in Rescue of Persons in Water

Applies to personnel who work offshore. It represents an industry guide for training personnel in techniques for rescuing persons from the water and using survival devices. It broadly identifies rescue devices, describes their operations, and presents recommendations for training personnel. Training recommendations are designed to develop personnel rescue proficiency while minimizing an individual's exposure to injury or loss of life. Pages: 8

2nd Edition / October 1995 / Reaffirmed, June 2000
Product Number: GT7002 / Price: $45.00

Introduction to Oil and Gas Production
(Book 1 in the Vocational Training Series)

See Also Industry Training, Exploration and Production Publications

5th Edition / June 1996 / Reaffirmed, June 2000
Product Number: GVT015 / Price: $130.00

Subsurface Salt Water Injection and Disposal
(Book 3 in the Vocational Training Series)

See Also Industry Training, Exploration and Production Publications

3rd Edition / 1995 / Reaffirmed, June 2000
Product Number: GVT033 / Price: $78.00

Wireline Operations and Procedures
(Book 5 in the Vocational Training Series)

See Also Industry Training, Exploration and Production Publications

3rd Edition / 1994 / Reaffirmed, June 2000
Product Number: GVT053 / Price: $99.00

Gas Lift
(Book 6 in the Vocational Training Series)

See Also Industry Training, Exploration and Production Publications

3rd Edition / 1994 / Reaffirmed, June 2000
Product Number: GVT063 / Price: $130.00

Special Publications

Community Matters: Community Outreach Guidance Manual for Exploration and Production Facilities

This manual provides a model community outreach program to help oil and natural gas industry E&P facilities improve their ties to their local communities. Community Matters offers a step-by-step guide for implementing a community outreach program and provides information on how to tailor outreach efforts to meet the needs of the facility and local community. Pages: 111

1st Edition / November 2000 / Product Number: G13660 / Price: $66.00

Voluntary Operating Agreements and Bulletins

Form 5UO1
Voluntary Unit Agreement

Designed to aid in accomplishment of voluntary unitization of oil and condensate reservoirs that are substantially developed in order to conduct some form of cooperative operation(s) to increase ultimate recovery. Provides a common standard of reference for parties involved in formation of such units. Pages: 25

4th Edition / June 1, 1993 / Reaffirmed, June 2000
Product Number: G10800 / Price: $78.00

Form 5UO2
Voluntary Unit Operating Agreement

Designed to aid in accomplishment of voluntary unitization of oil and condensate reservoirs that are substantially developed to conduct some form of cooperative operation(s) to increase ultimate recovery. Provides a common standard of reference for parties involved in formation of such units. Pages: 25
4th Edition / June 1, 1993 / Reaffirmed, June 2000
Product Number: G10810 / Price: $78.00

Form 5UO3
Statutory Unit Agreement

Designed to aid in accomplishment of voluntary unitization of those states where field-wide units may be established by the appropriate regulatory agency for the purpose of increasing ultimate recovery of hydrocarbons. Provides a common standard of reference for parties involved in formation of such units. Pages: 18
2nd Edition / June 1, 1993 / Reaffirmed, June 2000
Product Number: G10820 / Price: $78.00

Form 5UO4
Statutory Unit Operating Agreement

Designed to aid in accomplishment of voluntary unitization of those states where field-wide units may be established by the appropriate regulatory agency for the purpose of increasing ultimate recovery of hydrocarbons. Provides a common standard of reference for parties involved in formation of such units. Pages: 23
2nd Edition / June 1, 1993 / Reaffirmed, June 2000
Product Number: G10830 / Price: $78.00

Bull D8
A Tabular Method for Determining the Change of the Overall Angle and Dog-leg Severity (for Hole Inclinations up to 70 degrees)

Tables cover bore hole inclination from vertical up to 70 degrees in increments of 1/4 degree, updating and extending API Circ D-545 issued in 1961. Sample calculation shows how to use the tables. Spiral-bound, 183-page booklet opens flat for maximum utility. Tables were compiled by Pan American Petroleum Corp. (Amoco Production Co.) Pages: 183
1st Edition / September 1, 1964 / Reaffirmed, June 2000
Product Number: G10000 / Price: $110.00

Bull D10 ✣
Procedure for Selecting Rotary Drilling Equipment

Describes a system of analysis to select a rig suitable for drilling a specific well, avoiding use of a rig that is either too large or too small. Procedures outlined provide a plan of analysis useful in determining performance capabilities of rig functions required for drilling a specific well, and prescribe a means of testing, demonstrating, or rating the performance capability of components of a rig. Pages: 31
2nd Edition / August 1, 1973 / Reaffirmed, June 2000
Reissued, January 1982 / Product Number: G10200 / Price: $92.00

Bull D14
Statistical Analysis of Crude Oil Recovery and Recovery Efficiency

Report culminating a 10-year study of recovery processes based on actual reservoir performance. Statistical correlations presented in this report are not recommended to predict recovery or recovery efficiency for any one reservoir. The report does present information to substantiate calculations of average recoveries in a single geological trend. Pages: 47
2nd Edition / April 1984 / Reaffirmed, June 2000
Product Number: G10700 / Price: $92.00

Bull D16 ✣ ✪
Suggested Procedure for Development of a Spill Prevention Control and Countermeasure Plan

The purpose of this document is to assist the petroleum industry in understanding the SPCC regulation in light of the latest rule (40 *CFR* Part 112) and to offer guidance for developing SPCC Plans wherever they are needed. Included is a template for developing SPCC plans (i.e., onshore excluding production; onshore oil production, oil drilling or workover; or offshore oil drilling, production or workover) in accordance with the regulation and guidance, instruction and clarification for completing each section of the template.

The purpose of this rulemaking was to establish procedures, methods, and equipment to prevent and contain discharges of oil from non-transportation-related onshore and offshore facilities; thus preventing pollution of navigable waters of the United States.

The development of this Bulletin was commissioned by API and performed by Response Management Associates, Inc. (RMA).

The purchase of D16 includes; Bulletin D16, the Plan Template, and a CD-ROM with the Microsoft® Word version of the Plan Template.
Bulletin D16 and Plan Template:
3rd Edition / December 2002 / Product Number: GD1603 / Price: $220.00
Template Only:
4th Edition / May 2004 / Product Number GD1604T / Price: 79.00

Health, Environment and Safety

See also the Health, Environment and Safety Section of the Catalog.

Health, Environment and Safety:
General

Bull E1 ✣
Generic Hazardous Chemical Category List and Inventory for the Oil and Gas Exploration and Production Industry
(Superfund Amendments and Reauthorization Act of 1986, Emergency Planning and Community Right-to-know Act)
(includes Errata dated March 1, 2001)

Under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986, owners and operators of oil and gas exploration and production facilities must provide to state and local emergency response agencies information on hazardous chemicals they produce or use. This bulletin provides a simplified means of compliance with these regulations. Pages: 86
2nd Edition / December 1, 1990 / Reaffirmed, June 2000
Product Number: G11000 / Price: $117.00

Bull E3 ✣
Well Abandonment and Inactive Well Practices for U.S. Exploration and Production Operations, Environmental Guidance Document

Addresses the environmental concerns related to well abandonment and inactive well practices. The primary environmental concerns are protection of freshwater aquifers from fluid migration; and isolation of hydrocarbon production and water injection intervals. Additional issues in the document include protection of surface soils and surface waters, future and use, and permanent documentation of plugged and abandoned wellbore locations and conditions. Pages: 52
1st Edition / January 1993 / Reaffirmed, June 2000
Product Number: G11007 / Price: $117.00

Bull E4
Environmental Guidance Document—Reporting for the Oil and Gas Exploration and Production Industry as Required by the Clean Water Act, the Comprehensive Environmental Response, Compensation and Liability Act, and the Emergency Planning and Community Right-to-Know Act

Developed to provide the oil and gas production industry guidance on reporting releases of hazardous substances and petroleum to water as required by the Clean Water Act (CWA) and reporting releases of hazardous substances into the environment as required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA). Also covers the reporting of what most in the industry consider "emergency" releases, which are unplanned and typically are not covered under a permit issued by a government agency. Pages: 106

2nd Edition / May 2003 / Product Number: GE4002 / Price: $140.00

Exploration and Production: Protecting the Environment ✣
Discusses work the E&P industry does to protect the environment while exploring for and producing oil and natural gas. Describes a number of innovative and socially responsible actions taken by exploration and production companies to minimize impacts to air, water, land and wildlife. This document is only available in a PDF format. Pages: 24

September 1997 / Product Number: G13650 / Price: Free*

Achieving Common Sense Environmental Regulation: Oil and Gas Exploration & Production
Discusses proposals to achieve a balanced approach to environmental regulation of the oil and gas exploration and production industry that protects the environment as well or better than the current system, and does the job more efficiently. Pages: 36

May 1996 / Product Number: G13715 / Price: Free*

Pub 4702
Technologies to Reduce Oil and Grease Content of Well Treatment, Well Completion, and Workover Fluids for Overboard Disposal

Product Number: I47020 / Price: $100.00

Health, Environment and Safety: Naturally Occurring Radioactive Materials

Publ 7100 ✣
A NORM Disposal Cost Study

Details the reported quantities of NORM that have accumulated over the years and the annual rate of NORM production for 1993 from U.S. oil and gas condensate production. The document also determines the 1992 cost of available NORM disposal options and the annual costs of complying with existing and proposed NORM regulations. Pages: 59

1st Edition / November 1996 / Product Number: G71001 / Price: $92.00

Publ 7101 ✣
A National Survey on Naturally Occurring Radioactive Material (NORM) in Petroleum Producing and Gas Processing Facilities

Defines the general occurrence of NORM in the United States based on statistical analysis of gamma measurements taken external to certain petroleum producing and gas processing equipment. Pages: 265

Product Number: G71011 / Price: $92.00

Publ 7102 ✣
Methods for Measuring Naturally Occurring Radioactive Materials (NORM) in Petroleum Production Equipment

The use and capabilities of common field-survey equipment are characterized for measuring NORM in sludges and scales accumulated in oil and gas production equipment. A correlation between radium concentrations in accumulated scales and sludges and measured external radiation is presented. Pages: 85

Product Number: G71021 / Price: $92.00

Publ 7103 ✣
Management and Disposal Alternatives for Naturally Occurring Radioactive Material (NORM) Wastes in Oil Production and Gas Plant Equipment

Presents radiological analyses of disposal alternatives that will protect against elevated radiation exposures and facilitate cost-effective precautions that are proportionate to any hazards posed by the NORM. Four waste forms and 12 waste disposal alternatives were analyzed. Pages: 65

Product Number: G71031 / Price: $92.00

Publ 7104 ✣
Proceedings of the 1995 API and GRI Naturally Occurring Radioactive Material (NORM) Conference

A compilation of 17 papers presented at the 1995 API/GRI NORM Conference. Subjects include Measurement and Survey; Regulatory Issues and Activities; Management and Disposal; and Scale Prediction and Control. Pages: 225

Product Number: G71041 / Price: $92.00

Publ 7105 ✣
Probabilistic Estimates of Dose and Indoor Radon Concentrations Attributable to Remediated Oilfield Naturally Occurring Radioactive Material (NORM)

Evaluates the concentration limit of 30 pCi/g Ra-226 in pipe scale and sludge left near the surface of remediated oilfield sites and returned to unrestricted public use. Includes an extensive bibliography of NORM research. Pages: 97

Product Number: G71051 / Price: $92.00

Health, Environment and Safety: Safety and Fire Protection

Publ 761✣
Model Risk Management Plan Guidance for Exploration and Production Facilities—Guidance for Complying with EPA's RMP Rule (40 *Code of Federal Regulations* 68)

See Also Safety and Fire Protection, Publications

3rd Edition / February 2001

Print Copy Only: K76103 / Price: $205.00

Electronic Version: K761E3 / Price: $291.00

Electronic Version and Print Copy, Single License: K761L3 / Price: $354.00

Health, Environment and Safety:
Waste

API E5 ✣
Environmental Guidance Document: Waste Management in Exploration and Production Operations

Includes recommendations for the environmentally sound management of solid waste resulting from the exploration and production of oil and gas. Guidance is provided for the management of drilling fluids, produced waters, and other wastes associated with the operation of gas plants, field facilities, drilling, and workover. Pages: 84

2nd Edition / February 1997 / Product Number: GE5002 / Price: $103.00

Publ 4527
Evaluation of Limiting Constituents Suggested for Land Disposal of Exploration and Production Wastes

This report describes a study to develop salinity and petroleum hydrocarbon threshold guidance values that typically should not be exceeded for one-time land application of exploration and production wastes. Definition, technical justification, and guidance for application of threshold values are provided. Measurable parameters that serve as indices for proper environmental management of salinity and petroleum hydrocarbons include: electrical conductivity (EC), sodium adsorption ratio (SAR) and exchangeable sodium percentage (ESP) for salinity, and oil and grease (OG) for petroleum hydrocarbons. Pages: 66

August 1993 / Product Number: I45270 / Price: $49.00

Publ 4600
Metals Criteria for Land Management of Exploration and Production Wastes: Technical Support Document of API Recommended Guidance Values

This report provides scientifically defensible guidelines for land management of E&P wastes containing metals. It provides the technical support for recommended maximum concentrations of 12 metals. The guidance values for arsenic, cadmium, chromium, copper, lead, mercury molybdenum, nickel, selenium, and zinc were adopted directly from sewage sludge regulations promulgated by EPA in 1993. A risk-based approach was used to develop guidance values for barium and boron. The report also provides practical information on sample collection, analyses, and calculation of waste application rates. Pages: 56

January 1995 / Product Number: I46000 / Price: $47.00

Publ 4663 ✣
Remediation of Salt-affected Soils at Oil and Gas Production Facilities

Water separated from oil and gas during production contains dissolved solids, including salt. If improperly handled, produced water with sufficient salt concentrations can damage plants and soils. Therefore, this manual was designed to assist the oil and gas environmental professional and field personnel to (1) assess sites with salt-affected soils, (2) evaluate remedial alternatives, and (3) conduct remedial activities, if necessary. It provides forms for organizing assessment information and conducting sample collection and analysis. Remediation options are divided into three primary groupings: natural remediation, in situ chemical amendment remediation, and mechanical remediation. A decision tree and worksheets are provided to aid in the selection of a remedial option(s). Technical approaches for applying each group of remedial options are discussed. A number of appendices provide supplementary information on various aspects of salt-affected soil remediation.

October 1997 / Product Number: I46630 / Price: $88.00

Pub 4709
Risk-Based Methodologies for Evaluating Petroleum Hydrocarbon Impacts at Oil and Natural Gas E&P Sites

The process of calculating human health risk-based screening levels for total petroleum hydrocarbons (TPH) is described in an easy-to-understand question and answer format. (Risk-based screening levels [RBSLs] are chemical-specific concentrations in environmental media that are considered protective of human health.) Risk assessment concepts developed by the EPA, and research groups such as the Petroleum Environmental Research Forum (PERF) and the Total Petroleum Hydrocarbon Criteria Working Group (TPHCWG), are used to calculate RBSLs for TPH in crude oil and condensates obtained from around the world. These methodologies were also applied to polyaromatic hydrocarbons (PAHs), metals, and benzene in TPH. Additional resources contained in this manual include a description of the physical and chemical characteristics of crude oil, condensate, and E&P wastes (contrasted with refined products), a summary of the federal regulatory status of E&P wastes, and a listing of key equations used for calculating RBSLs.

February 2001 / Product Number: I47090 / Price: $66.00

Publ 4733 ✪
Risk-Based Screening Levels for the Protection Exposed to Petroleum Hydrocarbons

The purpose of this study was to develop toxicity values and screening guidelines for evaluating risks to livestock from exposure to petroleum hydrocarbons. This report addresses how to determine whether livestock should be included in a risk evaluation, and estimate risks of petroleum hydrocarbon exposures to livestock. Pages: 40

July 2004 / Product Number: I48330 / Price: $74.00

Publ 4734 ✪
Modeling Study of Produced Water Release Scenarios

This document provides a scientific basis for operators, regulators and landowners to determine if assessment or remediation of produced water releases will provide a meaningful environmental benefit.Pages: 124

December 2004 / Product Number: I47340 / Price: $99.00

Guidelines for Commercial Exploration and Production Waste Management Facilities
Provides guidelines for the design and operations of commercial E&P waste management facilities to allow operators to identify areas where their facility could have impacts on the surrounding community and environment, and gives options for preventing/reducing those impacts. The guidelines are not meant to supercede any applicable local, state or federal requirements.

March 2001

For a free copy of this document, please go to the API Website at www.api.org and use the search function for "commercial waste facility"

Petroleum Measurement

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

Manual of Petroleum Measurement Standards

The Institute currently maintains a comprehensive *API Manual of Petroleum Measurement Standards*. This manual is an ongoing project, as new chapters and revisions of old chapters will be released periodically. Publications regarding measurement of evaporative loss are now listed under Chapter 19 of the API *Manual of Petroleum Measurement Standards*.

Manual of Petroleum Measurement Standards (Complete Set)

The price of the complete set is subject to change as new chapters and subchapters are released; an order for one complete set does not include any standards published after the release date of this catalog, but does include the binders to house the set. NOTE: Translations, Chapter 11 and Chapter 19 standards must be ordered separately.

Price: $5,040.00 (Price subject to change)
(if purchased individually, a complete set would cost approximately $6,300.00)

Binder Set Only for Manual of Petroleum Measurement Standards

Four-volume set of three-ring binders and index tabs for the chapters and standards that comprise the manual. (Reminder: When one complete set of the *MPMS* is ordered, the binders and index tabs are included for free).

Product Number: H25238 / Price per set of four: $67.00

Empty Binder for Manual of Petroleum Measurement Standards

Holders of existing two- and three-binder sets may purchase additional binders individually.

Product Number: H25239 / Price: $46.00

Chapter 1

Vocabulary

Provides definitions and terms used throughout the API *Manual of Petroleum Measurement Standards* (*MPMS*). Pages: 70

2nd Edition / July 1994 / Product Number: H01002 / Price: $87.00

Chapter 1

Vocabulary—Spanish

The Spanish translation of Chapter 1.

2nd Edition / July 1994 / Product Number: H010SP / Price: $92.00

Chapter 2

Tank Calibration

Procedures necessary for calibrating closed storage vessels larger than a drum, and methods for computing the volumes contained therein. The following API standards cover the subject of tank calibration and are included in the manual.

Download updated catalogs at www.api.org/cat

Chapter 2.2A ✣

Measurement and Calibration of Upright Cylindrical Tanks by the Manual Strapping Method

Procedures for calibrating upright cylindrical tanks used primarily for the storage of petroleum liquids. Chapter 2.2A addresses necessary measurement procedures to determine total and incremental tank volumes and procedures for computing volumes. Both metric and customary units are included. The metric units reflect what is available in commercial equipment. The standard also provides guidelines for recalibration and computerization of capacity tables. Chapter 2.2A should be used in conjunction with Chapter 2.2B. These two standards combined supersede the previous API Standard 2550, *Measurement and Calibration of Upright Cylindrical Tanks*. Pages: 58

1st Edition / February 1995 / Reaffirmed, March 2002
Product Number: H022A1 / Price: $103.00

Chapter 2.2B

Calibration of Upright Cylindrical Tanks Using the Optical Reference Line Method

This chapter describes measurement and calculation procedures for determining the diameters of upright, welded (lap/butt) cylindrical tanks, or vertical cylindrical tanks, with a smooth outside surface and either floating or fixed roofs. The optical reference line method is an alternative to the manual tank strapping method for determining tank diameter. Chapter 2.2B should be used in conjunction with API Standard 2.2A. Pages: 8

1st Edition / March 1989 / Reaffirmed, March 2002
Product Number: H30023 / Price: $66.00

Chapter 2.2C

Calibration of Upright Cylindrical Tanks Using the Optical-Triangulation Method

(ANSI/API MPMS 2.2C-2002)

The method describes the calibration of vertical cylindrical tanks by means of optical triangulation using theodolites. The method is an alternative to other methods such as strapping (*MPMS* Chapter 2.2A) and the optical-reference-line method (*MPMS* Chapter 2.2B).

1st Edition / January 2002 / Product Number: H022C1 / Price: $66.00

Chapter 2.2D

Calibration of Upright Cylindrical Tanks Using the Internal Electro-optical Distance Ranging Method

(ANSI/API MPMS 2.2D-2003)

This chapter specifies a method for the calibration of upright cylindrical tanks having diameters greater than 5 m by means of internal measurements using an electro-optical distance-ranging instrument, and for the subsequent compilation of tank capacity tables.

This is the National Adoption of ISO 7507-4:1995. Pages: 13

1st Edition / August 2003 / Product Number: H022D1 / Price: $66.00

Chapter 2.2E

Petroleum and Liquid Petroleum Products—Calibration of Horizontal Cylindrical Tanks—Part 1: Manual Methods

(ANSI/API MPMS 2.2E)

This standard specifies manual methods for the calibration of nominally horizontal cylindrical tanks, installed at a fixed location. It is applicable to horizontal tanks up to 4 m (13 feet) in diameter and 30 m (100 ft) in length.

This is the National adoption of ISO 12917-1:2002 (E).

1st Edition / April 2004 / Product Number: HX202E01 / Price: $71.00

Chapter 2.2F
Petroleum and Liquid Petroleum Products—Calibration of Horizontal Cylindrical Tanks—Part 2: Internal Electro-Optical Distance-Ranging Method

(ANSI/API MPMS 2.2F)

This standard specifies a method for the calibration of horizontal cylindrical tanks having diameters greater than 2 m (6 ft) by means of internal measurements using an electro-optical distance-ranging instrument, and for the subsequent compilation of tank-capacity tables. This method is known as the internal electro-optical distance-ranging (EODR) method.

This is the National adoption of ISO 12917-2: 2002 (E).

1st Edition / April 2004 / Product Number: HH202F01 / Price: $61.00

Std 2551
Measurement and Calibration of Horizontal Tanks

This standard describes external measurement procedures for calibrating horizontal aboveground stationary tanks larger than a barrel or drum. Pages: 47

1st Edition / 1965 / Reaffirmed, March 2002
Product Number: H25510 / Price: $87.00

Std 2552
Measurement and Calibration of Spheres and Spheroids

This standard describes the procedures for calibrating spheres and spheroids, which are used as liquid containers. It outlines the procedures for the measurement and calibration of spherical tanks. Pages: 17

1st Edition / October 1966 / Reaffirmed, October 2002
Product Number: H25520 / Price: $78.00

Std 2554
Measurement and Calibration of Tank Cars

This standard describes the procedures for calibrating tank cars. It outlines procedures for nonpressure-type tank cars and pressure-type tank cars. Pages: 41

1st Edition / October 1966 / Reaffirmed, March 2002
Product Number: H25540 / Price: $92.00

Std 2555
Liquid Calibration of Tanks

This standard describes the procedure for calibrating tanks, or portions of tanks, larger than a barrel or drum by introducing or withdrawing measured quantities of liquid. Pages: 14

1st Edition / September 1966 / Reaffirmed, March 2002
Product Number: H25550 / Price: $78.00

RP 2556
Correcting Gauge Tables for Incrustation

Incrustation is defined in this publication as any material that adheres to the internal vertical sidewall surfaces of a tank when the tank is otherwise empty. The tables provided show the percent of error of measurement caused by varying thicknesses of uniform incrustation in tanks of various sizes. Pages: 3

2nd Edition / August 1993 / Reaffirmed, November 2003
Product Number: H25560 / Price: $60.00

Chapter 2.7
Calibration of Barge Tanks

This chapter describes three methods for determining the total incremental volumes of liquids in barge tanks for coastal and inland waterway service that have integral hull tanks. The three methods are as follows: (a) Liquids calibration, (b) Calibration by linear measurement, and (c) Calibration from vessel drawings. This document and Chapter 2.8A, "Calibration of Tanks on Ships and Oceangoing Barges," of the API *Manual of Petroleum Measurement Standards* supersede the previous API Standard 2553, *Standard Method for Measurement and Calibration of Barges*. This document is a joint API/Institute of Petroleum (IP) standard. As such, it also carries the IP designation *Petroleum Measurement Manual*, Part 1, Section 5B. Pages: 25

1st Edition / March 1991 / Reaffirmed, March 2002
Product Number: H30044 / Price: $47.00

Chapter 2.8A
Calibration of Tanks on Ships and Oceangoing Barges

Three methods for determining the total and incremental volumes of liquids in tanks, ocean-going barges, and integrated tug barge units that have integral hull tanks. The three methods include liquid calibration, calibration by linear measurement, and calibration from vessel drawings. A joint API/Institute of Petroleum (IP) standard, it also carries the IP designation *Petroleum Measurement Manual*, Part 1, Section 5B. This document and Chapter 2.7 supersede the previous Std 2553. Pages: 22

1st Edition / March 1991 / Reaffirmed, March 2002
Product Number: H30049 / Price: $72.00

Chapter 2.8B
Establishment of the Location of the Reference Gauge Point and the Gauge Height of Tanks on Marine Tank Vessels

Recommended practice, for use in conjunction with API Chapter 2.7 "Calibration of Tanks on Barges," and API Chapter 2.8A "Calibration of Tanks on Ships and Ocean-Going Barges." Establishes reference gauge heights during calibration of marine tank vessels. A reference gauge point is necessary for converting ullage to innage and when determining the volume of the ROB. A reference gauge point is also used for wedge formulas and establishing wedge tables. Pages: 26

1st Edition / September 1995 / Reaffirmed, September 2000
Product Number: H028B1 / Price: $78.00

Chapter 3
Tank Gauging

Standardized procedures for gauging liquid hydrocarbons in various types of tanks, containers, and carriers.

Chapter 3.1A
Manual Gauging of Petroleum and Petroleum Products

Procedures for manual gauging in fixed or floating-roof tanks and marine tank vessels. Includes procedures for manually gauging the liquid level in nonpressure fixed-roof tanks, floating-roof tanks, and nonpressurized marine tanks vessels; procedures for manually gauging the level of free water found with petroleum and petroleum products; methods used to verify the length of gauge tapes under field conditions; the influence of bob weights and temperature on the gauge tape length; and the influences that may affect the accuracy of tank measurement. This chapter combined with Chapter 3.1B supersedes all applicable sections of Std 2545. Pages: 23

1st Edition / December 1994 / Reaffirmed, December 1999
Product Number: H031A1 / Price: $60.00

Chapter 3.1B
Standard Practice for Level Measurement of Liquid Hydrocarbons in Stationary Tanks by Automatic Tank Gauging

This chapter covers level measurement of liquid hydrocarbons in stationary, aboveground, atmospheric storage tanks using automatic tank gauges (ATGs). This chapter discusses automatic tank gauging in general, calibration of ATGs for custody transfer and inventory control, and the requirements for data collection, transmission, and receiving. The appendices discuss the operation and installation of the most commonly used ATG equipment and of the less commonly used, electronic ATGs. Pages: 17

2nd Edition / June 2001 / Product Number: H301B2 / Price: $78.00

Chapter 3.2
Tank Gauging—Gauging Petroleum and Petroleum Products in Tank Cars

Provides method for measuring liquids and liquefied gases in tank cars by liquid level measurement. Measurement of both vapor space and liquid level are covered. Gauging and temperature measurement equipment used in both open and closed measurement systems are described in this standard. These procedures reduce variability in the results of measurement and sampling operations when comparing loading terminal data to unloading terminal data. Pages: 20

1st Edition / September 1995 / Reaffirmed, March 2001
Product Number: H03021 / Price: $78.00

Chapter 3.3
Level Measurement of Liquid Hydrocarbons in Stationary Pressurized Storage Tanks by Automatic Tank Gauging

Provides guidance on the installation, calibration, and verification of automatic tank gauges (ATGs) used in custody transfer for measuring the level of liquid hydrocarbons having a Reid vapor pressure of 15 psi (103 kilopascals) or greater, stored in stationary, pressurized storage tanks. This chapter also provides guidance on the requirements for data collection, transmission, and receiving. Pages: 10

1st Edition / June 1996 / Reaffirmed, March 2001
Product Number: H03031 / Price: $66.00

Chapter 3.4
Standard Practice for Level Measurement of Liquid Hydrocarbons on Marine Vessels by Automatic Tank Gauging

This chapter provides guidance on the selection, installation, calibration, and verification of automatic tank gauges (ATGs) for measuring the level of liquid hydrocarbons having a Reid vapor pressure less than 15 pounds per square inch absolute (103 kPa), transported aboard marine vessels (tankers and barges). This chapter also provides guidance on the requirements for data collection, transmission, and receiving. This chapter supersedes all applicable sections of API Standard 2545. Pages: 10

1st Edition / April 1995 / Reaffirmed, September 2000
Product Number: H03041 / Price: $66.00

Chapter 3.5
Standard Practice for Level Measurement of Light Hydrocarbon Liquids Onboard Marine Vessels by Automatic Tank Gauging

Covers the standard practice for level measurement of light hydrocarbon liquids onboard marine vessels by automatic tank gauges (ATGs). This chapter covers pressurized and refrigerated light hydrocarbon liquids. The light hydrocarbon liquids covered include: liquefied petroleum gas (LPG), natural gas liquid (NGL), and other petrochemical liquids where the storage and transportation requirements and the methods of measurement are similar to that for LPG and NGL gauging. This chapter also covers the requirements for data collection, transmission, and receiving. Pages: 8

1st Edition / March 1997 / Reaffirmed, March 2003
Product Number: H03051 / Price: $66.00

Chapter 3.6
Measurement of Liquid Hydrocarbons by Hybrid Tank Measurement Systems

Covers the standard practice for level measurement of light hydrocarbon liquids onboard marine vessels by automatic tank gauges (ATGs). This chapter covers pressurized and refrigerated light hydrocarbon liquids. The light hydrocarbon liquids covered include: liquefied petroleum gas (LPG), natural gas liquid (NGL), and other petrochemical liquids where the storage and transportation requirements and the methods of measurement are similar to that for LPG and NGL gauging. This chapter also covers the requirements for data collection, transmission, and receiving. Pages: 26

1st Edition / February 2001 / Product Number: H03061 / Price: $77.00

Chapter 4
Proving Systems

This chapter serves as a guide for the design, installation, calibration, and operation of meter proving systems.

Chapter 4.1
Introduction

A general introduction to the subject of proving, the procedure used to determine a meter factor. Pages: 3

2nd Edition / May 1998 / Product Number: H04012 / Price: $53.00

Chapter 4.2
Displacement Provers

This document outlines the essential elements of provers that accumulate meter pulses as a displacing element within the prover travels between detector switches. It provides design and installation details for the types of displacement provers that are currently in use. The provers discussed are designed for proving measurement devices under dynamic operating conditions with single-phase liquid hydrocarbons. Pages: 45

3rd Edition / September 2003 / Product Number: H04023 / Price: $101.00

Chapter 4.4
Tank Provers

This chapter specifies the characteristics of tank provers that are in general use and the procedures for their calibration. This chapter does not apply to weir-type, vapor-condensing, dual-tank water-displacement, or gas-displacement provers. Pages: 11

2nd Edition / May 1998 / Effective Date: May 1998
Product Number: H04042 / Price: $66.00

Chapter 4.5
Master-meter Provers

This chapter covers the use of both displacement and turbine meters as master meters. Pages: 3

2nd Edition / May 2000 / Product Number: H04052 / Price: $53.00

Chapter 4.6
Pulse Interpolation

This chapter describes how the double-chronometry method of pulse interpolation, including system operating requirements and equipment testing, is applied to meter proving. Pages: 8

2nd Edition / May 1999 / Reaffirmed, November 2003
Product Number: H04062 / Price: $53.00

Chapter 4.7
Field-Standard Test Measures

Outlines the essential elements of field-standard test measures and provides descriptions and operating details. The volume range for measures in this chapter is 1 to 1,500 gallons. Pages: 41

2nd Edition / December 1998 / Reaffirmed, November 2003
Product Number: H04072 / Price: $66.00

Chapter 4.8
Operation of Proving Systems

Covers the operation of various meter-proving systems used in the petroleum industry. Liquid petroleum meters used for custody transfer measurement require periodic proving to verify accuracy and repeatability and to establish valid meter factors. Pages: 70

1st Edition / November 1995 / Reaffirmed, March 2002
Product Number: H04081 / Price: $87.00

Chapter 5
Metering

Covers the dynamic measurement of liquid hydrocarbons, by means of meters and accessory equipment.

Chapter 5.1
General Consideration for Measurement by Meters

This chapter is an overall introduction to Chapter 5, "Metering." Pages: 2
3rd Edition / September 1995 / Reaffirmed, March 2002
Product Number: H05013 / Price: $66.00

Chapter 5.2
Measurement of Liquid Hydrocarbons by Displacement Meters

This chapter describes methods of obtaining accurate measurements and maximum service life when displacement meters are used to measure liquid hydrocarbons. Pages: 8
2nd Edition / November 1987 / Reaffirmed, March 2002
Product Number: H30102 / Price: $60.00

Chapter 5.3
Measurement of Liquid Hydrocarbons by Turbine Meters

Defines the application criteria for turbine meters and discusses appropriate considerations regarding the liquids to be measured. Discusses the installation of a turbine metering system; and the performance, operation, and maintenance of turbine meters in liquid hydrocarbon service. Includes "Selecting a Meter and Accessory Equipment" and information on the recommended location for prover connections. Pages: 17
4th Edition / September 2000 / Product Number: H05034 / Price: $78.00

Chapter 5.4
Accessory Equipment for Liquid Meters

Describes the characteristics of accessory equipment used with displacement and turbine meters in liquid hydrocarbon service. Includes guidance on the use of electronic flow computers. Pages: 7
3rd Edition / September 1995 / Reaffirmed, March 2002
Product Number: H05043 / Price: $66.00

Chapter 5.5
Fidelity and Security of Flow Measurement Pulsed-data Transmission Systems

This chapter provides a guide to the selection, operation, and maintenance of pulsed-data, cabled transmission systems for fluid metering systems to provide the desired level of fidelity and security of transmitted data. Pages: 7
1st Edition / June 1982 / Reaffirmed, March 2002
Product Number: H30105 / Price: $48.00

Chapter 5.6
Measurement of Liquid Hydrocarbons by Coriolis Meters
(replaces Draft Standards Measurement of Single-phase, Intermediate and Finished Hydrocarbon Fluids by Coriolis Meters and Measurement of Crude Oil by Coriolis Meters)
(ANSI/API MPMS 5.6-2002)

Describes methods for achieving custody transfer levels of accuracy when a Coriolis meter is used to measure liquid hydrocarbons. Topics covered include: applicable API standards used in the operation of Coriolis meters; proving and verification using both mass- and volume-based methods; installation, operation, and maintenance. Both mass and volume-based calculation procedures for proving and quantity determination are included in Appendix E. Pages: 48
1st Edition / October 2002 / Product Number: H05061 / Price: $114.00

Chapter 5.7
Testing Protocol for Differential Pressure Flow Measurement Devices

Defines the testing and reporting protocols for flow measurement devices based on the detection of a pressure differential that is created by the device in a flowing stream. These protocols are designed to supply industry with a comparable description of the capabilities of these devices for the measurement of single-phase fluid flow when they are used under similar operating conditions. Pages: 15
1st Edition / February 2003 / Product Number: H05071 / Price: $61.00

Chapter 5.8 ✪
Measurement of Liquid Hydrocarbons by Ultrasonic Flowmeters Using Transit Time Technology
(replaces Draft Standard Measurement of Liquid Hydrocarbons by Ultrasonic Flowmeters Using Transit Time Technology)

This draft standard describes methods for obtaining custody transfer level measurements with ultrasonic flow meters (UFMs) used to measure liquid hydrocarbons. This document includes application criteria for UFM and includes considerations regarding the liquids being measured. This document also address the installation, operation, proving and maintenance of UFMs in liquid hydrocarbon service.
1st Edition / to be published Q1, 2005

Chapter 6
Metering Assemblies

Discussion of the design, installation, and operation of metering systems for coping with special situations in hydrocarbon measurement.

Chapter 6.1
Lease Automatic Custody Transfer (LACT) Systems

This chapter has been prepared as a guide for the design, installation, calibration, and operation of a lease automatic custody transfer (LACT) system. It applies to unattended and automatic measurement by meter of hydrocarbon liquids produced in the field and transferred to a pipeline in either a scheduled or nonscheduled operation. Pages: 6
2nd Edition / May 1991 / Reaffirmed, March 2002
Product Number: H30121 / Price: $48.00

Chapter 6.2 ✪
Loading Rack Metering Systems

This standard serves as a guide in the selection, installation and operation of loading rack metering systems for petroleum products, including liquefied petroleum gas. This standard does not endorse or advocate the preferential use of any specific type of metering system or meter.
3rd Edition / February 2004 / Product Number: H60203 / Price: $63.00

Chapter 6.4
Metering Systems for Aviation Fueling Facilities

This chapter is a guide to the selection, installation, performance, and maintenance of metering systems for aviation fuel dispensing systems. Pages: 5
1st Edition / June 1984 / Reaffirmed, October 2001
Product Number: H30124 / Price: $53.00

Chapter 6.5
Metering Systems for Loading and Unloading Marine Bulk Carriers

This chapter deals with the operation and special arrangements of meters, provers, manifolding, instrumentation, and accessory equipment used for measurement during loading and unloading of marine bulk carriers. Pages: 6
2nd Edition / May 1991 / Reaffirmed, March 2002
Product Number: H30125 / Price: $53.00

Chapter 6.6
Pipeline Metering Systems

This chapter provides guidelines for selection of the type and size of meters to be used to measure pipeline oil movements, as well as the relative advantages and disadvantages of the methods of proving meters by tank prover, conventional pipe prover, small volume prover, and master meter. It also includes discussion on obtaining the best operating results from a pipeline-meter station. Pages: 9

2nd Edition / May 1991 / Reaffirmed, March 2002
Product Number: H30126 / Price: $53.00

Chapter 6.7
Metering Viscous Hydrocarbons

This chapter serves as a guide for the design, installation, operation, and proving of meters and auxiliary equipment used in metering viscous hydrocarbons. It defines viscous hydrocarbons and describes the difficulties that arise when viscous hydrocarbons are raised to high temperature. The effects of such temperatures on meters, auxiliary equipment, and fittings are discussed, and advice and warnings to overcome or mitigate difficulties are included. Pages: 6

2nd Edition / May 1991 / Reaffirmed, March 2002
Product Number: H30127 / Price: $53.00

Chapter 7
Temperature Determination

The purpose of this standard is to describe methods and practices that may be used to obtain accurate measurements of temperature of petroleum and petroleum products in pipelines, storage tanks, gathering tanks, ships, barges, tank cars, pipe provers, tank provers and test measures under both static and dynamic conditions using electronic temperature measuring devices or mercury-in-glass thermometers.

This chapter describes the methods, equipment, and procedures for determining the temperature of petroleum and petroleum products under both static and dynamic conditions. This chapter discusses temperature measurement requirements in general for custody transfer, inventory control, and marine measurements. The actual method and equipment selected for temperature determination are left to the agreement of the parties involved. Pages: 38

1st Edition / June 2001 / Product Number: H07001 / Price: $164.00

Chapter 8
Sampling

Covers standardized procedures for sampling crude oil or its products.

Chapter 8.1
Manual Sampling of Petroleum and Petroleum Products
(ANSI/ASTM D 4057)

This chapter covers the procedures for obtaining representative samples of shipments of uniform petroleum products, except electrical insulating oils and fluid power hydraulic fluids. It also covers sampling of crude petroleum and nonuniform petroleum products and shipments. It does not cover butane, propane, and gas liquids with a Reid Vapor Pressure (RVP) above 26. The major addition to the standard is a section on extended-tube sampling. Pages: 24

3rd Edition / October 1995 / Reaffirmed, December 2000
Product Number: H08013 / Price: $78.00

Chapter 8.2
Automatic Sampling of Petroleum and Petroleum Products
(ANSI/ASTM D 4177)

This chapter covers automatic procedures for obtaining representative samples of petroleum and nonuniform stocks or shipments, except electrical insulating oil. Pages: 32

2nd Edition / October 1995 / Reaffirmed, December 2000
Product Number: H08022 / Price: $78.00

Chapter 8.3
Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products
(ANSI/ASTM D 5854)

This chapter covers the handling, mixing, and conditioning procedures required to ensure that a representative sample of the liquid petroleum or petroleum product is delivered from the primary sample container/receiver into the analytical test apparatus or into intermediate containers. For sampling procedures, refer to Chapters 8.1 and 8.2. Refer to Chapter 8.4 for the mixing and handling of light fuels for volatility measurement. This chapter was developed jointly with ASTM. Pages: 27

1st Edition / October 1995 / Reaffirmed, December 2000
Product Number: H08031 / Price: $72.00

Chapter 8.4
Manual Sampling and Handling of Fuels for Volatility Measurement
(ANSI/ASTM D 5842)

This chapter covers procedures and equipment for obtaining, mixing and handling of representatives sample of volatile fuels for the purpose of testing for compliance with the standards set forth for volatility-related measurement applicable to light fuels. The applicable dry vapor pressure equivalent range of this standard is 13 to 105 kilopascals (2 to 16 psi absolute). Also applicable to the sampling, mixing, and handling of reformulated fuels, including those containing oxygenates. Developed jointly with ASTM. Pages: 9

1st Edition / October 1995 / Reaffirmed, December 2000
Product Number: H08041 / Price: $75.00

Chapter 9
Density Determination

Describes the standard methods and apparatus used to determine the density or relative density of crude petroleum products normally handled as liquids.

Chapter 9.1
Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method
(ANSI/ASTM D 1298)

This chapter describes the methods and practices relating to the determination of the density, relative density, or API gravity of crude petroleum and liquid petroleum products using the hydrometer method (laboratory determination). Pages: 6

2nd Edition / December 2002 / Product Number: H09012 / Price: $37.00

Chapter 9.2
Standard Test Method for Density or Relative Density of Light Hydrocarbons by Pressure Hydrometer
(ANSI/ASTM D 1657)

This chapter provides a guide for determining the density or relative density (specific gravity) or API gravity of light hydrocarbons, including liquefied petroleum gases, using a pressure hydrometer. Pages: 4

2nd Edition / March 2003 / Product Number: H09022 / Price: $37.00

Chapter 9.3
Standard Test Method for Density, Relative Density, and API Gravity of Crude Petroleum and Liquid Petroleum Products by Thermohydrometer Method
(ANSI/ASTM D 6822)

This chapter describes methods and practices suitable for the determination of density or API gravity of crude petroleum and liquid petroleum products using thermohydrometers. The test method covers petroleum and liquid petroleum products with Reid vapor pressure of 179 kPa (26psi) or less. Pages: 7

2nd Edition / November 2002 / Product Number: H09032 / Price: $37.00

Chapter 10
Sediment and Water

This chapter describes methods for determining the amount of sediment and water, either together or separately in petroleum products. Laboratory and field methods are covered.

Chapter 10.1
Standard Test Method for Sediment in Crude Oils and Fuel Oils by the Extraction Method
(ANSI/ASTM D 473)

This chapter covers the determination of sediment in crude oils and fuel oils by extraction with toluene. The precision applies to a range of sediment levels from 0.01 to 0.40% mass, although higher levels may be determined. Pages: 5

2nd Edition / October 2002 / Product Number: H10012 / Price: $37.00

Chapter 10.2
Determination of Water in Crude Oil by Distillation
(ANSI/ASTM D 4006)

This chapter specifies a method for the determination of water in crude petroleum by distillation. Pages: 13

1st Edition / April 1981 / Reaffirmed, December 1999
Product Number: H30202 / Price: $60.00

Chapter 10.3
Standard Test Method for Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure)
(ANSI/ASTM D 4007)

This chapter describes method of laboratory determination of water and sediment in crude oil by means of the centrifuge procedure. Pages: 13

2nd Edition / May 2003 / Product Number: H10032 / Price: $37.00

Chapter 10.4
Determination of Water and/or Sediment in Crude Oil by the Centrifuge Method (Field Procedure)

This chapter describes a method for determining both water and sediment or sediment only in crude oil. Pages: 10

3rd Edition / December 1999 / Product Number: H10043 / Price: $60.00

Chapter 10.5
Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
(ANSI/ASTM D 95)

This chapter covers the determination of water in petroleum products and bituminous materials by the distillation method in the range from 0 to 25 volume percent water. The amount of water as determined by this method (to the nearest 0.05 volume percent) is used to correct the volume involved in the custody transfer of petroleum products and bituminous materials. Pages: 5

3rd Edition / December 2002 / Product Number: H10053 / Price: $37.00

Chapter 10.6
Standard Test Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure)
(ANSI/ASTM D1796)

This chapter covers the laboratory test method for determining the water and sediment in fuel oils by using the centrifuge method in the range from 0 to 3 percent volume. Pages: 5

3rd Edition / December 2002 / Product Number: H10063 / Price: $37.00

Chapter 10.7
Standard Test Method for Water in Crude Oils by Potentiometric Karl Fischer Titration
(ANSI/ASTM D 4377)

This chapter describes the procedure for the determination of water in crude oils by Karl Fischer titration (potentiometric.) This test method covers the determination of water in the range from 0.02 to 2 mass percent in crude oils. Mercaptan and sulfide (S+ or H_2S) sulfur are known to interfere with the method. Pages: 6

2nd Edition / December 2002 / Product Number: H10072 / Price: $37.00

Chapter 10.8
Standard Test Method for Sediment in Crude Oil by Membrane Filtration
(ANSI/ASTM D 4807)

This chapter describes a procedure for the determination of sediment in crude oils by membrane filtration. The method has been validated for crude oils with sediment content to approximately 0.15 mass percent. This chapter may be selected for determining of the sediment content of crude oils in production, pipeline, or marine applications. Pages: 9

1st Edition / February 1991 / Reaffirmed, December 1999
Product Number: H30208 / Price: $60.00

Chapter 10.9
Standard Test Method for Water in Crude Oils by Coulometric Karl Fischer Titration
(ANSI/ASTM D 4928)

This chapter covers the determination of water in the 0.02–5.0 percent range in crude oils. The test method presents two procedures for the direct determination of water content in crude oils; weight and volume. Pages: 5

2nd Edition / December 2002 / Product Number: H10092 / Price: $37.00

Chapter 11 ✪

Physical Properties Data (Volume Correction Factors)

The subroutines for all the volumes of Chapter 11.1, except Volumes XI/XII, are now available in magnetic tape or electronic form through API. These standards are not included in the complete set of measurement standards. Each element of Chapter 11 must be ordered separately. Chapter 11 is the physical data that has direct application to volumetric measurement of liquid hydrocarbons. It is presented in tabular form, in equations relating volume to temperature and pressure, computer subroutines, and magnetic tape or electronic diskette.

Chapter 11.1—2004 ✪

This Standard (Revised Standard) is effective on the date of publication and supersedes the previous edition of the Standard(s) (Previous Standard(s)) referenced in Appendix A of this Revised Standard. However, due to the nature of the changes in this Revised Standard, it is recognized that guidance concerning an implementation period may be needed in order to avoid disruptions within the industry and ensure proper application. As a result, it is recommended that this Revised Standard be utilized on all new applications no later than TWO YEARS after the publication date. An application for this purpose is defined as the point where the calculation is applied.

Once the Revised Standard is implemented in a particular application, the Previous Standard will no longer be used in that application.

If an existing application complies with the Previous Standard(s) then it shall be considered in compliance with this Revised Standard.

However, the use of API standards remains voluntary and the decision on when to utilize a standard is an issue that is subject to the negotiations between the parties involved in the transaction.

See the listing for "Chapter 11.1—1980" on page 145 of this Catalog for more information on the previous edition of the Standard(s), (this chapter also supersedes Chapters 11.2.1 and 11.2.1M).

Chapter 11.1 ✪

Temperature And Pressure Volume Correction Factors For Generalized Crude Oils, Refined Products, And Lubricating Oils

This Standard provides the algorithm and implementation procedure for the correction of temperature and pressure effects on density and volume of liquid hydrocarbons which fall within the categories of crude oil, refined products, or lubricating oils; NGLs and LPGs are excluded from consideration in this Standard.

This document is distributed on CD-ROM in Portable Document Format (pdf). A utility program is included on the CD to allow users to calculate corrections for temperature and pressure effects and to print pages of correction factors for a user-defined range of temperature, pressure and density in both US Customary and Metric units of measure. The utility is used within a supported web browser and uses the Java language. Internet access is not required. (Printed tables are not available from either API or ASTM for this version of the Temperature And Pressure Volume Correction Factors For Generalized Crude Oils, Refined Products, and Lubricating Oils.)

September 2004 / Product Number: H11013
Single User / Price: $450.00
2 to 10 Users / Price: $675.00
11 to 50 Users / Price: $875.00
51+ Users / Price: $1325.00

Chapter 11.1 ✪

Dynamic Link Library

A Microsoft® Windows compatible 32-bit Dynamic Link Library (DLL) that provides a callable collection of routines to calculate temperature and pressure volume correction factors for generalized crude oils, refined products, and lubricating oils. This DLL is compatible with and can co-exist with the 1980 version DLL.

To order the DLL, Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.
DLL 1 Location / Price: $1,000
DLL 2 – 5 Locations / Price: $1,500
DLL 6 – 10 Locations / Price: $2,250
DLL 11 – 15 Locations / Price: $3,375
DLL 16+ Locations / Price: $5,075
Software Distributor / Price: $10,150

Chapter 11.1 ✪

Add-In Program for Microsoft Excel

A Microsoft® Windows compatible 32-bit ad-in for Microsoft® Excel that provides a callable collection of routines to calculate temperature and pressure volume correction factors for generalized crude oils, refined products, and lubricating oils. This version is compatible with and can co-exist with the 1980 version DLL.

To order the Add In, Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.
XL Add In with DLL 1 Location / Price: $1,300
XL Add In with DLL 2 – 5 Locations / Price: $1,950
XL Add In with DLL 6 – 10 Locations / Price: $2,925
XL Add In with DLL 11 – 15 Locations / Price: $4,375
XL Add In with DLL 15+ Locations / Price: $6,575

Chapter 11.1 ✪

C-code Subroutines

ANSI C-code compatible subroutines which may be compiled into user programs to calculate temperature and pressure volume correction factors for generalized crude oils, refined products, and lubricating oils. These routines are compatible with and may co-exist with the 1980 version C-code subroutines.

To order the C-Code Subroutines, Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.
C-Code 1 Location / Price: $3,000
C-Code 2 – 5 Locations / Price: $4,500
C-Code 6 – 10 Locations / Price: $6,750
C-Code 11 – 15 Locations / Price: $10,125
C-Code 16+ Locations / Price: $15,200
Software Distributor / Price: $30,400

Chapter 11.1 ✪

C-code Subroutines, DLL & XL Add In Combined

To order the C-Code Subroutines, Add In and DLL, Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.
C-Code, DLL & XL Add In 1 Location / Price: $3,875
C-Code, DLL & XL Add In 2 – 5 Locations / Price: $5,800
C-Code, DLL & XL Add In 6 – 10 Locations / Price: $8,700
C-Code, DLL & XL Add In 11 – 15 Locations / Price: $13,050
C-Code, DLL & XL Add In 16+ Locations / Price: $19,600
Software Distributor / Price: $39,200

API/ASTM/GPA Technical Publication TP-25
Temperature Correction for the Volume of Light Hydrocarbons (NGLs/LPGs), Relative Densities (60/60°F) 0.350 to 0.688

Table 23E, Correction of Observed Relative Density to Relative Density at 60/60°F, and Table 24E, Correction of Volume to 60°F Against Relative Density 60/60°F.

1st Edition / October 1998 / Product Number: H27294 / Price: $66.00

Petroleum Measurement Tables
(Historical Edition [1952])

Contains volume correction factor tables for light ends that were not revised or reprinted in the 1980 editions of Chapter 11.1 as well as the editions of Chapter 11.1 tables published between 1952 and 1962.

Order from ASTM
100 Barr Harbor Drive / West Conshohocken, PA 19428
Phone: 610-832-9500

Chapter 11.2.2
Compressibility Factors for Hydrocarbons: 0.350 − 0.637 Relative Density (60°F/60°F) and −50°F to 140°F Metering Temperature (GPA 8286)

Provides tables to correct hydrocarbon volumes metered under pressure for the metered temperature. Contains compressibility factors related to the meter temperature and relative density (60°F/60°F) of the metered material.

2nd Edition / October 1986 / Reaffirmed, December 2002
Product Number: H27307 / Price: $136.00

Chapter 11.2.2
Addendum to Correlation of Vapor Pressure Correction for NGLs

Describes simplified correlation for the equilibrium bubble point pressure (vapor pressure) of commercial natural gas liquids (NGLs). This correlation was developed in response to the industry's need for a simplified correlation to be used when adjusting densities from flowing conditions to a set of standard conditions. Methods for improving the accuracy and extending the correlation are also discussed.

1st Edition / December 1994 / Reaffirmed, December 2002
Product Number: H27308 / Price: $142.00

Chapter 11.2.2M
Compressibility Factors for Hydrocarbons: 350 − 637 Kilograms per Cubic Meter Density (15°C) and −46°C to 60°C Metering Temperature

This chapter provides tables to correct hydrocarbon volumes metered under pressure to corresponding volumes at equilibrium pressure for the metered temperature. The standard contains compressibility factors related to the meter temperature and density (15°C) of the metered material. Pages: 264

1st Edition / October 1986 / Reaffirmed, December 2002
Product Number: H27309 / Price: $142.00

Chapter 11.2
Computer Tape and Documentation of Chapters 11.2.2 and 11.2.2M

This package includes a magnetic tape of tables found in Chapters 11.2.2 and 11.2.2M, along with a computer documentation manual containing text information from those chapters. The tables, presented in both standard and metric (SI) units, cover compressibility factors for light hydrocarbons. The tape is 1600 bpi, unlabeled, and is available in either ASCII or EBCDIC format. Now available on disk. Format desired must be specified when ordering.

1st Edition / October 1986 /
ASCII Tape and Documentation Manual
Product Number: H27296 / Price: $251.00
EBCDIC Tape and Documentation Manual
Product Number: H27297 / Price: $251.00

Chapter 11.3.2.1
Ethylene Density

This chapter is a electronic Fortran Source Code text file that will produce either a density (pounds/ft^3) or a compressibility factor for vapor phase ethylene over the temperature range form 65° to 167°F and the pressure range from 200 to 2100 psia. The tape is 9-track, 1600 bpi, unlabeled, and is available in either ASCII or EBCDIC format. Format desired must be specified when ordering.

1974 / Reaffirmed, December 2002
Product Number: H25650 / Price: $251.00

Chapter 11.3.3.2
Propylene Compressibility

This chapter is a electronic Fortran Service Code text file that will produce a table of values applicable to liquid propylene in the following ranges: temperature, 30° to 165°F; and saturation pressure to 1600 psia. The tape computes the following two values: density (pounds/ft^3) at flowing temperature and pressure, and ratio of density at flowing conditions to density at 60°F and saturation pressure. The tape is 9-track, 1600 bpi, unlabeled, and is available in either ASCII or EBCDIC format. Now available on disk. Format desired must be specified when ordering.

1974 / Reaffirmed, December 2002
Product Number: H25656/ Price: $251.00

Chapter 11.4
Properties of Reference Materials—Part 1—Density of Water and Water Volumetric Correction Factors for Water Calibration of Volumetric Provers

(Replaces Chapters 11.2.3 and 11.2.3M)

This chapter specifies the density of water to be used in all applicable API MPMS Standards. It also specifies the volume correction factor equation for water and demonstrates its use for water calibration of volumetric provers. Pages: 14

1st Edition / November 2003 / Product Number: H11411 / Price: $42.00

Chapter 12
Calculation of Petroleum Quantities

Describes the standard procedures for calculating net standard volumes, including the application of correction factors and the importance of significant figures. The purpose of standardizing the calculation procedure is to achieve the same result regardless of which person or computer does the calculating.

Chapter 12.1
Calculation of Static Petroleum Quantities—Part 1—Upright Cylindrical Tanks and Marine Vessels

This chapter is intended to guide the user through the steps necessary to calculate static liquid quantities, at atmospheric conditions, in upright, cylindrical tanks and marine tank vessels. The standard defines terms employed in the calculation of static petroleum quantities. The standard also specifies equations that allow the values of some correction factors to be computed. Fundamental to this process is the understanding that in order for different parties to be able to reconcile volumes, they must start with the same basic information (tank capacity table, levels, temperatures, and so forth) regardless of whether the information is gathered automatically or manually. This chapter does not address the calculation of clingage, nonliquid material, small quantities (such as onboard quantities, quantities remaining on board, and wedge formula, where material is not touching all bulkheads on marine vessels), and vapor space calculations.

2nd Edition / November 2001 / Product Number: H12112 / Price $75.00

Chapter 12.1
Calculation of Static Petroleum Quantities—Part 2—Calculation Procedures for Tank Cars

Describes the standardized method for calculating target loading quantities and actual loading quantities of liquids in tank cars. Also explained are the factors required for the calculations. This information is applicable to all crude oils, petroleum products, and petrochemicals (including LPGs and other liquefied gases) transported by rail tank car. It does not cover any products loaded or measured as solids. It defines the terms required to understand the calculations, and provides instructions for their use; includes 13 calculation examples in Appendix E. Pages: 36

1st Edition / May 2003 / Product Number: H12121 / Price: $89.00

Chapter 12.2
Calculation of Liquid Petroleum Quantities Measured by Turbine or Displacement Meters
(ANSI/API MPMS 12.2-1981)

This chapter defines the terms used in the calculation of metered petroleum quantities and specifies the equations that allow the values of correction factors to be computed. Rules for sequence, rounding, and significant figures are provided, along with tables for computer calculations. Pages: 39

1st Edition / September 1981 / Reaffirmed, March 2002
Product Number: H30302 / Price: $72.00

Chapter 12.2
Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volume Correction Factors—Part 1—Introduction

Expands on the calculation methods pertaining to metering petroleum liquids using turbine or displacement meters contained in Chapter 12.2. Part 1 provides the general introduction of this standard which is divided into five parts, each published separately. The base (reference or standard) volumetric determination of metered quantities is discussed along with the general terms required for solution of the various equations. General rules for rounding of numbers, including field data, intermediate calculations numbers, and discrimination levels are specified.

2nd Edition / May 1995 / Reaffirmed, March 2002
Product Number: H12021 / Price: $87.00

Chapter 12.2
Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors—Part 2—Measurement Tickets

This document provides standardized calculation methods for the quantification of liquids and the determination of base prover volumes under defined conditions, regardless of the point of origin or destination or the units of measure required by governmental customs or statute. The publication rigorously specifies the equations for computing correction factors, rules for rounding, calculational sequence, and discrimination levels to be employed in the calculations. Pages: 18

3rd Edition / June 2003 / Product Number: H12223 / Price: $82.00

Chapter 12.2
Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors—Part 3—Proving Reports

This chapter consolidates and standardizes calculations for metering petroleum liquids using turbine or displacement meters and clarifies terms and expressions by eliminating local variations among terms. This chapter provides calculation methods for the determination of meter factors under defined conditions, regardless of the point of origin or destination or units of measure required by governmental customs or statute. This document specifies the equations for computing correction factors, including the calculation sequence, discrimination levels, and rules for rounding. Pages: 59

1st Edition / October 1998 / Effective Date: April 1, 1999
Reaffirmed, March 2002 / Product Number: H12023 / Price: $95.00

Chapter 12.2
Calculation of Petroleum Quantities Using Dynamic Measurement Methods—Part 4—Calculation of Base Prover Volumes by Waterdraw Method

Provides a standardized calculation method to determine a base prover volume under defined conditions. Specifically, this standard will discuss the calculation procedures for the waterdraw calibration method, which is one of several different procedures used to determine Base Prover Volume (BPV) of a displacement prover. Pages: 58

1st Edition / December 1997 / Reaffirmed, March 2002
Product Number: H12024 / Price: $98.00

Chapter 12.2
Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors—Part 5—Calculation of Base Prover Volume by Master Meter Method

Provides standardized calculation methods for the quantification of liquids and the determination of base prover volumes under defined conditions, regardless of the point of origin or destination or units of measure required by governmental customs or statute. The criteria contained in this document allow different entities using various computer languages on different computer hardware (or manual calculations) to arrive at identical results using the same standardized input data. Pages: 108

1st Edition / September 2001 / Product Number: H12025 / Price: $141.00

Chapter 12.3
Calculation of Volumetric Shrinkage From Blending Light Hydrocarbons with Crude Oil

Provides background, theory, calculation examples, and tables to correct for volumetric shrinkage resulting when blending volatile hydrocarbons with crude oil. The tables are entered with density differentials at Standard conditions and percentage light hydrocarbon in total mix. This chapter supersedes and replaces API *MPMS* Bulletin 2509C, 2nd Edition / 1967. Pages: 110

1st Edition / July 1996 / Reaffirmed, October 2001
Product Number: H12031 / Price: $72.00

Chapter 13
Statistical Aspects of Measuring and Sampling

The more accurate petroleum measurement becomes, the more its practitioners stand in need of statistical methods to express residual uncertainties. This chapter covers the application of statistical methods to petroleum measurement and sampling.

Chapter 13.1
Statistical Concepts and Procedures in Measurement

Designed to help those who make measurement of bulk oil quantities improve the value of their result statement by making proper estimates of the uncertainty or probable error involved in measurements. Pages: 17

1st Edition / June 1985 / Reaffirmed, October 2001
Product Number: H30321 / Price: $66.00

Chapter 13.2
Statistical Methods of Evaluating Meter Proving Data

Addresses procedures for evaluating any meter's performance where meter proving factors are developed in accordance with Chapter 12.2. The data in examples used in this chapter are intended to be typical of custody transfer operations of low-vapor-pressure fluids using displacement or turbine meters in accordance with Chapters 4, 5, and 6 of the American Petroleum Institute's *Manual of Petroleum Measurement Standards*. However, the procedures in Chapter 13.2. can be used for noncustody transfer metering applications and for custody transfer metering of high-vapor-pressure and gaseous fluids where meter proving data are available. Pages: 41

1st Edition / November 1994 / Reaffirmed, August 1999
Product Number: H13021 / Price: $78.00

Chapter 14
Natural Gas Fluids Measurement

This chapter standardizes practices for measuring, sampling, and testing natural gas fluids.

Chapter 14.1
Collecting and Handling of Natural Gas Samples for Custody Transfer

This chapter concentrates on proper sampling systems and procedures. It recognizes the critical impact of hydrocarbon dew point consideration to the overall accuracy and success of these practices and procedures. Analyses of gas samples are used for many purposes and are applied to various calculations, some of which have an impact on the accuracy of custody transfer calculations (quantity and quality). Pages: 47

5th Edition / June 2001 / Product Number: H14015 / Price: $78.00

Chapter 14.2
Compressibility Factors of Natural Gas and Other Related Hydrocarbon Gases
(AGA Report No. 8) (GPA 8185-90)

Presents detailed information for precise computations of compressibility factors and densities for natural gas and other hydrocarbon gases. Also included are calculation uncertainty estimations and Fortran computer program listings.

2nd Edition / Revised August 1994 / Reaffirmed, 1999
Order this publication from: American Gas Association
400 N. Capitol Street, N.W. / Washington, DC 20001 / 202- 824-7000

Chapter 14.3
Part 1—General Equations and Uncertainty Guidelines—Concentric, Square-edged Orifice Meters
(AGA Report No. 3) (ANSI/API 14.3.1-2003)

Part 1 provides the basic equations and uncertainty statements for computing the flow through orifice meters. In Part 1, the traditional basic orifice factor and Reynolds number factor found in the 1985 edition have been replaced with a more fundamental coefficient of discharge that is a function of line size, beta ratio, and pipe Reynolds number. The upstream expansion factor is not changed from the 1985 edition. The downstream expansion factor has been reanalyzed to include compressibility. Although each part of the document can be used independently for many applications, users with natural gas applications should review Parts 3 and 4 before implementing Part 1. Pages: 51

3rd Edition / September 1990 / Reaffirmed, January 2001
Product Number: H30350 / Price: $136.00

Chapter 14.3
Part 2—Specification and Installation Requirements—Concentric—Square-edged Orifice Meters
(AGA Report No. 3, Part 2; GPA 8185-00, Part 2)
(ANSI/API 14.3, Part 2-2000)

This chapter outlines the specification and installation requirements for the measurement of single-phase, homogeneous Newtonian fluids using concentric, square-edged, flange-tapped orifice meters. It provides specifications for the construction and installation of orifice plates, meter tubes, and associated fittings when designing metering facilities using orifice meters. Pages: 70

4th Edition / April 2000 / Product Number: H14324 / Price: $155.00

Chapter 14.3
Part 3—Natural Gas Applications
(ANSI/API 14.3.3-2003)

The American Petroleum Institute, American Gas Association, and Gas Processors Association have published part three of a four-part revision of ANSI/API 2530, Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids. Chapter14.3, Part 3, has been developed as an application guide for the calculation of natural gas flow through a flange-tapped, concentric orifice meter, using the inch-pound system of units. It also provides practical guidelines for applying Chapter 14.3, Parts 1 and 2, to the measurement of natural gas. Pages: 103

3rd Edition / August 1992 / Reaffirmed, January 2003
Product Number: H30353 / Price: $136.00

Chapter 14.3
Part 3—Natural Gas Applications—Software Program
(ANSI/API 2530, Part 3)

Software program calculates volume flow rate, A.G.A 8 compressibilities, and other quantities.

3rd Edition / August 1993
To order or obtain information contact: Universal Technical Systems, Inc.
202 West State St., Suite 700 / Rockford, IL 61107
Phone: 800-435-7887 (in USA), or 815-963-2220.
http://www.uts.com or sales@uts.com

Chapter 14.3
Part 4—Background, Development, Implementation Procedures and Subroutine Documentation
(GPA 8173-91)

Chapter 14.3, Part 4, describes the background and development of the equation for the coefficient of discharge of flange-tapped square-edged concentric orifice meters and recommends a flow rate calculation procedure. The recommended procedures provide consistent computational results for the quantification of fluid flow under defined conditions, regardless of the point of origin or destination, or the units of measure required by governmental customs or statute. The procedures allow different users with different computer languages on different computing hardware to arrive at almost identical results using the same standardized input data. Pages: 138

3rd Edition / November 1992 / Reaffirmed, August 1999
Product Number: H30354 / Price: $136.00

Chapter 14.4
Converting Mass of Natural Gas Liquids and Vapors to Equivalent Liquid Volumes
(GPA 8173-91)

This chapter prescribes a method for converting the measured mass of natural gas liquids or natural gas vapors at operating conditions to equivalent liquid volume of the components at 60°F and equivalent liquid volumes of the components at 15°C and equilibrium pressure for SI units. This chapter was developed jointly by the Gas Processors Association (GPA), Section H, Product Measurement and Handling, and the American Petroleum Institute, Committee on Natural Gas Fluids Measurement. Pages: 3

1st Edition / April 1991 / Reaffirmed, August 1999
Product Number: H30344 / Price: $47.00

Chapter 14.5
Calculation of Gross Heating Value, Specific Gravity, and Compressibility of Natural Gas Mixtures from Compositional Analysis
(GPA 2172-86) (ANSI/API MPMS 14.5-1981)

Outlines a procedure for calculating, from compositional analysis, the following properties of natural gas mixtures: heating value, specific gravity, and compressibility factor. Pages: 4

2nd Edition / January 1981 / Reaffirmed, March 2002
Product Number: H14052 / Price: $47.00

Chapter 14.6
Continuous Density Measurement
(ANSI/API Ch. 14.6, 1991)
(includes Errata dated August 1998)

This chapter provides criteria and procedures for designing, installing, and operating continuous density measurement systems for Newtonian fluids in the petroleum, chemical, and natural gas industries. The application of this standard is limited to clean, homogeneous, single-phase liquids or supercritical fluids. The procedures and criteria in this standard have been successfully applied to fluids whose flowing density is greater than 0.3 grams per cubic centimeter at operating conditions of 60°F (15.6°C) and saturation pressure. The intent of the standard is to provide the user with a density accuracy of 0.10 percent for most applications. The errata provides editorial clarification regarding conversion factors and variables used in various calculation equations. Pages: 51

2nd Edition / April 1991 / Reaffirmed, May 1998
Product Number: H30346 / Price: $110.00

Chapter 14.7
Mass Measurement of Natural Gas Liquids
(GPA 8182-95)

This chapter is to be used as a reference to select, design, install, operate, and maintain homogeneous, single-phase liquid mass measurement systems that operate in the density range from 0.3 to 0.7 grams per cubic centimeter (18.73 to 43.70 pounds per cubic foot). Measurement of liquids with densities below 0.3 and above 0.7 grams per cubic centimeter and measurement of cryogenic fluids are excluded from the scope of this document. Sampling equipment and techniques are discussed, and standards for analytic methods used to determine the composition of the sampled product are also cited. This chapter was developed jointly by the Gas Processors Association (GPA), Section H, Product Measurement and Handling, and the American Petroleum Institute, Committee on Natural Gas Fluids Measurement. Pages: 14

2nd Edition / October 1995 / Reaffirmed, August 1999
Product Number: H14072 / Price: $47.00

Chapter 14.8
Liquefied Petroleum Gas Measurement

Describes dynamic and static metering systems used to measure liquefied petroleum gas in the density range of 0.30 to 0.70 grams per cubic centimeter. This edition revises the February 1983 version of the standard to incorporate the current version (1992) of the Chapter 14.3 orifice meter discharge coefficient equation and revises and simplifies the mass flow rate sample calculations. Pages: 20

2nd Edition / July 1997 / Reaffirmed, March 2002
Product Number: H14082 / Price: $78.00

Chapter 14.9
Measurement of Natural Gas by Coriolis Meter
(AGA Report No. 11, 2003)

This Chapter was developed to assist designers and users in operating, calibrating, installing, maintaining and verifying Coriolis flow meters used for natural gas flow measurement

Order this publication from: American Gas Association
400 N. Capitol Street, N.W. / Washington, DC 20001 / 202- 824-7000

API/GPA Orifice Meter Data Project
Archival Data Tapes

Includes six magnetic tapes with the raw data generated during the 4-year API/GPA research project on gas, water, and oil flows; and a documentation manual with guidance on format and conversion constants. The tapes are 9-track, 6,250 bpi, unlabeled, fixed block, ASCII format. The logical record length is 80 characters, the block size is 4,800 characters, and the tapes are $^{1}/_{2}$ inch by 2,400 feet. All orders must be prepaid.

Product Number: H30360 / Price: $9,336.00

Chapter 15
Guidelines for Use of the International System of Units (SI) in the Petroleum and Allied Industries

This chapter specifies the API preferred units for quantities involved in petroleum industry measurements and indicates factors for conversion of quantities expressed in customary units to the API-preferred metric units. The quantities that comprise the tables are grouped into convenient categories related to their use. They were chosen to meet the needs of the many and varied aspects of the petroleum industry but also should be useful in similar process industries. Pages:43

3rd Edition / December 2001 / Product Number: H15003 / Price: $92.00

Chapter 16
Measurement of Hydrocarbon Fluids by Weight or Mass

This chapter covers the static and dynamic measurement of hydrocarbon fluids by weight or mass.

Chapter 16.2
Mass Measurement of Liquid Hydrocarbons in Vertical Cylindrical Storage Tanks by Hydrostatic Tank Gauging

This new standard provides guidance on the installation, commissioning, maintenance, validation, and calibration of hydrostatic tank gauging (HTG) systems for the direct measurement of static mass of liquid hydrocarbons in storage tanks. This first edition is applicable to hydrostatic tank gauging systems that use pressure sensors with one port open to the atmosphere. It is also applicable for use on vertical cylindrical atmospheric storage tanks with either fixed or floating roofs. (Based entirely on ISO 11223-1, Part 1) Pages: 20

1st Edition / November 1994 / Reaffirmed, March 2002
Product Number: H16021 / Price: $78.00

Chapter 17
Marine Measurement

This chapter provides guidelines for the measurement and reporting of crude oil or petroleum product transfers by shore terminal operators, vessel personnel, and other parties involved in marine cargo transfer measurement and accountability operations.

Chapter 17.1
Guidelines for Marine Cargo Inspection

Encourages uniform inspection practices for marine petroleum cargo quantity and quality control. These guidelines specify the policy and minimum recommended practices for manual and automatic measurement, sampling and accounting for bulk quantities of crude oil (including spiked, blended, and reconstituted crude oil) and petroleum products that are transferred from one port to another on marine vessels. Activities described include actions by producers, buyers, sellers, shore terminal operators, vessel owners and their crews, customs authorities, independent inspectors and other parties with an interest in oil measurement. Use also will simplify the making of agreements for transferring volumes of petroleum cargoes and will help ensure that the agreements can be clearly interpreted and executed between parties. Included in this text are the procedures for calculating vessel experience factors (VEF), as well as sample forms. Pages: 51

4th Edition / November 2001 / Product Number: H17014 / Price: $107.00

Chapter 17.1
Guidelines for Marine Cargo Inspection—Spanish

The Spanish translation of Chapter 17.1.

4th Edition / November 2001 / Product Number: H1701SP / Price: $113.00

Chapter 17.2
Measurement of Cargoes on Board Tank Vessels

Covers manual portable measurement units (PMUs) through deck-fitted vapor control valves (VCVs) and fixed automatic tank gauge (ATG) systems for use when a marine vessel's cargo tanks may not be open to the atmosphere. It establishes the procedures for obtaining the level measurements of cargo, free water, and onboard quantity/remaining onboard (OBQ/ROB), as well as taking the temperatures and samples required for the marine custody transfer of bulk liquid petroleum cargoes under closed or restricted system measurement conditions. This chapter is not intended for use with pressurized or refrigerated cargoes such as LPG and LNG. Pages: 19

2nd Edition / May 1999 / Product Number: H17022 / Price: $110.00

Chapter 17.3
Guidelines for Identification of the Source of Free Waters Associated With Marine Petroleum Cargo Movements

This chapter provides guidelines for identifying the source of free waters associated with marine petroleum cargo movements. The presence of free water is a factor in marine custody transfers of bulk petroleum, especially in the case of crude oil cargoes. This chapter recommends the water samples and volumes to be taken, the containers to be used, the care and distribution of the samples, and the analytical procedures of use in identifying sources of free water associated with marine petroleum cargoes. Pages: 26

1st Edition / April 1992 / Reaffirmed, January 2004
Product Number: H30407 / Price: $87.00

Chapter 17.4
Method for Quantification of Small Volumes on Marine Vessels (OBQ/ROB)

The purpose of this standard is to provide a method for determining the small volumes of On-Board Quantity (OBQ) prior to loading or material Remaining On-Board (ROB) a vessel on completion of discharge. This chapter applies only to quantification by manual gauging of small volumes on marine vessels prior to loading or upon completion of discharge. The OBQ/ROB material may include any combination of water, oil, slops, oil residue, oil/water emulsion, and sediment, present in the vessel's cargo tanks, void spaces, and pipelines. It does not address clingage, hydrocarbon vapors, cargoes in transit, or cargo pumpability (refer to API *MPMS* Chapter 3).

1st Edition / October 1994 / Reaffirmed, October 1998
Product Number: H30410 / Price: $78.00

Chapter 17.4
Method for Quantification of Small Volumes on Marine Vessels (OBQ/ROB)—Spanish

The Spanish translation of Chapter 17.4.

1st Edition / October 1994 / Reaffirmed, December 2004
Product Number: H30410SP / Price: $82.00

Chapter 17.5 ✪
Guidelines for Cargo Analysis and Reconciliation

This chapter covers guidelines for marine cargo analysis and reconciliation. These guidelines are intended to provide a basis for analyzing and reconciling the quantity differences (gains/losses) resulting from marine custody transfer movement(s) of petroleum and petroleum product cargoes. As such, the guidelines are complementary to, but do not replace, normal inspection procedures.

The shipment of petroleum or petroleum products by marine vessels often results in a difference between the load port (Bill of Lading) and discharge port (Outturn) quantities. The objective of cargo analysis and reconciliation is to determine if a marine petroleum shipment results in excessive gain or loss, and if so, to identify the reason(s) for volume differences in an effort to correct petroleum measurement problems.

This new standard describes the primary steps for marine cargo analysis and reconciliation. Those steps are the following: (a) Voyage Data Collection; (b) Voyage Data Analysis; and (c) Voyage Summary and Reconciliation. Pages: 25

2nd Edition / November 2003 / Product Number: H17052 / Price: $84.00

Chapter 17.6
Guidelines for Determining Fullness of Pipelines Between Vessels and Shore Tanks

Designed to improve the accuracy of custody transfer volumes by establishing recommended procedures for determining the amount of crude oil and petroleum products in shore or vessel pipeline systems before and after the liquid is loaded onto or discharged from marine vessels. These procedures will improve line fill determination activities and assist in making results reproducible at loading and discharge ports.

1st Edition / August 1994 / Reaffirmed, October 1998
Product Number: H17061 / Price: $78.00

Chapter 17.6
Guidelines for Determining Fullness of Pipelines Between Vessels and Shore Tanks—Spanish

The Spanish translation of Chapter 17.6.

1st Edition / August 1994 / Reaffirmed, October 1998
Product Number: H17061SP / Price: $82.00

Chapter 17.7
Recommended Practices for Developing Barge Control Factors (Volume Ratio)

Describes the procedure to determine a fixed barge/shore ratio that can be used either when no reliable vessel experience factor (VEF) is available or to verify and validate an existing VEF. The resultant ratio may be used as a "control factor" to ascertain a corrected barge volume for comparison against future shore delivery or receipt volumes. These procedures apply to a single transfer between the shore and the barge, using a light or medium product or chemical with an approximate volume of at least 80 percent fill of the barge capacity. This chapter should be utilized for inland waterway barges. Ocean-going barges should use the VEF method. Pages: 6

1st Edition / September 1995 / Product Number: H17071 / Price: $78.00

Chapter 17.8
Marine Measurement—Guidelines for Pre-Loading Inspection of Marine Vessel Cargo Tank

This chapter outlines procedures for determining that cargo tanks and associated loading equipment of marine vessels are clean and in appropriate condition to receive the intended cargoes. This document provides different levels of inspections for typical cargoes and a recommended format for report preparation. Pages: 14

1st Edition / August 1998 / Reaffirmed, January 2004
Product Number: H17081 / Price: $78.00

Chapter 18
Custody Transfer

This chapter covers application of other measurement standards to unique custody transfer situations.

Chapter 18.1
Measurement Procedures for Crude Oil Gathered From Small Tanks by Truck

This chapter describes procedures to encourage uniform custody transfer measurement and testing practices for crude oil gathered from small tanks (1,000 barrels or less in capacity) by truck. The publication contains recommended steps for manually determining the quantity and quality of crude oil being transferred in trucks under field conditions. This chapter is of interest to measurement personnel and crude oil producers and transporters. Pages: 13

2nd Edition / April 1997 / Reaffirmed, March 2002
Product Number: H18012 / Price: $92.00

Chapter 19
Evaporation Loss Measurement

This chapter covers application of other measurement standards to unique custody transfer situations.

Publ 2514A ✣
Atmospheric Hydrocarbon Emissions from Marine Vessel Transfer Operations

This chapter presents new correlations and emission factors for estimating total hydrocarbon emissions and evaporative cargo losses from marine vessel loading and ballasting operations. Pages: 23

2nd Edition / September 1981 / Reaffirmed, March 2001
Product Number: H25142 / Price: $78.00

Publ 2524 ✣
Impact Assessment of New Data on the Validity of American Petroleum Institute Marine Transfer Operation Emission Factors

Consultant CH2M Hill confirmed the validity of the model used in 2514A by comparing emission test data with predictive emission models developed by API, ARCO, and Exxon. The study found that the API model adequately predicts emissions for tanks ranging in size from 17,000 to 35,000 dead weight tons and for tanks being loaded within the lower-48 states. The model does not appear to apply to crude oil loading of tankers in Valdez, Alaska, because of unique local operating conditions. However, no known test data invalidates the model for predicting crude oil loading emissions from carriers smaller than very large crude carriers in the lower 48 states. Pages: 194

July 1992 / Reaffirmed, March 2001
Product Number: H25240 / Price: $130.00

Publ 2558 ✣
Wind Tunnel Testing of External Floating-Roof Storage Tanks

This study presents the results of a wind tunnel study to determine the local wind velocities, wind directions, and roof pressures on external floating-roof tanks.

1st Edition / June 1993 / Reaffirmed, March 2001
Product Number: H25580 / Price: $162.00

Chapter 19.1
Evaporative Loss From Fixed Roof Tanks

This chapter contains an improved method for estimating the total evaporative losses or the equivalent atmospheric hydrocarbon emissions from fixed-roof tanks that contain multicomponent hydrocarbon mixture stocks (such as petroleum liquid stocks like crude oils) or single-component hydrocarbon stocks (such as petrochemical stocks like ethanol).

3rd Edition / March 2002 / Product Number: H19013 / Price: $104.00

Chapter 19.1A ✣
Evaporation Loss from Low-pressure Tanks (Previously Bull 2516)

Breathing, working, and leakage losses encountered in low-pressure tanks (atmospheric to 15 psig) are discussed in this bulletin, which also provides equations for calculating these values. Pages: 12

March 1962 / Reaffirmed, September 2000
Product Number: H25160 / Price: $78.00

Chapter 19.1D
Documentation File for API Manual of Petroleum Measurement Standards Chapter 19.1—Evaporative Loss from Fixed Roof Tanks

The documentation file for Chapter 19.1 (API Bulletin 2518). Presents information on the development of theoretical equations; comparisons with test data; a sensitivity analysis of the loss equation; and other pertinent information that was developed during the preparation of API *MPMS* Chapter 19.1. Pages: 190

1st Edition / March 1993 / Reaffirmed, March 2001
Product Number: H30553 / Price: $142.00

Chapter 19.2
Evaporative Loss from Floating-roof Tanks

This chapter contains methods for estimating the total evaporative losses or the equivalent atmospheric hydrocarbon emissions from external floating-roof tanks (EFRTs) and freely vented internal floating-roof tanks (IFRTs), as well as for tanks with external-type floating roofs that also have a freely vented fixed roof. This type of tank is referred to as a covered floating-roof tank (CFRT) in this document. Pages: 83

2nd Edition/ September 2003/Product Number: H19022/ Price: $136.00

Chapter 19.3 ✣
Part A—Wind Tunnel Test Method Deck Fitting Loss Factors for External Floating-roof Tanks

This test method describes the procedures to establish evaporative loss factors for deck fittings on external floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. The test method involves measuring the weight loss of a test assembly over time. The standard specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. It also addresses the variables to be measured, format for reporting the test values and their associated uncertainty. Pages: 27

1st Edition / June 1997 / Reaffirmed, March 2002
Product Number: H1903A / Price: $98.00

Chapter 19.3 ✣
Part B—Air Concentration Test Method—Rim Seal Loss Factors for Floating-roof Tanks

This test method describes the procedures to establish evaporative rim-seal loss factors for rim seals used on external floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. The test method involves passing a controlled flow rate of air through a test chamber that contains a test liquid and a test rim seal, and measuring the concentration of the test liquid vapor in the air streams entering and leaving the test chamber. The standard specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. It also addresses the variables to be measured, format for reporting the test values, and their associated uncertainty. Pages: 30

1st Edition / August 1997 / Reaffirmed, March 2002
Product Number: H1903B / Price: $98.00

Chapter 19.3 ✣
Part C—Weight Loss Test Method—Deck-seam Loss Factors for Internal Floating-Roof Tanks

This chapter provides a uniform method for measuring evaporative loss from rim seals used on aboveground storage tanks. This information can be utilized to establish product-specific loss factors in terms of loss rate and seal gap area. This chapter is part API's Tank Seals and Fittings Certification Program. Pages: 29

1st Edition / July 1998 / Reaffirmed, March 2002
Product Number: H1903C / Price: $98.00

Chapter 19.3
Part D—Fugitive Emissions Test Method of Deck-seam Loss Factors for Internal Floating-Roof Tanks

The purpose of this standard is to establish a uniform method for measuring evaporative deck-seam loss factors and deck-joint loss factors of mechanically-joined deck seams that are used on internal floating-roof tanks. These deck-seam loss factors and deck-joint loss factors are to be determined in terms of their loss rate at specified pressure differences across the deck seam or deck joint for certification purposes. Pages: 31

1st Edition / June 2001 / Product Number: H1903D / Price: $98.00

Chapter 19.3 ✣
Part E—Weight Loss Test Method—Deck Fitting Loss Factors for Internal Floating-Roof Tanks

This document describes the test methods to be used to establish evaporative loss factors for deck fittings on internal floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. This chapter specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. The standard also addresses the requirements for reporting test report values. Pages: 30

1st Edition / May 1997 / Reaffirmed, March 2002
Product Number: H1903E / Price: $98.00

Chapter 19.3 ✣
Part F—Evaporative Loss Factor for Storage Tanks Certification Program

This document describes the specific test protocols required under API's Tank Seals and Fittings Certification program. It covers testing and certification requirements for testing facilities, procedures for data submission, and the procedures used by API to analyze data submitted as part of the program. Pages: 12

1st Edition / March 1997 / Reaffirmed, March 2002
Product Number: H1903F / Price: $98.00

Chapter 19.3 ✣
Part G—Certified Loss Factor Testing Laboratory Registration

This document covers the requirements to become a certified testing facility as part of the API Tank Seals and Fittings Certification Program. Certified facilities will conduct evaporative loss testing on seals and fittings for aboveground storage tanks using testing protocols developed by API. This chapter includes the requirements for equipment used, data handling and submission, and other factors to assure data integrity. Pages: 12

1st Edition / March 1997 / Reaffirmed, March 2002
Product Number: H1903G / Price: $98.00

Chapter 19.3 ✣
Part H—Tank Seals and Fittings Certification Administration

Provides guidance for the administration of the API Tank Seals and Fittings Certification Program. The document includes detailed methods for monitoring and analysis of tests conducted on individual devices and describes the steps in the certification process. Pages: 53

1st Edition / March 1998 / Effective Date: March 1998
Reaffirmed, March 2002 / Product Number: H1903H / Price: $98.00

Chapter 19.4 ✣
Recommended Practice for Speciation of Evaporative Losses

This chapter contains recommended methods for estimating specific organic compound emissions from storage tanks, and marine vessel transfer operations handling multicomponent hydrocarbon mixtures (such as crude oils and gasoline) associated with petroleum operations. Pages: 43

1st Edition / November 1997 / Reaffirmed, March 2002
Product Number: H19041 / Price: $98.00

Chapter 20
Allocation Measurement of Oil and Natural Gas

Chapter 20.1
Allocation Measurement

This document provides design and operating guidelines for liquid and gas allocation measurement systems. Included are recommendations for metering, static measurement, sampling, proving, calibrating and calculating procedures. Pages: 67

1st Edition / August 1993 / Reaffirmed, March 2001
Product Number: H30701 / Price: $87.00

Chapter 21
Flow Measurement Using Electronic Metering Systems

Describes standard practices and minimum specifications for electronic measurement systems used in the measurement and recording of flow parameters. This chapter covers natural gas fluid and petroleum and petroleum product custody transfer applications using industry-recognized primary measurement devices.

Chapter 21.1
Electronic Gas Measurement

This chapter describes the minimum specifications for electronic gas measurement systems used in the measurement and recording of flow parameters of gaseous phase hydrocarbons. Topics covered include definitions, calculations, algorithms, data availability, audit and reporting requirements, equipment installation, calibration, and verification and security. Pages: 38

1st Edition / August 1993 / Reaffirmed, April 1999
Product Number: H30730 / Price: $92.00

Chapter 21.2
Flow Measurement—Electronic Liquid Measurement

This chapter provides guidance for the effective use of electronic liquid measurement systems for custody transfer measurement of liquid hydrocarbons under the following conditions. Use of the measurement systems must fall within the scope and field of application of *API MPMS* Chapter 12.2. Guidance applies to systems using turbine or positive displacement meters. Guidance applies to systems using online CTL and CPL compensation. The procedures and techniques in *MPMS* Chapter 21.2 are recommended for new measurement applications. This chapter provides custody transfer measurement procedures for pipeline and other electronic liquid metering systems, including design, selection, use, auditing, reporting, calibration, verification, and security. Pages: 60

1st Edition / June 1998 / Product Number: H21021 / Price: $110.00

Chapter 21.2-A1
Addendum 1 to Flow Measurement—Electronic Liquid Measurement

1st Edition / August 2000 / Product Number: H2102A / Price: $48.00

Std 2560
Reconciliation of Liquid Pipeline Quantities

This publication provides methodologies for monitoring liquid pipeline loss/gain, and for determining the normal loss/gain level for any given pipeline system. Troubleshooting suggestions are also presented. Pages: 19

1st Edition / December 2003 / Product Number: H25601 / Price: $63.00

Std 2566 ✪
State of the Art Multiphase Flow Metering

This "White Paper" provides information on multiphase flow metering systems gleaned from more than 150 published documents that are in the public domain. The documentation was prepared from information obtained through mid-2002. No additional research has been funded in the development of this report. It should be noted that the indicated performances data stated in these published documents have not necessarily been verified by an independent body. The listing of these references in the Appendix 2 is intended to provide a comprehensive source of data and information on multiphase metering; the reader needs to carefully review the source of the data in the documents when utilizing the information.

1st Edition / May 2004 / Product Number: H25661 / Price: $105.00

Marine Transportation

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

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General

RP 1124
Ship, Barge and Terminal Hydrocarbon Vapor Collection Manifolds

This practice is intended to introduce uniformity in vapor manifold arrangements for all tank ships, tank barges, and marine terminals required to install vapor collection systems for the transfer of cargo vapors ashore or between vessels while loading or while ballasting in previously loaded cargo tanks. Pages: 14

1st Edition / March 1991 / Reaffirmed, December 1995
Product Number: E11240 / Price: $53.00

RP 1125
Overfill Control Systems for Tank Barges

Provides guidelines to users and manufacturers on the design and operation of barge loading systems and overfill control systems. Pages: 3

1st Edition / February 1991 / Reaffirmed, December 1995
Product Number: E11250 / Price: $53.00

RP 1127
Marine Vapor Control Training Guidelines

Provides guidelines for developing marine vapor control (also referred to as marine emission control) shore and shipboard training programs, to comply with U.S. Coast Guard regulations. These regulations outline vapor collection system safety requirements for the transfer of crude oil, gasoline, and benzene. Pages: 57

1st Edition / November 1993 / Product Number: E11270 / Price: $98.00

RP 1141 ✣
Guidelines for Confined Space Entry on Board Tank Ships in the Petroleum Industry

Lacking appropriate safeguards, precautions, and procedures, injury and property damage may result during work in confined spaces on board tank ships. Describes the essential elements needed in a confined space entry program to prevent accidents, injuries, and illnesses. Pages: 16

1st Edition / March 1994 / Product Number: E11411 / Price: $66.00

Quantified Hazards Evaluation of Marine Vapor Recovery Systems
This study provides a basis for designing marine vapor recovery systems utilizing the Chemical Transportation Advisory Committee's recommended design criteria. Pages: 252

August 1989 / Product Number: E12825 / Price: $108.00

Health, Environment and Safety

Special Report on Detonation Arrester Safety:
"Mitigation of Explosion Hazards of Marine Vapor Recovery Systems," R.E. White and C.J. Oswald, Southwest Research Institute

October 1992 / Product Number: K19900 / Price: $66.00

Conference Proceedings

Proceedings of the 1994 API Tanker Conference
Image—A Global Maritime Mission

Includes the remarks of 6 workshop commentators and 15 technical session addresses covering such topics as the political and financial outlook for the petroleum and tanker industry, maritime training, tanker inspection, and safety and environmental issues. Pages: 235

June 19–22, 1994 / Product Number: E01994 / Price: $47.00

Security

Security Guidance for the Petroleum Industry
API's second edition of "Security Guidance for the Petroleum Industry," is now in use at oil and gas facilities around the world to help managers decide how to deter terrorist attacks. Covering all segments of the industry (production, refining, transportation, pipeline, and marketing), this guidance builds on the existing solid foundation of design and operational regulations, standards and recommended practices, which relate to facility design and safety, environmental protection, emergency response, and protection from theft and vandalism. Produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies, these guidelines, viewed as a living document, are broadly applicable to facility security in light of September 11, 2001, and provide the starting point for developing security plans at oil and natural gas facilities and operations. Pages: 169

2nd Edition / April 2003 / Product Number: OS0001 / Price: $158.00

Security Vulnerability Assessment Methodology for the Petroleum and Petrochemical Industries ✪
The American Petroleum Institute and the National Petrochemical & Refiners Association jointly developed a new methodology for evaluating the likelihood and consequences of terrorist attacks against refineries and petrochemical facilities. "Security Vulnerability Assessment Methodology for Petroleum and Petrochemical Facilities" is designed for companies to use in assessing vulnerabilities and potential damages from different kinds terrorist attacks. In the post September 11 era, companies have reevaluated and enhanced security at their facilities. The methodology will provide officials with a new analytical tool to determine "the likelihood of an adversary successfully exploiting vulnerability and the resulting degree of damage or impact." This vulnerability assessment methodology was produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies. Pages: 155

October 2004 / Product Number: OSVA02 / Price: $158.00

Marketing API

A ▲ indicates that the publication is related to an API quality, certification, or accreditation program. For specific information about the following programs contact the numbers listed below: Aboveground Storage Tank Inspector Certification Program (202)682-8161, Engine Oil Licensing and Certification System (202)682-8516, Petroleum Laboratory Accreditation Program (202)682-8571, Piping Inspector Certification Program (202)682-8161, Pressure Vessel Inspector Certification Program (202)682-8161.

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NOTE: Free publications with an asterisk are subject to a $10.00 handling charge for each total order, plus actual shipping charges.

General

Publ 1593
Gasoline Marketing in the United States Today

Provides information on motor fuel and gasoline consumption; U.S. motor fuel distribution; the U.S. gasoline pricing system; motor gasoline prices and taxes; the number/configuration of retail gasoline outlets; and employment/productivity in the retail gasoline distribution industry. Pages: 77

3rd Edition / May 1992 / Product Number: A15930 / Price: $92.00

Publ 1673
Compilation of Air Emission Factors for Petroleum Distribution and Retail Marketing Facilities

This report compiles the most widely accepted, available emission factors and emission estimation techniques for developing air emission estimates from evaporative loss sources of petroleum products at marketing and distribution facilities. These losses can occur from transfer and storage operations and fugitive equipment leaks and spillage. Pages: 32

1st Edition / June 1998 / Product Number: A16731 / Price: $78.00

Aviation

API/IP Std 1529
Aviation Fueling Hose

This standard addresses performance requirements and test procedures for aircraft fueling hose, hose couplings, and hose assemblies suitable for a broad range of aviation fuel servicing equipment, including fuelers and hydrant dispensers. Pages: 23

6th Edition / to be published Q1, 2005 / Product Number: A15296

API/IP RP 1540
Design, Construction, Operation and Maintenance of Aviation Fuelling Facilities

This publication supersedes the third edition of the Institute of Petroleum's Model Code of Safe Practice Part 7 *Airports Safety Code*, published in 1998, and the second edition of the American Petroleum Institute's Publication 1500 *Storage and Handling of Aviation Fuels at Airports*, which was withdrawn in 1998.

This publication is intended to provide guidance on the siting, layout, design, construction, operation and maintenance of aircraft fuelling facilities, including the design and construction of fuellers, hydrant dispensers and

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ancillary equipment used in fuelling aircraft. The guidance contained in this edition has been significantly revised from earlier editions to ensure that the safe practices contained herein are equally applicable in all areas of the world; to include adequate guidance for the large number of non-airline type facilities used by retail and consumer-type operations; to include suitable reference to environmental protection controls and facilities that are receiving increased emphasis and regulation in some regions and to ensure that the guidance reflects current levels of knowledge and industry experience.

1st Edition / March 2004 / Product Number: A15401 / Price: $110.00

API/IP Std 1542
Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuelling Equipment

Provides a system for marking aviation fuel types and grades on fuel-handling installations and equipment at airports. Pages: 34

7th Edition / August 2002 / Product Number: A15427 / Price: $110.00

API/IP Spec 1581 ▲
Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators

This specification established the minimum performance and mechanical requirements and the testing and qualification procedures for aviation jet fuel filter/separators with flow rates ranging up to 9500 liters per minute (2400 gallons per minute). The specification also defines procedures to qualify filter/separators with and without multi-stages.

The most significant amendment to the previous edition is the modification of the test fuel chemistries for Category C, M and M100 testing. This publication is an essential reference for all those involved in the supply of jet fuel to aircraft, and also those involved in the design, manufacture and supply of filter/separator elements.

5th Edition / July 2002 / Product Number: A15815 / Price: $110.00

API/IP Spec 1582
Specification for Similarity for API/IP 1581 Aviation Jet Fuel Filter/Separators

This publication specifies the minimum requirements for a filter/separator system to qualify to API.IP 1581 by similarity. Spec 1582 applies to two-stage (filter and separator) and the filter/separator stages of a multi filter/separator systems. Pages: 20

February 2001 / Product Number: A15822 / Price: $110.00

API/IP Spec 1583 ✪
Specification and Qualification Procedures for Aviation Fuel Filter Monitors with Absorbent Type Elements

This publication covers the recommended minimum performance and mechanical specifications for filter monitor equipment and the recommended testing and qualification procedures. Spec 1583 refers specifically to the use of elements of 50 mm (2 in.) and 150 mm (6 in.) nominal diameters, and does not cover trigger type monitor elements. Pages: 34

4th Edition / September 2004 / Product Number: A15834 / Price: $110.00

API/IP Spec 1584
Four-inch Aviation Hydrant System Components and Arrangements

Establishes the standards for dimensions, coupling action, activation, and other requirements to achieve full interchangeability between components of hydrant pit valves and couplers. Pages: 39

3rd Edition / April 2001 / Product Number: A15843 / Price: $110.00

API/IP 1585
Guidance in the Cleaning of Airport Hydrant Systems

This publication is intended to give operators of airport fuel hydrant systems guidance in: (1) determining the state of cleanliness of existing hydrant sys-

tems and possible causes of contamination; (2) methods of cleaning hydrant systems that are showing signs of contamination with particulate material, water and microbiological material; (3) methods to be followed during construction of new systems or extensions to existing systems to prevent the entry of unwanted material; (4) commissioning procedures; (5) operational practices to maintain the system in a clean condition; and (6) the design of hydrant systems to aid cleaning. Pages: 45

3rd Edition / February 2001 / Product Number: A15852 / Price: $110.00

API/IP Spec 1590

Specifications and Qualification Procedures for Aviation Fuel Microfilters

This publication describes specifications and qualification test procedures for microfilter elements of the disposable cartridge type and, separately, the manufacturing requirements for new vessels for use in aviation jet fuel-handling systems. Pages: 27

2nd Edition / April 2002 / Product Number: A15902 / Price: $110.00

Marketing Operations

RP 1525

Bulk Oil Testing, Handling, and Storage Guidelines

This recommended practice is designed to be used as a reference and management guide by personnel operating and managing petroleum and tank facilities associated with the storage and distribution of petroleum lubricants. Topics covered include equipment and facility standards, product sampling and testing methods and equipment, receiving and storage of bulk lubricants, and packaging and loading petroleum lubricants for distribution to other facilities. Pages: 28

1st Edition / June 1997 / Product Number: F15251 / Price: $53.00

RP 1604 ✣

Closure of Underground Petroleum Storage Tanks

Provides operating procedures that may be used for the abandonment, removal, storage, temporarily-out-service, and sale of used underground tanks that have contained gasoline or other flammable liquids. Pages: 9

3rd Edition / March 1996 / Reaffirmed, November 2001
Product Number: A16043 / Price: $60.00

RP 1615 ✣

Installation of Underground Petroleum Storage Systems

A guide to procedures and equipment that should be used for the proper installation of underground petroleum storage systems. For use by architects, engineers, tank owners, tank operators, and contractors. Applies to underground storage tank systems that store petroleum products at retail and commercial facilities. Pages: 53

5th Edition / March 1996 / Reaffirmed, November 2001
Product Number: A16155 / Price: $98.00

RP 1621

Bulk Liquid Stock Control at Retail Outlets

Primarily applied to underground storage of motor fuels and used oil at retail and commercial facilities. Assists the operator in controlling bulk stock losses, thereby achieving a high level of safety and pollution control while maximizing profits. Pages: 25

5th Edition / May 1993 / Reaffirmed, January 2001
Product Number: A16210 / Price: $66.00

RP 1626

Storing and Handling Ethanol and Gasoline-ethanol Blends at Distribution Terminals and Service Stations

Provides recommended practices for the storage, handling, and fire protection of both ethanol and gasoline-ethanol blends that have become widely used as a motor fuel component. Although gasoline-ethanol blends have some properties similar to gasoline, there are differences that require the special treatment described in this publication. Pages: 8

1st Edition / April 1985 / Reaffirmed, January 2000
Product Number: A16260 / Price: $47.00

RP 1627

Storage and Handling of Gasoline-methanol/Cosolvent Blends at Distribution Terminals and Service Stations

Describes recommended practices for the storage, handling, and fire protection of gasoline-methanol/cosolvent blends. Pages: 6

1st Edition / August 1986 / Reaffirmed, January 2000
Product Number: A16270 / Price: $47.00

RP 1631

Interior Lining and Periodic Inspection of Underground Storage Tanks

Provides minimum recommendations for the interior lining of existing steel and fiberglass reinforced plastic underground tanks used to store petroleum-based motor fuels and middle distillates. Recommendations and procedures to be followed by contractors, mechanics, and engineers are presented. Methods for vapor-freeing tanks, removing sediment, and cleaning interior surfaces of steel and fiberglass tanks are also presented, as are guidelines for identifying tanks that may be lined. Pages: 25

5th Edition / June 2001 / Product Number: A16315 / Price: $69.00

RP 1632 ✣

Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems

Covers two methods of providing cathodic protection for buried steel petroleum storage and dispensing systems. Provides information specific to buried steel structures, such as motor fuel storage tanks and delivery piping waste oil tanks, heating-oil tanks, and automobile lifts installed at service stations. (As a companion document, the NACE Publication RP 02-85, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, may be purchased with RP 1632 as a set only. This document details cathodic protection guidance for engineers and technicians.) Pages: 18

3rd Edition / 1996 / Reaffirmed, June 2002
For RP 1632 only:
Product Number: A16323 / Price: $53.00
For RP 1632 and NACE RP 02-85 as a set only:
Product Number: A1632S / Price: $78.00

RP 1637

Using the API Color-Symbol system to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals

A guide to the API color-symbol system for marking petroleum product distribution equipment and facilities and describes the use of the system to mark equipment and vehicles at service stations and distribution terminals (includes one 1637A color chart). Pages: 6

2nd Edition / September 1995 / Reaffirmed, January 2000
Product Number: A16372 / Price: $46.00

Publ 1637A
Equipment Marking Color Symbol System Chart

This chart displays each element of the equipment marking color-symbol for product identification at service stations and distribution terminals (in color). Two-sided, laminated.

1st Edition / September 1995 / Reaffirmed, January 2000
Available only in packets of 10: Product Number: A1637A / Price: $58.00

RP 1639
Owner/Operator's Guide to Operation and Maintenance of Vapor Recovery Systems at Gasoline Dispensing Facilities

Provides guidance for owners and operators of gasoline dispensing facilities and regulatory officials regarding the operation and maintenance of gasoline vapor recovery systems and components. Proper operation and maintenance of the equipment can improve compliance with vapor recovery regulations and provide substantial emission reductions. This guide does not address the maintenance required by qualified service technicians. Pages: 22

1st Edition / July 2003 / Product Number: A16391 / Price: $69.00

Publ 1642
Alcohol, Ethers, and Gasoline-Alcohol and Gasoline-Ether Blends

Examines fire safety considerations at petroleum marketing facilities. Focuses on gasoline blended with oxygenates, and M85, but also includes alcohols and ethers because they may be present at terminals and bulk plants for blending purposes. Pages: 12

1st Edition / February 1996 / Product Number: A16421 / Price: $48.00

Publ 1645
Stage II Vapor Recovery System Operations & System Installation Costs

This publication is a study that was conceived and scoped to address the general installation cost information for three different types of retail gasoline outlet (RGO) vapor recovery systems: vapor balance, passive vacuum assist, and active vacuum assist. Additionally, it provides an overview of how each system operates. Pages: 6

1st Edition / August 2002 / Product Number: A16451 / Price: $45.00

RP 1650
Set of Six API Recommended Practices on Underground Petroleum Storage Tank Management

A complete set of API Recommended Practices 1604 (removal), 1615 (installation), 1621 (stock control), 1628 (spill clean-up), 1631 (interior lining), and 1632 (cathodic protection) in a vinyl binder. See description of individual recommended practices below. The six RPs are referenced as appropriate standards and guidance documents in recently-mandated federal technical standards for underground storage systems.

1st Edition / 1989 / Product Number: A16502 / Price: $251.00

Std 2610 ✣
Design, Construction, Operation, Maintenance & Inspection of Terminal and Tank Facilities
(ANSI/API 2610-2005)

Covers the design, construction, operation, inspection, and maintenance of petroleum terminal and tank facilities associated with marketing, refining, pipeline, and other similar activities. Covers site selection and spacing, pollution prevention and waste management, safe operations, fire prevention and protection, tanks, dikes and berms, mechanical systems (pipe, valves, pumps and piping systems), product transfer, corrosion protection, structures, utilities and yard, and removals and decommissioning.

2nd Edition / to be published Q1, 2005

Used Oil

National Used Oil Collection Study ✣
Reviews the status of used engine oil collection in the United States. Documents state efforts to collect oil and the outcomes of such efforts. Provides examples of how used oil collection can be successful, as well as warning of the pitfalls that should be avoided, based on the experience of other states. Pages: 248

1st Edition / June 1996 / Product Number: B18301 / Price: $47.00

A Guidebook for Implementing Curbside and Drop-Off Used Motor Oil Collection Programs ✣
Designed to help municipal managers and regulators evaluate the types of available programs (either curbside or drop-off programs, including examples of both), and how to effectively implement these used oil recycling programs. It is based on national surveys of existing programs throughout the country and includes examples of budgets, procedures, equipment, and model programs that are currently underway. Pages: 47

1st Edition / February 1992 / Product Number: B20002 / Price: Free*

Publ 1835 ✣
Study of Used Oil Recycling in Eleven Selected Countries

The study described in this report obtained information about used motor oil collection and recycling programs in 11 selected countries around the world. Pages: 55

1st Edition / November 1997 / Product Number: B18351 / Price: $47.00

Tank Truck Operations

For Safety's Sake MC-306 Cargo Tank Vehicle Inspection
This VHS tape provides a step-by-step approach to pre-and post-trip inspection of MC-306 cargo tank vehicles. The tape follows a driver through an actual walk-around inspection and covers driver record-keeping and the inspection itself—brakes, lights, mirrors, tires, wiring, the tank, and placards. Also includes common truck defects. The videotape was prepared under the direction of the API Highway Safety Committee and parallels the U.S. Department of Transportation's truck inspection regulations. Two minutes of blank leader is provided on the tape so that it can be customized to fit company training needs. VHS tape 14 minutes. Pages: 65

1989 / Product Number: D11500 / Price: $84.00

RP 1004
Bottom Loading and Vapor Recovery for MC-306 & DOT-406 Tank Motor Vehicles

Provides an industry standard for bottom loading and vapor recovery of proprietary and hired carrier DOT MC-306 tank vehicles at terminals operated by more than one supplier. Guides the manufacturer and operator of a tank vehicle as to the uniform features that should be provided to permit loading of a tank vehicle with a standard 4-inch adapter. This edition of RP 1004 requires an independent secondary control system and maximum requirements for outage in the tank to allow the secondary control system to function. Pages: 21

8th Edition / January 2003 / Product Number: D10048 / Price: $89.00

RP 1007
Loading and Unloading of MC-306/DOT 406 Cargo Tank Motor Vehicles

Ensuring the safe and efficient loading and delivery of petroleum products to retail service stations and bulk facilities is the primary goal for all companies that transport product. This document is a guideline for use by the truck driver and persons responsible for loading and unloading of MC-306/DOT 406

cargo tanks. It identifies specific steps to ensure that product can be loaded into tank trucks and unloaded into both underground and aboveground storage tanks in a safe and efficient manner that protects the environment. It is intended to be used in conjunction with existing driver training programs and procedures. Pages: 24

1st Edition / April 2001 / Product Number: A10071 / Price: $30.00

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Fax Orders: 734-302-7811
Online Orders: www.techstreet.com

RP 1112
Developing a Highway Emergency Response Plan for Incidents Involving Hazardous Materials

Provides minimum guidelines for developing an emergency response plan for incidents involving hazardous liquid hydrocarbons such as gasoline and crude oil, transported in MC-306/DOT 406 and MC-307/DOT 407 aluminum cargo tanks, and for coordinating and cooperating with local, state, and federal officials. Covers response plan priorities, personnel training, special equipment, media relations, environmental relations, and post-response activities. The appendices outline a highway emergency response plan and suggest a procedure for removing liquid hydrocarbons from overturned cargo tanks and righting the tank vehicles. Pages: 21

3rd Edition / November 1997 / Reaffirmed, August 2002
Product Number: A11123 / Price: $60.00

Publ 1659
Keeping it Clean: Making Safe and Spill-Free Motor Fuel Deliveries

See Also Marketing, Video Tape and Training Programs

1st Edition / December 1992 / Product Number: A16590 / Price: $78.00

Video Tape and Training Programs

Publ 1659
Keeping it Clean: Making Safe and Spill-free Motor Fuel Deliveries

Provides information on the procedures and pollution-control equipment associated with motor fuel deliveries by tank trucks to retail marketing facilities (such as service stations) that are equipped with Stage I vapor recovery pollution control equipment. This 25-minute videotape describes three types of Stage I vapor recovery equipment that petroleum tank truck drivers may encounter during deliveries: coaxial, two-point, and manifolded. Also describes other pollution control techniques used, such as overfill protection, spill containment, and monitoring well identification. Produced by the Environmental Media Center (EMC) for the U.S. Environmental Protection Agency in cooperation with API, the Petroleum Equipment Institute (PEI), the Petroleum Marketers Association of America (PMAA), the Fiberglass Petroleum Tank and Pipe Institute, and the Steel Tank Institute. EMC, PEI, and PMAA are also distributing this video. 25 minutes, VHS format only.

1st Edition / December 1992 / Product Number: A16590 / Price: $78.00

Publ 1663A
Operation Underground

These self-paced training modules cover two underground storage tank (UST) subject areas—installation and removal. The training modules can be purchased individually or as a complete package. Each training module can be used by more than one trainee; however, each trainee needs an individual copy of the workbook and exhibit book set. Publ 1663A is the complete set and consists of both Publ 1663B *Underground Storage Tank Installation Training Module* and Publ 1663D *Underground Storage Tank Removal Training Module*. (See the following module descriptions)

Product Number: A1663A / Price: $409.00

Publ 1663B
Underground Storage Tank Installation Training Module

Covers various topics associated with underground storage tank (UST) installation, including excavation; pre-installation handling and storage procedures; liners; anchoring; installation, and backfill; piping components and installation; secondary containment, spill containment and over-fill prevention; and release detection. This module package includes a 85-minute videotape, the companion 124-page workbook/exhibit book (Publ 1663C, also sold separately), and a video carrier.

Product Number: A1663B / Price: $289.00

Publ 1663C
Underground Storage Tank Installation

This workbook/exhibit book is the companion to the *Underground Storage Tank Installation Training Module* video. To use the training module video, each trainee requires a separate copy of the workbook/exhibit book set. Pages: 124

Product Number: A1663C / Price: $47.00

Publ 1663D
Underground Storage Tank Removal Training Module

Covers various topics associated with underground storage tank (UST) removal, including barricading, sloping and shoring; vapor freeing tanks; and tank removal. This module package includes a 57-minute videotape and the companion 62-page workbook/exhibit book set. (Publ 1663E, also sold separately).

Product Number: A1663D / Price: $257.00

Publ 1663E
Underground Storage Tank Removal

This workbook/exhibit book set is the companion to the *Underground Storage Tank Removal Training Module* video. To use the training module video, each trainee requires a separate copy of the workbook/exhibit book set. Pages: 62

Product Number: A1663E / Price: $47.00

Consumer Information

See Also Policy and Economic Studies, Pamphlets

Motor Oils and Lubricants

Motor Oil Shelf Cards

This two-page laminated guide is designed to help consumers understand the API Engine Oil Quality Marks—the API Certification Mark "Starburst" and Service Symbol "Donut"—and the API Service Categories.
Shelf Cards are available in English and Spanish and can be personalized with a Company Logo. For information on personalizing the shelf cards, call 202-682-8156.

Product Number: F1551M0
Single copies free on request from API (eolcs@api.org or 1-202-682-8516)
Packs of 50 for $112.00

Publ 1509 ✣ ▲

Engine Oil Licensing and Certification System

Describes the voluntary API Engine Oil Licensing and Certification System (EOLCS) and explains to marketers how different API marks are licensed and displayed for the consumer. The publication describes methods for developing new engine oil performance requirements and provides the marketer with a description of the API marks and their use, licensing requirements, aftermarket audit procedures, and enforcement procedures. EOLCS is a cooperative effort between the oil industry and vehicle and engine manufactures. This program benefits consumers, the petroleum industry and automobile manufacturers. Pages: 72

15th Edition / April 2002 / Product Number: F150915 / Price: $109.00

Publ 1520 ▲

Directory of Licensees: API Engine Oil Licensing and Certification System

Identifies the companies licensed to display the API Engine Oil Licensing and Certification System (EOLCS) Symbols.

This directory can only be accessed through API's webpage, www.api.org.

Diesel Fuel

Publ 1571

Diesel Fuel–Questions and Answers for Highway and Off-highway Use

Provides answers to some of the frequent questions asked about diesel fuel. Included are explanations of the quality features of diesel fuel and their significance; descriptions of diesel fuel classifications; discussions of additives normally used and their purposes; and explanations of factors that can affect performance. Pages: 20

4th Edition / January 1996
Product Number: F15714 / Price: Pack of 25 for $60.00

Health, Environment and Safety: Waste

Publ 1638 ✣

Waste Management Practices for Petroleum Marketing Facilities

Provides specific guidance for managing typical waste streams at petroleum marketing facilities. This publication covers petroleum marketing facilities ranging from retail fuel convenience stores to terminals and lube plants. Pages: 20

1st Edition / October 1994 / Product Number: A16381 / Price: $60.00

Health, Environment and Safety: Water

Publ 1612

Guidance Document for Discharging of Petroleum Distribution Terminal Effluents to Publicly Owned Treatment Works

Provides terminal managers with guidance on discharging terminal effluents to publicly owned treatment works (POTWs). Covers relations with POTW personnel. POTW concerns in accepting terminals wastewater, pretreatment regulations and local limits on the discharge of wastewaters to POTWs, and associated costs. Pages: 34

1st Edition / November 1996 / Product Number: A16121 / Price: $78.00

Publ 1669

Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study

Presents the findings of a study to characterize storm water runoff from retail gasoline outlets and compares the results with runoff from commercial parking lots and published urban "background" values. Funded by the Western States Petroleum Association (WSPA) and the American Petroleum Institute (API), the results of this study indicate that fueling activities at normally operated and maintained retail gasoline outlets do not contribute additional significant concentrations of measured constituents in storm water runoff. Pages: 24

1st Edition / December 1994 / Product Number: A16691 / Price: $66.00

Health, Environment and Safety: Soil and Groundwater

Publ 1628 ✣

A Guide to the Assessment and Remediation of Underground Petroleum Releases

Provides an overview of proven technologies for the assessment and remediation of petroleum releases in soil and groundwater. Covers accidental releases arising from the production, transportation, refining, and marketing of liquid petroleum products or unrefined crude oil. Pages: 119

3rd Edition / July 1996 / Product Number: A16283 / Price: $136.00

API Publication 1628 and its five companion publications (1628A, B, C, D, and E) may be purchased as a set.
Product Number: A1628S / Price: $270.00

Publ 1628A ✣

Natural Attenuation Processes

Describes the physical, chemical, and biological processes that decrease the concentrations and ultimately limit the extent of the dissolved plume migrating from a hydrocarbon release. Pages: 16

1st Edition / July 1996 / Product Number: A1628A / Price: $47.00

Publ 1628B ✣

Risk-based Decision-making

Discusses risk-based decision-making approaches used for the assessment of hazardous conditions. Also presents information that can be utilized to focus remedial measures and funds on petroleum hydrocarbon release sites while being protective of human health and the environment, and to facilitate timely closure of hydrocarbon-impacted sites. Pages: 13

1st Edition / July 1996 / Product Number: A1628B / Price: $47.00

Publ 1628C ✣
Optimization of Hydrocarbon Recovery

Covers the optimization, in its broadest sense, to achieve an environmentally sound site closure in the appropriate time frame for the least cost (to maximize efficiency of the selected system). Pages: 20

1st Edition / July 1996 / Product Number: A1628C / Price: $47.00

Publ 1628D ✣
In-situ Air Sparging

Covers in-situ air sparging. Covers remediation technologies starting with the early techniques of containment or mass reduction through today's very aggressive site closure techniques. Addresses containment as well as residual petroleum hydrocarbon compounds. Pages: 13

1st Edition / July 1996 / Product Number: A1628D / Price: $47.00

Publ 1628E ✣
Operation and Maintenance Considerations for Hydrocarbon Remediation Systems

Discusses concepts regarding operation and maintenance procedures necessary to achieve and maintain optimal performance of petroleum hydrocarbon remediation systems.

1st Edition / July 1996 / Product Number: A1628E / Price: $47.00

Publ 1629 ✣
Guide for Assessing and Remediating Petroleum Hydrocarbons in Soils

Provides information regarding the site and release characteristics relevant to and methods for assessing and remediating soils contaminated with petroleum hydrocarbons released from underground storage tank or aboveground storage tank systems and operations. Developed to complement Publ 1628, which focuses primarily on assessing and remediating petroleum releases that may impact groundwater. Pages: 81

1st Edition / October 1993 / Product Number: A16290 / Price: $124.00

Publ 4655 ✣
Field Evaluation of Biological and Non-biological Treatment Technologies to Remove MTBE/Oxygenates From Petroleum Product Terminal Wastewaters

A pilot/demonstration study was conducted on three treatment technologies—the fluidized bed biological reactor process, the activated sludge process incorporated with iron flocculation, and the ultraviolet light/hydrogen peroxide process—to evaluate their effectiveness in the treatment of petroleum marketing terminal wastewater contaminated with methyl tert-butyl ether (MTBE). Contaminated groundwater was the primary constituent of the wastewater, which also contained benzene, toluene, xylenes, and ethylbenzene (BTEX). All three technologies were able to remove at least 95 percent of the MTBE and BTEX in the feed waters. Pages: 194

August 1997 / Product Number: I46550 / Price: $101.00

API Sponsored research yields practical tools and basic science for risk-based, cost effective solutions to soil and groundwater. Certain publications and summaries of API Groundwater research are made available free on our website.

Recent additions to the web site include the following:

Publ 4699
Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE

Applies the principles of risk-informed decision making to the evaluation of MTBE-affected sites by adding exposure and risk considerations to the traditional components of the corrective action process. The risk factors at a given site are evaluated through a "Conceptual Site Model," which is an inventory of all known or potential oxygenate sources, pathways, and receptors. Based on these risk factors, three levels of assessment are defined: standard, limited, and detailed. The appropriate level of assessment is initially determined based on receptor data, which can typically be obtained from a survey of nearby wells and land uses. A subsurface investigation may then be conducted to obtain information on sources and pathways. The level of assessment can be "upgraded" or "downgraded" as warranted by the resulting source and pathway information. Includes a review of the chemical properties and subsurface behavior of MTBE and other oxygenated fuel additives. It also provides an overview of characterization monitoring issues at oxygenate release sites, as well as a detailed review of the tools and techniques used for subsurface assessment. The expedited site assessment process and the use of modern direct-push tools are particularly emphasized, since these approaches are especially well suited for use at MTBE-affected sites.

June 2000

API Soil and Groundwater Research Bulletins
API Soil and Groundwater Research Bulletins summarize research results from project overseen by API's Soil and Groundwater Technical Task Force. The Task Force disseminates information and research results through publications, presentations and interaction with industry clients and regulatory agencies.

The bulletins listed below can be downloaded from www.api.org/bulletins.

Bulletin No. 22
Maximum Potential Impacts of Tertiary Butyl Alcohol (TBA) on Groundwater from Small-Volume Releases of Ethanol-Blended Gasoline in the Vadose Zone

December 2004

Bulletin No. 21
Evaluation Of Potential Vapor Transport To Indoor Air Associated With Small-Volume Releases Of Oxygenated Gasoline In The Vadose Zone

December 2004

Bulletin No. 20
Answers to Frequently Asked Questions About Ethanol Impacts to Groundwater

December 2003

Bulletin No. 19
Evaluation of Small-Volume Releases of Ethanol-Blended Gasoline at UST Sites

October 2003

Bulletin No. 18
Answers to Frequently Asked Questions About Managing Risk at LNAPL Sites

May 2003

Bulletin No. 17
Identification of Critical Parameters for the Johnson and Ettinger (1991) Vapor Intrusion Model

May 2002

Bulletin No. 16
Migration of Soil Gas Vapors to Indoor Air: Determining Vapor Attenuation Factors Using a Screening-Level Model and Field Data from the CDOT-MTL

April 2002

Bulletin No. 15
Badose Zone Natural Attenuation of Hydrocarbon Vapors An Emperical Assessment of Soil Gas Vertical Profile Data

December 2001

Bulletin No. 14
Predicting the Effect of Hydrocarbon and Hydrocarbon-impacted Soil on Groundwater

September 2001

Bulletin No. 13
Dissolution of MTBE from a Residually-trapped Gasoline Source

September 2001

Bulletin No. 12
No-Purge Sampling: An Approach for Long-term Monitoring

October 2000

Bulletin No. 11
Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE

August 2000

Bulletin No. 10
Simulation of Transport of Methyl Tert-butyl Ether (MTBE) to Groundwater from Small-volume Releases of Gasoline in the Valdose Zone

June 2000

Bulletin No. 9
Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil

June 2000

Bulletin No. 8
Characteristics of Dissolved Petroleum Hydrocarbon Plumes Results from Four Studies

December 1998

Bulletin No. 5
Evaluation of Sampling and Analytical Methods for Measuring Indicators of Intrinsic Bioremediation

February 1998

Bulletin No. 3
Ten Frequently Asked Questions about MTBE in Water

March 1998

Bulletin No. 1
Summary of Processes, Human Exposures and Remediation Technologies Applicable to Low Permeability Soils

September 1996

Security

Security Guidance for the Petroleum Industry
API's second edition of "Security Guidance for the Petroleum Industry," is now in use at oil and gas facilities around the world to help managers decide how to deter terrorist attacks. Covering all segments of the industry (production, refining, transportation, pipeline, and marketing), this guidance builds on the existing solid foundation of design and operational regulations, standards and recommended practices, which relate to facility design and safety, environmental protection, emergency response, and protection from theft and vandalism. Produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies, these guidelines, viewed as a living document, are broadly applicable to facility security in light of September 11, 2001, and provide the starting point for developing security plans at oil and natural gas facilities and operations. Pages: 169

2nd Edition / April 2003 / Product Number: OS0001 / Price: $158.00

Security Vulnerability Assessment Methodology for the Petroleum and Petrochemical Industries ✪
The American Petroleum Institute and the National Petrochemical & Refiners Association jointly developed a new methodology for evaluating the likelihood and consequences of terrorist attacks against refineries and petrochemical facilities. "Security Vulnerability Assessment Methodology for Petroleum and Petrochemical Facilities" is designed for companies to use in assessing vulnerabilities and potential damages from different kinds terrorist attacks. In the post September 11 era, companies have reevaluated and enhanced security at their facilities. The methodology will provide officials with a new analytical tool to determine "the likelihood of an adversary successfully exploiting vulnerability and the resulting degree of damage or impact." This vulnerability assessment methodology was produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies. Pages: 155

October 2004 / Product Number: OSVA02 / Price: $158.00

Pipeline Transportation

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

NOTE: Free publications with an asterisk are subject to a $10.00 handling charge for each total order, plus actual shipping charges.

Publications

Pipeline Standards Technical Interpretations

The Pipeline Technical Interpretations are now available on the API web site at: **www.api.org/techinq**.

Pipeline Public Education and Awareness

Petroleum Pipelines In Your Community

A CD for Publishing a Generic Pipeline Right of Way Brochure in English & Spanish

Petroleum Pipelines In Your Community, a four-color brochure that can be customized for specific pipeline operators to help them fulfill their public awareness obligation to residents along rights of way under RP 1162 is now available from API. The four-panel brochure is in both English and Spanish. A blank address block is incorporated in the design.

A free copy of the generic pdf version can be viewed and printed off the web, committees.api.org/pipeline/standards/index.html. A Quark version that can be edited to include a company's name, logo, phone number and make changes to the text is available.

Can be part of an operator's RP 1162 awareness program

The brochure addresses:

- Pipeline Markers,
- Call Before You Dig,
- Spotting Signs of a Petroleum Product Release, and
- What to do if a Leak Occurs

This Petroleum Pipelines in Your Community CD comes in PDF and includes an unlimited license to print and distribute for noncommerical purposes.

October 2003 / Product Number: D003CD / Price: $105.00
Contact API Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.

Guidelines for Property Development

Brochure

Guide for avoiding damage to pipelines, for use by anyone involved in land development. Activities covered include agricultural operations; construction of new oil pipelines, gas transmission lines, mains and service connections; installation of underground and overhead communications cable; building of roads, paved lots and railways; use of heavy equipment; seismic testing; boring, drilling and tunneling; and general property development.

For companies wishing to customize Guidelines for Property Development, a customized PDF with an unlimited license to print and distribute for non-commerical purposes may be purchased.

Hard copy available in packets of 5
Product Number: D0GP04 / Price: $53.00
Customizable PDF file / Product Number: D0GPCD / Price: $263.00
Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.

Visit API pubs online at www.api.org/cat.

Quiet Steel: Our Energy Lifeline

Brochure

A ten-page color brochure to accompany the "Quiet Steel" videotape or to use as a resource. The brochure focuses on the importance of pipelines to our energy supply system and the safety aspects for living near pipelines.
Note: Quantity orders must be in complete packages of 100 copies.

Product Number: D12800 (single copies) / Price: $4.00
Product Number: D12810 (1 to 4 pkgs. of 100 per pkg.) / Price: $77.00
Product Number: D12820 (5 or more pkgs. of 100 per pkg.) / Price: $69.00

Get the Dirt

Video

A damage prevention awareness video produced by the Dig Safely team. The video explains the call first process and encourages its use. Available in both English and Spanish.

Single copies free from the API Pipeline Segment: 202-682-8125
Multiple copies available for $1.20 each plus shipping from Revak & Associates: 330-533-1727 or krevak@aol.com

Pipeline Operations Publications

RP 80

Guidelines for the Definition of Onshore Gas Gathering Lines

API RP 80, developed by an industry coalition that included representatives from over 20 petroleum industry associations, provides a functional description of onshore gas gathering pipelines for the sole purpose of providing users with a practical guide for determining the application of the definition of gas gathering in the federal *Gas Pipeline Safety Standards*, 49 *CFR* Part 192, and state programs implementing these standards. Pages: 53

1st Edition / April 2000 / Product Number: G80001 / Price: $103.00

RP 1102

Steel Pipelines Crossing Railroads and Highways

Gives primary emphasis to provisions for public safety. Covers the design, installation, inspection, and testing required to ensure safe crossings of steel pipelines under railroads and highways. Pages: 39

6th Edition / April 1993 / Reaffirmed, July 2002
Product Number: D11020 / Price: $82.00

Std 1104

Welding of Pipelines and Related Facilities
(Includes Errata dated, October 31. 2001)

Covers gas and arc welding for the production of high-quality welds in carbon and low-alloy steel piping used in the compression, pumping, and transmission of crude petroleum, petroleum products, and fuel gases, and where applicable, to distribution systems. This publication covers the many different types of welding processes, such as those done by shielded metal-arch welding, submerged arc welding, gas tungsten-arc welding, gas metal-arc welding, and so forth. It also covers the acceptance standards to be applied to production welds tested to destruction or inspected by radiography, and includes the procedure for radiographic inspection. Pages: 70

19th Edition / September 1999 / Product Number: D11049 / Price: $213.00

RP 1109
Marking Liquid Petroleum Pipeline Facilities

Addresses the permanent marking of liquid petroleum pipeline transportation facilities. The design, message, installation, placement, inspection, and maintenance of markers and signs on pipeline facilities located onshore and at inland waterway crossings. Markers and signs indicate the presence of a pipeline facility and warn of the potential hazards associated with its presence and operation. Pages: 12

3rd Edition / July 2003 / Product Number: D11093 / Price: $72.00

RP 1110 ✣
Pressure Testing of Liquid Petroleum Pipelines

Covers the hydrostatic testing of new and existing liquid petroleum pipelines. It recommends minimum procedures to be followed, suggests equipment to be used, and points out factors to be considered during the hydrostatic testing of pipelines. Pages: 13

4th Edition / March 1997 / Product Number: D11104 / Price: $50.00

RP 1111
Design, Construction, Operation, and Maintenance of Off-shore Hydrocarbon Pipeline and Risers

This recommended practice sets out criteria for the design, construction, testing, operation and maintenance of offshore steel pipelines used in the production, production support, or transportation of hydrocarbons from the outlet flange of a production facility. The criteria also apply to transportation piping facilities located on production platforms after separation and treatment, including meter facilities, gas compression facilities, liquid pumps, and associated piping and appurtenances. Pages: 45

3rd Edition / July 1999 / Product Number: D11113 / Price: $103.00

Publ 1113
Developing a Pipeline Supervisory Control Center

Assists anyone responsible for developing or revamping a pipeline supervisory control center (a center for monitoring and controlling a pipeline system). This publication presents six lists of general considerations appropriate for designing a center. The lists are not all-inclusive but should help stimulate further, detailed analyses. Pages: 7

3rd Edition / February 2000 / Product Number: D11133 / Price: $53.00

RP 1114
Design of Solution-mined Underground Storage Facilities

Provides basic guidance on the design and development of new solution-mined underground storage facilities. All aspects of solution-mined storage are covered, including selecting an appropriate site, physically developing the cavern, and testing and commissioning the cavern. Also covered are plug and abandonment practices. Pages: 30

1st Edition / June 1994 / Reaffirmed, May 1999
Product Number: D11141 / Price: $69.00

API 1115
Operation of Solution-mined Underground Storage Facilities

Provides basic guidance on the operation of solution-mined underground hydrocarbon liquid or liquefied petroleum gas storage facilities. This document is intended for first-time cavern engineers or supervisors, but would also be valuable to those people experienced in cavern operations. All aspects of solution-mined underground storage operation, including cavern hydraulics, brine facilities, wellhead and hanging strings, and cavern testing are covered. Pages: 16

1st Edition / September 1994 / Reaffirmed, September 1999
Product Number: D11151 / Price: $69.00

RP 1117 ✣
Movement of In-service Pipelines (formerly Lowering In-Service Pipelines)

Covers the design, execution, inspection, and safety of pipeline-lowering or other movement operations conducted while the pipeline is in service. It presents general guidelines for conducting a pipeline-movement operation without taking the pipeline out of service. It outlines recommendations to protect the pipeline against damage. Inspection procedures and limitations are also presented. Pages: 30

2nd Edition / August 1996 / Reaffirmed, July 2002
Product Number: D11172 / Price: $82.00

API 1130
Computational Pipeline Monitoring for Liquids Pipelines

This publication focuses on the design, implementation, testing and operation of CPM (or software-based leak detection) systems that use an algorithmic approach to detect hydraulic anomalies in pipeline operating parameters. The primary purpose of these systems is to provide tools that assist pipeline controllers in detecting commodity releases that are within the sensitivity of the algorithm. It is intended that the CPM system would provide an alarm and display other related data to the pipeline controllers to aid in decision-making. Pages: 30

2nd Edition / November 2002 / Product Number: D11302 / Price: $69.00

Publ 1132
Effects of Oxygenated Fuels and Reformulated Diesel Fuels on Elastomers and Polymers in Pipeline/Terminal Component

With the passage of the Clean Air Act, pipelines are required to transport reformulated oxygenated products containing ethers and alcohols. In some cases, pipelines are shipping neat oxygenates that may have effects on pipeline components. API surveyed the pipeline/terminal industry to determine methods for handling these products, proper selection of materials and product compatibilities. This publication consolidates the findings from the responding companies. Pages: 36

July 1994 / Product Number: D11321 / Price: $82.00

Publ 1149
Pipeline Variable Uncertainties and Their Effects on Leak Detectability

API created a task force in 1989 to investigate software-based leak detection systems. The task force contracted with the University of Idaho to study the effects of variable uncertainties on leak detectability and to establish procedures to evaluate leak detectability. The findings are reported. Pages: 118

1st Edition / November 1993 / Product Number: D11491 / Price: $155.00

Publ 1155
Evaluation Methodology for Software-based Leak Detection Systems

Defines a uniform methodology that can be employed by pipeline companies in evaluating software-based leak detection systems. Pages: 93

1st Edition / February 1995 / Product Number: D11551 / Price: $155.00

Publ 1156

Effects of Smooth and Rock Dents on Liquid Petroleum Pipelines (Phase I), & Publ 1156 Addendum—Effects of Smooth and Rock Dents on Liquid Petroleum Pipelines (Phase II)

This report presents the findings of a project sponsored by the API to determine the effects of smooth dents and rock dents on the integrity of liquid petroleum pipelines to avoid unnecessary repair or replacement of pipelines affected by dents if they do not constitute a threat to pipeline serviceability.

The addendum to the report presents a description of work which was done after the completion of Phase I. Additional work has been done to address issues confronted but not resolved in the first phase of the work, and to address new issues raised by the first-phase work.

Publ 1156, Phase I & II:
1st Edition / November 1997 / Product Number: D11561 / Price: $323.00
Publ 1156, Phase II only
October 1999 / Product Number: D1156A / Price: $130.00

Publ 1157 ✣

Hydrostatic Test Water Treatment and Disposal Options for Liquid Pipeline Systems

This report presents the results of a research study to define acceptable and cost effective hydrostatic test water treatment and disposal methods that will enable compliance with DOT requirements for testing liquid pipelines.
1st Edition / October 1998 / Product Number: D11571 / Price: $194.00

Publ 1158

Analysis of DOT Reportable Incidents for Hazardous Liquid Pipelines, 1986 through 1996

This report presents an analysis of incidents reportable to the U.S. Department of Transportation on approximately 160,000 miles of liquid petroleum pipelines in the U.S. during the 11-year period from 1986 to 1996.

The analyses presented herein represent work conducted by the U.S. Department of Transportation's, Office of Pipeline Safety and the operators of liquid petroleum pipelines through the American Petroleum Institute to better understand the causes and consequences of incidents, to monitor trends that may indicate the need for action, to use the data to identify potential risks and where risk management would be most productive, and to identify areas for potential improvement in the data collecting process.

This document includes information on general trends of the incidents, trends based on attributes, analysis of incidents by cause, and a data disk containing the incident data for the 11-year period. Pages: 100
January 7, 1999 / Product Number: D11581 / Price: $47.00

Std 1160

Managing System Integrity for Hazardous Liquid Pipelines (ANSI/API Std 1160-2001)

This standard outlines a process that an operator of a pipeline system can use to assess risks and make decisions about risks in operating a hazardous liquid pipeline in order to reduce both the number of incidents and the adverse effects of errors and incidents. Section 5 describes the integrity management framework that forms the basis of this standard. This framework is illustrated schematically in Figure 5-1. This standard also supports the development of integrity management programs required under Title 49 *CFR* 195.452 of the federal pipeline safety regulations. Pages: 74
1st Edition / August 2001 / Product Number: D11601 / Price: $159.00

Publ 1161

Guidance Document for the Qualification of Liquid Pipeline Personnel

The purpose of this publication is to provide guidance to the liquids pipeline industry. The United States Department of Transportation (DOT), Research and Special Programs Administration (RSPA), requires that pipeline operators develop a written qualification program to evaluate personnel and contractor ability to perform covered tasks and to recognize and respond to abnormal operating conditions that may be encountered while performing these covered tasks. This is a performance-based qualification program. Pages: 102
1st Edition / August 2000 / Product Number: D11611 / Price: $194.00

RP 1162

Public Awareness Programs for Pipeline Operators

This RP is intended as a resource that can assist pipeline operators in their public awareness efforts. Operators are urged to develop, implement and actively manage public awareness programs within their companies. In implementing these programs, operators should select the most appropriate mix of audiences, message types, and delivery methods and frequencies, depending on their needs and the needs of the communities along a given pipeline segment. The guidance set forth in this RP establishes a baseline for public awareness programs and describes considerations for program expansion that can further enhance specific public awareness outreach.
This RP provides guidance for the following pipeline operators:
Intrastate and interstate hazardous liquid pipelines,
Intrastate and interstate natural gas transmission pipelines,
Local distribution systems, and
Gathering systems. Pages: 59
1st Edition / December 2003 / Product Number: D11621 / Price: $77.00

Petroleum Pipelines In Your Community

A CD for Publishing a Generic Pipeline Right of Way Brochure in English & Spanish

Petroleum Pipelines In Your Community, a four-color brochure that can be customized for specific pipeline operators to help them fulfill their public awareness obligation to residents along rights of way under RP 1162 is now available from API. The four-panel brochure is in both English and Spanish. A blank address block is incorporated in the design.

A free copy of the generic pdf version can be viewed and printed off the web, committees.api.org/pipeline/standards/index.html. A Quark version that can be edited to include a company's name, logo, phone number and make changes to the text is available.

Can be part of an operator's RP 1162 awareness program

The brochure addresses:
- Pipeline Markers,
- Call Before You Dig,
- Spotting Signs of a Petroleum Product Release, and
- What to do if a Leak Occurs

This Petroleum Pipelines in Your Community CD comes in PDF and includes an unlimited license to print and distribute for noncommerical purposes.
October 2003/ Product Number: D003CD/ Price: $105.00
Contact API Contact API Publishing Services at 202-682-8417 or send an e-mail to publications@api.org.

Std 1164 ✪

SCADA Security

This standard on SCADA security provides guidance to the operators of Oil and Gas liquid pipeline systems for managing SCADA system integrity and security. The use of this document is not limited to pipelines regulated under Title 49 CFR 195.1, but should be viewed as a listing of best practices to be employed when reviewing and developing standards for a SCADA system. This document embodies the "API Security Guidelines for the Petroleum Industry." This guideline is specifically designed to provide the operators with a description of industry practices in SCADA Security, and to provide the framework needed to develop sound security practices within the operator's individual companies. It is important that operators understand system vulnerability and risks when reviewing the SCADA system for possible system improvements. Pages: 47
1st Edition / September 2004 / Product Number: D11641 / Price: $105.00

RP 2200
Repairing Crude Oil, Liquefied Petroleum Gas and Product Pipelines

Provides guidance for the repair of pipelines for crude oil, liquefied petroleum gas, and product service. Although the conditions of a particular job will necessitate an on-the-job approach, the suggestions in this document should improve the probability that repairs will be completed without accident or injuries. Pages: 5

3rd Edition / May 1994 / Reaffirmed, May 1999
Product Number: D22003 / Price: $47.00

Pipeline Maintenance Welding

Investigation and Prediction of Cooling Rates During Pipeline Maintenance Welding, and User's Manual for Battelle's Hot-Tap Thermal-Analysis Models

Investigated and improved the methods of predicting cooling rates during pipeline maintenance welding. The scope of this study included (1) a review of three previous research efforts to develop satisfactory methods for welding appurtenances to in-service pipelines; (2) a survey of pipeline leak and rupture incidents associated with appurtenances; (3) the enhancement of existing analytical models for predicting cooling rates and temperatures during welding on an in-service pipeline; and (4) a validation of the thermal-analysis models that was achieved by performing welds on pipeline carrying three different liquid-petroleum products.

Version 4.2 / May 2002 / Product Number: L51837
Please order this document from PRCI www.prci.com

Std 1104
Welding of Pipelines and Related Facilities
(Includes Errata dated, October 31. 2001)

Covers gas and arc welding for the production of high-quality welds in carbon and low-alloy steel piping used in the compression, pumping, and transmission of crude petroleum, petroleum products, and fuel gases, and where applicable, to distribution systems. This publication covers the many different types of welding processes, such as those done by shielded metal-arch welding, submerged arc welding, gas tungsten-arc welding, gas metal-arc welding, and so forth. It also covers the acceptance standards to be applied to production welds tested to destruction or inspected by radiography, and includes the procedure for radiographic inspection. Pages: 70

19th Edition / September 1999 / Product Number: D11049 / Price: $213.00

Security

Security Guidance for the Petroleum Industry

API's second edition of "Security Guidance for the Petroleum Industry," is now in use at oil and gas facilities around the world to help managers decide how to deter terrorist attacks. Covering all segments of the industry (production, refining, transportation, pipeline, and marketing), this guidance builds on the existing solid foundation of design and operational regulations, standards and recommended practices, which relate to facility design and safety, environmental protection, emergency response, and protection from theft and vandalism. Produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies, these guidelines, viewed as a living document, are broadly applicable to facility security in light of September 11, 2001, and provide the starting point for developing security plans at oil and natural gas facilities and operations. Pages: 169

2nd Edition / April 2003 / Product Number: OS0001 / Price: $158.00

Security Vulnerability Assessment Methodology for the Petroleum and Petrochemical Industries ✪

The American Petroleum Institute and the National Petrochemical & Refiners Association jointly developed a new methodology for evaluating the likelihood and consequences of terrorist attacks against refineries and petrochemical facilities. "Security Vulnerability Assessment Methodology for Petroleum and Petrochemical Facilities" is designed for companies to use in assessing vulnerabilities and potential damages from different kinds terrorist attacks. In the post September 11 era, companies have reevaluated and enhanced security at their facilities. The methodology will provide officials with a new analytical tool to determine "the likelihood of an adversary successfully exploiting vulnerability and the resulting degree of damage or impact." This vulnerability assessment methodology was produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies. Pages: 155

October 2004 / Product Number: OSVA02 / Price: $158.00

API Operator Qualification Pipeliner Training and Assessment Program

The API Operator Qualification Pipeliner Training and Assessment Program is the industry's preferred method to qualify pipeline personnel under the Department of Transportation's Operator Qualification rules. API's Subcommittee on Pipeline Training, in conjunction with the Consortium on Operator Qualification, developed the API Covered Task List which covers common areas that a pipeline technician could reasonably be expected to know. The API Operator Qualification Pipeliner Training and Assessment Program identifies the knowledge, skill, and overall qualification level of pipeline workers, meets the demands of DOT and pipeline operators regarding workforce qualifications and eliminates duplication of efforts and assists contractors in maximizing their training dollars.

See Page 84 of this Catalog for more information.

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

NOTE: Free publications with an asterisk are subject to a $10.00 handling charge for each total order, plus actual shipping charges.

Publications

Refining Standards Technical Interpretations

The Refining Technical Interpretations are now available on the API web site at: **www.api.org/techinq**.

Inspection of Refinery Equipment

API 510 ✣ ▲

Pressure Vessel Inspection Code: Maintenance Inspection, Rating, Repair, and Alteration
(ANSI/API 510-2000)
(Purchase includes addenda to the current edition of the code.)

Covers the maintenance inspection, repair, alteration, and rerating procedures for pressure vessels used by the petroleum and chemical process industries. Applies to vessels that have been placed in service and have been inspected by an authorized inspection agency or repaired by a repair organization. Except as provided in the code, the use of the code is restricted to organizations that employ or have access to engineering and inspection personnel or organizations that are technically qualified to maintain, inspect, repair, alter, or rerate pressure vessels. Pressure vessel inspectors are to be certified as stated in the code. Pages: 33

8th Edition / June 1997 / Product Number: C51008 / Price: $113.00

API 570 ✣

Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems
(ANSI/API 570-2000)
(Purchase includes addenda to the current edition of the code.)

Covers inspection, repair, alteration, and rerating procedures for in-service metallic piping systems. Establishes requirements and guidelines that allow owner/users of piping systems to maintain the safety and mechanical integrity of systems after they have been placed into service. Intended for use by organizations that maintain or have access to an authorized inspection agency, repair organization, and technically qualified personnel. May be used, where practical, for any piping system. Piping inspectors are to be certified as stated in this inspection code. Pages: 38

2nd Edition / October 1998 / Product Number: C57002 / Price: $98.00

RP 571

Damage Mechanisms Affecting Fixed Equipment in the Refining Industry

See also, Refining, Materials Engineering Publications

1st Edition / December 2003 / Product Number: C57101 / Price: $184.00

RP 572 ✣ ▲

Inspection of Pressure Vessels
(ANSI/API RP 572-2001)

This recommended practice covers the inspection of pressure vessels. It includes a description of the various types of pressure vessels and the standards for their construction and maintenance. This publication also covers the reasons for inspection, causes of deterioration, frequency and methods of inspection, methods of repair, and preparation of records and reports. Pages: 60

2nd Edition / February 2001 / Product Number: C57202 / Price: $90.00

RP 573

Inspection of Fired Boilers and Heaters
(ANSI/API RP 573-2003)

This recommended practice covers the inspection practices for fired boilers and process heaters (furnaces) used in petroleum refineries and petrochemical plants. The practices described in this document are focused to improve equipment reliability and plant safety by describing the operating variables which impact reliability, and to ensure that inspection practices obtain the appropriate data, both on-stream and off-stream, to assess current and future performance of the equipment. Pages: 69

2nd Edition / December 2002 / Product Number: C57302 / Price: $78.00

RP 574 ✣ ▲

Inspection Practices for Piping System Components
(ANSI/API RP 574-1998)

Covers inspection practices for piping, tubing, valves (not including control valves), and fittings used in petroleum refineries and chemical plants. Although not specifically intended to cover speciality items, many of the inspection methods described are applicable to items such as control valves, level gages, instrument control columns, etc. Pages: 53

2nd Edition / June 1998 / Product Number: C57402 / Price: $98.00

RP 575 ▲

Inspection of Atmospheric & Low Pressure Storage Tanks
(ANSI/API RP 575-2004)

Covers the inspection of atmospheric and low-pressure storage tanks that have been designed to operate at pressures from atmospheric to 15 psig. Includes reasons for inspection, frequency and methods of inspection, methods of repair, and preparation of records and reports. This recommended practice is intended to supplement API Standard 653, which covers the minimum requirements for maintaining the integrity of storage tanks after they have been placed in service. Pages: 60

2nd Edition / to be published Q1, 2005 / Product Number: C57502

RP 576 ✣ ▲

Inspection of Pressure Relieving Devices
(ANSI/API RP 576-2000)

This recommended practice describes the inspection and repair practices for automatic pressure-relieving devices commonly used in the oil and petrochemical industries. This publication covers such automatic devices as pressure relief valves, pilot-operated pressure relief valves, rupture disks, and weight-loaded pressure vacuum vents.

This publication does not cover weak seams or sections in tanks, explosion doors, fusible plugs, control valves, and other devices that either depend on an external source of power for operation or are manually operated. Inspections and tests made at manufacturers' plants, which are usually covered by codes or purchase specifications, are not covered by this publication. Pages: 44

2nd Edition / December 2000 / Product Number: C57602 / Price: $98.00

RP 577 ✪

Welding Inspection and Metallurgy

Provides guidance to the API authorized inspector on welding inspection as encountered with fabrication and repair of refinery and chemical plant equipment and piping. Common welding processes, welding procedures, welder qualifications, metallurgical effects from welding, and inspection techniques are described to aid the inspector in fulfilling their role implementing API 510, API 570, API Std 653 and API RP 582. The level of learning and training obtained from this document is not a replacement for the train-

ing and experience required to be an American Welding Society (AWS) Certified Welding Inspector (CWI). Pages: 100

1st Edition / October 2004 / Product Number: C57701 / Price: $132.00

RP 578 ✣

Material Verification Program for New and Existing Alloy Piping Systems (ANSI/API RP 578-1999)

Provides guidelines for a material quality assurance system to verify the consistency between the nominal composition of alloy components within the pressure envelop of a process piping system with the selected or specified construction materials to minimize the potential for catastrophic release of toxic or hazardous liquids or vapors.

Presents material control and verification programs on ferrous and nonferrous alloys during construction, installation, maintenance, and inspection of new and existing process piping systems covered under the ASME B31.3 and API 570 codes. Applies to metallic alloy materials purchased for use either by the owner/user or indirectly through vendors, fabricators, or contractors, and includes the supply, fabrication and erection of these materials. Carbon steel components specified in new or existing piping systems are not covered under the scope of this document.

1st Edition / May 1999 / Product Number: C57801 / Price: $98.00

RP 579

Fitness-For-Service

(ANSI/API RP 579-2000)

Describes standardized fitness-for-service assessment techniques for pressurized equipment used in the petrochemical industry. Fitness-for-service is defined as the ability to demonstrate the structural integrity of an in-service component containing a flaw. This publication is intended to supplement the requirements in API 510, 570, and 653 by: (1) ensuring safety of plant personnel and the public while older equipment continues to operate; (2) providing technically sound fitness-for-service assessment procedures to ensure that different service providers furnish consistent life predictions; and (3) helping optimize maintenance and operation of existing facilities to maintain the availability of older plants and enhance their long-term economic viability.

The assessment procedures in this publication can be used for fitness-for-service evaluation and rerating of pressure vessels designed and constructed to the *ASME Boiler and Pressure Vessel Code*; piping systems designed and constructed to the ASME B31.3 Piping Code; and aboveground storage tanks designed and constructed to API 650 and 620. The assessment procedures cover the present integrity of pressure containing equipment given a current state of damage and the projected remaining life. This publication can also be applied to pressure containing equipment constructed to other recognized codes and standards as defined in this publication.

1st Edition / January 2000
Hard Copy Only Product Number: C57901 / Price: $613.00
CD Only Product Number: C579CD / Price: $716.00
Hard Copy and CD / Price: $1,028.00

ANSI/API RP 580

Risk-Based Inspection

(ANSI/API RP 580-2002)

RP 580 is to provide users with the basic elements for developing and implementing a risk-based inspection (RBI) program for fixed equipment and piping in the hydrocarbon and chemical process industries. RP 580 is intended to supplement API 510, *Pressure Vessel Inspection Code*, API 570, *Piping Inspection Code*, and API 653, *Tank Inspection, Repair, Alteration and Reconstruction*. These API inspection codes and standards allow an owner/user latitude to plan an inspection strategy and increase or decrease the code-designated inspection frequencies based on the results of a RBI assessment. Pages: 46

1st Edition / May 2002 / Product Number: C58001 / Price: $142.00

Publ 581

Base Resource Document—Risk-Based Inspection

API has researched and developed an approach to risk-based inspection (RBI). This document details the procedures and methodology of RBI. RBI is an integrated methodology that uses risk as a basis for prioritizing and managing an in-service equipment inspection program by combining both the likelihood of failure and the consequence of failure. Utilizing the output of the RBI, the user can design an inspection program that manages or maintains the risk of equipment failures. The following are three major goals of the RBI program:

1. Provide the capability to define and quantify the risk of process equipment failure, creating an effective tool for managing many of the important elements of a process plant.

2. Allow management to review safety, environmental, and business-interruption risks in an integrated, cost-effective manner.

3. Systematically reduce the likelihood and consequence of failure by allocating inspection resources to high risk equipment. The RBI methodology provides the basis for managing risk, by making informed decisions on the inspection method, coverage required and frequency of inspections. In most plants, a large percent of the total unit risk will be concentrated in a relatively small percent of the equipment items. These potential high-risk components may require greater attention, perhaps through a revised inspection plan. With an RBI program in place, inspections will continue to be conducted as defined in existing working documents, but priorities and frequencies will be guided by the RBI procedure. The RBI analysis looks not only at inspection, equipment design, and maintenance records, but also at numerous process safety management issues and all other significant issues that can affect the overall mechanical integrity and safety of a process unit.

1st Edition / May 2000
Hard Copy Only Product Number: C58101 / Price: $613.00
CD Only Product Number: C581CD / Price: $716.00
Hard Copy and CD / Price: $1,028.00

API Risk-Based Inspection Software

API RBI software, created by petroleum refinery and chemical plant owner/users for owner/users, finds its basis in API Publication 581 *Base Resource Document—Risk-Based Inspection*. Practical, valuable features are built into the technology, which is based on recognized and generally accepted good engineering practices.

The purposes of the Risk-Based Inspection Program are:

Screen operating units within a plant to identify areas of high risk.
Estimate a risk value associated with the operation of each equipment item in a refinery or chemical process plant based on a consistent methodology.
Prioritize the equipment based on the measured risk.
Design a highly effective inspection program.
Systematically manage the risks associated with equipment failures.

The RBI method defines the risk of operating equipment as the combination of two separate terms: the consequence of failure and the likelihood of failure.

For more information: e-mail rbi@api.org or call 281-537-8848

RP 582

Recommended Practice and Supplementary Welding Guidelines for the Chemical, Oil, and Gas Industries

Provides guidelines for welding and related topics associated with shop and field fabrication, repair, and modification of pressure-containing equipment. Other equipment items covered include structural attachments, non-removable internals for pressure vessels, and components referenced by an applicable purchase document. This document is general in nature and is intended to augment the requirements of ASME Section IX and similar codes, standards, and practices. Pages: 14

1st Edition / March 2001 / Product Number: C58201 / Price: $72.00

Std 653 ✣ ▲
Tank Inspection, Repair, Alteration, and Reconstruction

Covers the inspection, repair, alteration, and reconstruction of steel aboveground storage tanks used in the petroleum and chemical industries. Provides the minimum requirements for maintaining the integrity of welded or riveted, nonrefrigerated, atmospheric pressure, aboveground storage tanks after they have been placed in service. (Purchase includes addenda to the current edition of the standard.) Pages: 68

3rd Edition/ December 2001/ Product Number: C65303 / Price: $176.00

Mechanical Equipment Standards for Refinery Service

API Technical Publications Binder

A high-quality, three-ring binder is available to house your selection of API publications. The spine has an insert pocket for identification of the contents. Three binders are needed to store all mechanical equipment standards.

Product Number: C02100 / Price: $46.00

Std 610/ISO 13709 ✪
Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries

This Standard specifies requirements for centrifugal pumps, including pumps running in reverse as hydraulic power recovery turbines, for use in petroleum, petrochemical, and gas industry process services. It does not cover sealless pumps. This International Standard is applicable to overhung pumps, between bearings pumps, and vertically suspended pumps (see Table 1). Clause 8 applies to specific types of pumps. All other clauses of this International Standard apply to all pump types. The figures in 4.1 show the various specific pump types and the designations assigned to each specific type.

This edition of API Std 610 is the identical national adoption of ISO 13709, Centrifugal pumps for petroleum, petrochemical and natural gas industries. Pages: 184

3rd Edition / October 2004 / Product Number: CX61010 / Price: $195.00

Std 611
General Purpose Steam Turbines for Petroleum, Chemical, and Gas Industry Services

Covers the minimum requirements for general-purpose steam turbines. These requirements include basic design, materials, related lubrication systems, controls, auxiliary equipment, and accessories. General-purpose turbines are horizontal or vertical turbines used to drive equipment that is usually spared, is relatively small in size, or is in noncritical service. They are generally used where steam conditions will not exceed a pressure of 48 bar (700 psig) and a temperature of 40°C (75°F) or where speed will not exceed 6000 rpm. Pages: 67

4th Edition / June 1997 / Product Number: C61104 / Price: $110.00

Std 612/ISO 10437 ✪
Petroleum, Petrochemical and Natural Gas Industries-Steam Turbines-Special-Purpose Applications

This Standard specifies requirements and gives recommendations for the design, materials, fabrication, inspection, testing and preparation for shipment for special-purpose steam turbines. It also covers the related lube-oil systems, instrumentation, control systems and auxiliary equipment. It is not applicable to general-purpose steam turbines, which are covered in API 611.

6th Edition / to be published Q1, 2005

Std 613
Special Purpose Gear Units for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for special-purpose, enclosed, precision, single- and double-helical one- and two-stage speed increasers and reducers of parallel-shaft design for petroleum, chemical and gas industry services. This standard is primarily intended for gears units that are in continuous service without installed spare equipment. Gear sets furnished to this standard shall be considered matched sets. Pages: 94

5th Edition / February 2003 / Product Number: C61305 / Price: $137.00

Std 614
Lubrication, Shaft-sealing, and Control-oil Systems and Auxiliaries for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for special-purpose and general-purpose lubrication systems, oil-type and dry gas seal shaft-sealing support systems. Such systems may serve compressors, gears, pumps, and drivers. The standard includes the systems' components, along with the required controls and instrumentation. Data sheets and typical schematics of both system components and complete systems are also provided. Chapters include General Requirements, Special Purpose Oil Systems, General Purpose Oil Systems and Dry Gas Seal Module Systems. Pages: 200

4th Edition / April 1999 / Product Number: C61404 / Price: $155.00

Std 616 ✣
Gas Turbines for the Petroleum, Chemical and Gas Industry Services

This standard covers the minimum requirements for open, simple, and regenerative-cycle combustion gas turbine units for services of mechanical drive, generator drive, or process gas generation. All auxiliary equipment required for operating, starting, and controlling gas turbine units and for turbine protection is either discussed directly in this standard or referred to in this standard through references to other publications. Specifically, gas turbine units that are capable of continuous service firing gas or liquid fuel or both are covered by this standard. Pages: 87

4th Edition / August 1998 / Product Number: C61604 / Price: $142.00

Std 617
Axial and Centrifugal Compressors and Expander-compressors for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for centrifugal compressors used in petroleum, chemical, and gas industry services that handle air or gas, including process gear mounted. Does not apply to fans or blowers that develop less than 34 kPa (5 pounds per square inch) pressure rise above atmospheric pressure; these are covered by API Standard 673. This standard also does not apply to packaged, integrally-geared centrifugal air compressors, which are covered by API Standard 672. Pages: 193

7th Edition / July 2002 / Product Number: C61707 / Price: $181.00

Std 618
Reciprocating Compressors for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for reciprocating compressors and their drivers used in petroleum, chemical, and gas industry services for handling process air or gas with either lubricated or nonlubricated cylinders. Compressors covered by this standard are of moderate-to-low speed and in critical services. Also covered are related lubricating systems, controls, instrumentation, intercoolers, aftercoolers, pulsation suppression devices, and other auxiliary equipment. Pages: 166

4th Edition / June 1995 / Product Number: C61804 / Price: $149.00

Std 619 ✪
Rotary-Type Positive Displacement Compressors for Petroleum, Petrochemical, and Natural Gas Industries

Covers the minimum requirements for dry and flooded helical lobe rotary compressors used for vacuum or pressure or both in petroleum, chemical, and gas industry services. It is primarily intended for compressors that are in special purpose applications, and does not cover portable air compressors, liquid ring compressors and vane-type compressors. This edition also includes a new Inspector's Checklist and new schematics for general purpose and typical oil systems. Pages: 134

4th Edition / December 2004 / Product Number: C61904 / Price: 163.00

Std 670
Machinery Protection Systems

Provides a purchase specification to facilitate the manufacture, procurement, installation, and testing of vibration, axial-position, and bearing-temperature monitoring systems for petroleum, chemical, and gas industry services. Covers the minimum requirements for monitoring radial shaft vibration, casing vibration, shaft axial position, and bearing temperatures. It outlines a standardized monitoring system and covers requirements for hardware (sensors and instruments), installation, testing, and arrangement. Pages: 96

4th Edition / December 2000 / Reaffirmed, November 2003
Product Number: C67004 / Price: $149.00

Std 671
Special Purpose Couplings for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for special-purpose couplings intended to transmit power between the rotating shaft of two pieces of refinery equipment. These couplings are designed to accommodate parallel offset, angular misalignment, and axial displacement of the shafts without imposing excessive mechanical loading on the coupled equipment. Pages: 32

3rd Edition / October 1998 / Product Number: C67103 / Price: $92.00

Std 672
Packaged, Integrally Geared Centrifugal Air Compressors for Petroleum, Chemical, and Gas Industry Services

This standard covers the minimum requirements for constant-speed, packaged, general purpose integrally geared centrifugal air compressors, including their accessories. This standard is not applicable to machines that develop a pressure rise of less than 0.35 bar (5.0 psi) above atmospheric pressure, which are classed as fans or blowers.

4th Edition / March 2004 / Product Number: C67204 / Price: $200.00

Std 673
Special Purpose Fans
(Includes Errata dated January 2002)

This standard covers the minimum requirements for centrifugal fans intended for continuous duty in petroleum, chemical, and gas industry services. Fan pressure rise is limited to differential from a single impeller, usually not exceeding 100 inches of water Equivalent Air Pressure (EAP). Cooling tower, aerial cooler, and ventilation fans; and positive displacement blowers are not covered by this standard. Pages 89

2nd Edition / November 2001 / Product Number: C67302 / Price: $125.00

Std 674
Positive Displacement Pumps–Reciprocating

Covers the minimum requirements for reciprocating positive displacement pumps for use in petroleum, chemical, and gas industry services. Both direct-acting and power-frame types are included. Pages: 66

2nd Edition / June 1995 / Product Number: C67402 / Price: $117.00

Std 675
Positive Displacement Pumps–Controlled Volume

Covers the minimum requirements for controlled volume positive displacement pumps for use in service in the petroleum, chemical, and gas industries. Both packed-plunger and diaphragm types are included. Diaphragm pumps that use direct mechanical actuation are excluded. Pages: 38

2nd Edition / October 1994 / Reaffirmed, March 2000
Product Number: C67502 / Price: $92.00

Std 676
Positive Displacement Pumps–Rotary

Covers the minimum requirements for rotary positive displacement pumps for use in the petroleum, chemical, and gas industries. It provides a purchase specification to facilitate the manufacture and purchase of rotary positive displacement pumps. Pages: 51

2nd Edition / December 1994 / Reaffirmed, March 2000
Product Number: C67602 / Price: $110.00

Std 677
General-purpose Gear Units for Petroleum, Chemical and Gas Industry Services

Covers the minimum requirements for general-purpose, enclosed single-and multi-stage gear units incorporating parallel-shaft helical and right angle spiral bevel gears for the petroleum, chemical, and gas industries. Gears manufactured according to this standard are limited to the following pitchline velocities: helical gears shall not exceed 60 meters per second (12,000 feet per minute) and spiral bevel gears shall not exceed 40 meters per second (8,000 feet per minute). This standard includes related lubricating systems, instrumentation, and other auxiliary equipment. Also included in this edition is new material related to gear inspection. Pages: 84

2nd Edition / July 1997 / Reaffirmed, March 2000
Product Number: C67702 / Price: $130.00

Std 681
Liquid Ring Vacuum Pumps and Compressors

Defines the minimum requirements for the basic design, inspection, testing, and preparation for shipment of liquid ring vacuum pump and compressor systems for service in the petroleum, chemical, and gas industries. It includes both vacuum pump and compressor design and system design. Pages: 86

1st Edition / February 1996 / Reaffirmed, June 2002
Product Number: C68101 / Price: $117.00

Std 682/ISO 21049 ✪
Pumps–Shaft Sealing Systems for Centrifugal and Rotary Pumps

Specifies requirements and gives recommendations for sealing systems for centrifugal and rotary pumps used in petroleum, natural gas, and chemical industries. It has been written mainly for hazardous, flammable and/or toxic services where a greater degree of reliability is required for the improvement of equipment availability, the reduction of both emissions to the atmosphere and life cycle sealing costs. It covers seals for shaft diameters from 20 mm (0.75 in.) to 110 mm (4.3 in.). This Standard also applies to seal spare parts and can be referred to for the upgrading of existing equipment. The seal configurations covered by this Standard can be classified into three categories (1, 2 and 3), three types (A, B and C) and three arrangements (1, 2 and 3). Further, Arrangement 2 and 3 seals can be in three orientations: "face-to-back", "back-to-back" and "face-to-face". These categories, types, arrangements and orientations are defined in 1.2 and illustrated in Figures 2 through 6.

This edition of API Std 682 is the identical national adoption of ISO 21049, *Pumps—Shaft sealing systems for centrifugal and rotary pumps*. Pages: 195

3rd Edition / September 2004/Product Number: CX68203 / Price: $192.00

RP 683
Quality Improvement Manual for Mechanical Equipment in Petroleum, Chemical, and Gas Industries

Provides guidelines for improving the quality of mechanical equipment. It is intended to mutually benefit users, contractors, and suppliers; and facilitate improved relationships between them by promoting trust, teamwork, and communication. A three-part approach for improving the quality of mechanical equipment is described in this recommended practice, consisting of (a) the traditional methods used to help assure quality; (b) techniques that can be used to identify those suppliers who have quality systems so effective that intense user involvement is unnecessary; and (c) suggestions on how users, contractors, and suppliers can work together to improve quality. Pages: 36

1st Edition / September 1993 / Reaffirmed, March 2000
Product Number: C68300 / Price: $92.00

Publ 684
Tutorial on the API Standard Paragraphs Covering Rotor Dynamics and Balance (An Introduction to Lateral Critical and Train Torsional Analysis and Rotor Balancing)

Describes, discusses, and clarifies the section of the API Standard Paragraphs that outlines the complete rotor dynamics acceptance program. The acceptance program was designed by API to ensure equipment mechanical reliability.

2nd Edition / to be published Q1, 2005 / Product Number: C68402

Std 685
Sealless Centrifugal Pumps for Petroleum, Heavy Duty Chemical, and Gas Industry Services

(ANSI/API Std 685-2000)

API Standard 685 covers the minimum requirements for sealless centrifugal pumps for use in petroleum, heavy duty chemical, and gas industry services. The pumps covered by this standard are Magnetic Drive Pumps (MDP) and Canned Motor Pumps (CMP).

1st Edition / October 2000 / Product Number: C68501 / Price: $155.00

RP 686
Machinery Installation and Installation Design

Provides recommended procedures, practices, and checklists for the installation and precommissioning of new and reapplied machinery for petroleum, chemical, and gas industry services facilities. Intended to supplement vendor instructions, the instructions provided by the original equipment manufacturer (OEM) should be carefully followed with regard to equipment installation and checkout of general and special purpose machinery. Most Major topics of this recommended practice are subdivided into removable sections of "Installation Design" and "Installation" with the intent being that each section can be removed and utilized as needed by the appropriate design and/or installation personnel. Section topics include "Topside Receiving and Protection", "Rigging and Lifting of Machinery", "Foundations", "Mounting Plate Grouting", "Machinery Piping", "Coupling Alignment", "Lube Oil Systems and Flushing Requirements", and "Commissioning". Pages: 200

1st Edition / February 1996 / Product Number: C68601 / Price: $136.00

RP 687
Rotor Repair

This recommended practice covers the minimum requirements for the inspection and repair of special purpose rotating equipment rotors, bearings and couplings used in petroleum, chemical, and gas industry service. Pages: 540

1st Edition/ September 2001 / Product Number: C68701 / Price: $228.00

RP 687
Rotor Repair—Data CD

CD-ROM containing all datasheets from RP 687.

1st Edition/ September 2001 / Product Number: C687CD / Price: $210.00

Equipment Data Sheets

Data Sheets: Electronically Formatted Mechanical Equipment Standards Datasheets are now available in electronic format (EXCEL 5.0 spreadsheets):
All of the following Datasheets are available for single user at $47.00 each or for intranet licensing at $263.00 each.

		Single User Data Sheet	Licensed Data Sheet
Std 537	1st Edition	C5370D	C5370L
Std 546	2nd Edition	C5460D	C5460L
Std 560	3rd Edition	C5600D	C5600L
Std 610	9th Edition	C6100D	C6100L
Std 611	4th Edition	C6110D	C6110L
Std 612	5th Edition	C6120D	C6120L
Std 613	5th Edition	C6130D	C6130L
Std 614	4th Edition	C6140D	C6140L
Std 616	4th Edition	C6160D	C6160L
Std 617	7th Edition	C6170D	C6170L
Std 618	4th Edition	C6180D	C6180L
Std 619	3rd Edition	C6190D	C6190L
Std 660	7th Edition	C6600D	C6600L
Std 662	2ndEdition	C6620D	C6620L
Std 670	4th Edition	C6700D	C6700L
Std 671	3rd Edition	C6710D	C6710L
Std 672	4rd Edition	C6720D	C6720L
Std 673	2nd Edition	C6730D	C6730L
Std 674	2nd Edition	C6740D	C6740L
Std 675	2nd Edition	C6750D	C6750L
Std 676	2nd Edition	C6760D	C6760L
Std 677	2nd Edition	C6770D	C6770L
Std 682	2nd Edition	C6820D	C6820L
Std 685	1st Edition	C6850D	C6850L

Mechanical Equipment Residual Unbalance Worksheets
Electronic versions of the Residual Unbalance Worksheets that appear in Mechanical Equipment standards (Excel) along with instructions (Word).

Product Number: CMERUW / Price: $92.00

The API Specification Database
The American Petroleum Institute Specification Database Software™ provides a knowledge-management toolset for the project engineering team. Facilitate the entire equipment specification process including the entry of process data and release to design to the final entry of mechanical data sheets and development of the technical bid specification package. Electronic outputs can be combined to form a master technical specification bid package for quotation and purchasing purposes with a modern tree-view format for ease of navigation. Completed projects provide on-going documentation for plant equipment assets—improving safety and reliability. Available in a full-featured corporate wide Oracle® format or a portable ODBC database format with primary focus on equipment data sheets.

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or visit the EPCON website at: www.epcon.com

Storage Tanks

Std 620
Design and Construction of Large, Welded, Low-pressure Storage Tanks
(Purchase includes addenda to the current edition of the standard.)

Covers the design and construction of large, welded, low-pressure carbon steel aboveground storage tanks (including flat-bottom tanks) that have a single vertical axis of revolution. The tanks described are designed for metal temperatures not greater than 250°F and with pressures in their gas or vapor spaces not more than 15 psig. Pages: 150

10th Edition / February 2002 / Product Number: C62010 / Price: $242.00

Std 650 ✣ ▲
Welded Steel Tanks for Oil Storage
(Purchase includes addenda to the current edition of the standard.)

Covers material, design, fabrication, erection, and testing requirements for aboveground, vertical, cylindrical, closed- and open-top, welded steel storage tanks in various sizes and capacities. Applies to tanks with internal pressures approximating atmospheric pressure, but higher pressure is permitted when additional requirements are met. This standard applies only to tanks whose entire bottoms are uniformly supported and in nonrefrigerated service with a maximum operating temperature of 90°C (200°F). Pages: 194

10th Edition / November 1998 / Product Number: C65010 / Price: $289.00

RP 651 ✣
Cathodic Protection of Aboveground Storage Tanks

Describes corrosion problems characteristic to aboveground steel storage tanks and associated piping systems. Provides a general description of the two methods currently used to provide cathodic protection against corrosion. Pages: 25

2nd Edition / December 1997 / Product Number: C65102 / Price: $78.00

RP 652 ✣
Lining of Aboveground Petroleum Storage Tank Bottoms

Describes procedures and practices for the application of tank bottom linings to existing and new aboveground storage tanks to achieve effective corrosion control. Pages: 10

2nd Edition / December 1997 / Product Number: C65202 / Price: $78.00

Std 653 ✣ ▲
Tank Inspection, Repair, Alteration, and Reconstruction
(Purchase includes addenda to the current edition of the standard.)

Covers the inspection, repair, alteration, and reconstruction of steel aboveground storage tanks used in the petroleum and chemical industries. Provides the minimum requirements for maintaining the integrity of welded or riveted, nonrefrigerated, atmospheric pressure, aboveground storage tanks after they have been placed in service. Pages: 68

3rd Edition / December 2001 / Product Number: C65303 / Price: $176.00

Std 2510
Design and Construction of LPG Installations

Provides minimum requirements for the design and construction of installations for the storage and handling of LPG at marine and pipeline terminals, natural gas processing plants, refineries, petrochemical plants, and tank farms. This standard covers storage vessels, loading and unloading systems, piping and related equipment. Pages: 22

8th Edition / May 2001 / Product Number: C25108 / Price: $84.00

Impact of Gasoline Blended with Ethanol on the Long-Term Structural Integrity of Liquid Petroleum Storage Systems and Components
Executive Summary and Literature Review

This report summarizes the results of a literature review conducted for the American Petroleum Institute on the impact of gasoline blended with ethanol on the long-term structural integrity of liquid petroleum storage systems and components.

It is anticipated that the use of ethanol in motor fuels will continue to increase. This has generated interest about the potential long-term structural effects of ethanol on liquid petroleum storage systems, including underground storage tanks (USTs), underground piping, and associated components.

The objective of the literature review is to determine the state of industry knowledge and research on the effects of ethanol/gasoline blends on the long-term structural integrity of UST systems and components. This review is intended to assist decision-makers on further research requirements and needed changes or supplements to existing standards for underground storage systems and components used for storing and dispensing gasoline blended with ethanol.

Appendix A may be purchased separately as an electronic database file. The database is the synopsis' and bibliographic information for all articles reviewed for the project. The report is organized by article index numbers. Reference numbers cited in this report refer to the article index number.

Executive Summary

2003 / Product Number: A16000 / Price: $53.00

Appendix A—Literature Review

2003 / Product Number: A1600D / Price: $105.00

Pressure-Relieving Systems for Refinery Service

Report of the Subcommittee on Pressure Relieving Systems Reference Document Project
May 1986

API Technical Publications Binder
A high-quality, 3-ring binder is available to house your selection of API publications. The spine has an insert pocket for identification of the contents. Three binders are needed to store all mechanical equipment standards.

Product Number: C02100 / Price: $46.00

RP 520
Sizing, Selection and Installation of Pressure-relieving Devices in Refineries, Part I—Sizing and Selection

Applies to the sizing and selection of pressure relief devices used in refineries and related industries for equipment that has a maximum allowable working pressure of 15 psig (103 kPag) or greater. The pressure relief devices covered are intended to protect unfired pressure vessels and related equipment against overpressure from operating and fire contingencies. Includes basic definitions and information about the operational characteristics and applications of various pressure relief devices. Also includes sizing procedures and methods based on steady state flow of Newtonian fluids. Pages: 85

7th Edition / January 2000 / Product Number: C52017 / Price: $142.00

RP 520
Sizing, Selection, and Installation of Pressure-relieving Devices in Refineries, Part II—Installation

Covers the methods of installation for pressure relief devices for equipment that has a maximum allowable working pressure (MAWP) of 15 psig (1.03 bar g) or greater. Pressure relief valves or rupture disks may be used independently or in combination with each other to provide the required protection against excessive pressure accumulation. The term "pressure relief valve" includes safety relief valves used in either compressible or incompressible fluid service, and relief valves used in incompressible fluid service. Covers gas, vapor, steam, and incompressible fluid service. Pages: 29

5th Edition / August 2003 / Product Number: C52025 / Price: $142.00

RP 521
Guide for Pressure-relieving and Depressuring Systems
(ANSI/API 521-1997)

A guide for plant engineers in the design, installation, and operation of pressure-relieving and depressuring systems. Supplements API Recommended Practice 520, Part I. Guidelines are provided for examining principal causes of overpressure; determining individual relieving rates; and selecting and designing disposal systems, including such component parts as vessels, flares, and vent stacks. Suggested solutions to the immediate design and economic and safety problems involved in pressure-relieving discharge systems are presented. Includes a new section on flare gas recovery. Pages: 104

4th Edition / March 1997 / Product Number: C52104 / Price: $155.00

Std 526
Flanged Steel Pressure Relief Valves

This standard is a purchase specification for flanged steel pressure relief valves. Basic requirements are given for direct spring-loaded pressure relief valves and pilot-operated pressure relief valves as follows: orifice designation and area; valve size and pressure rating, inlet and outlet; materials; pressure-temperature limits; and center-to-face dimensions, inlet and outlet. Pages: 42

5th Edition / June 2002 / Product Number: C52605 / Price: $92.00

Std 527
Seat Tightness of Pressure Relief Valves
(ANSI/API Std 527-1992)

Describes methods of determining the seat tightness of metal- and soft-seated pressure relief valves, including those of conventional, bellows, and pilot-operated designs. Pages: 4

3rd Edition / July 1991 / Reaffirmed, March 2002
Product Number: C52700 / Price: $53.00

RP 576 ✣ ▲
Inspection of Pressure Relieving Devices
(ANSI/API RP 576-2000)

See also, Refining: Inspection of Refinery Equipment.

2nd Edition / December 2000 / Product Number: C57602 / Price: $98.00

Std 2000 ✣
Venting Atmospheric and Low-pressure Storage Tanks: Nonrefrigerated and Refrigerated

This standard covers the normal and emergency vapor venting requirements for aboveground liquid petroleum or petroleum products storage tanks, and aboveground and underground refrigerated storage tanks designed for operating at pressures from vacuum through 15 pounds per square inch gauge (1.034 bar gauge). Pages: 46

5th Edition / April 1998 / Product Number: C20005 / Price: $98.00

Piping Component Standards

API Technical Publications Binder
A high-quality, three-ring binder is available to house your selection of API publications. The spine has an insert pocket for identification of the contents. Three binders are needed to store all mechanical equipment standards.

Product Number: C02100 / Price: $46.00

API 570 ✣
Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems
(Purchase includes addenda to the current edition of the standard.)
(ANSI/API 570-2000)

Covers inspection, repair, alteration, and rerating procedures for in-service metallic piping systems. Establishes requirements and guidelines that allow owner/users of piping systems to maintain the safety and mechanical integrity of systems after they have been placed into service. Intended for use by organizations that maintain or have access to an authorized inspection agency, repair organization, and technically qualified personnel. May be used, where practical, for any piping system. Piping inspectors are to be certified as stated in this inspection code. Pages: 38

2nd Edition / October 1998 / Product Number: C57002 / Price: $98.00

RP 574 ✣ ▲
Inspection Practices for Piping System Components
(ANSI/API RP 574-1998)

Covers inspection practices for piping, tubing, valves (not including control valves), and fittings used in petroleum refineries and chemical plants. Although not specifically intended to cover speciality items, many of the inspection methods described are applicable to items such as control valves, level gages, instrument control columns, etc. Pages: 53

2nd Edition / June 1998 / Product Number: C57402 / Price: $98.00

RP 578 ✣
Material Verification Program for New and Existing Alloy Piping Systems
(ANSI/API RP 578-1999)

Provides guidelines for a material quality assurance system to verify the consistency between the nominal composition of alloy components within the pressure envelop of a process piping system with the selected or specified construction materials to minimize the potential for catastrophic release of toxic or hazardous liquids or vapors.

Presents material control and verification programs on ferrous and nonferrous alloys during construction, installation, maintenance, and inspection of new and existing process piping systems covered under the ASME B31.3 and API 570 codes. Applies to metallic alloy materials purchased for use either by the owner/user or indirectly through vendors, fabricators, or contractors, and includes the supply, fabrication and erection of these materials. Carbon steel components specified in new or existing piping systems are not covered under the scope of this document.

1st Edition / May 1999 / Product Number: C57801 / Price: $98.00

RP 591
Process Valve Qualification Procedure

Provides recommendations for evaluation of a manufacturer's valve construction and quality assurance program for the purpose of determining a manufacturer's capability to provide new valves manufactured in accordance with the applicable API standards listed in Section 2.

Qualification of valves under this recommended practice is "manufacturing facility specific" and does not cover valves manufactured by other manufacturing facilities, whether owned by the same manufacturer or a third party. Pages: 9

3rd Edition / September 2003 / Product Number: C59103 / Price: $67.00

Std 594 ✪
Check Valves: Flanged, Lug, Wafer and Butt-welding

This standard covers design, materials, face-to-face dimensions, pressure-temperature ratings, and examination, inspection, and test requirements for gray iron, ductile iron, steel, and alloy single and dual plate check valves. Valve configurations include wafer, wafer-lug, and double-flanged type with facings that will permit installation between ASME and MSS flanges that conform to the standards and specifications listed in the Refinery Service Value Standards. Pages: 11

6th Edition / September 2004 / Product Number: C59406 / Price: $74.00

Std 598 ✪
Valve Inspection and Testing

Covers inspection, examination, supplementary examinations, and pressure test requirements for resilient-seated, nonmetallic-seated (for example, ceramic), and metal-to-metal-seated valves of the gate, globe, plug, ball, check, and butterfly types.

API Std 598 supplements the API standards that reference it, but it may also be applied to other types of valves by agreement between the purchaser and the valve manufacturer.

8th Edition / May 2004 / Product Number: C59808 / Price: $63.00

Std 599
Metal Plug Valves—Flanged, Threaded and Welding End
(ANSI/API Std 599-2002)

Covers steel, nickel base and other alloy plug valves with flanged or butt-welding ends and ductile iron plug valves with flanged ends in sizes NPS 1/2 through NPS 24 and threaded or socket-welding ends for sizes NPS 1/2 through NPS 2. Valve bodies conforming to ASME B16.34 may have one flange and one butt-welding end. Pages: 9

5th Edition / August 2002 / Product Number: C59905 / Price: $58.00

API 600/ISO 10434
Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries—Modified National Adoption
(ANSI/API Std 600-2001)

ANSI/API Standard 600 specifies the requirements for a heavy duty series of bolted bonnet steel gate valves for petroleum refinery and related applications where corrosion, erosion and other service conditions indicate a need for full port openings, heavy wall sections and extra large stem diameters.

11th Edition / October 2001 / Product Number: CX60011 / Price: $84.00

Std 602 ✣
Compact Steel Gate Valves—Flanged, Threaded, Welding, and Extended Body Ends

Covers threaded-end, socket-welding-end, butt-welding-end, and flanged-end compact carbon steel gate valves in sizes NPS 4 and smaller. Pages: 20

7th Edition / October 1998 / Product Number: C60207 / Price: $58.00

Std 603
Corrosion-Resistant, Bolted Bonnet Gate Valves—Flanged and Butt-Welding Ends
(ANSI/API Std 603-2001)

API Standard 603 covers corrosion-resistant bolted bonnet gate valves with flanged or butt-weld ends in sizes NPS 1/2 through 24, corresponding to nominal pipe sizes in ASME B36.10M, and Classes 150, 300, and, 600, as specified in ASME B16.34. Pages: 9

6th Edition / May 2001 / Product Number: C60306 / Price: $49.00

Std 607 ✣
Fire Test for Soft-Seated Quarter-turn Valves

Covers the requirements for testing and evaluating the performance of straightway, soft-seated quarter-turn valves when the valves are exposed to certain fire conditions defined in this standard. The procedures described in this standard apply to all classes and sizes of such valves that are made of materials listed in ASME B16.34. The performance requirements presented in this document establish standard limits on the acceptability of such valves. Pages: 8

4th Edition / May 1993 / Reaffirmed, April 1998
Product Number: C60700 / Price: $55.00

Std 608
Metal Ball Valves—Flanged, Threaded and Butt-Welding Ends

Covers metal ball valves used in on-off service that have butt-welding of flanged ends for nominal pipe size NPS 1/2 through NPS 12 and threaded or socket-welding ends for sizes NPS 1/2 through NPS 2, corresponding to the nominal pipe sizes in ASME B36.10M. Also covers additional requirements for ball valves that are otherwise in full conformance to the requirements of ASME B16.34, Standard Class. Pages: 6

3rd Edition / August 2002 / Product Number: C60803 / Price: $74.00

Std 609 ✪
Butterfly Valves: Double Flanged, Lug- and Water-Type

Covers design, materials, face-to-face dimensions; pressure-temperature ratings; and examination, inspection, and test requirements for gray iron, ductile iron, bronze, steel, nickel-base alloy, or special alloy butterfly valves that provide tight shutoff in the closed position and are suitable for flow regulation.

6th Edition / May 2004 / Product Number: C60906 / Price: $63.00

RP 621
Reconditioning of Metallic Gate, Globe, and Check Valves
(ANSI/API Std 621-2001)

API RP 621 provides guidelines for reconditioning heavy wall (API 600 type) carbon steel, ferritic alloy (up to 9% Cr), stainless steel, and nickel alloy gate, globe, and check valves for ASME pressure classes 150, 300, 400, 600, 900, 1500, and 2500. Guidelines contained in this RP apply to flanged and butt weld cast or forged valves. Pages: 18

1st Edition / March 2001 / Product Number: C62101 / Price: $95.00

Electrical Installations and Equipment

API Technical Publications Binder
A high-quality, three-ring binder is available to house your selection of API publications. The spine has an insert pocket for identification of the contents. Three binders are needed to store all mechanical equipment standards.

Product Number: C02100 / Price: $46.00

RP 500 ✣
Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2
(ANSI/API RP 500-1998)

This recommended practice provides guidelines for determining the degree and extent of Class I, Division 1 and Class I, Division 2 locations at petroleum facilities, for the selection and installation of electrical equipment. Basic definitions provided in the National Electric Code have been followed in developing this document which applies to the classification of locations for both temporarily and permanently installed electrical equipment. RP 500 is intended to be applied where there may be a risk of ignition due to the presence of flammable gas or vapor, mixed with air under normal atmospheric conditions. Pages: 121

2nd Edition/ November 1997 / Reaffirmed, November 2002
Product Number: C50002 / Price: $168.00

RP 505 ✣

Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2

(ANSI/API RP 505-1998)

This recommended practice provides guidelines for determining the degree and extent of Class I, Zone 0, Zone 1, and Zone 2 locations at petroleum facilities, for the selection and installation of electrical equipment. Basic definitions provided in the National Electrical Code have been followed in developing this document which applies to the classification of locations for both temporarily and permanently installed electrical equipment. RP 505 is intended to be applied where there may be a risk of ignition due to the presence of flammable gas or vapor, mixed with air under normal atmospheric conditions. Pages: 131

1st Edition / November 1997 / Reaffirmed, November 2002
Product Number: C50501 / Price: $168.00

RP 540 ✣

Electrical Installations in Petroleum Processing Plants

This recommended practice provides information on electrical installations in petroleum processing plants. It is intended for all individuals and organizations concerned with the safe design, installation and operation of electrical facilities in petroleum processing plants.

4th Edition / April 1999 / Product Number: C54004 / Price: $155.00

Std 541 ✪

Form-wound Squirrel-cage Induction Motors 500 Horsepower and Larger

(ANSI/API Std 541-2003)

This standard covers the minimum requirements for all form-wound squirrel-cage induction motors 500 Horsepower and larger for use in petroleum industry services. This standard may be applied to adjustable speed motors and induction generators with appropriate attention to the specific requirements of such applications. Pages: 84

4th Edition / June 2004 / Product Number: C54104 / Price: $142.00

Std 546

Brushless Synchronous Machines—500 kVA and Larger

Covers the minimum requirements for form- and bar-wound brushless synchronous machines in petroleum-related industry service. The standard has been updated to include both synchronous motors and generators with two different rotor designs: (1) the conventional salient-pole rotor with solid or laminated poles, and (2) the cylindrical rotor with solid or laminated construction. Also included are new datasheet guides to help clarify the datasheet requirements. Pages: 108

2nd Edition / June 1997 / Product Number: C54602 / Price: $142.00

Std 547 ✪

General-purpose Form-wound Squirrel Cage Induction Motors—250 Horsepower and Larger

This standard covers the requirements for form-wound induction motors for use in general-purpose petroleum, chemical and other industrial severe duty applications. These motors:

- are rated 250 hp (185 kW) through 3000 hp (2250 kW) for 4, 6 and 8 pole speeds,
- are rated less than 800 hp (600 kW) for two-pole (3000 or 3600 RPM) motors of totally-enclosed construction,
- are rated less than 1250 hp (930 kW) for two-pole motors of WP-II type enclosures,
- drive centrifugal loads,
- drive loads having inertia values within those listed in NEMA MG 1 Part 20),
- are not induction generators. Pages: 30

1st Edition / December 2004 / Product Number: C54701 / Price: $75.00

Heat Transfer Equipment Standards for Refinery Service

Heat Transfer Equipment Standards for Refinery Service Binder

A high-quality, three-ring binder is available to house heat transfer equipment standards.

Product Number: C02024 / Price: $46.00

Std 530/ISO 13704

Calculation of Heater Tube Thickness in Petroleum Refineries

Petroleum and natural gas industries—Calculation of heater tube thickness in petroleum refineries

(ANSI/API Std 530-2003)

(includes Errata dated March 2004)

This International Standard specifies the requirements and gives recommendations for the procedures and design criteria used for calculating the required wall thickness of new tubes for petroleum refinery heaters. These procedures are appropriate for designing tubes for service in both corrosive and non-corrosive applications. These procedures have been developed specifically for the design of refinery and related process fired heater tubes (direct-fired, heat-absorbing tubes within enclosures). These procedures are not intended to be used for the design of external piping.

5th Edition / January 2003 / Product Number: CX53005 / Price: $164.00

RP 531M

Measurement of Noise from Fired Process Heaters (Metric Only)

Provides a test procedure for near-field noise measurement and analytical methods for computational analysis of the total sound-power level of a direct-fired heater and associated equipment in petroleum processing plants. Pages: 33

1st Edition / March 1980 / Reaffirmed, August 1995
Product Number: C53100 / Price: $53.00

Publ 534

Heat Recovery Steam Generators

Provides guidelines for the selection or evaluation of heat recovery steam generator (HRSG) systems. Details of related equipment designs are considered only where they interact with the HRSG system design. The document does not provide rules for design, but indicates areas that need attention and offers information and descriptions of HRSG types available to the designer/user for purposes of selecting the appropriate HRSG. Pages: 46

1st Edition / January 1995 / Product Number: C53401 / Price: $78.00

Publ 535 ✣

Burners for Fired Heaters in General Refinery Services

Provides guidelines for the selection and/or evaluation of burners installed in fired heaters in general refinery services. Details of fired heater and related equipment designs are considered only where they interact with the burner selection. Pages: 67

1st Edition / July 1995 / Product Number: C53501 / Price: $78.00

RP 536

Post Combustion NO_x Control for Equipment in General Refinery Services

This recommended practice covers the mechanical description, operation, maintenance, and test procedures of post combustion NO_x control equipment. It does not cover reduced NO_x formation through burner design techniques such as external flue gas recirculation (FGR). Pages: 41

1st Edition / March 1998 / Product Number: C53601 / Price: $78.00

Std 537
Flare Details for General Refinery and Petrochemical Service

This standard is applicable to flares used in pressure relieving and vapor-depressuring systems used in general refinery and petrochemical services. The information provided is intended to aid in the design and selection of a flare system that is most appropriate for the risks and circumstances. Although this standard is primarily intended for new flares and facilities, it may be used as a guideline in the evaluation of existing facilities together with appropriate cost and risk assessment considerations.

This standard is intended to supplement the practices set forth in API RP 521, *Guide for Pressure Relieving and Depressuring Systems*.

This standard describes the mechanical design, operation and maintenance of three types of flares: Elevated Flares, Multi-burner Staged Flares, and Enclosed Flares. Pages: 104

1st Edition / August 2003 / Product Number: C53701 / Price: $154.00

Std 560
Fired Heaters for General Refinery Services
(Includes Errata dated January 2002)

Applies to fired heaters for general refinery services. It covers the minimum requirements for their design, materials, fabrication, inspection, testing, preparation for shipment, and erection. Pages: 194

3rd Edition / May 2001 / Product Number: C56003 / Price: $176.00

RP 573
Inspection of Fired Boilers and Heaters

See Also Refining, Inspection of Refinery Equipment

2nd Edition / December 2002 / Product Number: C57302 / Price: $78.00

ANSI/API Std 660/ISO 16812
Shell-and-tube Heat Exchangers

Petroleum and natural gas industries-Shell-and-tube heat exchangers Specifies requirements and gives recommendations for the mechanical design, material selection, fabrication, inspection, testing and preparation for shipment of shell-and-tube heat exchangers for the petroleum and natural gas industries.

This Standard is applicable to the following types of shell-and-tube heat exchangers: heaters, condensers, coolers and reboilers. Pages: 39

7th Edition / April 2003 / Product Number: CX66007 / Price: $108.00

ANSI/API Std 661/ISO 13706
Air-Cooled Heat Exchangers for General Refinery Service
Petroleum and Natural Gas Industries-Air-cooled Heat Exchangers

This standard provides a purchase specification for purchasers and vendors of air-cooled heat exchangers for use in refinery service. It requires the purchaser to specify certain details and features covering the minimum requirements for design, materials, fabrication, inspection, testing, and preparation for shipment of refinery process air-cooled heat exchangers. These requirements are specifically for the forced- or induced-draft type of heat exchangers. Pages: 116

5th Edition / March 2002 / Product Number: CX66105 / Price: $131.00

ANSI/API Std 662/ISO 15547
Plate Heat Exchangers for General Refinery Services
Petroleum and Natural Gas Industries-Plate Heat Exchangers

This standard gives requirements and recommendations for the mechanical design, materials selection, fabrication, inspection, testing, and preparation for shipment of plate heat exchangers, sometimes referred to as plate-and-frame heat exchangers, for use in petroleum and natural gas industries. This standard covers gasketed, semi-welded and welded plate heat exchangers constrained within a frame.

As used in this standard, the term heat exchangers, or exchangers, includes coolers, heaters, condensers, evaporators and reboilers. Pages: 26

2nd Edition / April 2002 / Product Number: CX66202 / Price: $83.00

Instrumentation and Control Manuals

RP 551
Process Measurement Instrumentation

Provides procedures for the installation of the more generally used measuring and control instruments and related accessories. Pages: 58

1st Edition / May 1993 / Product Number: C55100 / Price: $103.00

RP 552
Transmission Systems

Reviews the recommended practices for the installation of electronic and pneumatic measurement and control-signal transmission systems. Transmission systems permit operation of one or more large or small process units from a remote control center. Pages: 39

1st Edition / October 1994 / Product Number: C55201 / Price: $87.00

RP 553
Refinery Control Valves

This document provides recommended criteria for the selection, specification and application of piston and diaphragm actuated control valves. It also outlines control valve design considerations, discusses control valve sizing, noise, fugitive emissions, and defines types of commonly used control valves and their actuators. Pages: 26

1st Edition / September 1998 / Product Number: C55301 / Price: $78.00

RP 554
Process Instrumentation and Control

Covers performance requirements and considerations for the section, specification, installation and testing of process instrumentation and control systems. Control centers as used in the petroleum industry are also covered. This practice is not intended to be used as a purchase specification, but makes recommendations from minimum requirements and can be used to provide guidance for the development of detailed designs and specifications. Pages: 59

1st Edition / September 1995 / Product Number: C55401 / Price: $103.00

API 555
Process Analyzers
(ANSI/API 555-2001)

Addresses the considerations in the application of analyzers and associated systems, installation, and maintenance. Process monitors that measure and transmit information about chemical composition, physical properties, or chemical properties are known as process analyzer systems. Process analyzers are now used widely in the refining industry for (a) monitoring and controlling product quality, (b) implementing advanced control strategies in improving process operations, (c) enhancing area safety, and (d) continuous emission monitoring and environmental measurement of air and water quality. Pages: 225

2nd Edition/ November 2001 / Product Number: C55502 / Price: $120.00

RP 556
Fired Heaters & Steam Generators

RP 556 was written to aid in the installation of the more generally used measuring, control, and analytical instruments; transmission systems; and related accessories to achieve safe, continuous, accurate and efficient operation with minimum maintenance. Although the information has been prepared primarily for petroleum refineries, much of it is applicable without change in chemical plants, gasoline plants, and similar installations. Pages: 40

1st Edition / May 1997 / Product Number: C55601 / Price: $92.00

RP 557
Guide to Advanced Control Systems

Addresses the implementation and ownership of advanced control systems for refinery purposes. RP 557 describes commonly used practices for the opportunity identification, justification, project management, implementation and maintenance of advanced control system applications in refinery service.

1st Edition / December 2000 / Product Number: C55701 / Price: $78.00

Technical Data Book Petroleum Refining

Electronic Version of the API Technical Data Book

Improve the overall design and operations in today's highly complex petroleum refinery process systems with the API Technical Database. Version 1.0 of the API Technical Database replaces the printed format of the popular API Tech Data Book with a modern Windows® interface that is so unique it is patented. This single-screen approach provides access to the latest API physical property estimation methods and the software is critically reviewed and approved by the API Technical Data Committee. Included is a database of property data for nearly 900 components, characterization of petroleum fractions, and petroleum fraction distillation interconversions. Users can quickly determine petroleum fraction physical property data such as critical properties, vapor pressure, density, liquid enthalpy, gas enthalpy, heat of vaporization, liquid heat capacity, gas heat capacity, surface tension, liquid viscosity, gas viscosity, liquid thermal conductivity, gas thermal conductivity, and heat of combustion. Temperature-dependent properties can be tabulated and graphed over any range, and distillation interconversions are displayed graphically. This data can then be exported for use in simulation and engineering software programs.

Contact EPCON International at 281-398-9400
or visit the EPCON website at: www.epcon.com

Technical Data Book Petroleum Refining Related Items

TR 997
Comprehensive Report of API Crude Oil Characterization Measurements

A consortium of API member companies has sponsored a research program consisting of a series of projects on the characterization of crude oils. The goal of this program was to obtain complete sets of assay and thermophysical property data on a few widely varying crude oils to test the basic correlations and models typically used in the design of crude oil refining and refining facilities. This report provides descriptions of the test procedures, discussions of their accuracy, and a comprehensive compilation of the data for the crude oils measured under this program. Pages: 129

1st Edition / August 2000 / Product Number: C99701 / Price: $175.00

Reports issued by Research Project 49
1951

API Research Project 49, Reference Clay Minerals, issued a series of eight reports, as follows:

No. 1, **Glossary of Mineral Names**
No. 2, **Reference Clay Localities-United States**
No. 3, **Differential Thermal Analysis of Reference Clay Mineral Specimens**
No. 4, **Reference Clay-Europe**
No. 5, **Occurrence and Microscopic Examination of Reference Clay Mineral Specimens**
No. 6, **Electron Micrographs of Reference Clay Minerals**
No. 7, **Analytical Data on Reference Clay Minerals**
No. 8, **Infrared Spectra of Clay Minerals**

Characterization and Thermodynamics

Thermodynamic Properties and Characterization of Petroleum Fractions
February 1988

API Monograph Series

Each publication discusses the properties of solid, liquid, and gaseous phases of one or a few closely related, industrially important compounds in a compact, convenient, and systematic form. In addition to the basic physical properties, each publication covers density, molar volume, vapor pressure, enthalpy of vaporization, surface tension, thermodynamic properties, viscosity, thermal conductivity, references to properties of mixtures, and spectrographic data.

Publ 705, **Tetralin**, 1978, Pages: 58
Publ 706, **cis- and trans-Decalin**, 1978, Pages: 63
Publ 707, **Naphthalene**, 1978, Pages: 67
Publ 708, **Anthacene and Phenanthrene 9**, 1979, Pages: 64
Publ 709, **Four-Ring Condensed Aromatic Compounds**, 1979, Pages: 56
Publ 710, **Pyridine and Phenylpyridines**, 1979, Pages: 60
Publ 711, **Quinoline**, 1979, Pages: 68
Publ 712, **Isoquinoline**, 1979, Pages: 58
Publ 713, **Indanols**, 1980, Pages: 52
Publ 714, **Indan and Indene**, 1980, Pages: 56
Publ 715, **Acenaphthylene, Acenaphthene, Fluorene, and Fluoranthene**, 1981, Pages: 68
Publ 716, **Carbazole, 9-Methylcarbazole, and Acridine**, 1981, Pages: 60
Publ 717, **Thiphene, 2,3- and 2,5-Dihydrothiophene, and Tetrahydrothiophene**, 1981, Pages: 78
Publ 718, **Aniline**, 1982, Pages: 60
Publ 719, **Indole**, 1982, Pages: 52
Publ 720, **2-, 3-, and 4-Methylaniline**, 1983, Pages: 64
Publ 721, **Benzofuran, Dibenzofuran, and Benzonaphthofurans**, 1983, Pages: 53
Publ 722, **Isopropylbenzene, and 1-Methyl-2-, -3-, and -4-Isopropylbenzene**, 1984, Pages: 80
Publ 723, **tert-Butyl methyl ether**, 1984, Pages: 57
Publ 724, **1- and 2-Methylnaphthalene and Dibenzanthracenes**, 1985, Pages: 82

Materials Engineering Publications

RP 571
Damage Mechanisms Affecting Fixed Equipment in the Refining Industry

Provides background information on damage that can occur to equipment in the refining process. It is intended to supplement *Risk Based Inspection* (RP 580 and Publ 581) and *Fitness-for-Service* (RP 579) technologies developed in recent years by API to manage existing refining equipment integrity. It is also an excellent reference for inspection, operations, and maintenance personnel.

API RP 571 covers over 60 damage mechanisms. Each write-up consists of a general description of the damage, susceptible materials of construction, critical factors, inspection method selection guidelines, and control measures. Wherever possible, pictures are included and references are provided for each mechanism. In addition, generic process flow diagrams have been included that contain a summary of the major damage mechanism expected for typical refinery process units. Pages: 257

1st Edition / December 2003 / Product Number: C57101 / Price: $184.00

RP 571 ✪
Damage Mechanisms Affecting Fixed Equipment in the Refining Industry—French

The French translation of Recommended Practice 571.

1st Edition / December 2003 / Product Number: C57101F / Price: $194.00

RP 582
Recommended Practice and Supplementary Welding Guidelines for the Chemical, Oil, and Gas Industries

Provides guidelines for welding and related topics associated with shop and field fabrication, repair, and modification of pressure-containing equipment. Other equipment items covered include structural attachments, non-removable internals for pressure vessels, and components referenced by an applicable purchase document. This document is general in nature and is intended to augment the requirements of ASME Section IX and similar codes, standards, and practices. Pages: 14

1st Edition / March 2001 / Product Number: C58201 / Price: $72.00

Bull 932-B ✪
Design, Materials, Fabrication, Operation, and Inspection Guidelines for Corrosion Control in Hydroprocessing Reactor Effluent Air Cooler (REAC) Systems

Provides guidance to engineering and plant personnel on equipment and piping design, material selection, fabrication, operation, and inspection practices to manage corrosion and fouling in the wet sections of hydroprocessing reactor effluent systems.

RP 932-B is applicable to process streams in which NH_4Cl and NH_4HS salts can form and deposit in equipment and piping, or dissolve in water to form aqueous solutions of these salts.

An understanding of the variables impacting corrosion and fouling in these systems is necessary to improve the reliability, safety, and environmental impact associated with them. Within the refining industry, continuing equipment replacements, unplanned outages, and catastrophic incidents illustrate the current need to better understand the corrosion characteristics and provide guidance on all factors that can impact fouling and corrosion in REAC systems.

1st Edition / June 2004 / Product Number: C932B1 / Price: $142.00

RP 934
Materials and Fabrication Requirement for 2-$^1/_4$ Cr-1MO & 3Cr-1Mo Steel Heavy Wall Pressure Vessels for High Temperature, High Pressure Hydrogen Service

This recommended practice applies to new heavy wall pressure vessels in petroleum refining, petrochemical and chemical facilities in which hydrogen or hydrogen-containing fluids are processed at elevated temperature and pressure. It is based on decades of industry operating experience and the results of experimentation and testing conducted by independent manufactures, fabricators and users of heavy wall pressure vessels for this service. Pages: 9

1st Edition / December 2000 / Product Number: C93401 / Price: $72.00

TR 935
Thermal Conductivity Measurement Study of Refractory Castables

This study compares the differences between measurement techniques used to develop thermal conductivity of refractory castables. The following procedures were examined: Water Calorimeter, Calorimeter-Pilkington Method, Hot Wire Method, Comparative Thermal Conductivity Method, and Panel Test.
The refractory industry uses various methods for measuring and reporting thermal conductivity. The accuracy of reporting and understanding thermal conductivity are vital to developing the most cost effective, efficient, and reliable equipment. The study makes no attempt to rank, classify or assign accuracy to each of the measurement techniques. Pages: 22

1st Edition / September 1999 / Product Number: C93501 / Price: $48.00

RP 936
Refractory Installation Quality Control Guidelines

Provides installation quality control guidelines for monolithic refractory linings and may be used to supplement owner specifications. Materials, equipment, and personnel are qualified by the methods described, and applied refractory quality is closely monitored based on defined procedures and acceptance criteria. The responsibilities of inspection personnel who monitor and control the quality control process are also defined.

2nd Edition / February 2004 / Product Number: C93602 / Price: $76.00

TR 938
An Experimental Study of Causes and Repair of Cracking of $1^1/_4$ Cr-$^1/_2$ Mo Steel Equipment

Gives the results of an experimental study conducted to provide the petroleum industry with solutions to recurring incidents of cracking in the application of welded $1^1/_4$ Cr-$^1/_2$ Mo steel for hydrogen processing equipment. Pages: 220

1st Edition / May 1996 / Product Number: C93801 / Price: $136.00

TR 939-A
Research Report on Characterization and Monitoring of Cracking in Wet H_2S Service

Demonstrates the ability to characterize and monitor various aspects of crack propagation in pressurized process equipment exposed to wet hydrogen sulfide environments. It represents one of several significant industry-wide efforts to study and to better understand this phenomenon. Pages: 136

1st Edition / October 1994 / Product Number: C93901 / Price: $129.00

TR 939-B
Repair and Remediation Strategies for Equipment Operating in Wet H_2S Service

This recommended practice presents data relative to the fabrication requirements for 2-$^1/_4$ 3Cr alloy steel heavy wall pressure vessels for high temperature, high pressure hydrogen services. It summarizes the results of industry experience, experimentation, and testing conducted by independent manufacturers, fabricators, and users of heavy wall pressure vessels. This recommended practice applies to equipment in refineries, petrochemical, and chemical facilities in which hydrogen or hydrogen containing fluids are processed at elevated temperature and pressure. Pages: 236

1st Edition / June 2002 / Product Number: C939B0 / Price: $142.00

TR 939-D
Stress Corrosion Cracking of Carbon Steel in Fuel Grade Ethanol: Review and Survey

An extensive survey of published literature, service experience and previously unpublished studies on stress corrosion cracking (SCC) of carbon steel equipment in fuel grade ethanol service and related topics was conducted by InterCorr International, Inc. (Houston, Texas) for The American Petroleum Institute and a consortium which also includes the Renewable Fuels Association. Pages: 46

1st Edition / September 2003 / Product Number: C939D0 / Price: $63.00

RP 941
Steels for Hydrogen Service at Elevated Temperatures and Pressures in Petroleum Refineries and Petrochemical Plants

Presents suggested operating limits for steels used in equipment at petroleum refineries and petrochemical plants in which hydrogen or hydrogen-containing fluids are processed at elevated temperatures and pressures. Pages: 18

6th Edition / February 2004 / Product Number: C94106 / Price: $87.00

RP 945
Avoiding Environmental Cracking in Amine Units

This recommended practice discusses environmental cracking problems of carbon steel equipment in amine units. This practice does provide guidelines for carbon steel construction materials including their fabrication, inspection, and repair to help assure safe and reliable operation. This document is based on current engineering practices and insights from recent industry experience. Pages: 25

3rd Edition / June 2003 / Product Number: C94503 / Price: $82.00

Fracture Toughness of Steels for API Standard 620 Appendix R Tanks
December 1985

TR 946
The Effect of Outgassing Cycles on the Hydrogen Content in Petrochemical Reactor-vessel Steels

1st Edition / 1981

TR 950
Survey of Construction Materials and Corrosion in Sour Water Strippers—1978

1983

TR 959
Characterization Study of Temper Embrittlement of Chromium-Molybdenum Steels

1982 / Product Number: C95900 / Price: $130.00

1996 API Coke Drum Survey
Final Report

In 1996 a survey was sent by the API Subcommittee on Inspection; Coke Drum Task Group, to companies operating coke drums in the United States and abroad. This was the third survey of similar nature conducted by the API. Fifty-four surveys were returned representing 17 different operating companies and a total of 145 drums. The purpose of this survey was to collect data covering a broad range of issues including:

1. General information
2. Design
3. Operating Information
4. Inspection Practices
5. Deterioration Experience
6. Repair Procedures

Three of the six areas, Operation Information, Inspection Practices and Deterioration Experience were not covered in previous industry surveys. Additionally, this survey requested more detailed information than the previous surveys. Pages: 61

November 2003 / Product Number: C03CDS / Price: $105.00

Impact of Gasoline Blended with Ethanol on the Long-Term Structural Integrity of Liquid Petroleum Storage Systems and Components
Executive Summary and Literature Review

See also Refining, Storage Tanks.

Executive Summary

2003 / Product Number: A16000 / Price: $53.00

Appendix A—Literature Review

2003 / Product Number: A1600D / Price: $105.00

Petroleum Products and Petroleum Product Surveys

Publ 4261
Alcohols and Ethers: A Technical Assessment of Their Application as Fuels and Fuel Components

API Publication 4261 summarizes information from the technical literature on producing and applying alcohols and ethers as fuels and fuel components for the transportation sector. It assesses the technical advantages and disadvantages of alcohols and ethers with respect to hydrocarbon fuels. Since the amendment of the Clean Air Act in 1977, and subsequently in 1990, public interest in the role of oxygenates in transportation has significantly increased. This edition of API Publication 4261 has been updated and expanded to include a review of the oxygenate regulations and the technical literature that has been published since 1988. It provides a technical assessment suitable for policy discussions related to alcohols and ethers in transportation. Pages: 119

3rd Edition / June 2001 / Product Number: C42613 / Price: $134.00

Publ 4262
Methanol Vehicle Emissions

1st Edition / December 1990 / Product Number: F42620 / Price: $103.00

API/NPRA Survey
Final Report: 1996 API/NPRA Survey of Refining Operations and Product Quality

A survey of industry refining data for the period May 1 through August 31, 1996. The report includes information on domestically produced gasoline and diesel product quality as well as aggregate domestic refining capacity and average operating data. Pages: 190

1st Edition / July 1997 / Product Number: F10001 / Price: $53.00

Aviation Turbines Fuels, 2001 / Price: $90.00
Heating Oils, 2002 / Price: $100.00
Motor Gasolines, Winter 2001—2002 / Price: $120.00
Motor Gasolines, Summer 2001/ Price: $120.00
Diesel Fuel Oils, 2002 / Price: $100.00

Magnetic computer tapes of raw data are available upon request. Reports from previous years are also available.

Order these petroleum product surveys from:
TRW Petroleum Technologies
P.O. Box 2543 / Bartlesville, OK 74005
Attn: Cheryl Dickenson
918-338-4419

Security

Security Guidance for the Petroleum Industry
API's second edition of "Security Guidance for the Petroleum Industry," is now in use at oil and gas facilities around the world to help managers decide how to deter terrorist attacks. Covering all segments of the industry (production, refining, transportation, pipeline, and marketing), this guidance builds on the existing solid foundation of design and operational regulations, standards and recommended practices, which relate to facility design and safety, environmental protection, emergency response, and protection from theft and vandalism. Produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies, these guidelines, viewed as a living document, are broadly applicable to facility security in light of September 11, 2001, and provide the starting point for developing security plans at oil and natural gas facilities and operations. Pages: 169

2nd Edition / April 2003 / Product Number: OS0001 / Price: $158.00

Security Vulnerability Assessment Methodology for the Petroleum and Petrochemical Industries ✪

The American Petroleum Institute and the National Petrochemical & Refiners Association jointly developed a new methodology for evaluating the likelihood and consequences of terrorist attacks against refineries and petrochemical facilities. "Security Vulnerability Assessment Methodology for Petroleum and Petrochemical Facilities" is designed for companies to use in assessing vulnerabilities and potential damages from different kinds terrorist attacks. In the post September 11 era, companies have reevaluated and enhanced security at their facilities. The methodology will provide officials with a new analytical tool to determine "the likelihood of an adversary successfully exploiting vulnerability and the resulting degree of damage or impact." This vulnerability assessment methodology was produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies. Pages: 155

October 2004 / Product Number: OSVA02 / Price: $158.00

Health, Environment and Safety

See the Health, Environment and Safety Section of the Catalog

Health, Environment and Safety: General

Cumulative Impact of Environmental Regulations on the U.S. Petroleum Refining, Transportation and Marketing Industries

1st Edition / available at www.api.org

RP 751 ✣

Safe Operation of Hydrofluoric Acid Alkylation Units

This recommended practice is an outline of many of the practices used effectively in the industry to minimize the process hazards of HF alkylation, which is a widely used refinery process important in producing a significant share of the nation's high-quality motor gasoline. Pages: 37

2nd Edition / February 1999 / Product Number: C75102 / Price: $87.00

Publ 760 ✣

Model Risk Management Plan Guidance for Petroleum Refineries—Guidance for Complying with EPA's RMP Rule (40 *Code of Federal Regulations* 68)

See Also Health, Environment and Safety, Safety and Fire Protection

3rd Edition / February 2001
Print Copy Only: K76003 / Price: $205.00
Electronic Version: K760E3 / Price: $291.00
Electronic Version and Print Copy, Single License: K760L3 / Price: $354.00

Health, Environment and Safety: Water

Publ 958

Pilot Studies on the Toxicity of Effluents from Conventional and Carbon Enhanced Treatment of Refinery Wastewater—Phase III

1981

Health, Environment and Safety: Soil and Groundwater

Publ 422

Groundwater Protection Programs for Petroleum Refining and Storage Facilities: A Guidance Document

Reflects continuing industry action and commitment to positively address groundwater protection by developing and implementing individual groundwater protection plans. Provides additional guidance to help petroleum facilities identify the types of issues that may need to be addressed in a groundwater protection plan. Intended to help refineries, terminals associated with transportation pipelines, product distribution terminals, and other downstream petroleum storage units develop groundwater protection plans that are tailored to their individual circumstances. Pages: 9

1st Edition / October 1994 / Product Number: C42201 / Price: $53.00

Publ 800

Literature Survey: Subsurface and Groundwater Protection Related to Petroleum Refinery Operations

This report is the principal product of an API-sponsored project to prepare a background basis for the development of further information on subsurface and groundwater protection at refineries. It contains an explanation of how the literature survey was conducted; annotations for pertinent articles; a discussion of applicable federal statutes and regulations; and annotations for pertinent regulatory programs under the five principal statutes that apply to refinery operations.

1st Edition / September 1988 / Product Number: C80000 / Price: $74.00

Publ 4682 ✣

Free-Product Recovery of Petroleum Hydrocarbon Liquids

This document addresses the application of proven technologies for recovering free-product petroleum releases to groundwater. An approach is given to optimize free-product recovery for minimal water production and free-product smearing. Information and guidance for design and analysis of free-product recovery systems using trenches, skimmer wells, single- and dual-pump wells, and vacuum-enhanced wells are provided. The principles that govern the distribution and movement of free-product petroleum hydrocarbons near the water table in an unconfined aquifer are reviewed. Pages: 178

June 1999 / Product Number: I46820 / Price: $88.00

Safety and Fire Protection

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

NOTE: Free publications with an asterisk are subject to a $10.00 handling charge for each total order, plus actual shipping charges.

Safety and Fire Protection Binder

A high-quality binder is available to house all API Safety and Fire Protection publications. When all the publications are ordered, the Safety and Fire Protection Binder is included free of charge.

Product Number: K19998 / Price: $43.00

Publications

A Compliance Guideline for EPA's Risk Management Program Rule

This comprehensive guide published jointly by the American Petroleum Institute and the Chemical Manufactures Association, is written specifically for the chemical and petroleum industries. This publication contains everything you need to know to comply with EPA's RMP 112 (r) rule, including RMP applicability and the final list rule, RMP compliance strategies and management system, prevention and emergency response programs, and offsite consequence analysis. The guide includes both a printed version and a disk (both MSWord® and WordPerfect® versions available). A facility license enables the document to be used at one site only, while the corporate license allows the document to be distributed company-wide.

All orders for this publication are to be placed with the Chemical Manufacturers Association / CMA Publication Fulfillment
Call for price.
341 Victory Drive / Herndon, VA 20170
or Fax to 703-471-5766 / Phone orders to 703-709-0166

Static Electricity Research Project

April 1994 / Product Number: K22301 / Price: $66.00

RP 752

Management of Hazards Associated With Location of Process Plant Buildings, CMA Manager's Guide

This recommended practice provides guidance for identifying hazards that may affect plant buildings. It also provides guidance for those managing risks related to those hazards. RP 752 focuses on refineries, petrochemical and chemical operations, natural gas liquids, extraction plants, and other facilities covered by the OSHA *Process Management Standard*, 29 *CFR* 1910.119. Pages: 34

2nd Edition / November 2003 / Product Number: K75202 / Price: $78.00

Visit www.api.org

Publ 760 ✣

Model Risk Management Plan Guidance for Petroleum Refineries—Guidance for Complying with EPA's RMP Rule (40 *Code of Federal Regulations* 68)

Provides detailed guidance and specific examples for refineries to reduce the cost and time necessary to comply with EPA's RMP Rule. Extensive use is made of flow charts, tables, figures and diagrams. Special tips are offered to speed the work and alert you to unusual issues. A "model" or template of an actual RMPlan for a refinery is included. Pages: 206

3rd Edition / February 2001
Print Copy Only: K76003 / Price: $205.00
Electronic Version: K760E3 / Price: $291.00
Electronic Version and Print Copy, Single License: K760L3/ Price: $354.00

Publ 761 ✣

Model Risk Management Plan Guidance for Exploration and Production Facilities—Guidance for Complying with EPA's RMP Rule (40 *Code of Federal Regulations* 68)

Provides detailed guidance and specific examples for gas plants to reduce the cost and time necessary to comply with EPA's RMP Rule. Extensive use is made of flow charts, tables, figures and diagrams. Special tips are offered to speed the work and alert you to unusual issues. A "model" or template of an actual RMPlan for a gas plant is included. Pages: 208

3rd Edition / February 2001
Print Copy Only: K76103 / Price: $205.00
Electronic Version: K761E3 / Price: $291.00
Electronic Version and Print Copy, Single License: K761L3/ Price: $354.00

Publ 770

A Manager's Guide to Reducing Human Errors; Improving Human Performance in the Process Industries

This Guide is intended for an audience of middle managers to senior executives who have different levels of knowledge about human factors engineering. It is designed to equip them with a basic understanding of the causes of human errors and to suggest ways for reducing human errors at individual facilities. It also describes how to incorporate human reliability analysis (HRA) into process safety management activities. Pages: 85

1st Edition / February 2001 / Product Number: K77001 / Price: $60.00

RP 2001 ✪

Fire Protection in Refineries

The purpose of this publication is to provide a better understanding of the fire protection problems and the steps needed to promote the safe storage, handling, and processing of petroleum and petroleum products in refineries and the safe shipment of these products.

8th Edition / to be published Q1, 2005

RP 2003 ✣

Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents

Described in this publication are some of the conditions that have resulted in fires caused by electrical sparks and arcs from natural causes, as well as the methods that the petroleum industry is currently applying to prevent ignitions from these sources. Pages: 45

6th Edition / September 1998 / Product Number: K20036 / Price: $103.00

RP 2005
Service Station Safety

Provides guidelines for the protection of personnel and property during the operation of service stations, including full and self-service stations (with or without repair bays), car washes, convenience stores and food kiosks with fuel services, trucks stops, and quick-lubes. The publication also provides information and recommendations for the employer on the basic principles of safety and fire protection. Pages: 21

6th Edition / September 1996 / Product Number: K20056 / Price: $55.00

RP 2009
Safe Welding, Cutting and Hot Work Practices in the Petroleum and Petrochemical Industries

Described in this publication are some of the conditions that have resulted in fires caused by electrical sparks and arcs from natural causes, as well as the methods that the petroleum industry is currently applying to prevent ignitions from these sources.

7th Edition / February 2002 / Product Number: K20097 / Price: $63.00

RP 2027
Ignition Hazards Involved in Abrasive Blasting of Atmospheric Storage Tanks in Hydrocarbon Service

This publication identifies the ignition hazards involved in abrasive blasting of the exteriors of hydrocarbon storage tanks containing a mixture that is flammable or that can become flammable when air is added. It provides operational guidelines for procedures that significantly reduce ignition risks during abrasive blasting of hydrocarbon tanks that may contain a flammable vapor space. Pages: 4

3rd Edition / March 2002 / Product Number: C20273 / Price: $58.00

RP 2028
Flame Arresters in Piping Systems

This publication is intended to provide safety information for individuals responsible for performing maintenance or repairs that involve descent onto the floating roofs of petroleum storage tanks.

3rd Edition / February 2002 / Product Number: K20283 / Price: $47.00

Publ 2030 ✣
Application of Water Spray Systems for Fire Protection in the Petroleum Industry

This publication provides guidance on the design of water spray systems for fire protection in the petroleum industry, including recommended uses and suggested application rates. Pages: 12

2nd Edition / August 1998 / Product Number: K20302 / Price: $48.00

Publ 2201
Procedures for Welding or Hot Tapping on Equipment in Service

Covers the safety aspects to be considered when hot tapping, or when welding without hot tapping on in-service piping or equipment. Pages: 27

5th Edition / July 2003 / Product Number: K22015 / Price: $69.00

RP 2210
Flame Arresters for Vents of Tanks Storing Petroleum Products

This publication discussed the benefits and detriments associated with the use of flame arrresters on vents utilized on atmospheric fixed-roof tanks. Pages: 4

3rd Edition / June 2000 / Product Number: K22103 / Price: $53.00

Publ 2214 ✪
Spark Ignition Properties of Hand Tools

Emphasizes that the use of nonferrous hand tools, sometimes referred to as nonsparking tools, is not warranted as a fire prevention measure in petroleum operations.

4th Edition / July 2004 / Product Number: K221404 / Price: $53.00

Publ 2216
Ignition Risk of Hydrocarbon Vapors by Hot Surfaces in the Open Air

This recommended practice provides information concerning the potential for ignition of hydrocarbons that are exposed to hot surfaces in the open air. Hydrocarbon liquids, when heated sufficiently, can ignite without the application of a flame or spark. The ignition of hydrocarbons by hot surfaces may occur when oil is released under pressure and sprays upon a hot surface or is spilled and lies upon a hot surface for a period of time. Understanding the mechanism and dynamics of auto-ignition is an important step in preventing or controlling the ignition of hydrocarbons by hot surfaces in the open air. In addition to the information provided herein, appropriate industry standards and other information may assist users to understand the potential hazards of hydrocarbon auto-ignition (such as spontaneous combustion) not specifically covered by this publication and implement appropriate prevention and control measures. Pages: 5

3rd Edition / December 2003 / Product Number: K22163 / Price: $47.00

Publ 2217A ✪
Guidelines for Work in Inert Confined Spaces in the Petroleum Industry

This publication provides guidelines for personnel to safely enter and work in or near confined spaces that have been intentionally purged with an inert gas until the vapor space and any emissions are below flammable or reactive levels.

3rd Edition / to be published Q1, 2005

Publ 2218
Fireproofing Practices in Petroleum and Petrochemical Processing Plants

This publication is intended to provide guidelines for selecting, applying, and maintaining fire proofing materials that are designed to limit the extent of fire-related property loss in the petroleum and petrochemical industries. Pages: 35

2nd Edition / August 1999 / Product Number: K22182 / Price: $98.00

Publ 2219 ✣
Safe Operation of Vacuum Trucks in Petroleum Service

This publication identifies a number of hazards of vacuum truck operations and suggests procedures that may help prevent accidents. Pages: 33

2nd Edition / March 1999 / Product Number: K22192 / Price: $87.00

RP 2220
Improving Owner and Contractor Safety Performance

This recommended practice is jointly sponsored by the American Petroleum Institute and the Chemical Manufacturers Association and is supported by the Associated Builders and Contractors, a trade association representing many of the contracting companies working in the petroleum and petrochemical industries. Provides guidance for petroleum and chemical industry facility owners and contractors for improving their contractor safety programs. These measures include procedures for contractor selection, training, and job-site orientation; performance reviews; measurement and evaluation; and safety program checklists. Pages: 23

2nd Edition / to be published Q1, 2005

RP 2221 ✪

Contractor and Owner Safety Program Implementation

Intended to assist refining and petrochemical industry facility owners and contractors to implement (or improve) an effective contractor safety and health program.

2nd Edition / August 2004 / Product Number: K22212 / Price: $126.00

Publ 2382 ✪

2003 Survey on Petroleum Industry Occupational Injuries, Illnesses, and Fatalities Summary Report: Aggregate Data Only

This annual summary reports on cases recordable in 2003 under the U.S. Bureau of Labor Statistics' record-keeping guidelines. The survey is based on data submitted to the American Petroleum Institute by oil and gas companies. The report includes information regarding injuries, illnesses, fatalities, lost workday cases, and incidence rates by function. Pages: 25

May 2004 / Product Number: K23821 / Price: $84.00

Publ 2381 ✣

2002 Survey on Petroleum Industry Occupational Injuries, Illnesses and Fatalities Summary Report: Aggregate Data Only

June 2003 / Product Number: K23811 / Price: $84.00

Publ 2380 ✣

2001 Survey on Petroleum Industry Occupational Injuries, Illnesses and Fatalities Summary Report: Aggregate Data Only

April 2002 / Product Number: K23801 / Price: $84.00

Publ 2379 ✣

2000 Survey on Petroleum Industry Occupational Injuries, Illnesses and Fatalities Summary Report: Aggregate Data Only

April 2001 / Product Number: K23790 / Price: $84.00

Publ 2378 ✣

1999 Survey on Petroleum Industry Occupational Injuries, Illnesses and Fatalities Summary Report: Aggregate Data Only

June 2000 / Product Number: K23781 / Price: $84.00

Publ 2377 ✣

1998 Summary of Occupational Injuries, Illnesses and Fatalities in the Petroleum Industry

April 1999 / Product Number: K23771 / Price: $84.00

Publ 2376 ✣

1997 Summary of Occupational Injuries, Illnesses and Fatalities in the Petroleum Industry

April 1998 / Product Number: K23761 / Price: $77.00

Publ 2375 ✣

1996 Summary of Occupational Injuries, Illnesses and Fatalities in the Petroleum Industry

June 1997 / Product Number: K23751 / Price: $77.00

1995 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

May 1996 / Product Number: K19983 / Price: $77.00

1994 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

June 1995 / Product Number: K19984 / Price: $77.00

1993 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

June 1994 / Product Number: K19985 / Price: $77.00

1992 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

August 1993 / Product Number: K19986 / Price: $66.00

1991 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

September 1992 / Product Number: K19987 / Price: $66.00

1990 Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

July 1991 / Product Number: K19988 / Price: $66.00

1989 Summary of Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry

1989 / Product Number: K19996 / Price: $47.00

Publ 2510A ✣

Fire Protection Considerations for the Design and Operation of Liquefied Petroleum Gas (LPG) Storage Facilities

This publication supplements API Standard 2510 and addresses the design, operation, and maintenance of liquefied petroleum gas (LPG) storage facilities from the standpoint of prevention and control of releases, fire protection design, and fire control measures. The history of LPG storage facility safety experience, facility design philosophy, operating and maintenance procedures, and various fire protection and firefighting approaches are presented. The storage facilities covered are LPG installations (storage vessels and associated loading/unloading/transfer systems) at marine and pipeline terminals, natural gas processing plants, refineries, petrochemical plants, and tank farms. Pages: 34

2nd Edition / December 1996 / Product Number: K2510A / Price: $82.00

Storage Tank Safety Standards

Publ 334

A Guide to Leak Detection for Aboveground Storage Tanks

Written for terminal managers, tank owners, operators, and engineers, this report provides useful background on leak detection technologies—volumetric, acoustic, soil-vapor monitoring, and inventory control—for aboveground storage tank. Characteristics affecting the performance of each technology are discussed. Pages: 38

September 1995 / Product Number: J33400 / Price: $58.00

Std 2015

Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks (ANSI/API Std 2015-2001)

This standard provides safety practices for preparing, emptying, isolating, ventilating, atmospheric testing, cleaning, entry, hot work and recommissioning activities in, on and around atmospheric and low-pressure (up to and including 15 psig) aboveground storage tank that have contained flammable, combustible or toxic materials. This standard directs the user from decommissioning (removal from service) through recommissioning (return to service). This standard applies to stationary tanks used in all sectors of the petroleum and petrochemical plants, and terminals. Pages: 49

6th Edition / August 2001 / Product Number: K20156 / Price: $112.00

RP 2016
Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks
(ANSI/API RP 2016-2001)

This Recommended Practice supplements the requirements of ANSI/API Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*, Sixth Edition. This RP provides guidance and information on the specific aspects of tank cleaning, in order to assist employers (owners/operators and contractors) to conduct safe tank cleaning operations in accordance with the requirements of ANSI/API Standard 2015. Pages: 98
1st Edition / August 2001 / Product Number: K20161 / Price: $159.00

RP 2021
Management of Atmospheric Storage Tank Fires

This recommended practice provides experience-based information to enhance the understanding of fires in atmospheric storage tanks containing flammable and combustible materials. It presents a systematic management approach which can assist tank fire prevention. If fires occur, this information can help responders optimize fire suppression techniques to reduce the severity of an incident and reduce the potential for escalation Pages: 83
4th Edition / May 2001 / Product Number: K20214 / Price: $112.00

Publ 2021A ✣
Interim Study—Prevention and Suppression of Fires in Large Aboveground Atmospheric Storage Tanks

The purpose of this publication is to provide an understanding of the fire prevention and suppression issues relating to the storage of flammable and combustible liquids in large aboveground atmospheric storage tanks. Pages: 30
1st Edition / July 1998 / Product Number: K2021A / Price: $78.00

RP 2023
Guide for Safe Storage and Handling of Heated Petroleum-Derived Asphalt Products and Crude-Oil Residua

This recommended practice describes phenomena which can occur, and precautions to be taken in the storage and handling of asphalt products and residua derived from crude petroleum. It applies when these materials are stored in heated tanks at refineries and bulk storage facilities, and transported in tank vehicles. Pages: 44
3rd Edition / August 2001 / Product Number: K20233 / Price: $88.00

Publ 2026
Safe Access/Egress Involving Floating Roofs of Storage Tanks in Petroleum Service

Provides safety information for individuals responsible for performing maintenance or repairs that involve descent onto the floating roofs of petroleum storage tanks. Pages: 15
2nd Edition / April 1998 / Product Number: K20262 / Price: $50.00

Publ 2207 ✣
Preparing Tank Bottoms for Hot Work

This publication outlines safety precautions for preventing accidental fires and explosions when hot work is performed on tank bottoms.
5th Edition / September 1998 / Product Number: K22075 / Price: $53.00

RP 2350 ✪
Overfill Protection for Storage Tanks in Petroleum Facilities

This recommended practice prevents petroleum storage tanks from being overfilled is an important safety and environmental concern. Tank overfills can be effectively reduced by developing and implementing practical and safe operating procedures for storage facilities and by providing for careful selection and application of equipment, scheduled maintenance programs, and employee training. Covers overfill protection for all aboveground storage tanks in petroleum facilities, including refineries, terminals, bulk plants, and pipeline terminals that receive Class I (flammable) liquids from mainline pipelines or marine vessels.
3rd Edition / to be published Q1, 2005

Storage Tanks

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

Publications

Spec 12B ▲
Bolted Tanks for Storage of Production Liquids

Covers material, design, and erection requirements for vertical, cylindrical, aboveground, bolted steel tanks in nominal capacities of 100 to 10,000 barrels (in standard sizes) for production service. It also includes appurtenance requirements. Pages: 25

14th Edition / February 1995 / Reaffirmed, May 2000
Product Number: G12B14 / Price: $78.00

Spec 12D ▲
Field Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and erection requirements for vertical, cylindrical, aboveground, welded steel tanks in nominal capacities of 500 to 10,000 bbl (in standard sizes) for production service. Pages: 22

10th Edition / November 1994 / Reaffirmed, May 2000
Product Number: G12D10 / Price: $78.00

Spec 12F ▲
Shop Welded Tanks for Storage of Production Liquids

Covers material, design, and construction requirements for vertical, cylindrical, aboveground, shop-welded steel tanks in nominal capacities of 90 to 500 bbl (in standard sizes) for production service. Pages: 22

11th Edition / November 1994 / Reaffirmed, May 2000
Product Number: G12F11 / Price: $78.00

Spec 12P ▲
Fiberglass Reinforced Plastic Tanks

Covers minimum requirements for material, design, fabrication, and testing of fiberglass reinforced plastic tanks. Pages: 19

2nd Edition / January 1, 1995 / Reaffirmed, January 2000
Product Number: G12P02 / Price: $78.00

RP 12R1 ✣
Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service

A guide for new tank battery installations and a guide for revamping existing batteries if this is necessary for any reason. Pages: 52

5th Edition / August 1997 / Effective Date: October 1, 1997
Reaffirmed, December 2002 / Product Number: G12R15 / Price: $110.00

Publ 301
Aboveground Storage Tank Survey: 1989

This report presents a survey of petroleum aboveground storage tanks. Estimates are made of the number, capacity, and age of the tanks in each sector of the petroleum industry. Survey forms and statistical extrapolations methodology are included in the report. Pages: 44

1991 / Product Number: J30100 / Price: $51.00

Order API Documents at www.global.ihs.com

Publ 306
An Engineering Assessment of Volumetric Methods of Leak Detection in Aboveground Storage Tanks

This report provides the results of a leak detection project in aboveground storage tanks which utilized volumetric methods to detect leaks. A series of field tests were conducted on a 114-foot diameter tank that contained a heavy naphtha petroleum product. The analytical and experimental results of this project suggest that volumetric leak detection methods can be used to detect small leaks in aboveground storage tanks.

1991 / Product Number: J30600 / Price: $58.00

Publ 307
An Engineering Assessment of Acoustic Methods of Leak Detection in Aboveground Storage Tanks

This report provides the results of a leak detection project in aboveground storage tanks which utilized acoustic methods to detect leaks. A series of field tests were conducted on a 114-foot diameter tank that contained a heavy naphtha petroleum product. The analytical and experimental results of this project suggest that passive-acoustic leak detection methods can be used to detect small leaks in aboveground storage tanks.

1991 / Product Number: J30700 / Price: $58.00

Publ 315
Assessment of Tankfield Dike Lining Materials and Methods

To assess tankfield materials and methods of containment, API commissioned a review of environmental regulations as well as a survey of candidate liner materials and installation methods to explore the technology base. The study was limited to diked areas surrounding storage tanks. Liner installations for secondary containment underneath tanks were excluded. Pages: 50

July 1993 / Product Number: J31500 / Price: $58.00

Publ 322 ✣
An Engineering Evaluation of Acoustic Methods of Leak Detection in Aboveground Storage Tanks

This report describes a set of controlled experiments conducted on a 40-ft. diameter refinery tank to determine the nature of acoustic leak signals and ambient noise under a range of test conditions. The features of a leak detection test needed for high performance are explored. The report concludes that accurate and reliable leak detection of aboveground storage tanks can be achieved through the use of acoustic methods.

January 1994 / Product Number: J32200 / Price: $58.00

Publ 323 ✣
An Engineering Evaluation of Volumetric Methods of Leak Detection in Aboveground Storage Tanks

Two volumetric approaches to detecting leaks from aboveground storage tanks—precision temperature sensors and mass measurement approaches—are evaluated in this report. A set of controlled experiments on a 117-ft. diameter refinery tank is used to examine the effects of differential pressure on conventional level and temperature measurement systems. The features of a leak detection test needed for high performance are also explored.

January 1994 / Product Number: J32300 / Price: $58.00

Publ 325 ✣
An Evaluation of a Methodology for the Detection of Leaks in Aboveground Storage Tanks

This report describes the results of the fourth phase of a program to define and advance the state of the art of leak detection for aboveground storage tanks (ASTs). Three leak-detection technologies are examined—passive-acoustic, soil-vapor monitoring, and volumetric—over a wide range of tank types, petroleum fuels, and operational conditions. This study also assesses the applicability of a general leak detection methodology involving multiple tests and product levels as well as determines the integrity of 14 ASTs using two or more test methods.

May 1994 / Product Number: J32500 / Price: $73.00

Publ 327 ✣
Aboveground Storage Tank Standards: A Tutorial

This tutorial presents procedures and examples to help designers, owners, and operators of aboveground storage tanks understand and comply with API's Recommended Practices, Standards, and Specifications concerning leak prevention. These API documents provide requirements designed to minimize environmental hazards associated with spills and leaks. The tutorial also shows how the API inspection and maintenance requirements influence the design of such tanks. It does not attempt to address additional rules and requirements imposed by individual jurisdictions or states. Pages: 70

September 1994 / Product Number: J32700 / Price: $58.00

Publ 328 ✣
Laboratory Evaluation of Candidate Liners for Secondary Containment of Petroleum Products

This document provides comparative data on the physical properties of liner materials as a function of their controlled exposure to fuels and/or additives. Six membrane and two clay liners were tested. Project test results were used to rank the liners in terms of vapor permeation and relative changes in properties such as chemical resistance and liquid conductivity measured after immersion. Pages: 142

January 1995 / Product Number: J32800 / Price: $66.00

Publ 340
Liquid Release Prevention and Detection Measures for Aboveground Storage Facilities

Written for managers, facility operators, regulators, and engineers involved in the design and selection of facility components and prevention of liquid petroleum releases, this report presents an overview of available equipment and procedures to prevent, detect or provide environmental protection from such releases. Also presented are the advantages, disadvantages, and relative costs, as well as maintenance and operating parameters of various control measures. Pages: 116

October 1997 / Product Number: J34000 / Price: $66.00

Publ 341 ✣
A Survey of Diked-area Liner Use at Aboveground Storage Tank Facilities

In 1997, API conducted a survey designed to evaluate the effectiveness of diked-area liner systems and to document operational problems involved with their use. The survey data indicated that the effectiveness of liners in protecting the environment is limited because liner systems frequently fail. The data further showed that there are few releases from aboveground storage tanks that would be addressed by diked-area liners. Because there were few releases, the data do not directly demonstrate the effectiveness or ineffectiveness of liner systems in containing releases; however, it was concluded that measures that prevent aboveground storage tank releases are more effective in protecting the environment and are more cost-effective in the long run. Pages: 32

February 1998 / Product Number: J34100 / Price: $58.00

Publ 346 ✣
Results of Range-finding Testing of Leak Detection and Leak Location Technologies for Underground Pipelines

This study reviewed the current leak detection and leak location methods for pressurized underground piping commonly found at airports, refineries, and fuel terminals. Four methods for testing underground pipes of 6 to 18 inches in diameter and 250 feet to 2 miles in length were selected for field demonstration. These technologies were constant-pressure volumetric testing, pressure-decay testing, chemical tracer testing, and acoustic emission testing. No single leak-detection system was found to work in all situations; site-specific conditions may affect any method, and combinations of methods may provide the most effective approach. Pages: 252

November 1998 / Product Number: J34600 / Price: $66.00

RP 575 ▲
Inspection of Atmospheric & Low Pressure Storage Tanks (ANSI/API 575-2004)

Covers the inspection of atmospheric and low-pressure storage tanks that have been designed to operate at pressures from atmospheric to 15 psig. Includes reasons for inspection, frequency and methods of inspection, methods of repair, and preparation of records and reports. This recommended practice is intended to supplement API Standard 653, which covers the minimum requirements for maintaining the integrity of storage tanks after they have been placed in service. Pages: 60

2nd Edition / to be published Q1, 2005

Std 620
Design and Construction of Large, Welded, Low-pressure Storage Tanks (Purchase includes addenda to the current edition of the standard.)

Covers the design and construction of large, welded, low-pressure carbon steel aboveground storage tanks (including flat-bottom tanks) that have a single vertical axis of revolution. The tanks described are designed for metal temperatures not greater than 250°F and with pressures in their gas or vapor spaces not more than 15 psig. Pages: 150

10th Edition/ February 2002 / Product Number: C62010/ Price: $242.00

Std 650 ✣ ▲
Welded Steel Tanks for Oil Storage (Purchase includes addenda to the current edition of the standard.)

Covers material, design, fabrication, erection, and testing requirements for aboveground, vertical, cylindrical, closed- and open-top, welded steel storage tanks in various sizes and capacities. Applies to tanks with internal pressures approximating atmospheric pressure, but higher pressure is permitted when additional requirements are met. This standard applies only to tanks whose entire bottoms are uniformly supported and in nonrefrigerated service with a maximum operating temperature of 90°C (200°F). Pages: 194

10th Edition/ November 1998/ Product Number: C65010/ Price: $289.00

RP 651 ✣
Cathodic Protection of Aboveground Storage Tanks

Describes corrosion problems characteristic to aboveground steel storage tanks and associated piping systems. Provides a general description of the two methods currently used to provide cathodic protection against corrosion. Pages: 25

2nd Edition / December 1997 / Product Number: C65102 / Price: $78.00

RP 652 ✣
Lining of Aboveground Petroleum Storage Tank Bottoms

Describes procedures and practices for the application of tank bottom linings to existing and new aboveground storage tanks to achieve effective corrosion control. Pages: 10

2nd Edition / December 1997 / Product Number: C65202 / Price: $78.00

Std 653 ✣ ▲
Tank Inspection, Repair, Alteration, and Reconstruction
(Purchase includes addenda to the current edition of the standard.)

Covers the inspection, repair, alteration, and reconstruction of steel aboveground storage tanks used in the petroleum and chemical industries. Provides the minimum requirements for maintaining the integrity of welded or riveted, nonrefrigerated, atmospheric pressure, aboveground storage tanks after they have been placed in service. Pages: 68

3rd Edition/ December 2001/ Product Number: C65303 / Price: $176.00

Publ 937
Evaluation of Design Criteria for Storage Tanks with Frangible Roof Joints

Describes research that evaluated the ability of the present API 650 tank design criteria to ensure the desired frangible joint behavior. Particular questions include: (1) evaluation of the area inequality as a method to predict the buckling response of the compression ring, (2) effect of roof slope, tank diameter, and weld size on the frangible joint, and (3) effect of the relative strength of the roof-to-shell joint compared to the shell-to-bottom joint. Pages: 73

1st Edition / April 1996 / Product Number: C93701 / Price: $118.00

TR 939-D
Stress Corrosion Cracking of Carbon Steel in Fuel Grade Ethanol: Review and Survey

An extensive survey of published literature, service experience and previously unpublished studies on stress corrosion cracking (SCC) of carbon steel equipment in fuel grade ethanol service and related topics was conducted by InterCorr International, Inc. (Houston, Texas) for The American Petroleum Institute and a consortium which also includes the Renewable Fuels Association. Pages: 46

1st Edition / September 2003 / Product Number: C939D0 / Price: $63.00

RP 1604 ✣
Closure of Underground Petroleum Storage Tanks

Provides operating procedures that may be used for the abandonment, removal, storage, temporarily-out-service, and sale of used underground tanks that have contained gasoline or other flammable liquids. Pages: 9

3rd Edition / March 1996 / Reaffirmed, November 2001
Product Number: A16043 / Price: $60.00

RP 1615 ✣
Installation of Underground Petroleum Storage Systems

A guide to procedures and equipment that should be used for the proper installation of underground petroleum storage systems. For use by architects, engineers, tank owners, tank operators, and contractors. Applies to underground storage tank systems that store petroleum products at retail and commercial facilities. Pages: 53

5th Edition / March 1996 / Reaffirmed, November 2001
Product Number: A16155 / Price: $98.00

RP 1631
Interior Lining and Periodic Inspection of Underground Storage Tanks

Provides minimum recommendations for the interior lining of existing steel and fiberglass reinforced plastic underground tanks used to store petroleum-based motor fuels and middle distillates. Recommendations and procedures to be followed by contractors, mechanics, and engineers are presented. Methods for vapor-freeing tanks, removing sediment, and cleaning interior surfaces of steel and fiberglass tanks are also presented, as are guidelines for identifying tanks that may be lined. Pages: 25

5th Edition / June 2001 / Product Number: A16315 / Price: $69.00

RP 1632 ✣
Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems

Covers two methods of providing cathodic protection for buried steel petroleum storage and dispensing systems. Provides information specific to buried steel structures, such as motor fuel storage tanks and delivery piping waste oil tanks, heating-oil tanks, and automobile lifts installed at service stations. (As a companion document, the NACE Publication RP 02-85, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, may be purchased with RP 1632 as a set only. This document details cathodic protection guidance for engineers and technicians.) Pages: 18

3rd Edition / 1996 / Reaffirmed, June 2002
For RP 1632 only:
Product Number: A16323 / Price: $53.00
For RP 1632 and NACE RP 02-85 as a set only:
Product Number: A1632S / Price: $78.00

RP 1650
Set of Six API Recommended Practices on Underground Petroleum Storage Tank Management

A complete set of API Recommended Practices 1604 (removal), 1615 (installation), 1621 (stock control), 1628 (spill clean-up), 1631 (interior lining), and 1632 (cathodic protection) in a vinyl binder. See description of individual recommended practices below. The six RPs are referenced as appropriate standards and guidance documents in recently-mandated federal technical standards for underground storage systems.

1st Edition / 1989 / Product Number: A16502 / Price: $251.00

Std 2000 ✣
Venting Atmospheric and Low-pressure Storage Tanks: Nonrefrigerated and Refrigerated

This standard covers the normal and emergency vapor venting requirements for aboveground liquid petroleum or petroleum products storage tanks, and aboveground and underground refrigerated storage tanks designed for operating at pressures from vacuum through 15 pounds per square inch gauge (1.034 bar gauge). Pages: 46

5th Edition / April 1998 / Product Number: C20005 / Price: $98.00

Std 2015
Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks (ANSI/API Std 2015-2001)

This standard provides safety practices for preparing, emptying, isolating, ventilating, atmospheric testing, cleaning, entry, hot work and recommissioning activities in, on and around atmospheric and low-pressure (up to and including 15 psig) aboveground storage tank that have contained flammable, combustible or toxic materials. This standard directs the user from decommissioning (removal from service) through recommissioning (return to service). This standard applies to stationary tanks used in all sectors of the petroleum and petrochemical plants, and terminals. Pages: 49

6th Edition / August 2001 / Product Number: K20156 / Price: $112.00

RP 2016
Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks
(ANSI/API RP 2016-2001)

This Recommended Practice supplements the requirements of ANSI/API Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*, Sixth Edition. This RP provides guidance and information on the specific aspects of tank cleaning, in order to assist employers (owners/operators and contractors) to conduct safe tank cleaning operations in accordance with the requirements of ANSI/API Standard 2015. Pages: 98

1st Edition / August 2001 / Product Number: K20161 / Price: $159.00

RP 2021
Management of Atmospheric Storage Tank Fires

This recommended practice provides experience-based information to enhance the understanding of fires in atmospheric storage tanks containing flammable and combustible materials. It presents a systematic management approach which can assist tank fire prevention. If fires occur, this information can help responders optimize fire suppression techniques to reduce the severity of an incident and reduce the potential for escalation Pages: 83

4th Edition / May 2001 / Product Number: K20214 / Price: $112.00

Publ 2021A ✣
Interim Study—Prevention and Suppression of Fires in Large Aboveground Atmospheric Storage Tanks

The purpose of this publication is to provide an understanding of the fire prevention and suppression issues relating to the storage of flammable and combustible liquids in large aboveground atmospheric storage tanks. Pages: 30

1st Edition / July 1998 / Product Number: K2021A / Price: $78.00

Publ 2026
Safe Access/Egress Involving Floating Roofs of Storage Tanks in Petroleum Service

Provides safety information for individuals responsible for performing maintenance or repairs that involve descent onto the floating roofs of petroleum storage tanks. Pages: 15

2nd Edition / April 1998 / Product Number: K20262 / Price: $50.00

Publ 2202
Dismantling and Disposing of Steel from Above-ground Leaded Gasoline Storage Tanks

Outlines precautions to prevent hazardous exposure of personnel to lead anti-knock compounds when dismantling tanks that have contained leaded gasoline and when disposing of the steel. Pages: 3

3rd Edition / January 1991 / Product Number: K22020 / Price: $47.00

Publ 2207 ✣
Preparing Tank Bottoms for Hot Work

This publication outlines safety precautions for preventing accidental fires and explosions when hot work is performed on tank bottoms.

5th Edition / September 1998 / Product Number: K22075 / Price: $53.00

RP 2350 ✪
Overfill Protection for Storage Tanks in Petroleum Facilities

This recommended practice prevents petroleum storage tanks from being overfilled is an important safety and environmental concern. Tank overfills can be effectively reduced by developing and implementing practical and safe operating procedures for storage facilities and by providing for careful selection and application of equipment, scheduled maintenance programs, and employee training. Covers overfill protection for all aboveground storage tanks in petroleum facilities, including refineries, terminals, bulk plants, and pipeline terminals that receive Class I (flammable) liquids from mainline pipelines or marine vessels.

3rd Edition / to be published Q1, 2005

Std 2510
Design and Construction of LPG Installations

Provides minimum requirements for the design and construction of installations for the storage and handling of LPG at marine and pipeline terminals, natural gas processing plants, refineries, petrochemical plants, and tank farms. This standard covers storage vessels, loading and unloading systems, piping and related equipment. Pages: 22

8th Edition / May 2001 / Product Number: C25108 / Price: $84.00

Std 2610 ✣
Design, Construction, Operation, Maintenance & Inspection of Terminal and Tank Facilities

(ANSI/API 2610-2005)

Covers the design, construction, operation, inspection, and maintenance of petroleum terminal and tank facilities associated with marketing, refining, pipeline, and other similar activities. Covers site selection and spacing, pollution prevention and waste management, safe operations, fire prevention and protection, tanks, dikes and berms, mechanical systems (pipe, valves, pumps and piping systems), product transfer, corrosion protection, structures, utilities and yard, and removals and decommissioning.

2nd Edition / to be published Q1, 2005

Impact of Gasoline Blended with Ethanol on the Long-Term Structural Integrity of Liquid Petroleum Storage Systems and Components
Executive Summary and Literature Review

This report summarizes the results of a literature review conducted for the American Petroleum Institute on the impact of gasoline blended with ethanol on the long-term structural integrity of liquid petroleum storage systems and components.

It is anticipated that the use of ethanol in motor fuels will continue to increase. This has generated interest about the potential long-term structural effects of ethanol on liquid petroleum storage systems, including underground storage tanks (USTs), underground piping, and associated components.

The objective of the literature review is to determine the state of industry knowledge and research on the effects of ethanol/gasoline blends on the long-term structural integrity of UST systems and components. This review is intended to assist decision-makers on further research requirements and needed changes or supplements to existing standards for underground storage systems and components used for storing and dispensing gasoline blended with ethanol.

Appendix A may be purchased separately as an electronic database file. The database is the synopsis' and bibliographic information for all articles reviewed for the project. The report is organized by article index numbers. Reference numbers cited in this report refer to the article index number.

Executive Summary

2003 / Product Number: A16000 / Price: $53.00

Appendix A—Literature Review

2003 / Product Number: A1600D / Price: $105.00

Manual of Petroleum Measurement Standards

The following Petroleum Measurement Standards have application in Storage Tanks:

Chapter 2.2A ✣

Measurement and Calibration of Upright Cylindrical Tanks by the Manual Strapping Method

Procedures for calibrating upright cylindrical tanks used primarily for the storage of petroleum liquids. Chapter 2.2A addresses necessary measurement procedures to determine total and incremental tank volumes and procedures for computing volumes. Both metric and customary units are included. The metric units reflect what is available in commercial equipment. The standard also provides guidelines for recalibration and computerization of capacity tables. Chapter 2.2A should be used in conjunction with Chapter 2.2B. These two standards combined supersede the previous API Standard 2550, *Measurement and Calibration of Upright Cylindrical Tanks*. Pages: 58

1st Edition / February 1995 / Reaffirmed, March 2002
Product Number: H022A1 / Price: $103.00

Chapter 2.2B

Calibration of Upright Cylindrical Tanks Using the Optical Reference Line Method

This chapter describes measurement and calculation procedures for determining the diameters of upright, welded (lap/butt) cylindrical tanks, or vertical cylindrical tanks, with a smooth outside surface and either floating or fixed roofs. The optical reference line method is an alternative to the manual tank strapping method for determining tank diameter. Chapter 2.2B should be used in conjunction with API Standard 2.2A. Pages: 8

1st Edition / March 1989 / Reaffirmed, March 2002
Product Number: H30023 / Price: $66.00

Chapter 2.2C

Calibration of Upright Cylindrical Tanks Using the Optical-Triangulation Method

(ANSI/API MPMS 2.2C-2002)

The method describes the calibration of vertical cylindrical tanks by means of optical triangulation using theodolites. The method is an alternative to other methods such as strapping (MPMS Chapter 2.2A) and the optical-reference-line method (*MPMS* Chapter 2.2B).

1st Edition / January 2002 / Product Number: H022C1 / Price: $66.00

Chapter 2.2D

Calibration of Upright Cylindrical Tanks Using the Internal Electro-optical Distance Ranging Method

(ANSI/API MPMS 2.2D-2003)

This chapter specifies a method for the calibration of upright cylindrical tanks having diameters greater than 5 m by means of internal measurements using an electro-optical distance-ranging instrument, and for the subsequent compilation of tank capacity tables.

This is the National Adoption of ISO 7507-4:1995. Pages: 13

1st Edition / August 2003 / Product Number: H022D1 / Price: $66.00

Chapter 2.2E

Petroleum and Liquid Petroleum Products—Calibration of Horizontal Cylindrical Tanks—Part 1: Manual Methods

(ANSI/API MPMS 2.2E)

This standard specifies manual methods for the calibration of nominally horizontal cylindrical tanks, installed at a fixed location. It is applicable to horizontal tanks up to 4 m (13 ft) in diameter and 30 m (100 ft) in length

This is the National adoption of ISO 12917-1:2002 (E).

1st Edition / April 2004 / Product Number: HX202E01 / Price: $71.00

Chapter 2.2F

Petroleum and Liquid Petroleum Products—Calibration of Horizontal Cylindrical Tanks—Part 2: Internal Electro-Optical Distance-Ranging Method

(ANSI/API MPMS 2.2F)

This standard specifies a method for the calibration of horizontal cylindrical tanks having diameters greater than 2 m (6 ft) by means of internal measurements using an electro-optical distance-ranging instrument, and for the subsequent compilation of tank-capacity tables. This method is known as the internal electro-optical distance-ranging (EODR) method.

This is the National adoption of ISO 12917-2: 2002 (E)

1st Edition / April 2004 / Product Number: HH202F01 / Price: $61.00

Std 2551

Measurement and Calibration of Horizontal Tanks

This standard describes external measurement procedures for calibrating horizontal aboveground stationary tanks larger than a barrel or drum. Pages: 47

1st Edition / 1965 / Reaffirmed, March 2002
Product Number: H25510 / Price: $87.00

Std 2555

Liquid Calibration of Tanks

This standard describes the procedure for calibrating tanks, or portions of tanks, larger than a barrel or drum by introducing or withdrawing measured quantities of liquid. Pages: 14

1st Edition / September 1966 / Reaffirmed, March 2002
Product Number: H25550 / Price: $78.00

RP 2556

Correcting Gauge Tables for Incrustation

Incrustation is defined in this publication as any material that adheres to the internal vertical sidewall surfaces of a tank when the tank is otherwise empty. The tables provided show the percent of error of measurement caused by varying thicknesses of uniform incrustation in tanks of various sizes. Pages: 3

2nd Edition / August 1993 / Reaffirmed, November 2003
Product Number: H25560 / Price: $60.00

Chapter 3.1A

Manual Gauging of Petroleum and Petroleum Products

Procedures for manual gauging in fixed or floating-roof tanks and marine tank vessels. Includes procedures for manually gauging the liquid level in nonpressure fixed-roof tanks, floating-roof tanks, and nonpressurized marine tanks vessels; procedures for manually gauging the level of free water found with petroleum and petroleum products; methods used to verify the length of gauge tapes under field conditions; the influence of bob weights and temperature on the gauge tape length; and the influences that may affect the accuracy of tank measurement. This chapter combined with Chapter 3.1B supersedes all applicable sections of Std 2545. Pages: 23

1st Edition / December 1994 / Reaffirmed, December 1999
Product Number: H031A1 / Price: $60.00

Chapter 3.1B
Standard Practice for Level Measurement of Liquid Hydrocarbons in Stationary Tanks by Automatic Tank Gauging

This chapter covers level measurement of liquid hydrocarbons in stationary, aboveground, atmospheric storage tanks using automatic tank gauges (ATGs). This chapter discusses automatic tank gauging in general, calibration of ATGs for custody transfer and inventory control, and the requirements for data collection, transmission, and receiving. The appendices discuss the operation and installation of the most commonly used ATG equipment and of the less commonly used, electronic ATGs. Pages: 17

2nd Edition / June 2001 / Product Number: H301B2 / Price: $78.00

Chapter 3.3
Level Measurement of Liquid Hydrocarbons in Stationary Pressurized Storage Tanks by Automatic Tank Gauging

Provides guidance on the installation, calibration, and verification of automatic tank gauges (ATGs) used in custody transfer for measuring the level of liquid hydrocarbons having a Reid vapor pressure of 15 psi (103 kilopascals) or greater, stored in stationary, pressurized storage tanks. This chapter also provides guidance on the requirements for data collection, transmission, and receiving. Pages: 10

1st Edition / June 1996 / Reaffirmed, March 2001
Product Number: H03031 / Price: $66.00

Chapter 3.4
Standard Practice for Level Measurement of Liquid Hydrocarbons on Marine Vessels by Automatic Tank Gauging

This chapter provides guidance on the selection, installation, calibration, and verification of automatic tank gauges (ATGs) for measuring the level of liquid hydrocarbons having a Reid vapor pressure less than 15 pounds per square inch absolute (103 kPa), transported aboard marine vessels (tankers and barges). This chapter also provides guidance on the requirements for data collection, transmission, and receiving. This chapter supersedes all applicable sections of API Standard 2545. Pages: 10

1st Edition / April 1995 / Reaffirmed, September 2000
Product Number: H03041 / Price: $66.00

Chapter 12.1
Section 1—Calculation of Static Petroleum Quantities—Part 1—Upright Cylindrical Tanks and Marine Vessels

This chapter is intended to guide the user through the steps necessary to calculate static liquid quantities, at atmospheric conditions, in upright, cylindrical tanks and marine tank vessels. The standard defines terms employed in the calculation of static petroleum quantities. The standard also specifies equations that allow the values of some correction factors to be computed. Fundamental to this process is the understanding that in order for different parties to be able to reconcile volumes, they must start with the same basic information (tank capacity table, levels, temperatures, and so forth) regardless of whether the information is gathered automatically or manually. This chapter does not address the calculation of clingage, nonliquid material, small quantities (such as onboard quantities, quantities remaining on board, and wedge formula, where material is not touching all bulkheads on marine vessels), and vapor space calculations.

2nd Edition / November 2001 / Product Number: H12112 / Price: $75.00

Chapter 16.2
Mass Measurement of Liquid Hydrocarbons in Vertical Cylindrical Storage Tanks by Hydrostatic Tank Gauging

This new standard provides guidance on the installation, commissioning, maintenance, validation, and calibration of hydrostatic tank gauging (HTG) systems for the direct measurement of static mass of liquid hydrocarbons in storage tanks. This first edition is applicable to hydrostatic tank gauging systems that use pressure sensors with one port open to the atmosphere. It is also applicable for use on vertical cylindrical atmospheric storage tanks with either fixed or floating roofs. (Based entirely on ISO 11223-1, Part 1) Pages: 20

1st Edition / November 1994 / Reaffirmed, March 2002
Product Number: H16021 / Price: $78.00

Publ 2558 ✣
Wind Tunnel Testing of External Floating-Roof Storage Tanks

This study presents the results of a wind tunnel study to determine the local wind velocities, wind directions, and roof pressures on external floating-roof tanks.

1st Edition / June 1993 / Reaffirmed, March 2001
Product Number: H25580 / Price: $162.00

Chapter 19.1
Evaporative Loss From Fixed Roof Tanks

This chapter contains an improved method for estimating the total evaporative losses or the equivalent atmospheric hydrocarbon emissions from fixed-roof tanks that contain multicomponent hydrocarbon mixture stocks (such as petroleum liquid stocks like crude oils) or single-component hydrocarbon stocks (such as petrochemical stocks like ethanol).

3rd Edition / March 2002 / Product Number: H19013 / Price: $104.00

Chapter 19.1A ✣
Evaporation Loss from Low-pressure Tanks (Previously Bull 2516)

Breathing, working, and leakage losses encountered in low-pressure tanks (atmospheric to 15 psig) are discussed in this bulletin, which also provides equations for calculating these values. Pages: 12

March 1962 / Reaffirmed, September 2000
Product Number: H25160 / Price: $78.00

Chapter 19.1D
Documentation File for API Manual of Petroleum Measurement Standards Chapter 19.1—Evaporative Loss from Fixed Roof Tanks

The documentation file for Chapter 19.1 (API Bulletin 2518). Presents information on the development of theoretical equations; comparisons with test data; a sensitivity analysis of the loss equation; and other pertinent information that was developed during the preparation of API *MPMS* Chapter 19.1. Pages: 190

1st Edition / March 1993 / Reaffirmed, March 2001
Product Number: H30553 / Price: $142.00

Chapter 19.2
Evaporative Loss from Floating Roof Tanks

This chapter contains methods for estimating the total evaporative losses or the equivalent atmospheric hydrocarbon emissions from external floating-roof tanks (EFRTs) and freely vented internal floating-roof tanks (IFRTs), as well as for tanks with external-type floating roofs that also have a freely vented fixed roof. This type of tank is referred to as a covered floating-roof tank (CFRT) in this document. Pages: 83

2nd Edition/ September 2003/Product Number: H19022/ Price: $136.00

Chapter 19.3 ✣
Part A—Wind Tunnel Test Method Deck Fitting Loss Factors for External Floating-roof Tanks

This test method describes the procedures to establish evaporative loss factors for deck fittings on external floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. The test method involves measuring the weight loss of a test assembly over time. The standard specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. It also addresses the variables to be measured, format for reporting the test values and their associated uncertainty. Pages: 27

1st Edition / June 1997 / Reaffirmed, March 2002
Product Number: H1903A / Price: $98.00

Chapter 19.3 ✣
Part B—Air Concentration Test Method—Rim Seal Loss Factors for Floating-roof Tanks

This test method describes the procedures to establish evaporative rim-seal loss factors for rim seals used on external floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. The test method involves passing a controlled flow rate of air through a test chamber that contains a test liquid and a test rim seal, and measuring the concentration of the test liquid vapor in the air streams entering and leaving the test chamber. The standard specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. It also addresses the variables to be measured, format for reporting the test values, and their associated uncertainty. Pages: 30

1st Edition / August 1997 / Reaffirmed, March 2002
Product Number: H1903B / Price: $98.00

Chapter 19.3 ✣
Part C—Weight Loss Test Method—Deck-seam Loss Factors for Internal Floating-roof Tanks

This chapter provides a uniform method for measuring evaporative loss from rim seals used on aboveground storage tanks. This information can be utilized to establish product-specific loss factors in terms of loss rate and seal gap area. This chapter is part API's Tank Seals and Fittings Certification Program. Pages: 29

1st Edition / July 1998 / Reaffirmed, March 2002
Product Number: H1903C / Price: $98.00

Chapter 19.3
Part D—Fugitive Emissions Test Method of Deck-seam Loss Factors for Internal Floating-roof Tanks

The purpose of this standard is to establish a uniform method for measuring evaporative deck-seam loss factors and deck-joint loss factors of mechanically-joined deck seams that are used on internal floating-roof tanks. These deck-seam loss factors and deck-joint loss factors are to be determined in terms of their loss rate at specified pressure differences across the deck seam or deck joint for certification purposes. Pages: 31

1st Edition / June 2001 / Product Number: H1903D / Price: $98.00

Chapter 19.3 ✣
Part E—Weight Loss Test Method—Deck Fitting Loss Factors for Internal Floating-roof Tanks

This document describes the test methods to be used to establish evaporative loss factors for deck fittings on internal floating-roof tanks as part of API's Tank Seals and Fittings Certifications Program. This chapter specifies the test apparatus, instruments, test procedures, and calculation procedures to be used. The standard also addresses the requirements for reporting test report values. Pages: 30

1st Edition / May 1997 / Reaffirmed, March 2002
Product Number: H1903E / Price: $98.00

Chapter 19.3 ✣
Part F—Evaporative Loss Factor for Storage Tanks Certification Program

This document describes the specific test protocols required under API's Tank Seals and Fittings Certification program. It covers testing and certification requirements for testing facilities, procedures for data submission, and the procedures used by API to analyze data submitted as part of the program. Pages: 12

1st Edition / March 1997 / Reaffirmed, March 2002
Product Number: H1903F / Price: $98.00

Chapter 19.3 ✣
Part G—Certified Loss Factor Testing Laboratory Registration

This document covers the requirements to become a certified testing facility as part of the API Tank Seals and Fittings Certification Program. Certified facilities will conduct evaporative loss testing on seals and fittings for aboveground storage tanks using testing protocols developed by API. This chapter includes the requirements for equipment used, data handling and submission, and other factors to assure data integrity. Pages: 12

1st Edition / March 1997 / Reaffirmed, March 2002
Product Number: H1903G / Price: $98.00

Chapter 19.3 ✣
Part H—Tank Seals and Fittings Certification Administration

Provides guidance for the administration of the API Tank Seals and Fittings Certification Program. The document includes detailed methods for monitoring and analysis of tests conducted on individual devices and describes the steps in the certification process. Pages: 53

1st Edition / March 1998 / Effective Date: March 1998
Reaffirmed, March 2002 / Product Number: H1903H / Price: $98.00

Chapter 19.4 ✣
Recommended Practice for Speciation of Evaporative Losses

This chapter contains recommended methods for estimating specific organic compound emissions from storage tanks, and marine vessel transfer operations handling multicomponent hydrocarbon mixtures (such as crude oils and gasoline) associated with petroleum operations. Pages: 43

1st Edition / November 1997 / Reaffirmed, March 2002
Product Number: H19041 / Price: $98.00

API welcomes questions, suggestions, and comments concerning its standards. Comments and questions should be submitted or sent to www.api.org/techinq.

Publications

Spec 6A ✪ ▲
Specification for Wellhead and Christmas Tree Equipment
(includes Errata dated September 2004)

Specifies requirements and gives recommendations for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment and purchasing, of wellhead and christmas tree equipment for use in the petroleum and natural gas industries.

This edition of API Spec 6A is the modified national adoption of ISO 10423:2003. *An informative annex is included covering the requirements of the API Monogram Program for equipment covered in the specification.* Pages: 414

19th Edition / July 2004 / Effective Date: February 2005
Product Number: GX06A19 / Price: $221.00

Spec 6A718 ✪
Specification of Nickel Base Alloy 718 (UNS N07718) for Oil and Gas Drilling and Production Equipment

Provides specification requirements for Nickel Base Alloy 718 (UNS N07718) that are intended to supplement the existing requirements of API Spec 6A and ISO 10423. These additional specification requirements include detailed process control requirements and detailed testing requirements. Pages: 17

1st Edition / March 2004 / Product Number: G6A7181 / Price: $69.00

Spec 6AV1 ✣ ▲
Verification Test of Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service
(includes Errata dated December 1996)

Establishes testing requirements to verify the design of surface safety valves (SSVs) and underwater safety valves (USVs), and SSV/USV actuators, manufactured in accordance with API Specification 6A. Includes requirements for verification testing of SSVs and USVs for two performance requirement levels. Pages: 14

1st Edition / February 1, 1996 / Reaffirmed, January 2003
Product Number: G06AV1 / Price: $60.00

Spec 6D/ISO 14313 ▲
Specification for Pipeline Valves

API Specification 6D is the (proposed) national adoption of ISO 14313: 1999 MOD, *Petroleum and Natural Gas Industries—Pipeline Transportation Systems—Pipeline Valves*. This International Standard specifies requirements and gives recommendations for the design, manufacturing, testing and documentation of ball, check, gate and plug valves for application in pipeline systems. Valves for pressure ratings exceeding PN 420 (Class 2500) are not covered by this International Standard. Annex A of this Spec 6D provides guidelines to assist the purchaser with valve type selection and specification of specific requirements when ordering valves. Annex E provides information on API Monogram Licensing requirements. Annex F includes the technical modifications and editorial changes. Pages: 72

22nd Edition / January 2002 / Effective Date: July 1, 2002
Product Number: GX06D22 / Price: $104.00

Spec 6FA ✣
Fire Test for Valves

Covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves when exposed to specifically defined fire conditions. Pages: 7

3rd Edition / April 1999 / Product Number: G06FA3 / Price: $78.00

Spec 6FC ✣
Fire Test for Valve With Automatic Backseats

Covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves with automatic backseats when exposed to specifically defined fire conditions. Pages: 7

3rd Edition / April 1999 / Product Number: G06FC3 / Price: $78.00

Spec 6FD ✣
Fire Test for Check Valves

Establishes the requirement for testing and evaluating the pressure containing performance of API Specs 6A and 6D check valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. Pages: 9

1st Edition/February 15, 1995/ Reaffirmed, January 2003
Product Number: G06FD1 / Price: $72.00

Spec 14A/ISO 10432:1999 ▲
Specification for Subsurface Safety Valve Equipment
Petroleum and natural gas industries–Downhole equipment–Subsurface safety valve equipment

Covers subsurface safety valves, safety valve locks, and safety valve landing nipples. Includes minimum acceptable standards for materials, manufacturing, and testing of both surface- and subsurface-controlled safety valves for three classes of service. Pages: 79

10th Edition / November 2000 / Effective Date, May 15, 2001
Product Number: GX14A10 / Price: $142.00

RP 14B ✣
Design, Installation, Repair and Operation of Subsurface Safety Valve Systems
(includes Errata dated June 1996)

Covers procedures for design calculations, instructions for safe installation and guidelines for operating and testing to assure safe and efficient performance of subsurface safety valve systems (SSSVs), and covers repair and remanufacture of SSSV equipment. Pages: 23

4th Edition / July 1994 / Reaffirmed, January 2003
Product Number: G14B04 / Price: $92.00

RP 14H ✣
Installation, Maintenance and Repair of Surface Safety Valves and Underwater Safety Valves Offshore
(includes Errata dated September 23, 1996)

Covers guidelines for inspecting, installing, maintaining, repairing, and operating of SSVs/USVs. Pages: 16

4th Edition / July 1, 1994 / Product Number: G14H04 / Price: $92.00

RP 591
Process Valve Qualification Procedure

Provides recommendations for evaluation of a manufacturer's valve construction and quality assurance program for the purpose of determining a manufacturer's capability to provide new valves manufactured in accordance with the applicable API standards listed in Section 2.

Qualification of valves under this recommended practice is "manufacturing facility specific" and does not cover valves manufactured by other manufacturing facilities, whether owned by the same manufacturer or a third party. Pages: 9

3rd Edition / September 2003 / Product Number: C59103 / Price: $67.00

Std 594 ✪
Check Valves: Flanged, Lug, Wafer and Butt-welding

This standard covers design, materials, face-to-face dimensions, pressure-temperature ratings, and examination, inspection, and test requirements for gray iron, ductile iron, steel, and alloy single and dual plate check valves. Valve configurations include wafer, wafer-lug, and double-flanged type with facings that will permit installation between ASME and MSS flanges that conform to the standards and specifications listed in the Refinery Service Value Standards. Pages: 11

6th Edition / September 2004 / Product Number: C59406 / Price: $74.00

Std 598 ✪
Valve Inspection and Testing

Covers inspection, examination, supplementary examinations, and pressure test requirements for resilient-seated, nonmetallic-seated (for example, ceramic), and metal-to-metal-seated valves of the gate, globe, plug, ball, check, and butterfly types.

API Std 598 supplements the API standards that reference it, but it may also be applied to other types of valves by agreement between the purchaser and the valve manufacturer.

8th Edition / May 2004 / Product Number: C59808 / Price: $63.00

Std 599
Metal Plug Valves—Flanged, Threaded and Welding End
(ANSI/API Std 599-2002)

Covers steel, nickel base and other alloy plug valves with flanged or butt-welding ends and ductile iron plug valves with flanged ends in sizes NPS 1/2 through NPS 24 and threaded or socket-welding ends for sizes NPS 1/2 through NPS 2. Valve bodies conforming to ASME B16.34 may have one flange and one butt-welding end. Pages: 9

5th Edition / August 2002 / Product Number: C59905 / Price: $58.00

API 600/ISO 10434
Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries—Modified National Adoption
(ANSI/API Std 600-2001)

ANSI/API Standard 600 specifies the requirements for a heavy duty series of bolted bonnet steel gate valves for petroleum refinery and related applications where corrosion, erosion and other service conditions indicate a need for full port openings, heavy wall sections and extra large stem diameters.

11th Edition / October 2001 / Product Number: CX60011 / Price: $84.00

Std 602 ✣
Compact Steel Gate Valves—Flanged, Threaded, Welding, and Extended Body Ends

Covers threaded-end, socket-welding-end, butt-welding-end, and flanged-end compact carbon steel gate valves in sizes NPS 4 and smaller. Pages: 20

7th Edition / October 1998 / Product Number: C60207 / Price: $58.00

Std 603
Corrosion-Resistant, Bolted Bonnet Gate Valves—Flanged and Butt-welding Ends
(ANSI/API Std 603-2001)

API Standard 603 covers corrosion-resistant bolted bonnet gate valves with flanged or butt-weld ends in sizes NPS 1/2 through 24, corresponding to nominal pipe sizes in ASME B36.10M, and Classes 150, 300, and, 600, as specified in ASME B16.34. Pages: 9

6th Edition / May 2001 / Product Number: C60306 / Price: $49.00

Std 607 ✣
Fire Test for Soft-Seated Quarter-turn Valves

Covers the requirements for testing and evaluating the performance of straightway, soft-seated quarter-turn valves when the valves are exposed to certain fire conditions defined in this standard. The procedures described in this standard apply to all classes and sizes of such valves that are made of materials listed in ASME B16.34. The performance requirements presented in this document establish standard limits on the acceptability of such valves. Pages: 8

4th Edition / May 1993 / Reaffirmed, April 1998
Product Number: C60700 / Price: $55.00

Std 608
Metal Ball Valves—Flanged, Threaded and Butt-welding Ends

Covers metal ball valves used in on-off service that have butt-welding of flanged ends for nominal pipe size NPS 1/2 through NPS 12 and threaded or socket-welding ends for sizes NPS 1/2 through NPS 2, corresponding to the nominal pipe sizes in ASME B36.10M. Also covers additional requirements for ball valves that are otherwise in full conformance to the requirements of ASME B16.34, Standard Class. Pages: 6

3rd Edition / August 2002 / Product Number: C60803 / Price: $74.00

Std 609 ✪
Butterfly Valves: Double Flanged, Lug- and Water-type

Covers design, materials, face-to-face dimensions; pressure-temperature ratings; and examination, inspection, and test requirements for gray iron, ductile iron, bronze, steel, nickel-base alloy, or special alloy butterfly valves that provide tight shutoff in the closed position and are suitable for flow regulation.

6th Edition / May 2004 / Product Number: C60906 / Price: $63.00

RP 621
Reconditioning of Metallic Gate, Globe, and Check Valves
(ANSI/API Std 621-2001)

API RP 621 provides guidelines for reconditioning heavy wall (API 600 type) carbon steel, ferritic alloy (up to 9% Cr), stainless steel, and nickel alloy gate, globe, and check valves for ASME pressure classes 150, 300, 400, 600, 900, 1500, and 2500. Guidelines contained in this RP apply to flanged and butt weld cast or forged valves. Pages: 18

1st Edition / March 2001 / Product Number: C62101 / Price: $95.00

Industry Training

Note that member discounts do not apply to material available from sources other than the American Petroleum Institute through Global Engineering Documents.

Exploration and Production

Publications

The following publications may be ordered from Global Engineering Documents.

RP T-1

Orientation Programs for Personnel Going Offshore for the First Time

Serves as a guide to developing orientation standards and programs applicable to all employees and visitors going offshore. Orientation programs ensure that all new personnel know what is expected of them during their first trip offshore, as well as what they may expect to encounter during this trip. Employers have the option to institute broader procedures commensurate with their own policies and standards. Pages: 4

4th Edition / October 1995 / Reaffirmed, June 2000
Product Number: GT1004 / Price: $47.00

RP T-2 ▲

Qualification Programs for Offshore Production Personnel Who Work with Safety Devices

API RP T-2 provides guidelines for the qualification of personnel engaged in installing, inspecting, testing, and routinely maintaining surface and subsurface devices that are used to insure safety and to prevent pollution during the production of oil and gas on offshore platforms. The guidelines provide expected candidate performance levels, instructional content and recommendations for testing. The guidelines are divided into instructional and testing phases. Pages: 3

2nd Edition / December 2001 / Product Number: GT2002 / Price: $47.00

RP T-4

Training of Offshore Personnel in Nonoperating Emergencies

Represents an industry guide for the training of workers who work offshore. It presents recommendations for training these personnel in handling nonoperating emergencies, such as fires, transportation emergencies, platform abandonment procedures, use of survival crafts, and water survival guidelines. Pages: 3

2nd Edition / November 1995 / Reaffirmed, June 2000
Product Number: GT4002 / Price: $47.00

RP T-6 ✪

Recommended Practice for Training and Qualification of Personnel in Well Control Equipment and Techniques for Wireline Operations on Offshore Locations

This Recommended Practice (RP) provides criteria for the qualification of wireline personnel in well control equipment operations and techniques. Although it does include recommendations for training wireline personnel on general rig well control equipment and theory, it should be noted that the main focus for training should be those operations using a lubricator as the primary well control mechanism. Wireline personnel classifications to which this RP is applicable are the Helper/Assistant and Operator/Supervisor. Pages: 2

1st Edition / October 2002 / Product Number: GT0601 / Price: $47.00

Visit www.api.org/petroteam

Are you using training on RP T-2 and RP T-6 that meets the standards of the people who wrote the book? Does your training program have the right stuff? API sets the standard in training for the oil and gas industry with its **Training Provider Certification Program (TPCP)**. Learn more about API's TPCP at www.api.org/TPCP or call 202-682-8490.

RP T-7

Training of Personnel in Rescue of Persons in Water

Applies to personnel who work offshore. It represents an industry guide for training personnel in techniques for rescuing persons from the water and using survival devices. It broadly identifies rescue devices, describes their operations, and presents recommendations for training personnel. Training recommendations are designed to develop personnel rescue proficiency while minimizing an individual's exposure to injury or loss of life. Pages: 8

2nd Edition / October 1995 / Reaffirmed, June 2000
Product Number: GT7002 / Price: $45.00

Introduction to Oil and Gas Production

(Book 1 in the Vocational Training Series)

Serves as a primer for oil and gas operations. It covers the origins and accumulation of oil and gas, the well, well treatment and wellhead, artificial lift, well testing, separation, treatment and storage, gauging and metering, production, offshore production and structures, corrosion, enhanced recovery, production personnel, tools and equipment, pipe, valves and fittings, reports and records, state and federal regulations, environmental, health and safety concerns, economic considerations, and future trends. Pages: 120

5th Edition / June 1996 / Reaffirmed, June 2002
Product Number: GVT015 / Price: $130.00

Subsurface Salt Water Injection and Disposal

(Book 3 in the Vocational Training Series)

A handbook for the planning, installation, operation, and maintenance of subsurface disposal systems. Design criteria and formulas are given for gathering systems, treating plants, and injection facilities. Alternative equipment and methods are discussed and illustrated. Economic considerations are presented. Pages: 47

3rd Edition / 1995 / Reaffirmed, June 2000
Product Number: GVT033 / Price: $78.00

Wireline Operations and Procedures

(Book 5 in the Vocational Training Series)

A handbook outlining to operators of oil and gas wells what applications are possible with wireline tools and equipment. Also a guide for field personnel. Surface equipment, service tools (standard and special), and subsurface equipment (both permanent and removable) are described and illustrated. Their various applications are included. Also presented is a general discussion of special problems which wireline operations and procedures may serve to eliminate, minimize, or control, and methods by which this may be accomplished. Pages: 60

3rd Edition / 1994 / Reaffirmed, June 2000
Product Number: GVT053 / Price: $98.00

Gas Lift

(Book 6 in the Vocational Training Series)

Familiarizes field personnel with basic gas lift principles; operating procedures for adjusting, regulating, operating, and troubleshooting gas-lift equipment; and well conditions. Covers conventional practices and concepts. Illustrated with drawings of typical gas-lift installations and related equipment, as well as actual charts illustrating operation of, and problems encountered in, gas-lifted wells. Pages: 138

3rd Edition / 1994 / Reaffirmed, June 2000
Product Number: GVT063 / Price: $130.00

Marketing

Slide-Tape and Video Tape Programs

The following publications may be ordered from Global Engineering Documents.

Publ 1663A
Operation Underground

These self-paced training modules cover two underground storage tank (UST) subject areas—installation and removal. The training modules can be purchased individually or as a complete package. Each training module can be used by more than one trainee; however, each trainee needs an individual copy of the workbook and exhibit book set. Publ 1663A is the complete set and consists of both Publ 1663B *Underground Storage Tank Installation Training Module* and Publ 1663D *Underground Storage Tank Removal Training Module*. (See module descriptions below.)

Product Number: A1663A / Price: $409.00

Publ 1663B
Underground Storage Tank Installation Training Module

Covers various topics associated with underground storage tank (UST) installation, including excavation; pre-installation handling and storage procedures; liners; anchoring; installation, and backfill; piping components and installation; secondary containment, spill containment and over-fill prevention; and release detection. This module package includes a 85-minute videotape, the companion 124-page workbook/exhibit book (Publ 1663C, also sold separately), and a video carrier.

Product Number: A1663B / Price: $289.00

Publ 1663C
Underground Storage Tank Installation

This workbook/exhibit book is the companion to the *Underground Storage Tank Installation Training Module* video. To use the training module video, each trainee requires a separate copy of the workbook/exhibit book set. Pages: 124

Product Number: A1663C / Price: $47.00

Publ 1663D
Underground Storage Tank Removal Training Module

Covers various topics associated with underground storage tank (UST) removal, including barricading, sloping and shoring; vapor freeing tanks; and tank removal. This module package includes a 57-minute videotape and the companion 62-page workbook/exhibit book set. (Publ 1663E, also sold separately).

Product Number: A1663D / Price: $257.00

Publ 1663E
Underground Storage Tank Removal

This workbook/exhibit book set is the companion to the Underground Storage Tank Removal Training Module video. To use the training module video, each trainee requires a separate copy of the workbook/exhibit book set. Pages: 62

Product Number: A1663E / Price: $47.00

Pipeline Operations

The American Petroleum Institute (API) and the National Center for Construction Education and Research (NCCER) have joined forces to create the Pipeline Training and Assessment Program (PTAP). The API Operator Qualification (OQ) Pipeline Training and Assessment Program (PTAP) consists of API Operator Qualification (OQ) Pipeline Curriculum and Skills Assessments to qualify pipeline personnel under the Department of Transportation's (DOT) regulation for Pipeline Operator Qualification (OQ). The Pipeline Skills Assessments link to Pipeline OQ Curriculum to help determine operator qualifications on selected Covered Tasks as identified by API and the Pipeline Industry.

The seven categories of the API OQ Pipeline curriculum are:
- Gas Pipeline Operations
- Liquid Pipeline Field Operations
- Liquid Pipeline Control Center Operations
- Pipeline Corrosion Control Levels One and Two
- Pipeline Electrical & Instrumentation Levels One through Three
- Pipeline Maintenance Levels One through Three
- Pipeline Mechanical Levels One through Three

Please note that each Level One curriculum begins with the same module: Introduction to the Pipeline Industry. As well, all Level One curricula contain an Abnormal Operating Conditions module. Also note that the Module titles are aligned with their coinciding Covered Tasks (CT) where applicable.

For more information regarding the API OQ Curriculum and Skills Assessments visit www.nccer.org or call NCCER's Customer Service at 1-888-NCCER20. For information on placing NCCER Pipeline Curriculum orders, visit www.crafttraining.com, or call Prentice Hall Customer Service at 1-800-922-0579.

CORE CURRICULUM
The API OQ Core Curriculum is the foundation for all construction, maintenance, and pipeline skills. NCCER strongly recommends that trainees successfully complete Core Curriculum before advancing to Level One of their chosen field. Thus, ordering information for the Core Curriculum (72.5 hours of training) is listed at the beginning of each of API OQ PTAP seven categories below.

Published: 1992 / Revised 2004

Gas Pipeline Operations

197.5 Hours (includes 72.5 hours of Core Curriculum) / Published: 2002

CORE CURRICULUM

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Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

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Trainee Guide: $40.00 **SBN 0-13-109188-3**
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The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry
(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electri-

cal power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

67102-02 Basic Pipeline Pneumatics and Equipment

(10 Hours) Introduces the basics of pneumatic equipment. Topics include pneumatic safety and the physical characteristics of gas. A discussion of compressors, valves, meters, and other pipeline equipment and an overview on pipeline design also are included.

Trainee $20.00 **ISBN 0-13-038244-2**
Instructor $20.00 **ISBN 0-13-038251-5**

67103-02 Pipeline Communications

(10 Hours) Stresses the importance of clear communication between pipeline employees. Topics include issuing work orders and callouts, communications between shifts, and communications with regulatory agencies and the general public. Focuses on the importance of communication to safety, customer service, and the company's reputation.

Trainee $20.00 **ISBN 0-13-038245-0**
Instructor $20.00 **ISBN 0-13-038252-3**

67104-02 Routine Field and Facility Operations

(*CT 43, 50, 51, 54, 56, 57, and 58*) (30 Hours) Provides an overview of the daily tasks performed in the field and the pipeline facility. Topics include performing routine facility inspections, operating valves and compressors, purging the pipeline, testing remote control shutdown devices, operating odorant equipment and monitoring odorant level (when applicable), uprating the pipeline MAOP, performing system startup and shutdown, and pigging.

Trainee $20.00 **ISBN 0-13-038247-7**
Instructor $20.00 **ISBN 0-13-038254-X**

67105-02 Routine Control Center Operations

(*CT 43, 50, 51, 54, 56, 57,and 58*) (30 Hours) Provides an overview of the daily tasks performed in a pipeline's control center, including the use of the SCADA system. Topics include manifold and compressor operations, system startup and shutdown, pigging, purging pipelines, testing remote control shutdown devices, uprating the MAOP, and operating odorant equipment and monitoring odorant level (when applicable).

Trainee $20.00 **ISBN 0-13-038246-9**
Instructor $20.00 **ISBN 0-13-038253-1**

67106-02 Quality Control and Measurement

(20 Hours) Focuses on the importance of quality control and accurate measurement as they affect safety, customer service, and the company's reputation. Topics include taking samples, performing product testing, and product testing and measurement tools.

Trainee $20.00 **ISBN 0-13-038240-X**
Instructor $20.00 **ISBN 0-13-038257-4**

67107-02 Abnormal Operating Conditions

(10 Hours) Provides an overview of the types of abnormal operating conditions (AOCs) that may occur on the pipeline or in company facilities. Appropriate responses to AOCs are covered with a focus on following company policy to protect lives and pipeline equipment. Also covered are the reports required by federal law.

Trainee $20.00 **ISBN 0-13-038265-5**
Instructor $20.00 **ISBN 0-13-038275-2**

Liquid Pipeline Field Operations

195 Hours (includes 72. 5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **SBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Liquid Pipeline Field Operations—PERFECT-BOUND

Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046669-7**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046660-3**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry

(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

66102-02 Liquid Pipeline General Abnormal Operating Conditions

(*Pipeline Core*) (5 Hours) Introduces the Abnormal Operating Conditions (AOCs) that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to AOCs and the necessary documentation and notifications that must be completed when responding to AOCs.

Trainee $20.00 **ISBN 0-13-038224-8**
Instructor $20.00 **ISBN 0-13-038235-3**

60102-02 Basic Pipeline Hydraulics and Equipment

(10 Hours) Explains pipeline hydraulics safety, basic principles of hydraulic systems, hydraulic properties of petroleum products, pipeline design factors, and basic pipeline equipment.

Trainee $20.00 **ISBN 0-13-038226-4**
Instructor $20.00 **ISBN 0-13-038236-1**

60103-02 Pipeline Communications

(7.5 Hours) Introduces the various channels of communications that must exist in pipeline operations, including internal communications with scheduling, operations, and maintenance, and external communications with contractors, the general public, regulatory agencies, and local, state, and federal government.

Trainee $20.00 **ISBN 0-13-038227-2**
Instructor $20.00 **ISBN 0-13-038237-X**

60104-02 Product Batch and Pig Tracking

(10 Hours) Describes how to track pipeline product line inventories; handle scheduled pipeline shipments; identify product interface changes; and launch, receive, and track pigs through the pipeline and facility.

Trainee $20.00 **ISBN 0-13-038228-0**
Instructor $20.00 **ISBN 0-13-038238-8**

60105-02 Routine Field and Facility Operations

(*CT 43.1, 43.2, and 43.4*) (25 Hours) Explains how to perform visual facility checks and verify tank capacity and availability. Provides procedures for operating valves; facility pumping equipment; pressure, flow, and temperature controllers; and terminal storage tanks. Also provides information relating to custody transfers, setting alarm parameters, performing start-up and shutdown procedures, performing batch switches, calculating facility over-and-short, and completing required operations documentation.

Trainee $20.00 **ISBN 0-13-038229-9**
Instructor $20.00 **ISBN 0-13-038239-6**

60106-02 Monitoring Pipeline Operations

(*CT 43.3*) (15 Hours) Explains how to monitor pipeline parameters, recognize and react to safety device alarms, purge product from the pipe, perform pipeline surveillance, and monitor weather conditions.

Trainee $20.00 **ISBN 0-13-038220-5**
Instructor $20.00 **ISBN 0-13-038230-2**

60107-02 Field Quality Control

(15 Hours) Introduces field quality control procedures including activation of tank mixing devices, collection of product samples, product testing, pipeline switching, product blending operations, and injection of appropriate additives.

Trainee $20.00 **ISBN 0-13-038231-0**
Instructor $20.00 **ISBN 0-13-038242-6**

60108-02 Field Measurement

(20 Hours) Introduces the techniques used in field measurement of products in the pipeline. Areas covered include measurement components, types of meters, measurement of custody transfers and receipts, verification of meter accuracy, waterdraw calibration techniques, and utilization of tank strappings.

Trainee $20.00 **ISBN 0-13-038232-9**
Instructor $20.00 **ISBN 0-13-038243-4**

Liquid Pipeline Control Center Operations

195 Hours (includes 72.5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **ISBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Liquid Pipeline Control Center Operations—

PERFECT-BOUND—Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046674-3**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046675-1**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry

(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

65102-02 Control Center Abnormal Operating Conditions

(5 Hours) Introduces the trainee to the abnormal operating conditions that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to abnormal operating conditions from the control center and the necessary documentation and notifications that must be completed when responding to abnormal operating conditions.

Trainee $20.00 **ISBN 0-13-038267-1**
Instructor $20.00 **ISBN 0-13-038276-0**

65103-02 Basic Pipeline Hydraulics and Equipment

(10 Hours) Explains pipeline hydraulics safety, basic principles of hydraulic systems, hydraulic properties of petroleum products, pipeline design factors, and basic pipeline equipment.

Trainee $20.00 **ISBN 0-13-038259-0**
Instructor $20.00 **ISBN 0-13-038268-X**

65104-02 Pipeline Communications

(7.5 Hours) Introduces the various channels of communication that must exist in pipeline operations, including internal communications with scheduling, operations, and maintenance, and external communications with contractors, the general public, regulatory agencies, and local, state, and federal government.

Trainee $20.00 **ISBN 0-13-038261-2**
Instructor $20.00 **ISBN 0-13-038260-4**

65105-02 Monitoring Pipeline Operations—Control Center

(*CT 43.3*) (30 Hours) Introduces the concepts, theories, and applications of the SCADA computer system. Explains how to monitor and prioritize the various alarms and functionalities of the SCADA system, perform pipeline system and pipeline station monitoring activities with the SCADA system, and document pipeline activities with the SCADA system.

Trainee $20.00 **ISBN 0-13-038262-0**
Instructor $20.00 **ISBN 0-13-038271-X**

65106-02 Routine Control Center Operations

(*CT 43.1, 43.2, and 43.4*) (35 Hours) Introduces the theories, concepts, and operation of tanks and explains how to perform pump and manifold operations. Also explains how to start up and shut down a pipeline system through the control center.

Trainee $20.00 **ISBN 0-13-038263-9**
Instructor $20.00 **ISBN 0-13-038272-8**

65107-02 Liquid Pipeline Measurement and Quality Control

(20 Hours) Explains how to activate tank mixing devices, perform product testing, and perform pipeline grade changes and tank capacity operations. Also explains how to use and inject appropriate additives, identify types of meters, maintain accurate measurement on all custody receipts, and the processes and techniques used to prove meters.

Trainee $20.00 **ISBN 0-13-038264-7**
Instructor $20.00 **ISBN 0-13-038273-6**

Pipeline Corrosion Control Level One

160 Hours (includes 72.5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **ISBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Pipeline Corrosion Control Level One—PERFECT-BOUND
Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046684-0**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046685-9**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry
(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

66102-02 Liquid Pipeline General Abnormal Operating Conditions
(*Pipeline Core*) (5 Hours) Introduces the Abnormal Operating Conditions (AOCs) that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to AOCs and the necessary documentation and notifications that must be completed when responding to AOCs.

Trainee $20.00 **ISBN 0-13-038224-8**
Instructor $20.00 **ISBN 0-13-038235-3**

61103-02 Locating Pipeline and Cable
(*CT 14.1 and 17.1*) (5 Hours) Identifies and explains One-Call notification systems and the methods used to locate pipe and cable. Also discusses the requirements for separations between underground structures, abnormal operating conditions (AOCs), and first responders.

Trainee $20.00 **ISBN 0-13-038277-9**
Instructor $20.00 **ISBN 0-13-038287-6**

61104-02 Measure Pit Depth and Wall Thickness
(*CT 8.1, 8.2, and 8.3*) (5 Hours) Explains how to use pit gauges to check pit depth, length, and profile. Describes how to take multiple readings for RSTRENG data and how to use ultrasonic meters to check pipewall thickness.

Trainee $20.00 **ISBN 0-13-038278-7**
Instructor $20.00 **ISBN 0-13-038288-4**

61105-02 Inspect Buried and Submerged Pipe When Exposed
(*CT 5.1, 5.2, and 5.3*) (5 Hours) Identifies and explains types of pipe coatings. Describes the different causes of coating damage. Covers inspecting pipe for corrosion and mechanical damage.

Trainee $20.00 **ISBN 0-13-038279-5**
Instructor $20.00 **ISBN 0-13-038289-2**

61106-02 Aboveground Pipe Coating and Inspection
(*CT 7.1, 7.2, 7.3, 13.1, and 13.2*) (15 Hours) Describes aboveground pipe coating types and the causes of coating damage. Describes how to visually inspect aboveground pipe. Explains how to perform surface preparation and coating application for aboveground pipe.

Trainee $20.00 **ISBN 0-13-038270-1**
Instructor $20.00 **ISBN 0-13-038280-9**

61107-02 Apply and Repair External Coatings on Buried and Submerged Pipe
(*CT 13.4*) (10 Hours) Identifies and explains the desired qualities of buried pipe coatings. Explains surface preparation and coating application for buried/submerged pipe. Describes performing field coating repairs.

Trainee $20.00 **ISBN 0-13-038281-7**
Instructor $20.00 **ISBN 0-13-038291-4**

61108-02 Cathodic Protection Measurement
(*CT 1.1, 1.4, 1.5, 3.1, and 3.2*) (7.5 Hours) Explains the basic theory of cathodic protection and the methods used to provide protection. Describes the instrumentation and meters used in cathodic protection. Identifies and explains half cell inspection and measuring structure to soil potential.

Trainee $20.00 **ISBN 0-13-038283-3**
Instructor $20.00 **ISBN 0-13-038292-2**

61109-02 Test Station Repair
(*CT 2.1, 2.2, 2.3, and 2.4*) (5 Hours) Identifies and explains the types and construction of test stations. Describes how to repair aboveground and belowground test stations. Explains the methods used to attach test station wires to the pipe.

Trainee $20.00 **ISBN 0-13-038284-1**
Instructor $20.00 **ISBN 0-13-038293-0**

61110-02 Inspect Internal Pipe Surfaces
(*CT 12*) (7.5 Hours) Describes using ultrasonic gauges to check pipe wall thickness and pit gauges to check pit dimensions. Discusses how to establish pipe orientation and document the findings from wall thickness and pit dimension checks.

Trainee $20.00 **ISBN 0-13-038285-X**
Instructor $20.00 **ISBN 0-13-038294-9**

61111-02 Internal Corrosion Control
(*CT 10.1, 10.2, and 11*) (7.5 Hours) Explains how corrosion monitoring probes operate and the information that is collected. Describes using corrosion measurement tools and accurately recording the measurements obtained.

Trainee $20.00 **ISBN 0-13-038286-8**
Instructor $20.00 **ISBN 0-13-038295-7**

Pipeline Corrosion Control Level Two

Hours: 120 / Published 2002

Pipeline Corrosion Control Level Two—PERFECT-BOUND
Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046686-7**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046687-5**

MODULES

The following ISBN and pricing information is for ordering individual modules.

61201-02 Install Cathodic Protection Systems
(*CT 9.2, 9.3, and 9.4*) (15 Hours) Describes requirements for planning a CP system, explains how to select components, and describes installation techniques for galvanic and impressed current systems. Includes rectifier installation.

Trainee $20.00 **ISBN 0-13-038296-5**
Instructor $20.00 **ISBN 0-13-038302-3**

61202-02 Maintain and Repair Rectifiers
(*CT 4*) (15 Hours) Describes the characteristics of CP rectifiers and the functions of rectifier components. Describes troubleshooting techniques for rectifiers and bonds, as well as repair and adjustment procedures for rectifiers.

Trainee $20.00 **ISBN 0-13-038297-3**
Instructor $20.00 **ISBN 0-13-038303-1**

61203-02 Mitigate Interference

(*CT 1.3 and 9.1*) (15 Hours) Identifies the sources of interference current in a CP system, including causes and testing. Describes mitigation and reduction techniques for a CP system, including bonds, coating, galvanic anodes, and electrical shields.

Trainee $20.00 **ISBN 0-13-038298-1**
Instructor $20.00 **ISBN 0-13-038304-X**

61204-02 Test and Repair Shorted Casings

(*CT 9.5*) (15 Hours) Explains testing casings, including causes of shorted casings, how to recognize them, and various tests for shorted casings condition. Explains the repair of shorted casings, including replacing components.

Trainee $20.00 **ISBN 0-13-038299-X**
Instructor $20.00 **ISBN 0-13-038305-8**

61205-02 Conduct Close Interval Survey

(*CT 1.2 and 1.4*) (15 Hours) Identifies common close interval survey equipment, including test lead reels, current interrupters, and data logger and reference electrodes. Describes continuous and interrupted close interval survey methods and the procedure for performing such a survey.

Trainee $20.00 **ISBN 0-13-038301-5**
Instructor $20.00 **ISBN 0-13-038306-6**

61206-02 Performing Coating Inspection

(*CT 7.7*) (15 Hours) Describes required pre-inspection activities, including surface preparation, degree of cleanliness, profile, and coating mixing, thickness, adhesion, and curing. Describes holiday and pinhole testing and causes of coating failures, including application problems, specifications, and diagnosis.

Trainee $20.00 **ISBN 0-13-038248-5**
Instructor $20.00 **ISBN 0-13-038255-8**

61207-02 Perform High-Pressure Blasting/Surface Preparation

(*CT 7.4 and 13.3*) (15 Hours) Explains basic abrasive blast system equipment and describes the characteristics of blast cleaning media. Explains preparation standards, including profiling and inspections. Describes chemical strippers.

Trainee $20.00 **ISBN 0-13-038249-3**
Instructor $20.00 **ISBN 0-13-038256-6**

61208-02 Apply Coatings Using Spray Applications

(*CT 7.6 and 13.5*) Describes types of paint and coating materials, including pigments, resins, solvents, and additives, including film-forming and generic coatings and powder coatings. Explains surface preparation, application, and testing. Describes air, electrostatic, and thermal spray systems.

Trainee $20.00 **ISBN 0-13-038250-7**
Instructor $20.00 **ISBN 0-13-038269-8**

Pipeline Electrical & Instrumentation Level One

287.5 Hours (includes 72.5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **ISBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Pipeline Electrical & Instrumentation Level One—

PERFECT-BOUND—Includes all modules below
Trainee Guide: $100.00 **ISBN 0-13-046688-3**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046689-1**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry

(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

66102-02 Liquid Pipeline General Abnormal Operating Conditions

(*Pipeline Core*) (5 Hours) Introduces the Abnormal Operating Conditions (AOCs) that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to AOCs and the necessary documentation and notifications that must be completed when responding to AOCs.

Trainee $20.00 **ISBN 0-13-038224-8**
Instructor $20.00 **ISBN 0-13-038235-3**

64102-02 Pipeline E&I Safety

(*Pipeline Core*) (15 Hours) Describes the types and uses of personal protective equipment and covers hazard communications. Identifies and explains lockout/tagout and MSDS requirements. Covers safety related tools, safety rules and regulations, and work site hazards.

Trainee $20.00 **ISBN 0-13-038376-7**
Instructor $20.00 **ISBN 0-13-038385-6**

64103-02 Trade Math

(40 Hours) Identifies and explains instrumentation formulas and equations. Explains how to calculate load and ampacity. Also describes conductors and performing pipeline-specific E&I calculations.

Trainee $20.00 **ISBN 0-13-038377-5**
Instructor $20.00 **ISBN 0-13-038386-4**

64104-02 Electrical Theory

(40 Hours) Offers a general introduction to the electrical concepts used in Ohm's law as applied to DC series circuits. Includes atomic theory, electromotive force, resistance, and electric power equations. Also introduces series, parallel, and series-parallel circuits. Covers resistive circuits, Kirchoff's voltage and current laws, and circuit analysis.

Trainee $20.00 **ISBN 0-13-038378-3**
Instructor $20.00 **ISBN 0-13-038387-2**

64105-02 Tools of the Trade

(15 Hours) Identifies and explains the types of hand tools used in the pipeline E&I trade. Also explains trade-specific power tools, test equipment, and communication equipment.

Trainee $20.00 **ISBN 0-13-038379-1**
Instructor $20.00 **ISBN 0-13-038388-0**

64106-02 Pipeline Operations

(40 Hours) Describes pipeline system hydraulics and ANSI ratings and standards. Explains station control systems and recognizing and responding to AOCs. Also covers pigging operations and proving process meters.

Trainee $20.00 **ISBN 0-13-038370-8**
Instructor $20.00 **ISBN 0-13-038389-9**

64107-02 Pipeline E&I Drawings

(30 Hours) Identifies and explains drawing classifications and written specifications. Describes the uses of electrical drawings and piping and instrumentation drawings. Also covers special drawings and documentation as well as pipeline maps and alignment sheets.

Trainee $20.00 **ISBN 0-13-038382-1**
Instructor $20.00 **ISBN 0-13-038380-5**

64108-02 Understanding the National Electrical Code®

(7.5 Hours) Provides a navigational road map for using the NEC®. Introduces trainees to the layout of the NEC® and the types of information found within the code book. Presents an easy-to-follow procedure for finding information in the NEC®.

Trainee $20.00 **ISBN 0-13-038383-X**
Instructor $20.00 **ISBN 0-13-038391-0**

64109-02 Fasteners and Anchors

(7.5 Hours) Introduces the hardware and systems used to mount and support boxes, receptacles, and other electrical components. Covers the various types of anchors and supports, their applications, and safe installation.

Trainee $20.00 **ISBN 0-13-038384-8**
Instructor $20.00 **ISBN 0-13-038392-9**

Pipeline Electrical & Instrumentation Level Two

265 Hours / Published 2002

Pipeline Electrical & Instrumentation Level Two—PERFECT-BOUND—Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046691-3**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046692-1**

MODULES

The following ISBN and pricing information is for ordering individual modules.

64201-02 Electrical Installations in Classified Areas

(40 Hours) Explains Class I, II, III, and IV pipeline areas. Describes intrinsically safe devices and systems and their ratings. Also covers allowable conduits and fittings, and explosion-proof enclosures. Explains safe work practices in classified areas, including barriers, PPE, monitoring requirements, and gas detectors.

Trainee $20.00 **ISBN 0-13-038393-7**
Instructor $20.00 **ISBN 0-13-038404-6**

64202-02 Use of Meters and Test Equipment

(15 Hours) Explains general, personal, and test equipment for E&I safety. Explains measuring current, voltage, and resistance and the types of meters used. Includes specialty instruments such as calibrators, simulators, and gauges. Includes sections on oscilloscope operation, waveform characteristics, and measurement techniques.

Trainee $20.00 **ISBN 0-13-038394-5**
Instructor $20.00 **ISBN 0-13-038405-4**

64203-02 Grounding

(30 Hours) Explains grounding basics, system types, NEC® requirements, equipment grounding, and how to bond service equipment. Includes discussion of effective grounding paths, conductors, separately derived systems, grounding at more than one building, and systems over 1,000 volts. Describes how to test grounding and measure earth resistance, three-point testing, and tank grounding.

Trainee $20.00 **ISBN 0-13-038395-3**
Instructor $20.00 **ISBN 0-13-038406-2**

64204-02 Process Control Theory

(40 Hours) Explains process characteristics and control systems. Describes control loop components and control loops and modes. Includes discussion of the types of control applications, including temperature, pressure, flow, and level control.

Trainee $20.00 **ISBN 0-13-038396-1**
Instructor $20.00 **ISBN 0-13-038408-9**

64205-02 Supervisory Control Systems

(15 Hours) Explains pipeline supervisory control systems, PLCs, HMIs, and RTUs. Describes data highways and protocols, including data transfer methods, and SCADA-related communications, including transfer media, wireless radios, and Ethernet, and transmission and interface methods.

Trainee $20.00 **ISBN 0-13-038397-X**
Instructor $20.00 **ISBN 0-13-038409-7**

64206-02 Switches and Transmitters

(*CT 25, 30, 31*) (15 Hours) Discusses pipeline pressure, flow, level, and temperature switches and pneumatic, electronic, and optical transmitters. Explains how to test, repair, inspect, and maintain switches and transmitters. Describes pigs and sphere detectors and recorders. Explains DOT coverage and regulations.

Trainee $20.00 **ISBN 0-13-038398-8**
Instructor $20.00 **ISBN 0-13-038400-3**

64207-02 Controllers

(*CT 26*) (15 Hours) Explains control and PID loops and verifying and setting protection parameters. Includes information on proper procedures and potential AOCs. Explains how to troubleshoot and tune open and closed loops.

Trainee $20.00 **ISBN 0-13-038390-2**
Instructor $20.00 **ISBN 0-13-038411-9**

64208-02 Valve Actuators

(*CT 19.5*) (15 Hours) Explains valve actuator components, including switches, power mechanisms, and heaters. Describes valve actuator types, symbols and schematics, uses, and actuator interfaces. Describes setting valve limits, and installing, repairing, and maintaining actuators.

Trainee $20.00 **ISBN 0-13-038401-1**
Instructor $20.00 **ISBN 0-13-038412-7**

64209-02 Product Measurement

(*CT 44.1, 44.2*) (40 Hours) Explains custody transfer and how to test, repair, install, and maintain custody transfer equipment and devices. Covers testing, repairing, installing, and maintaining prover equipment, process measurement equipment, and flow measurement equipment.

Trainee $20.00 **ISBN 0-13-038402-X**
Instructor $20.00 **ISBN 0-13-038413-5**

64210-02 Analytical Equipment

(*CT 55*) (40 Hours) Identifies many types of pipeline analytical equipment. Explains the maintenance of hydrogen sulfide and sulfur analyzers. Explains how to maintain chromatographs, moisture analyzers, vapor and combustible gas detectors, continuous emissions monitoring systems, and centrifuges.

Trainee $20.00 **ISBN 0-13-038403-8**
Instructor $20.00 **ISBN 0-13-038415-1**

Pipeline Electrical & Instrumentation Level Three

185 Hours / Published 2003

Pipeline Electrical & Instrumentation Level Three—
PERFECT-BOUND—Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-101082-4**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-101083-2**

MODULES

The following ISBN and pricing information is for ordering individual modules.

64301-02 Transformers
(25 Hours) Describes power systems, explains transformer construction, taps, installation requirements, and connections. Describes power distribution, instruments, control, and isolation transformer types. Explains transformer maintenance and testing.

Trainee $20.00 **ISBN 0-13-103140-6**
Instructor $20.00 **ISBN 0-13-103148-1**

64302-02 Switchgear and MCCs
(25 Hours) Explains power factor and medium versus low-voltage cable and MCCs. Describes types of switchgear and cables, feeders, bussing, and bracing. Includes testing and maintenance on switchgear and MCCs and associated components.

Trainee $20.00 **ISBN 0-13-103141-4**
Instructor $20.00 **ISBN 0-13-103149-X**

64303-02 Low-Voltage and Standby Power
(25 Hours) Explains pipeline system standby generators, batteries, chargers, inverters, converters, and rotary and static UPSs. Also addresses the maintenance and testing of each.

Trainee $20.00 **ISBN 0-13-103142-2**
Instructor $20.00 **ISBN 0-13-103150-3**

64304-02 Power Quality
(25 Hours) Explains power quality and types of defects, power systems, protection, and conditioning equipment. Discusses types of electrical noise and related problems, and possible solutions. Explains static electricity and its effect, system verification testing, and equipment maintenance.

Trainee $20.00 **ISBN 0-13-103143-0**
Instructor $20.00 **ISBN 0-13-103152-X**

64305-02 Prime Movers
(32.5 Hours) Describes various electric motors and drives and their components. Discusses their maintenance and testing. Explains engine types, cooling and lubrication systems, turbine operation, fuel sources, and controls.

Trainee $20.00 **ISBN 0-13-103145-7**
Instructor $20.00 **ISBN 0-13-103153-8**

64306-02 Facility Auxiliary Systems
(22.5 Hours) Includes information on pipeline facility buildings and related systems. Systems covered include: fire, security, vapor recovery, injection, water treatment, cathodic protection, and blending systems.

Trainee $20.00 **ISBN 0-13-103146-5**
Instructor $20.00 **ISBN 0-13-103154-6**

64307-02 SCADA
(30 Hours) Explains pipeline operations systems, including control, communications, SCADA, and PLC. Explains redundant systems and control system troubleshooting.

Trainee $20.00 **ISBN 0-13-103147-3**
Instructor $20.00 **ISBN 0-13-103155-4**

Pipeline Maintenance Level One

157.5 Hours (includes 72.5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **SBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Pipeline Maintenance Level One—PERFECT-BOUND
Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046676-X**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046677-8**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry
(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038233-X**
Instructor $20.00 **ISBN 0-13-038234-5**

66102-02 Liquid Pipeline General Abnormal Operating Conditions
(*Pipeline Core*) (5 Hours) Introduces the Abnormal Operating Conditions (AOCs) that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to AOCs and the necessary documentation and notifications that must be completed when responding to AOCs.

Trainee $20.00 **ISBN 0-13-038224-8**
Instructor $20.00 **ISBN 0-13-038235-3**

62103-02 Release Identification and Response
(7.5 Hours) Describes company environmental manuals and the DNR and EPA regulations. Explains the NRC and Coast Guard responsibilities and spill prevention. Identifies and explains soil contamination, release reporting and containment, hydrostatic testing, flaring/venting, and trash handling.

Trainee $20.00 **ISBN 0-13-038307-4**
Instructor $20.00 **ISBN 0-13-038314-7**

62104-02 Tools of the Trade
(10 Hours) Explains use and care of the hand and power tools that are used in the pipeline industry. Describes the use of welding equipment and meters and testers. Also explains nondestructive testing and the uses of hydraulic cranes and heavy excavating equipment.

Trainee $20.00 **ISBN 0-13-038309-0**
Instructor $20.00 **ISBN 0-13-038315-5**

62105-02 Pipeline Documentation
(15 Hours) Identifies and explains the alignment sheets used in the pipeline industry including maps, P&IDs, and electrical drawings. Also describes the types of documentation and document management required in the industry.

Trainee $20.00 **ISBN 0-13-038311-2**
Instructor $20.00 **ISBN 0-13-038317-1**

62106-02 Preventing Pipeline Damage

(*CT 14 and 28*) (15 Hours) Describes the One-Call system and how it is used to prevent pipeline damage. Identifies and explains the methods used to prevent third-party and employee-caused pipeline damage. Explains the importance of public awareness. Includes placing and maintaining permanent line markers and providing security for pipeline facilities.

Trainee $20.00 **ISBN 0-13-038312-0**
Instructor $20.00 **ISBN 0-13-038318-X**

62107-02 Excavating and Backfilling

(*CT 17 and 39*) (17.5 Hours) Explains OSHA requirements and methods for locating and marking pipelines. Identifies the permits required and the procedures for exposing pipe and performing damage inspection. Describes reporting defects, water inspections, and backfilling.

Trainee $20.00 **ISBN 0-13-038313-9**
Instructor $20.00 **ISBN 0-13-038319-8**

Pipeline Maintenance Level Two

155 Hours / Published 2002

Pipeline Maintenance Level Two—PERFECT-BOUND

Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046678-6**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046679-4**

MODULES

The following ISBN and pricing information is for ordering individual modules.

62201-02 Right-of-Way Inspection

(*CT 15 and 16*) (20 Hours) Discusses procedures for inspections of pipeline right of way. Explains navigable water crossing inspection. Contains information on methods of patrol for pipeline right of way inspections on land, including reportable observations and reporting protocol.

Trainee $20.00 **ISBN 0-13-038310-4**
Instructor $20.00 **ISBN 0-13-038328-7**

62202-02 Facility Inspection

(*CT 27*) (17.5 Hours) Covers inspection of pipeline facilities, including security systems and other building systems. Also discusses inspections of tanks and tank farms.

Trainee $20.00 **ISBN 0-13-038321-X**
Instructor $20.00 **ISBN 0-13-038329-5**

62203-02 Valve Inspection

(*CT 20*) (22.5 Hours) Introduces and explains the operation of different types of valves. Includes information on valves that start and stop flow, regulate flow and pressure, relieve pressure, and regulate direction of flow. Discusses procedures for inspecting valves and performing some basic preventative maintenance on valves.

Trainee $20.00 **ISBN 0-13-038322-8**
Instructor $20.00 **ISBN 0-13-038320-1**

62204-02 Pipeline Coating Inspection

(*CT 5*) (20 Hours) Explains different types of pipeline coatings available, and some methods of application. Introduces some basic pipeline coating problems, and inspection of pipeline coating.

Trainee $20.00 **ISBN 0-13-038323-6**
Instructor $20.00 **ISBN 0-13-038331-7**

62205-02 Pipe Inspection and Nondestructive Testing

(*CT 38.1, 38.2, and 38.3*) (25 Hours) Outlines methods of pipe inspection for liquid petroleum pipelines. Discusses requirements for visual inspections of pipe, pipe components, and welds on pipe. Also discusses different methods of nondestructive testing and evaluation on pipelines, including liquid penetrant, magnetic particle, ultrasonic, and radiographic tests. Procedures for verifying nondestructive weld tests and verifying that the weld meets mandated requirements are also given.

Trainee $20.00 **ISBN 0-13-038325-2**
Instructor $20.00 **ISBN 0-13-038333-3**

62206-02 Pipeline Maintenance

(*CT 18 and 52*) (32.5 Hours) General discussion of some basic pipeline maintenance issues. Includes information and procedures on locating underground structures on the pipeline, maintaining the pipeline route, excavating utilities and pipeline components safely and properly, applying coating, tightening flanges, running maintenance pigs, and performing leak surveys on liquid and gas pipelines.

Trainee $20.00 **ISBN 0-13-038326-0**
Instructor $20.00 **ISBN 0-13-038334-1**

62207-02 Hydrostatic Testing

(*CT 41*) (17.5 Hours) Explains the principles and requirements of hydrostatic testing on pipelines. Explains necessary preparations for testing, and describes the testing procedures.

Trainee $20.00 **ISBN 0-13-038327-9**
Instructor $20.00 **ISBN 0-13-038335-X**

Pipeline Maintenance Level Three

227.5 Hours / Published 2002

Pipeline Maintenance Level Three—PERFECT-BOUND

Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-101077-8**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-101078-6**

MODULES

The following ISBN and pricing information is for ordering individual modules.

62301-02 General Maintenance and Winterizing Pipeline Equipment

(7.5 Hours) Explains preventive and predictive maintenance and general maintenance on rotating machinery. Explains gas compressors and maintaining pumps and prime movers.

Trainee $20.00 **ISBN 0-13-103156-2**
Instructor $20.00 **ISBN 0-13-103166-X**

62302-02 Pipeline Damage Inspection

(*CT 34 and 35*) (10 Hours) Identifies sources and types of damage, including construction, third-party, natural events, and blasting. Explains checking pipe clearance and repairing wide cracks and foam damage.

Trainee $20.00 **ISBN 0-13-103157-0**
Instructor $20.00 **ISBN 0-13-103167-8**

62303-02 Performing In-Line Inspections

(*CT 29*) (15 Hours) Explains the preparation for pigging, types of pigs and associated tools, and running pigs. Includes following up on collected data, such as interpreting findings.

Trainee $20.00 **ISBN 0-13-103158-9**
Instructor $20.00 **ISBN 0-13-103168-6**

62304-02 Pipeline Repair

(*CT 9.5, 37, 40.1, 40.2, 40.3, 40.4, 40.5, 40.7, and 40.91*) (40 Hours) Covers the proper procedures for several pipeline repairs. Includes information on installing various types of pipe sleeves, cutting and replacing sections of pipe, performing taps of two inches or smaller, and repairing shorted casings. Also discusses issues related to support structures for aboveground pipe.

Trainee $20.00 **ISBN 0-13-103159-7**
Instructor $20.00 **ISBN 0-13-103170-8**

62305-02 Relocating and Lowering Pipelines

(*CT 33 and 34*) (15 Hours) Explains preparations for moving pipelines, both in-service and out-of-service, procedures for moving pipelines, inspecting the line, and backfilling the excavation.

Trainee $20.00 **ISBN 0-13-103160-0**
Instructor $20.00 **ISBN 0-13-103171-6**

62306-02 Hot Tapping and Stoppling®—2.5" and Larger

(*CT 40.6, 40.8, 40.9, and 40.91*) (15 Hours) Discusses hot tapping procedures, including safety issues, selection of equipment, and preparation for tapping. Gives instructions for installing tapping machines, and stoppling procedures. Also contains information on other line plugging methods.

Trainee $20.00 **ISBN 0-13-103161-9**
Instructor $20.00 **ISBN 0-13-103172-4**

62307-02 Tank Repair

(40 Hours) Explains complete tank repair, including flange tightening, nondestructive testing, electrically insulated fittings and flanges, welding, bottom repair, bottom replacement, moving, arc burn and weld repair, roof installation, shell plate replacement, aluminum and steel floating roof demolition, building a floating roof, floating roof in-service seal replacement, and nozzles, manways, and sumps.

Trainee $20.00 **ISBN 0-13-103162-7**
Instructor $20.00 **ISBN 0-13-103173-2**

62308-02 Maintenance Welding on Pipelines

(CT 42) (25 Hours) Explains repairing arc burns, defective welds, direct pass defects, butt welds, and previously repaired welds. Includes weld or cylinder of pipe replacement, general welding procedures, and dealing with problems. Also discusses the requirements for inspection of maintenance welds on pipelines.

Trainee $20.00 **ISBN 0-13-103163-5**
Instructor $20.00 **ISBN 0-13-103174-0**

62309-02 Performing Pipeline Disconnection Procedures

(*CT 36*) (20 Hours) Identifies equipment and procedures required to safely perform disconnection procedures and hazards that may be encountered. Explains performing safe disconnects, purging pipeline segments, and sealing disconnected pipeline.

Trainee $20.00 **ISBN 0-13-103164-3**
Instructor $20.00 **ISBN 0-13-103175-9**

62310-02 Vault Maintenance and Confined Space Entry

(*CT 59*) (15 Hours) Identifies the safety requirements and the hazards of confined space entry. Explains vault inspections.

Trainee $20.00 **ISBN 0-13-103165-1**
Instructor $20.00 **ISBN 0-13-103176-7**

62401-03 Radiographic Testing of Pipeline Welds

(*CT 38.4*) (25 hours) Provides specific training for certified SNT-TC-1A Level II radiographic technicians who perform radiographic testing of pipeline welds in accordance with the requirements of API-1104. Gives an overview of x-ray and gamma ray theory, reviews radiation safety procedures, and covers the exposure, processing, and interpretation of radiographic film. Recognition of specific discontinuities using copies of radiographic images is featured.

NOTE: This module is NOT included in the perfect-bound version of **Pipeline Maintenance Level Three**. It is sold as a stand-alone module/

Trainee $20.00 **ISBN 0-13-106800-8**
Instructor $20.00 **ISBN 0-13-106801-6**

Pipeline Mechanical Level One

197.5 Hours (Includes 72.5 hours of Core Curriculum) / Published 2002

CORE CURRICULUM

PERFECT-BOUND
Trainee Guide: $40.00 **ISBN 0-13-109187-5**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109191-3**

LOOSE-LEAF
Trainee Guide: $40.00 **ISBN 0-13-109188-3**
Annotated Instructor's Guide: $40.00 **ISBN 0-13-109192-1**

HARD-COVER
Trainee Guide: $45.00 **ISBN 0-13-109189-1**

Pipeline Mechanical Level One—PERFECT-BOUND

Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046670-0**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046681-6**

MODULES

The following ISBN and pricing information is for ordering individual modules.

66101-02 Introduction to the Pipeline Industry

(*Pipeline Core*) (15 Hours) Introduces the pipeline industry, including pipeline products and flow paths, maps and drawings used in the industry, and basic pipeline operations. Also covers hydraulics, pipeline equipment, electrical power systems, and corrosion control. Regulations, documentation, and pipeline industry occupations are also described.

Trainee $20.00 **ISBN 0-13-038223-X**
Instructor $20.00 **ISBN 0-13-038234-5**

66102-02 Liquid Pipeline General Abnormal Operating Conditions

(*Pipeline Core*) (5 Hours) Introduces the Abnormal Operating Conditions (AOCs) that can occur on a pipeline or in a pipeline facility. Includes general procedures on how to recognize and react to AOCs and the necessary documentation and notifications that must be completed when responding to AOCs.

Trainee $20.00 **ISBN 0-13-038224-8**
Instructor $20.00 **ISBN 0-13-038235-3**

63103-02 Pipeline Mechanic Hand and Power Tools

(10 Hours) Introduces various hand and power tools used to maintain and install pipeline equipment. Explains basic hand and power tool safety and procedures for selecting, inspecting, using, and maintaining the tools.

Trainee $20.00 **ISBN 0-13-038336-8**
Instructor $20.00 **ISBN 0-13-038343-0**

63104-02 Piping and Mechanical Blueprint Reading

(15 Hours) Explains how to read plot plans, P&IDs, piping isometric drawings, detail sheets, and machine drawings. Also explains the common components and symbols used in various types of drawings.

Trainee $20.00 **ISBN 0-13-038337-6**
Instructor $20.00 **ISBN 0-13-038344-9**

63105-02 Tubing, Threaded Pipe, and Hoses

(30 Hours) Introduces a variety of tubing, tubing materials, tools, and work practices used in the pipeline industry. Identifies the various materials used in threaded piping systems and explains the types and uses of various screwed fittings. Also covers identification of hoses and hose fittings and standard installation practices.

Trainee $20.00 **ISBN 0-13-038338-4**
Instructor $20.00 **ISBN 0-13-038345-7**

63106-02 Fasteners
(10 Hours) Identifies and explains installation procedures for threaded, non-threaded, and insulation fasteners used in the pipeline industry.

Trainee $20.00 **ISBN 0-13-038339-2**
Instructor $20.00 **ISBN 0-13-038346-5**

63107-02 Identify, Install, and Maintain Valves
(*CT 19.1 through 19.4*) (15 Hours) Identifies the various types of valves used in the pipeline industry and covers storage and handling, installation, and preventive maintenance procedures for these valves.

Trainee $20.00 **ISBN 0-13-038330-9**
Instructor $20.00 **ISBN 0-13-038347-3**

63108-02 Identify Types of Valve Actuators/ Operators
(15 Hours) Identifies the various types of manual, electric, hydraulic, and pneumatic valve actuators used in the pipeline industry and covers storage and handling, installation, and preventive maintenance procedures for these actuators.

Trainee $20.00 **ISBN 0-13-038341-4**
Instructor $20.00 **ISBN 0-13-038348-1**

63109-02 Installing Seals and Gaskets
(10 Hours) Covers the applications, removal procedures, and installation procedures for dynamic and static seals and O-rings used in the pipeline industry. Also identifies gaskets and gasket materials and explains the procedures for laying out, cutting, and installing gaskets.

Trainee $20.00 **ISBN 0-13-038342-2**
Instructor $20.00 **ISBN 0-13-038340-6**

Pipeline Mechanical Level Two

155 Hours / Published 2002

Pipeline Mechanical Level Two—PERFECT-BOUND
Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-046682-4**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-046683-2**

MODULES

The following ISBN and pricing information is for ordering individual modules.

63201-02 Introduction to Pneumatic Systems
(10 Hours) Explains pneumatic system safety, characteristics of gases and how they are compressed, pneumatic transmission of energy, and compressor operation.

Trainee $20.00 **ISBN 0-13-038351-1**
Instructor $20.00 **ISBN 0-13-038363-5**

63202-02 Introduction to Hydraulic Systems
(10 Hours) Explains hydraulic system safety and the basic principles of hydraulics, including Pascal's law and Bernoulli's principle. Explains the function of fluids, parts, pumps, and motors.

Trainee $20.00 **ISBN 0-13-038352-X**
Instructor $20.00 **ISBN 0-13-038364-3**

63203-02 Specialty and Precision Tools
(15 Hours) Introduces different types of specialty tools and precision measuring tools and explains how to select, inspect, use, and care for these tools.

Trainee $20.00 **ISBN 0-13-038353-8**
Instructor $20.00 **ISBN 0-13-038366-X**

63204-02 Inspect and Repair Valves
(*CT 20, 21.2, and 21.3*) (20 Hours) Identifies and explains the different valve inspection requirements. Describes routine walk-around inspections, external integrity inspections, functional test requirements, and the procedures to leak test a valve. Also describes how to disassemble a valve, perform internal inspection requirements, and reassemble a valve.

Trainee $20.00 **ISBN 0-13-038354-6**
Instructor $20.00 **ISBN 0-13-038367-8**

63205-02 Maintain and Repair Pressure Limiting Devices and Relief Valves
(*CT 22, 23.1, 23.2, and 24*) (20 Hours) Identifies types of relief valves and pressure limiting devices. Explains how to inspect, test, and calibrate tank relief valves, pipeline relief valves, and pressure limiting devices.

Trainee $20.00 **ISBN 0-13-038355-4**
Instructor $20.00 **ISBN 0-13-038368-6**

63206-02 Introduction to Metering Devices and Provers
(10 Hours) Identifies and explains the use of various types of pipeline meters including positive displacement, turbine, ultrasonic, mass-flow, vortex, and orifice. Identifies and explains the use of provers including tank provers, traditional pipe provers, and small volume pipe provers.

Trainee $20.00 **ISBN 0-13-038357-0**
Instructor $20.00 **ISBN 0-13-038369-4**

63207-02 Introduction to Pumps
(10 Hours) Identifies and explains various types of main-line and feeder line pumps including centrifugal, rotary, reciprocating, and metering pumps. Explains net positive suction head and cavitation. Outlines general procedures for pump installation.

Trainee $20.00 **ISBN 0-13-038358-9**
Instructor $20.00 **ISBN 0-13-038360-0**

63208-02 Introduction to Gas Compressors
(10 Hours) Identifies and explains the various types of gas compressors used in the transmission of gas through pipelines. Also explains the function and operation of compressors and identifies the auxiliary equipment used with compressors.

Trainee $20.00 **ISBN 0-13-038359-7**
Instructor $20.00 **ISBN 0-13-038371-6**

63209-02 Install and Maintain Bearings
(15 Hours) Identifies and explains various types of friction and antifriction bearings, bearing materials, and bearing designation. Gives procedures to remove, troubleshoot, and install bearings.

Trainee $20.00 **ISBN 0-13-038350-3**
Instructor $20.00 **ISBN 0-13-038373-2**

63210-02 Install Mechanical Seals
(20 Hours) Explains the function and advantages of mechanical seals. Identifies parts and types of mechanical seals. Includes procedures for removing, inspecting, and installing mechanical seals.

Trainee $20.00 **ISBN 0-13-038361-9**
Instructor $20.00 **ISBN 0-13-038374-0**

63211-02 Maintain and Repair Drivers
(15 Hours) Identifies types of drivers that provide power to rotating equipment on pipelines. Explains how to inspect and replace drivers, replace bearings and seals, and perform preventative maintenance.

Trainee $20.00 **ISBN 0-13-038362-7**
Instructor $20.00 **ISBN 0-13-038375-9**

Pipeline Mechanical Level Three

160 Hours / Published 2002

Pipeline Mechanical Level Three—PERFECT-BOUND
Includes all modules below

Trainee Guide: $100.00 **ISBN 0-13-101079-4**
Annotated Instructor's Guide: $100.00 **ISBN 0-13-101081-6**

MODULES

The following ISBN and pricing information is for ordering individual modules.

63301-02 Installing Rotating Equipment

(25 Hours) Identifies the inspection requirements for an equipment pad, requirements for equipment base preparation, and procedures for inspecting equipment prior to installation. Also explains how to prepare equipment prior to installation, the installation process for rotating equipment, and the procedures used to relieve pipe stress from rotating equipment.

Trainee $20.00 **ISBN 0-13-103178-3**
Instructor $20.00 **ISBN 0-13-103188-0**

63302-02 Unit Alignment

(40 Hours) Describes the types of equipment misalignment and how to identify and correct them. Explains how to perform conventional, rim and face indicator, reverse dial indicator, and laser alignments. Also identifies other laser alignment procedures that may be completed on the machinery trains depending on equipment needs.

Trainee $20.00 **ISBN 0-13-103179-1**
Instructor $20.00 **ISBN 0-13-103189-9**

63303-02 Vibration Analysis

(5 Hours) Explains and identifies the most common causes of vibration and how to minimize them. Includes vibration monitoring techniques, vibration analysis techniques, vibration test equipment, and how to field balance machines.

Trainee $20.00 **ISBN 0-13-103180-5**
Instructor $20.00 **ISBN 0-13-106190-9**

63304-02 Maintain, Troubleshoot, and Repair Pumps

(10 Hours) Identifies the preventive maintenance requirements, inspection requirements, and common troubleshooting techniques for pumps used in the pipeline industry. Also gives general guidelines for preparing a pump for shutdown, removing a pump from a pipeline system, disassembling a pump, installing the pump after the pump has been reassembled, and preparing the pump for startup and operational check after maintenance or repair has been completed.

Trainee $20.00 **ISBN 0-13-103181-3**
Instructor $20.00 **ISBN 0-13-103191-0**

63305-02 Maintain, Troubleshoot, and Repair Gas Compressors

(15 Hours) Identifies the typical lubrication system components, preventive maintenance requirements, and common troubleshooting techniques for a gas compressor. Also gives general guidelines for preparing a gas compressor for shutdown and repair, isolating a gas compressor from a pipeline system, repairing rotary and reciprocating gas compressors, and preparing a gas compressor for startup and operational check after maintenance has been completed.

Trainee $20.00 **ISBN 0-13-103182-1**
Instructor $20.00 **ISBN 0-13-103192-9**

63306-02 Maintain, Troubleshoot, and Repair Pneumatic Valve Actuators/Operators and Systems

(*CT 19.6 and 21.1*) (15 Hours) Explains the general procedures for performing preventive maintenance and troubleshooting pneumatic systems. Includes inspecting and repairing pneumatic system components. Also explains how to adjust and repair pneumatic valve actuators/operators and read pneumatic system schematic diagrams.

Trainee $20.00 **ISBN 0-13-103183-X**
Instructor $20.00 **ISBN 0-13-103194-5**

63307-02 Maintain, Troubleshoot, and Repair Hydraulic Valve Actuators/Operators and Systems

(*CT 19.7 and 21.4*) (15 Hours) Explains the general procedures for performing preventive maintenance and troubleshooting hydraulic systems. Includes inspecting and repairing hydraulic system components. Also explains how to adjust and repair hydraulic valve actuators/operators and read hydraulic system schematic diagrams

Trainee $20.00 **ISBN 0-13-103184-8**
Instructor $20.00 **ISBN 0-13-103195-3**

63308-02 Maintain, Troubleshoot, and Repair Electric Valve Actuators/Operators and Systems

(CT 19.5 and 21.5) (15 Hours) Explains the general procedures for performing preventive maintenance and troubleshooting electric valve actuators/operators. Includes inspecting electric valve actuator/operator components. Also explains how to adjust and repair electric valve actuator/operators.

Trainee $20.00 **ISBN 0-13-103186-4**
Instructor $20.00 **ISBN 0-13-103196-1**

63309-02 Maintain, Troubleshoot, and Repair Metering Devices and Provers

(20 Hours) Explains how to inspect, maintain, and repair metering devices and prover systems. Also describes the waterdraw calibration procedures used to calibrate and verify the reliability of prover systems.

Trainee $20.00 **ISBN 0-13-103187-2**
Instructor $20.00 **ISBN 0-13-103197-X**

PRODUCT SUPPLEMENTS

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Health and Environmental Issues

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Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Gas Industry

Pilot Test Version

The new Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry documents numerous calculation techniques and emission factors available for developing greenhouse gas (GHG) emissions inventories for carbon dioxide and methane. The estimation techniques cover the full range of oil and gas industry operations—from exploration and production through refining to product marketing-including emissions from transportation of crude oil, natural gas and petroleum products.

April 2001 / Hard Copy Product Number: Z00100 / Price: $118.00
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DR 76 ✣

Determination of Emissions from Retail Gasoline Outlets Using Optical Remote Sensing: Pilot Field Study at a Non-vapor Recovery Site, Project Summary Report, Volume I

The results of this study are presented in a three-volume report. Volume I presents the results of a pilot study to evaluate the use of optical remote sensing (ORS) technology for determining emission factors as well as the dispersion of the emissions at an uncontrolled retail gasoline outlet (RGO). ORS techniques may be able to provide a direct method of determining the total emissions from an RGO under varied conditions and to provide this information with little interference with the operation of RGO. Volume II, Determination of Emissions from Retail Gasoline Outlets Using Optical Remote Sensing: Pilot Field Study at a Non-Vapor Recovery Site, Technical Report and Volume III, Determination of Emissions from Retail Gasoline Outlets Using Optical Remote Sensing: Pilot Field Study at a Non-Vapor Recovery Site, Appendices are available from API's web site: *http://www.api.org/ehs/publications/dr76.htm* as downloadable PDF files. Pages: 50

November 1999 / Product Number: I00076 / Price: $98.00

DR 141

Global Emissions of Carbon Dioxide from Petroleum Sources

This report describes carbon dioxide emission estimates developed for a broadly defined petroleum industry whose five segments include (1) exploration and extraction; (2) crude petroleum transportation to refineries; (3) refining operations; (4) refinery products transportation; and (5) end uses. Emission estimates for carbon dioxide have been developed for each industry segment and for each country. Activity factors describe the activity level for a particular industrial activity. Corresponding emission factors for each activity factor were developed from EPA and industry documents. Pages: 91

July 1991 / Product Number: I00141 / Price: $47.00

Publ 326

The Cost Effectiveness of VOC and NO_x Emission Control Measures

This document provides air pollution control planners and other interested parties in ozone nonattainment areas with a "menu" of possible control options using the most up-to-date information and accurate analyses for significant sources of VOCs and NO_x. The menu provides a preliminary demonstration of how cost-effective packages of attainment strategies and control measures can be developed to reduce volatile organic compound emissions by 15 percent by 1996. Appendices provide a detailed analysis of costs, effectiveness, and application limitations. Pages: 354

September 1994 / Product Number: J32600 / Price: $122.00

Publ 332

Comparison of Screening Values from Selected Hydrocarbon Screening Instruments

This report describes a study carried out at two refineries to compare differences in equipment leak screening values obtained from four instruments commonly used to measure fugitive emissions. The effect of screening distance was also evaluated and the results from the study were compared to those of an earlier study conducted in 1979. Adjustment factors to relate screening values from one instrument are presented, which are applicable to marketing, transportation, and E&P facilities as well as refineries. Pages: 128

August 1995 / Product Number: J33200 / Price: $73.00

Publs 342 and 343 ✣

Fugitive Emissions from Equipment Leaks I: Monitoring Manual and Fugitive Emissions from Equipment Leaks II: Calculation Procedures for Petroleum Industry Facilities

A number of federal, state, and local regulations are designed to control fugitive emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). API sponsored this project to present options and recommendations on procedures for obtaining inspection and maintenance (I/M) data from certain process equipment with the potential to leak fugitive emissions. The two resulting manuals focus on the recommended fugitive emission practices in the petroleum industry, specifically for refineries, marketing terminals, and the oil and gas production industries. Pages: 204

June 1998
Product Number: J34200 / Price: $51.00
Product Number: J34300 / Price: $51.00

Publ 344 ✣

Critical Review of Source Sampling and Analysis Methodologies for Characterizing Organic Aerosol and Fine Particulate Source Emission Profiles

This report is intended for use in designing future measurement programs for characterizing emissions from stationary sources which contribute to fine particle concentrations in the atmosphere. The benefits and drawbacks of various measurement approaches are discussed, and a recommended approach for combustion sources is presented. Pages: 128

June 1998 / Product Number: J34400 / Price: $58.00

Publ 347 ✣

Hazardous Air Pollutant Emissions from Gasoline Loading Operations at Bulk Gasoline Terminals

HAP emission testing was conducted at 33 bulk gasoline terminals across the United States. Emissions were measured from the loading of gasoline cargo tanks at facilities with a vapor control system. Emission tests from 23 carbon adsorption units, 8 thermal oxidizers, and 2 refrigeration units were included. Control efficiencies for eight HAP compounds were derived for the carbon adsorption units and thermal oxidizers; no control efficiencies were reported from the refrigeration units due to the limited data collected. The HAP control efficiencies presented in this report have been used to develop HAP emission factors that can be used to determine HAP emissions based on the volume of gasoline loaded at a facility. Pages: 138

October 1998 / Product Number: J34700 / Price: $66.00

Publ 348 ✣

Air Toxics Emission Factors for Combustion Sources Using Petroleum-Based Fuels, Volume 1—Development of Emission Factors Using API/WSPA Approach

This project was performed with the cooperation of the California Air Resources Board (CARB) and Western States Petroleum Association to develop updated air toxic emission factors for combustion sources using petroleum-based fuels. The emission factors developed using the best available source testing information in this project will help EPA to revise AP-42. In addition, the emission factors will be integrated into CARB's California Air Toxics Emission Factor (CATEF) database. Environmental, health, and safety engineers can use these emission factors to develop more accurate and complete emission inventories without additional source testing, which could help facilities in the permitting process. Pages: 88

August 1998 / Product Number: J34800 / Price: $81.00

Publ 349 ✣

Air Toxic Emission Factors for Combustion Sources Using Petroleum Based Fuels: Graphical-user-interface Database and User's Manual, Version 2.0.1

The updated air toxic emission factors for combustion sources using petroleum-based fuels have been compiled into the Petroleum Air Toxics Emission Factors (PATEF) database. This database allows facility owners/operators to quickly and reliably access these newly developed factors. A graphical-user-interface (GUI) has been developed for PATEF to easily view, search, sort, export, and print information in the database. The Database User's Manual describes the contents and structure of the GUI, installation procedures, and guidance on using the GUI. (See also companion document Publ 348.) Pages: 38

October 1998 / Product Number: J34900 / Price: $130.00

Publ 4645 ✣

Methane and Carbon Dioxide Emission Estimates from U.S. Petroleum Sources

This study was conducted to obtain refined estimates of the U.S. petroleum industry's emissions of greenhouse gases. Methane (CH_4) and carbon dioxide (CO_2) emissions were estimated using 1990 as the base year and projecting those emissions to the year 2000. The emission estimates resulting from the study were reasonably consistent with previous estimates and showed little change from 1990 to 2000. Pages: 114

January 1997 / Product Number: I46450 / Price: $63.00

Publ 4653 ✣

Fugitive Emission Factors for Crude Oil and Product Pipeline Facilities

This report presents the results of a study to determine equipment component fugitive emission factors for crude oil and product pipeline facilities. The emission factors presented in this report will allow pipeline operators to estimate total hydrocarbon emissions from equipment components located at pipeline facilities in light crude service, heavy crude service, and product service. Pages: 50

June 1997 / Product Number: I46530 / Price: $63.00

Publ 4667 ✣

Vehicle Emissions Testing of Rapidly Aged Catalysts

A test program was conducted to measure the effect of changing fuel sulfur content on the exhaust emissions of a 1993 Honda Civic VX certified to meet California Transitional Low Emission Vehicle (TLEV) standards. The results showed that: (a) on average, lowering fuel sulfur content from 600 to 35 ppm reduced exhaust emissions measured over the Federal Test Procedure (FTP) by 21 to 27 percent depending on the pollutant; (b) fuel sulfur content did not have an effect on the long-term emissions performance of catalysts that have been artificially aged; (c) rapid catalyst aging did not have a large effect on sulfur response compared to in-use aging; (d) gasoline sulfur content did not have a significant effect on catalyst oxygen storage capacity for this catalyst type; and (e) the emissions response to lower sulfur obtained from measurements on a Honda Civic VX, TLEV-operated under transient conditions according to the FTP, was less than one-half of that observed in a previous study using an identical Honda catalyst in a laboratory setting. Pages: 52

November 1997 / Product Number: I46670 / Price: $49.00

Publ 4703

Gas Fired Boiler-test Report Site A: Characterization of Fine Particulate Emission Factors and Speciation Profiles from Stationary Petroleum Industry Combustion Sources

In 1997, the USEPA promulgated new ambient air standards for particulate matter smaller than 2.5 micrometers in diameter (PM2.5). Source emissions data are needed to assess the contribution of petroleum industry combustion sources to ambient PM2.5 concentrations. This report presents particulate measurement results from a 550,000 pounds per hour steam boiler firing refinery process gas. The particulate stack measurements were made using both a dilution tunnel research test method and traditional EPA sampling methods.

July 2001 / Product Number: I47030 / Price: $71.00

Publ 4704

Gas Fired Heater—Test Report Site B: Characterization of Fine Particulate Emission Factors and Speciation Profiles from Stationary Petroleum Industry Combustion Sources

In 1997, the USEPA promulgated new ambient air standards for particulate matter smaller than 2.5 micrometers in diameter (PM2.5). Source emissions data are needed to assess the contribution of petroleum industry combustion sources to ambient PM2.5 concentrations. This report presents particulate measurement results from a 114 million British thermal unit (MMBtu) per hour gas-fired refinery process heater. The particulate stack measurements were made using both a dilution tunnel research test method and traditional EPA sampling methods.

August 2001 / Product Number: I47040 / Price: $71.00

Publ 4712

Gas-Fired Steam Generator—Test Report Site C: Characterization of Fine Particulate Emission Factors and Speciation Profiles from Stationary Petroleum Industry Combustion Sources

In 1997, the USEPA promulgated new ambient air standards for particulate matter smaller than 2.5 micrometers in diameter (PM2.5). Source emissions data are needed to assess the contribution of petroleum industry combustion sources to ambient PM2.5 concentrations. This report presents that the gas fired steam generator has a maximum heat input of 62.5 MMBtu/Hr with an average rate of approximately 50 MMBtu/hr.

July 2001 / Product Number: I47120 / Price: $66.00

Publ 4720

Comparison of API and EPA Toxic Air Pollutant Emission Factors for Combustion Sources

API Publication 4720 is a study which compares and explains differences in published toxic air pollutant emission factors for combustion sources and recommends priorities for gathering additional emission factor information. Pages: 50

September 2002 / Product Number: I47200 / Price: $74.00

Emissions: Exploration & Production

Publ 4589 ✣

Fugitive Hydrocarbon Emissions from Oil and Gas Production Operations

The emission factors derived in this report indicate that fugitive emissions from production facilities are considerably lower than they were in the late 1970s. Investigators use portable detectors to screen more than 180,000 components at 20 offshore and onshore facilities. Mass emission rates from "bagged" emitters, valves, connectors, and other components, such as seals and vents, are used to develop emission factors for individual components and groups of components. A workbook included in the report provides site operators with three different options to calculate emissions from their facilities. See also Publ 4615. Pages: 263

December 1993 / Product Number: I45890 / Price: $117.00

Publ 4615

Emission Factors for Oil and Gas Production Operation

This document supplements the information found in Publ 4589 and contains revised emission factors developed from 1993 API data using correlation equations established by EPA in 1994. The report contains emissions factors for five types of production operations—light crude production, heavy crude production, gas production, gas processing plants and offshore production. It also contains profiles of speciated emissions including air toxics, and assesses regional differences in fugitive emissions and control efficiency of Inspection and Maintenance programs. Component inventory data, screening data, and leak emission data are also included. See also Publ 4589. Pages: 56

January 1995 / Product Number: I46150 / Price: $49.00

Publ 4638 ✣

Calculation Workbook for Oil and Gas Production Equipment Fugitive Emissions

This workbook, which is the result of 5 years of field testing of equipment components at production facilities across the United States, is a valuable tool for petroleum producers who are interested in estimating fugitive emissions from their oil and gas production sites. Four methods of calculating fugitive emissions are presented: EPA Average Emission Factor Method, EPA Screening Value Range Emission Method, EPA Correlation Method, and Leak Quantification Method. Pages: 62

July 1996 / Product Number: I46380 / Price: $49.00

Publ 4644

A Methodology for Estimating Incremental Benzene Exposures and Risks Associated with Glycol Dehydrators

The EPA and API collaborated to develop a methodology to estimate benzene exposures and associated risks under representative emission conditions applicable to glycol dehydrators. The result (spreadsheet program and Monte Carlo routine) was a PC-based model called SIMRISK. A simplified version was developed that could be incorporated into control applicability criteria for glycol dehydrator vent emissions. Pages: 84

February 1997 / Product Number: I46440 / Price: $63.00

Publ 4661 ✣

Exploration and Production Emission Calculator (EPEC)

The Exploration and Production Emissions Calculator (EPEC), a personal computer model, integrates user input, emission calculations, and data summaries for many equipment types used in the production of oil and natural gas. The calculation techniques and emission factors were, in most cases, established by the U.S. Environmental Protection Agency, API, and the Gas Research Institute. This software will enable oil and gas producing operators to more easily estimate emissions (criteria pollutants, other regulated pollutants, and hazardous air pollutants). System requirements are an IBM PC 486DX2 compatible or higher, at least 8 MB RAM, a math coprocessor, Microsoft® Excel and Windows® 3.11 or later. Pages: 130

September 1997 / Product Number: I46610 / Price: $305.00
Member Price: $179.00

Publ 4662 ✣

Evaluation of a Petroleum Production Tank Emissions Model

E&P TANK was evaluated for petroleum production tanks in an emission measurement project sponsored by the American Petroleum Institute and the Gas Research Institute. Emission testing was performed on storage tank vents located at seven sites in widely diverse oil and gas producing regions across the United States measured emissions were found to be in agreement with E&P TANK model predictions. Pages: 338

October 1997 / Product Number: I46620 / Price: $94.00

Publ 4679 ✣

Amine Unit Air Emissions Model and User's Guide, AMINECalc Version 1.0

AMINECalc is a user-friendly Windows®-based software program that estimates hydrocarbon emissions from amine-based sour gas and natural gas liquid sweetening units. The output generated by the software can be used for regulatory reporting by unit operators according to the requirements of the Clean Air Act Amendments of 1990. AMINECalc performs three types of calculation options: (1) mass balance calculation, (2) gas process [gas feed] simulation, and (3) NGL process [liquid feed] simulation. Mass emission rates of hazardous air pollutants, including benzene, toluene, ethylbenzene and xylenes (BTEX), and volatile organic compounds (VOCs) can be estimated with the use of AMINECalc. System requirements for running AMINECalc version 1.0 are IBM PC 486 compatible or higher, 8 megabytes (MB) RAM or more, and Windows® 95/98/NT. Approximately 2 MB of hard disk space are required to hold the program and its supporting run-time libraries. For better interface viewing, it is recommended that the user set the monitor to a high color 16 bit (or higher) resolution. See also Publ 4680. Pages: 76

January 1999 / Product Number: I46790 / Price: $421.00

Publ 4680 ✣

Amine Unit Air Emissions Model Evaluation

The implementation of the 1990 Clean Air Act Amendments (CAAA) in the United States has created the need for a reliable method to estimate and report hydrocarbon emissions from amine units. A simulation package, called Amine Unit Air Emission Model (AMINECalc) Version 1.0 was developed. This report evaluates the AMINECalc model by comparing the simulation results with field data collected from operating gas plants. It also recommends improvements and modifications to refine the predictions. See also Publ 4679. Pages: 96

December 1998 / Product Number: I46800 / Price: $94.00

Publ 4683 ✣

Correlation Equations to Predict Reid Vapor Pressure and Properties of Gaseous Emissions for Exploration and Production Facilities

This report establishes simple techniques for exploration and production (E&P) operators of petroleum storage tank facilities to use for the preparation of site-specific emission inventories to meet environmental regulations. Analyses were performed of oil and gas sampling results and emissions modeling results for more than 100 crude oil E&P storage tanks. Correlation equations or statistical averages were recommended to estimate Reid Vapor Pressure, vented flash gas molecular weight, vented working and standing gas molecular weight, hydrocarbon speciation (including, hazardous air pollutants), and separator gas specific gravity. Pages: 82

December 1998 / Product Number: I46830 / Price: $63.00

Publ 4697 ✣
Production Tank Emissions Model (E&P TANK, Version 2.0)

E&P TANK, developed in conjunction with the Gas Research Institute, is a personal computer model designed to use site-specific information in a user-friendly format to predict emissions from petroleum production storage tanks. The model calculates flashing losses and simulates working and standing losses, using data provided by the user. Calculations distinguish between HAPs and VOCs, showing detailed speciated emission rates from methane to decanes. System requirements are an IBM PC 386 compatible or higher, at least 2 MB RAM, a math coprocessor, and WINDOWS® 3.1 or later. Pages: 86

April 2000 / Product Number: I46970 / Price: $468.00
Member Price: $246.00

Emissions: Marketing

Publ 4588 ✣
Development of Fugitive Emission Factors and Emission Profiles for Petroleum Marketing Terminals, Volume 1

To evaluate the accuracy of fugitive emission estimates for petroleum marketing terminals, a study was designed to determine average emission factors and fugitive emission correlation equations for components in light liquid and gas vapor services. Four marketing terminals were tested and the results of the study are presented in this report. See also appendices to this document, Publ 45881. Pages: 146

May 1993 / Product Number: I45880 / Price: $101.00

Publ 45881 ✣
Development of Fugitive Emission Factors and Emission Profiles for Petroleum Marketing Terminals, Volume 2

This volume is the appendix to Publ 4588. Appendices include statistical analyses of data, field inventory sheet data, emitter data, nonaromatic speciation data, and aromatic speciation data. See also Publ 4588. Pages: 217

May 1993 / Product Number: I45881 / Price: $92.00

Emissions: Refining

Publ 310 ✣
Analysis of Refinery Screening Data

This study analyzed $5^1/_2$ years of screening data from seven Los Angeles California refineries, comprising 11.5 million values. Information was obtained to help determine (1) the design and operational characteristics that influence emissions, and (2) whether a focused LDAR program could be more cost effective while reducing emissions than the current method of monitoring all system components. Pages: 64

November 1997 / Product Number: J31000 / Price: $47.00

Publ 335
Refinery MACT Workshop Manual

Product Number: J33500 / Price: $123.00

Publ 337 ✣
Development of Emission Factors for Leaks in Refinery Components in Heavy Liquid Service

Estimating air pollutants from stationary sources is necessary for compiling emission inventories, determining emission fees, and meeting the conditions of various permits and compliances. This report provides revised emission factors applicable to refinery components in heavy liquid (HL) service, which were based on extensive field measurements. It also provides data analyses to determine whether the type of distillate or residual hydrocarbon in the stream would influence the emission factors. Pages: 68

August 1996 / Product Number: J33700 / Price: $58.00

Publ 4587 ✣
Remote Sensing Feasibility Study of Refinery Fenceline Emissions

This report reviews the state of the art of optical remote sensing (ORS) technology and examines the potential use of ORS systems combined with ancillary measurements, such as meteorological and tracer gas release data to determine fugitive emission rates. The report also highlights some issues to consider in planning an ORS field study and clarifies the attendant tradeoffs for issues such as selection of appropriate ORS systems, consideration of detection limits and beam placement, choice of dispersion models, use of tracer gas releases, time scale and timing of field studies, and the requisite meteorological measurements. Pages: 105

April 1994 / Product Number: I45870 / Price: $55.00

Publ 4612 ✣
1993 Study of Refinery Fugitive Emissions from Equipment Leaks, Volumes I and II

This report describes a study to document how fugitive emissions from equipment leaks have changed since the 1980s. Fugitive emissions from valves, pumps, connectors, and open-ended lines of five refineries were measured to develop new emission correlation equations and emission factors. Volume I contains the summaries and results of data analysis. Volume II contains descriptions of the testing approach, special studies to enhance data analysis, and documentation of quality control results. See also companion document Publ 4613. Pages: 248

April 1994 / Product Number: I46120 / Price: $117.00

Publ 4613 ✣
1993 Study of Refinery Fugitive Emissions from Equipment Leaks, Volume III

This volume is the appendix to Publ 4612. It contains raw data, in-depth discussions of calculations and statistics, and more complete, independent audit results. See also companion document Publ 4612.

April 1994 / Product Number: I46130 / Price: $78.00

Publ 4639 ✣
Estimation of Fugitive Emissions from Petroleum Refinery Process Drains

This report presents a protocol to facilitate the measurement and modeling of volatile organic compound (VOC) emissions from refinery process drains. It includes a comprehensive literature review on fugitive emissions from refinery process drains, the results of a survey of process drains at three refineries, a review of models that describe VOC emissions from drain structures and the results from a series of tests carried out to evaluate the suitability of the equipment and procedures that make up the protocol. Pages: 200

March 1996 / Product Number: I46390 / Price: $70.00

Publ 4677 ✣
Fugitive Emissions from Refinery Process Drains, Volume I, Fugitive Emission Factors for Refinery Process Drains

Emissions from refinery process drains are under increasing scrutiny, particularly with regard to volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), because of the Clean Air Act Amendments of 1990. This publication is volume one of a three-part study initiated by the American Petroleum Institute (API) to update the AP-42 emission factor for refinery process drains, which may overestimate refinery process drain fugitive emissions. This volume contains simplified emission factors that can be used to quickly estimate total volatile organic compound (VOC) emissions from refinery process drains. See also Publs 4639, 4678, and 4681. Pages: 132

April 1999 / Product Number: I46770 / Price: $78.00

Publ 4678 ✣

Fugitive Emissions from Refinery Process Drains, Volume II, Fundamentals of Fugitive Emissions from Refinery Process Drains

This publication is volume two of a three-part study initiated by the American Petroleum Institute (API) to update the AP-42 emission factor for refinery process drains, which may overestimate refinery process drain fugitive emissions. This volume describes theoretical concepts and equations that may be used in a model (APIDRAIN) to estimate speciated VOC emissions. The model can provide insight on how to change process drain variables (flow rate, temperature, etc.) to reduce emissions. See also Publs 4639, 4677, and 4681. Pages: 104

April 1999 / Product Number: I46780 / Price: $78.00

Publ 4681 ✣

Fugitive Emissions from Refinery Process Drains, Volume III, Process Drain Emission Calculator: APIDRAIN Version 1.0

This is volume three of a three-part study-the computer model with user's guide to estimate emissions from refinery process drains. APIDRAIN is a user-friendly Windows®-based software program operating under the Microsoft® Excel for Windows® environment. The model allows the user to sum up the emissions from a refinery process unit area or from the entire refinery. The model user can quickly and easily predict the contribution of process drain emissions to the total emission inventory of a refinery. Unit operators can use the output generated by the software for regulatory reporting according to the requirements of the Clean Air Act Amendments of 1990. The minimum system requirements for running APIDRAIN version 1.0 are PC 486 DX2 Windows® 3.11 platform, 8 MB RAM, and Windows 95®/Windows NT®. The user must have Windows® and Excel® installed on a personal computer to begin using the software. The APIDRAIN model is enhanced with automatic functions that enable the user to easily summarize important reporting information and to generate tabular emissions totals for both specific refinery process units and for the entire refinery. It is not necessary for the user to possess a rigorous understanding of Excel® to use APIDRAIN; only a few common principles of the Windows® operating environment are needed (such as point-and-click and navigation of tab and arrow keys). See also Publs 4639, 4677, and 4678. Pages: 92

April 1999 / Product Number: I46810 / Price: $351.00

Validation of Heavy Gas Dispersion Models with Experimental Results of the Thorney Island Trials

Volumes I & II

June 1986

Publ 4713

Test Report: Fluidized Catalytic Cracking Unit at a Refinery (Site A), Characterization of Fine Particulate Emission Factors and Speciation Profiles from Stationary Petroleum Industry Combustion Sources

There are few existing data on emissions and characteristics of fine aerosols from petroleum industry combustion sources, and the limited information that is available is incomplete and outdated. The American Petroleum Institute (API) developed a test protocol to address this data gap, specifically to:

• Develop emission factors and speciation profiles for emissions of primary fine particulate matter (i.e., particulate present in the stack flue gas including condensible aerosols), especially organic aerosols from gas-fired combustion devices; and
• Identify and characterize secondary particulate (i.e., particulate formed via reaction of stack emissions in the atmosphere) precursor emissions.

This report presents the results of a pilot project to evaluate the test protocol on a refinery fluid catalytic cracking unit (FCCU). Pages 113

March 2002 / Product Number: I47130 / Price: $119.00

Emissions: Vehicles

Publ 4603

Investigation of MOBILE5a Emission Factors: Assessment of Exhaust and Nonexhaust Emission Factor Methodologies and Oxygenate Effects

This report is a technical evaluation of the methodologies, assumptions, and data used in the EPA's mobile source emissions model, MOBILE5a. Exhaust and nonexhaust emission rates and the effects of oxygenates are reviewed. The assumptions and extrapolations within the model are listed and critiqued. Sensitivity analyses are performed to assess the emissions effects of alternative methodologies in MOBILE5a.

June 1994 / Product Number: I46030 / Price: $78.00

Publ 4604

Investigation of MOBILE5a Emission Factors: Evaluation of I/M and LEV Program Benefits

This report analyzes and documents the data used by the EPA to develop estimates of the effectiveness of various inspection and maintenance (I/M) program elements as well as reviews the approach used to model the impacts of vehicles certified to California low emission vehicle standards under alternative I/M program scenarios.

June 1994 / Product Number: I46040 / Price: $63.00

Publ 4605

Investigation of MOBILE5a Emission Factors: Evaluation of IM240-to-FTP Correlation and Base Emission Rate Equations

This document is a detailed investigation and critique of the methodology used by EPA to construct the exhaust emission rate equations in MOBILE5a developed from data collected from an operating I/M program. It includes an extensive critique of the adjustments used to correct I/M program data for variations in fuel characteristics and temperature conditions and an assessment of the correlations developed to relate emissions data measured in an I/M program to that measured on the Federal Test Procedure.

June 1994 / Product Number: I46050 / Price: $49.00

Publ 4637

Analysis of Causes of Failure in High Emitting Cars

This report describes an investigation to evaluate the primary causes of high exhaust emissions from light-duty vehicles on the road. It is an analysis of emissions data from tests previously conducted by the U.S. EPA, the California Air Resources Board, and one joint EPA-industry program. The analysis involves a comparison of emissions test data collected both before and after the performance of repairs on 1981 and newer cars and trucks. Emission control defects, their prevalence and overall contribution to fleet emissions are described. Pages: 104

February 1996 / Product Number: I46370 / Price: $55.00

Publ 4642 ✣

A Study to Quantify On-road Emissions of Dioxins and Furans from Mobile Sources: Phase 2

This report presents the results of a study to assess on-road emissions of dioxins and furans from light- and heavy-duty vehicles in the United States. This study was conducted in response to the U.S. EPA's draft Dioxin Reassessment document, which was based on data developed from studies conducted outside of the United States. Emissions were measured in the Fort McHenry Tunnel in Baltimore, MD, based on techniques tested and proven in Phase 1 of this study. The emission factor determined for heavy-duty diesel vehicles in this work was less than the EPA estimate. Pages: 96

December 1996 / Product Number: I46420 / Price: $108.00

Publ 4646 ✣

Evaluation of Fuel Tank Flammability of Low RVP Gasolines

Twenty-two test fuels were varied with respect to Reid vapor pressure (RVP), pentane-to-butane ratio, and addition of ethanol and MTBE, to evaluate the conditions under which vapors from reformulated gasoline contained in automobile fuel tanks become flammable. The results show that temperature limits of flammability correlate with RVP; the addition of ethanol or MTBE or both affects the upper flammability limits; and the ratio of pentane to butane has no consistent effect at similar RVP levels. Pages: 144

December 1996 / Product Number: I46460 / Price: $78.00

Publ 4650

Analysis of High-mileage-vehicle Emissions Data from Late-model, Fuel-Injected Vehicles

Seventy-five light-duty vehicles were procured and tested over the Federal Test Procedure to assess whether the EPA's MOBILE5a on-road emission factors model overpredicted the exhaust emissions of newer-model, fuel-injected vehicles with high mileage. A comparison of the results from vehicles tested in this program to estimates from the EPA MOBILE5a model suggested that the latter may be over-predicting exhaust emissions. This report presents an analysis of the data collected during this project. Pages: 62

February 1997 / Product Number: I46500 / Price: $55.00

Exposure: Assessment & Monitoring

Publ 4617 ✣

A Monte Carlo Approach to Generating Equivalent Ventilation Rates in Population Exposure Assessments

This report describes a study to improve breathing rate simulations in computer-based models used to estimate the exposures of urban populations to ozone and carbon monoxide. Algorithms producing EVR values according to age, gender, activity, activity duration, and breathing rate category were developed from measured rates in primary-school children, high-school children, outdoor adult workers, and construction workers. Seven additional time/activity databases not used in the current pNEM methodology are described as well as models simulating maximum sustainable ventilation rates as a function of exercise duration, age, and gender. Pages: 168

March 1995 / Product Number: I46170 / Price: $63.00

Publ 4619 ✣

A Study to Characterize Air Concentrations of Methyl Tertiary Butyl Ether (MTBE) at Service Stations in the Northeast

This report describes a study to measure air concentrations of MTBE, total hydrocarbons, carbon monoxide, formaldehyde, and BTEX at 10 service stations in the New York area. Researchers assessed concentrations of MTBE in the areas around gas pumps, at the station perimeters, and in the breathing zones of motorists and attendants. Meteorological parameters, gasoline composition, sales, and deliveries were also monitored. Pages: 144

February 1995 / Product Number: I46190 / Price: $63.00

Publ 4622 ✣

Petroleum Industry Data Characterizing Occupational Exposures to Methyl Tertiary Butyl Ether (MTBE): 1983–1993

This report describes the results of a survey of API member companies to acquire data relating to occupational exposure to MTBE for various activities associated with petroleum facilities. It provides a detailed description of the survey questionnaire as well as a statistical analysis of some 1,833 workplace concentration measurements associated with potential occupational exposures. Pages: 105

August 1995 / Product Number: I46220 / Price: $49.00

Publ 4625 ✣

Service Station Personnel Exposures to Oxygenated Fuel Components

This report describes a study in four ozone nonattainment areas to measured exposures of refueling attendants and mechanics to fuel oxygenate species—MTBE, TAME, tertiary butyl alcohol, ethanol, and butyl alcohol—at service stations. The aromatics—benzene, toluene, xylene, para-xylene, and ethylbenzene—were also measured. Full shift (approximately 8-hour time-weighted average) and short-term (15–20 minutes) samples were collected at each station. Volatility and meteorological measurements were also taken. Pages: 144

August 1995 / Product Number: I46250 / Price: $53.00

Modeling

Publ 4546

Hazard Response Modeling Uncertainty (A Quantitative Method): Evaluation of Commonly-Used Hazardous Gas Dispersion Models–Volume 2

Volume 2 contains an evaluation of a group of 14 hazardous gas dispersion models. All available measurement programs were considered for the evaluation, covering both the releases of dense gases and nondense tracer gases; eight data sets are used in the evaluation. The models are reviewed for their scientific validity. Statistical procedures and residual plots are used to characterize performance. A number of the models give predictions that reasonably match field data. Pages: 351

October 1992 / Product Number: I45460 / Price: $117.00

Publ 4628 ✣

A Guidance Manual for Modeling Hypothetical Accidental Releases to the Atmosphere

This manual presents methods for modeling hypothetical accidental releases of fluids and gases into the atmosphere from process operations. Given a particular type of release and the chemicals or petroleum fractions involved, methods for modeling the release and subsequent dispersion phenomena are treated in a step-wise, comprehensive manner. Detailed simulation of eight hypothetical release scenarios are presented to demonstrate how the modeling procedures can be implemented. Pages: 212

November 1996 / Product Number: I46280 / Price: $117.00

Publ 4636

HGSYSTEM 3.0: Technical Reference Manual and User's Guide

The Technical Reference Manual is intended as a source of background information for users who want to know more about the technical/scientific contents of the HGSYSTEM modules used to model atmospheric dispersion of neutrally buoyant and heavier-than-air gases. The modules calculate release terms, evaporating liquid pools, jet dispersion, and heavy gas dispersion. The User's Guide contains all the information necessary to run HGSYSTEM and interpret results. The IBM-compatible software provided includes the source and executable codes of HGSYSTEM 3.0. Users require a minimum of a 386 processor, DOS 3.3, 4 MB RAM and 2.5 MB disk space. (Two binders are included.) Pages: 281

November 1995 / Product Number: I46360 / Price: $231.00

Publ 4669 ✣

Review of Air Quality Models for Particulate Matter

API has published a review of existing source and receptor models available for analyzing particulate matter (PM) concentrations. This report critically reviews existing air modeling tools for PM, recommends models for State Implementation Plan applications, and identifies areas where the models need improvement. This publication may be downloaded from the EHS web site free of cost: *www.api.org/ehs/Publications/4669.htm*. If you would like API to provide you with a hard copy of this publication for a cost of $40.00,

please contact the Information Specialist at the American Petroleum Institute, Health and Environmental Sciences Department, 1220 L Street, NW, Washington, DC 20005; e-mail: ehs@api.org, phone: 202-682-8319. Pages: 311

March 1998

Ozone

Publ 305

Protecting Agricultural Crops from Ozone Exposures—Key Issues and Future Research Directions

This report identifies and reviews some of the key issues related to assessing the effects of ozone exposure on vegetation. This report analyzes information on components of ozone exposure that elicit adverse effects on vegetation; ways to describe these components in the form of ozone exposure indices that may be useful in the standard-setting process for protecting vegetation; the change in nonattainment status that may occur should the existing ozone NAAQS be modified; and the need for future research efforts to explore the development of a suitable multi-parameter index to protect vegetation from ozone exposure. Pages: 156

August 1991 / Product Number: J30500 / Price: $66.00

Publ 309

Current Status and Research Needs Related to Biogenic Hydrocarbons

This review is a description of the literature on the state of science on biogenic hydrocarbons. Among the areas covered are biogenic emission measurements, ambient concentration measurements, emission inventories, chemical kinetics and modeling studies from 1960 to 1992. The results of the review are used to identify areas of understanding as well as uncertainty in present-day knowledge. A list of references with 163 abstracts is included. Pages: 240

June 1992 / Product Number: J30900 / Price: $91.00

Publ 4616

The Importance of Using Alternative Base Cases in Photochemical Modeling

A series of Urban Airshed Model (UAM) sensitivity studies were conducted using two summer O3 episodes. Plausible alternative conditions were established to define acceptable base cases, some of which provided model performance comparable to the best achieved for the episodes. The alternative base cases used in this study produced significant differences in estimates of the air quality benefits of hypothetical emissions reductions. The study strongly recommends that current photochemical modeling practices include this type of analysis to reduce the risk of focusing on the wrong ozone precursor, underestimating control requirements, or incurring costs to implement unnecessary controls. Pages: 364

September 1994 / Product Number: I46160 / Price: $117.00

Environment and Safety Data

Publ 2378 ✣

1999 Survey on Petroleum Industry Occupational Injuries, Illnesses and Fatalities Summary Report: Aggregate Data Only

This annual summary reports on cases recordable in 1999 under the U.S. Bureau of Labor Statistics' record-keeping guidelines. The survey is based on data submitted to the American Petroleum Institute by oil and gas companies. The report includes information regarding injuries, illnesses, fatalities, lost workday cases, and incidence rates by function. Pages 14

1st Edition / June 2000 / Product Number: K23781 / Price: $84.00

Publ 4714

A Guide to Polycyclic Aromatic Hydrocarbons for the Non-Specialist

API Publication 4714 provides an introduction to polycyclic aromatic hydrocarbons (PAHs) for persons working in the petroleum industry. It describes in general terms what PAHs are and how they are formed; PAH environmental transport, fate, and health effects; regulatory requirements related to PAHs; and analytical methods for measuring PAH concentrations in the environment. This information is of particular relevance to the petroleum industry due to the natural presence of PAHs in crude oil, the formation of PAHs during some refining processes, and the potential for production of PAHs during the combustion of petroleum products. The intended audience for this report includes environmental professionals who must address PAH regulatory issues, and field personnel who are responsible for the sampling and analyses of PAHs. Pages: 36

February 2002 / Product Number: I47141 / Price: $63.00

Human Health Related Research

TR 400

Toluene: A Preliminary Study of the Effect of Toluene on Pregnancy of the Rat

This report describes a preliminary experiment performed in the pregnant rat to determine appropriate exposure levels of toluene, for future investigation of embryofetal toxicity in the rat when administered via the inhalation route from days 5 to 15 of pregnancy inclusive. The inhalation route of administration was chosen as the most likely route of exposure in humans. The exposure levels were chosen following a review of currently available information. See related document TR 401. Pages: 113

June 1993 / Product Number: I00400 / Price: $49.00

TR 401

Toluene: The Effect on Pregnancy of the Rat

This report describes a study to assess the toxicity of toluene on the pregnant rat as well as on the developing fetus. Pregnant rats were exposed to 250, 750, 1,500, and 3,000 ppm toluene via inhalation for 6 hours a day from days 6 to 15 of pregnancy. Control rats were exposed to filtered air for the same length of time. Throughout the exposure period, animals were observed for clinical signs of toxicity. On day 20, the females were sacrificed and examined for abnormalities. The number and distribution of live young as well as the number of fetal deaths and abnormalities were also recorded. See related document TR 400. Pages: 215

June 1993 / Product Number: I00401 / Price: $70.00

TR 403 ✣

Closed-Patch Repeated Insult Dermal Sensitization Study of TAME in Guinea Pigs

This report describes a study to evaluate the allergic contact sensitization potential of tert-amyl methyl ether (TAME) in guinea pigs. Observations for mortality were made daily. Body weights were obtained and general health monitored weekly. Dermal evaluations were made approximately 24 and 48 hours after exposure. Pages: 32

February 1995 / Product Number: I00403 / Price: $49.00

TR 404

An Inhalation Oncogenicity Study of Commercial Hexane in Rats and Mice, Part I—Rats

This abridged report, the first part of a two-part set, evaluates the oncogenic potential of commercial hexane administered to four groups of 50 Fischer 344 rats at concentrations of 0, 900, 3,000 and 9,000 ppm in air. Summary text as well as pertinent data on changes in body weight, pathology, and individual and overall tumor incidence including differences in survivorship between control and exposed groups are provided. The amendment and table of contents to the unabridged final report are included.

January 1995 / Product Number: I00404 / Price: $63.00

TR 405
An Inhalation Oncogenicity Study of Commercial Hexane in Rats and Mice, Part II–Mice

This abridged report, the second part of a two-part set, evaluates the oncogenic potential of commercial hexane administered to four groups of 50 B6C3F1 mice at concentrations of 0, 900, 3,000 and 9,000 ppm in air. Summary text and pertinent data on differences in survivorship between control and exposed groups, changes in body weight, and pathology are provided. The table of contents to the unabridged final report is included.

January 1995 / Product Number: I00405 / Price: $49.00

TR 409 ✣
Primary Skin Irritation Study in Rabbits of API 91-01 and PS-6 Unleaded Test Gasolines

This report describes a study conducted to assess primary dermal irritation data for two motor fuels according to TSCA and FHSA guidelines. Test rabbits were exposed dermally to unleaded gasoline according to a specified protocol and observed daily for signs of skin irritation. Such information is valuable for accurate hazard assessment and first aid treatment. Pages: 58

March 1995 / Product Number: I00409 / Price: $49.00

TR 410
Chromosome Aberrations in Chinese Hamster Ovary (CHO) Cells Exposed to Tertiary Amyl Methyl Ether (TAME)

This study evaluates the clastogenic potential of tertiary amyl methyl ether using Chinese hamster ovary (CHO) cells compared to the solvent control group. Based on the findings of this study, TAME was concluded to be positive for the induction of structural chromosome abberations in CHO cells. Pages: 56

December 1996 / Product Number: I00410 / Price: $70.00

TR 411
Chinese Hamster Ovary (CHO) HGPRT Mutation Assay of Tertiary Amyl Methyl Ether (TAME)

This report describes a study conducted to evaluate the mutagenic potential of the test article, tertiary amyl methyl ether (TAME) based on quantitation of forward mutations at the hypoxanthine-guanine phosphoribosyl transferase (HGPRT) locus of Chinese hamster ovary (CHO) cells. Under the conditions of this study, TAME was concluded to be negative in the CHO/HGPRT Mutation Assay. Pages: 46

December 1996 / Product Number: I00411 / Price: $70.00

TR 412 and 414 ✣
A Range-Finding Developmental Inhalation Toxicity Study of Unleaded Gasoline Vapor Condensate in Rats and Mice via Whole-Body Exposure and An Inhalation Developmental Toxicity Study of Unleaded Gasoline Vapor Condensate in the Rat via Whole-Body Exposure

This two-part inhalation study sought to specifically evaluate the potential of unleaded gasoline for developmental toxicity in rodents. The composition of the unleaded gasoline vapor condensate and the treatment pattern used are representative of real-world exposure conditions encountered at service stations and in other occupational settings. The results show that developmentally there were no differences between treated and control groups in malformations, total variations, resorptions, fetal body weight, or viability. Under the conditions of the study, unleaded gasoline vapors did not produce evidence of developmental toxicity. (This volume includes publications TR 412 and TR 414.) Pages: 300

April 1998 / Product Number: I00412 / Price: $78.00

Publ 45592
Results of Toxicological Studies Conducted for the American Petroleum Institute Health and Environmental Sciences Department

This publication lists and provides the results through December 1994 of all toxicological studies performed on petroleum-based materials, including gasoline and gasoline streams, middle distillates, lubes, heavy fuels, solvents, shale oils, and miscellaneous products. It also provides details of the tests performed and the species tested. A three-ring binder is provided to house this edition and future updates. Pages: 190

January 1995 / Product Number: I45592 / Price: $63.00

Publ 4592
Odor Threshold Studies Performed with Gasoline and Gasoline Combined with MTBE, ETBE and TAME

This report examines the effects on odor detection and recognition of adding oxygenates such as MTBE, ETBE, and TAME to gasoline. Commercial grade MTBE is also evaluated for its taste threshold in water. The odor detection threshold is the minimum concentration at which 50% of a given population can differentiate between a sample containing the odorant and a sample of odor-free air. The recognition threshold is the minimum concentration at which 50% of a given population can recognize the odorant. The addition of 11% to 15% by volume MTBE or 15% by volume of TAME or ETBE reduce the odor detection and recognition thresholds of gasoline. Pages: 76

January 1994 / Product Number: I45920 / Price: $63.00

Publ 4623 ✣
Anecdotal Health-Related Complaint Data Pertaining to Possible Exposures to Methyl Tertiary Butyl Ether (MTBE): 1993 and 1994 Follow-up Surveys, (1984 1994)

This document describes the development and administration of an informal survey of API member companies and state agencies to acquire anecdotal complaint data relating to MTBE exposure. Data associated with 71 occupational and 13 nonoccupational health-related complaints including reported symptoms are presented. Pages: 33

September 1995 / Product Number: I46230 / Price: $49.00

Publ 4634
Index and Abstracts of API Health-related Research

This compendium of health-related research provides author, organization, and subject indices for research investigations and scientific reviews conducted for API between 1959 and 1994. It covers industrial hygiene and exposure assessment, toxicology, environmental biology, product safety, and community and occupational health research areas. Informative abstracts provide useful background on each study and give information on publication availability. Pages: 160

September 1995 / Product Number: I46340 / Price: $63.00

Publ 4647 ✣
Brain Glial Fibrillary Acidic Protein (GFAP) as a Marker of Neurotoxicity During Inhalation Exposure to Toluene

This study evaluated the concentration of glial fibrillary acidic protein (GFAP) in the rat's brain as a practical biomarker of toluene-induced neurotoxicity. Adult male rats received inhalation exposure to toluene scheduled to approximate occupational exposure for up to 42 days. During and after exposure, the concentration of GFAP was determined in four brain regions and compared with standard criteria of neurotoxicity: behavioral or neuropathological changes. Pages: 44

June 1997 / Product Number: I46470 / Price: $63.00

Publ 4648 ✣

Human Neurobehavioral Study Methods: Effects of Subject Variables on Results

Behavioral tests from two consensus neurotoxicity batteries were administered to 715 subjects aged 26–45. These people had 0–18 years of education and represented the following cultural groups: European-descent majority, Native American Indian, African American, and Latin American. Differences in educational level and locale (rural vs. urban) and gender were examined. All factors affected the outcome of the behavioral tests studied. Results suggested that education and cultural group should be controlled in the design of the study rather than in the statistical analysis, and failure to do so could lead to false conclusions about the presence or absence of neurotoxic effects. Pages: 110

December 1996 / Product Number: I46480 / Price: $78.00

Publ 4689

Chemical Human Health Hazards Associated with Oil Spill Response

API publication number 4689 contains an overview of human health hazards that could be encountered by personnel involved with spills or leaks of petroleum products. The discussion includes potential risks of basic components and products of concern. Environmental factors that may affect exposure and a brief summary of other exposure considerations are also included.

August 2001 / Product Number: I14689 / Price: $66.00

Natural Resource Damage Assessment

Publ 304

Evaluation of Restoration Alternatives for Natural Resources Injured by Oil Spills

This report builds upon previous work in the field of oil spill impact assessment and habitat restoration to assess the technical feasibility and practicality of proactive restoration following oil spills and presents an approach for evaluating tradeoffs between natural recovery and active restoration. The scenarios developed to represent a broad spectrum of possible oil spills were based on selected case studies. The report concludes that in general, available restoration techniques are not very effective for enhancing natural recovery and may, in certain cases, cause more severe impacts than the oil spill alone. Pages: 171

1st Edition / October 1991 / Product Number: J30400 / Price: $66.00

Publ 316

Identifying and Measuring Nonuse Values for Natural and Environmental Resources: A Critical Review

This review takes an in-depth look at the theoretical arguments for using the Contingent Value Method (CVM) as a scientifically valid and reliable tool for valuing nonuse public goods, specifically, environmental resources. The theory of option value is used to frame the concept of nonuse; prominent studies that feature nonuse measurement are highlighted. The potential biases of the CVM method are mentioned with suggestions on improving values. Pages: 134

August 1995 / Product Number: J31600 / Price: $47.00

DR 342

Toxicity Bioassays on Dispersed Oil in the North Sea: June 1996 Field Trials

The purpose of the study described in this report was to gain more information on water column impacts by taking advantage of the ongoing efficacy and monitoring studies done by NOFO in order to conduct field toxicity tests.

The goal of this study was to obtain field effects data using shipboard, real-time toxicity tests with field water. This data can then be used in the future to link field effects to laboratory toxicity data. Pages: 108

June 2002 / Product Number: I34200 / Price: $114.00

Publ 4594

A Critical Review of Toxicity Values and an Evaluation of the Persistence of Petroleum Products for Use in Natural Resource Damage Assessments

This document and accompanying 3.5" diskette provide a review of the literature (post-1970) on the toxicity of crudes and oil products in aquatic environments. Some 748 toxicity values for fish, invertebrates, and algae are assembled into a database—OILTOX. LC50 values can be identified as well as information on taxonomic groups and toxicity endpoints of interest. Key methodological aspects of toxicity tests can be made as well as determinations of which test procedures have a significant impact on results. Users need 640K RAM, DOS 2.0 or higher, and at least a 2MB hard disk. Text may be downloaded onto a diskette and stored as a file or printed. Pages: 196

January 1995 / Product Number: I45940 / Price: $94.00

Publ 4714

A Guide to Polycyclic Aromatic Hydrocarbons for the Non-Specialist

See also, Health and Environmental Issues, Environmental and Safety Data

February 2002 / Product Number: I47141 / Price: $63.00

Pollution Prevention

Publ 300

The Generation and Management of Waste and Secondary Materials in the Petroleum Refining Industry

In 1989, API initiated a census survey of domestic refineries to document the management of waste and secondary materials in 1987 and 1988. Outstanding responses by the refineries (115 out of the total U.S. population of 176 refineries participated) aided in making confident estimates of the amount of waste managed by the U.S. refining industry. Pages: 184

February 1991 / Product Number: J30000 / Price: $58.00

Publ 302

Waste Minimization in the Petroleum Industry: A Compendium of Practices

In early 1988, API undertook a project to develop a compendium of the waste minimization practices for several different segments of the petroleum industry. The compendium discusses a large variety of practices that can and are being utilized by the industry to reduce both the volume and toxicity of wastes. From "good housekeeping practices" for marketing facilities to the recycling of solvents, stormwater, and other traditional waste streams at refineries, the compendium illustrates the various practices available to minimize wastes in the industry. Pages: 152

1991 / Product Number: J30200 / Price: $73.00

Publ 303

Generation and Management of Wastes and Secondary Materials: 1989 Petroleum Refining Performance

This report is a follow-up to Publ 300 and documents the results of the 1989 Refining Solid Waste Survey. The quantitative results of the generation of the 28 waste and residual streams and their management according to the environmental management hierarchy (i.e., source reduction, recycling, treatment and disposal) is presented. In addition, the document contains a discussion of the state of source reduction activities underway within the industry, including a quantitation of source reduction achievements on the 28 streams, and the methods used to calculate source reduction.

June 1992 / Product Number: J30300 / Price: $73.00

Publ 311

Environmental Design Considerations for Petroleum Refining Processing Units

This report demonstrates the application of pollution prevention concepts in the design of a refinery crude processing unit. Included are realistic waste and

emission reduction changes that would be economically and technically attractive to refiners. The document is intended to serve as a reference for refinery designers during the preliminary design phase of building a new crude unit or revamping an existing crude unit. Pages: 214

February 1993 / Product Number: J31100 / Price: $122.00

Publ 31101

Executive Summary: Environmental Design Considerations for Petroleum Refining Crude Processing Units

This is the executive summary to Publ 311. Pages: 13

February 1993 / Product Number: J31101 / Price: $46.00

Publ 312

Responding to Environmental Challenge: The Petroleum Industry and Pollution Prevention

This document is an informal proceedings of a pollution prevention plenary session held at API's 1990 Health and Environment Annual Meeting. Speakers representing federal and state government, public interest groups, and various petroleum industry segments presented their views on pollution prevention. This document also describes API's initiatives for pollution prevention research. Pages: 16

1990 / Product Number: J31200 / Price: Free*

Publ 317 ✣

Industry Experience with Pollution Prevention Programs

The API Pollution Prevention Task Force has been actively involved in promoting pollution prevention within the industry since 1990. Members of the Task Force have accumulated a comprehensive body of knowledge on the subject of pollution prevention and have compiled a resource brochure on the key elements that make pollution prevention programs successful. Pages: 4

June 1993 / Product Number: J31700 / Price: Free*

Publ 324 ✣

Generation and Management of Residual Materials: Petroleum Refining Performance

This document is third in a series that presents the results of API's annual survey of the types and amounts of wastes and residuals generated and managed by the petroleum refining industry. For 1990, source reduction activities doubled over the previous year. The quantity of residuals generated increased to 18.2 million wet tons as compared to 16.3 million wet tons in 1989. Much of the increased quantity reflects generation peaks associated with construction and remediation activities. Two long-term trends are worth noting: (1) the amount of total residuals being recycled continues to rise, and (2) the amount of hazardous wastes going to land treatment and disposal continues to fall. Pages: 123

August 1993 / Product Number: J32400 / Price: $73.00

Publ 329 ✣

Generation and Management of Residual Materials: Petroleum Refining Performance

This document is the fourth in a series that describes the 1991 data from API's annual survey of the types and amounts of residual materials generated and managed by the refining industry. In 1991, the industry generated 14.8 million wet tons of residual materials—the smallest quantity generated since API began this collection effort in 1987. The industry also reported that pollution prevention activities accounted for a reduction in 715,000 wet tons of materials. A trend analysis was performed on the last 5 years. Oil companies can use the data in this report to compare their residual generation and management practices with the rest of the industry. Pages: 172

June 1994 / Product Number: J32900 / Price: $81.00

Publ 331 ✣

Environmental Performance Indicators: Methods for Measuring Pollution Prevention

This report presents methods that can be used to measure progress toward pollution prevention. It investigates a series of measurement parameters presented in five categories: program-based, activity-based, mass-based, normalized efficiency, and concentration-based. Within each category of measures, the benefits and limitations are discussed and illustrated with industry examples. Pages: 30

September 1994 / Product Number: J33100 / Price: $51.00

Publ 333 ✣

Generation and Management of Residual Materials

This report is the fifth in a series of reports detailing waste and residual and management practices in the refining sector. It presents the results of the 1992–1993 survey and includes information on how the industry has achieved compliance with the land disposal restrictions on RCRA listed hazardous K-wastes (K0448-K052). It also documents the influence of the Primary Sludge rule and new Toxicity Characteristic under RCRA. Pages: 170

February 1995 / Product Number: J33300 / Price: $81.00

Publ 336 ✣

Management of Residual Materials: 1994, Petroleum Refining Performance

This report is the sixth in a series of reports presenting the results of the API Annual Refining Survey. It provides a detailed assessment of the size of refinery throughput, the types of crude oil utilized, the regions in which the refineries are located, the types of wastewater treatment processes used, the amounts of different residual streams produced and how they are managed, and the average cost of residual stream management. Pages: 98

August 1996 / Product Number: J33600 / Price: $81.00

Publ 339 ✣

Management of Residual Materials: 1995, Petroleum Refining Performance

This report is the seventh in a series of reports presenting the results of the API Annual Refining Residual Survey. Included in the report are detailed assessments of generated quantities and management practices for 14 individual and 2 combined residual streams, trends in management practices, average costs for selected residual stream management, types of wastewater treatment systems employed at refineries, pollution prevention activities, refinery capacities, and regions in which refineries are located. The data in this report indicate a decrease of greater than 25 percent in the quantity of residuals generated by the refining industry from 1994 to 1995. Further, the industry trend towards increased recycling of residuals has continued. In 1995, over half of the refinery residuals generated were recycled rather than being treated or disposed. Pages: 106

July 1997 / Product Number: J33900 / Price: $81.00

Publ 345 ✣

Management of Residual Materials: 1996 Petroleum Refining Performance

This report is the eighth in a series of reports presenting the results of the API Annual Refining Residual Survey. Included in the report are detailed assessments of generated quantities and management practices for 14 residual streams representing approximately 80 percent of all residuals managed at U.S. refineries. Industry trend towards increased recycling of residuals has continued. In 1996, well over half of the refinery residuals generated were recycled rather than being treated or disposed. Pages: 106

June 1998 / Product Number: J34500 / Price: $81.00

Soil and Groundwater Research

www.api.org/groundwater

Publ 4722

Groundwater Sensitivity Toolkit—Users Guide, Version 1.0

The American Petroleum Institute and the California MTBE Research Partnership have produced a new software utility to help site managers, water purveyors and regulators evaluate the sensitivity of a groundwater resource to a potential release of compounds of concern (e.g., an MTBE-oxygenated fuel). The toolkit examines three aspects of sensitivity: Resource Value, Receptor Vulnerability and Natural Sensitivity. The user supplies site-specific information and the toolkit returns a "scorecard" addressing the three aspects of sensitivity. Although this utility was designed with petroleum hydrocarbon releases in mind, it can be used when dissolved chlorinated and inorganic compounds are the chemicals of concern. The toolkit runs on Microsoft Excel® and comes with a user's guide. Pages: 51

August 2002 / Product Number: I47220 / Price: $47.00

API Soil and Groundwater Research Bulletins

API Soil and Groundwater Research Bulletins summarize research results from project overseen by API's Soil and Groundwater Technical Task Force. The Task Force disseminates information and research results through publications, presentations and interaction with industry clients and regulatory agencies.

The bulletins listed below can be downloaded from www.api.org/bulletins.

Bulletin No. 22

Maximum Potential Impacts of Tertiary Butyl Alcohol (TBA) on Groundwater from Small-Volume Releases of Ethanol-Blended Gasoline in the Vadose Zone

December 2004

Bulletin No. 21

Evaluation Of Potential Vapor Transport To Indoor Air Associated With Small-Volume Releases Of Oxygenated Gasoline In The Vadose Zone

December 2004

Bulletin No. 20

Answers to Frequently Asked Questions About Ethanol Impacts to Groundwater

December 2003

Bulletin No. 19

Evaluation of Small-Volume Releases of Ethanol-Blended Gasoline at UST Sites

October 2003

Bulletin No. 18

Answers to Frequently Asked Questions About Managing Risk at LNAPL Sites

May 2003

Bulletin No. 17

Identification of Critical Parameters for the Johnson and Ettinger (1991) Vapor Intrusion Model

May 2002

Bulletin No. 16

Migration of Soil Gas Vapors to Indoor Air: Determining Vapor Attenuation Factors Using a Screening-Level Model and Field Data from the CDOT-MTL

April 2002

Bulletin No. 15

Vadose Zone Natural Attenuation of Hydrocarbon Vapors An Emperical Assessment of Soil Gas Vertical Profile Data

December 2001

Bulletin No. 14

Predicting the Effect of Hydrocarbon and Hydrocarbon-Impacted Soil on Groundwater

September 2001

Bulletin No. 13

Dissolution of MTBE from a Residually Trapped Gasoline Source

September 2001

Bulletin No. 12

No-Purge Sampling: An Approach for Long-Term Monitoring

October 2000

Bulletin No. 11

Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE

August 2000

Bulletin No. 10

Simulation of Transport of Methyl Tert-Butyl Ether (MTBE) to Groundwater from Small-Volume Releases of Gasoline in the Valdose Zone

June 2000

Bulletin No. 9

Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil

June 2000

Bulletin No. 8

Characteristics of Dissolved Petroleum Hydrocarbon Plumes Results from Four Studies

December 1998

Bulletin No. 5

Evaluation of Sampling and Analytical Methods for Measuring Indicators of Intrinsic Bioremediation

February 1998

Bulletin No. 3

Ten Frequently Asked Questions About MTBE in Water

March 1998

Bulletin No. 1

Summary of Processes, Human Exposures and Remediation Technologies Applicable to Low Permeability Soils

September 1996

Contaminant Fate and Transport

Publ 4531
Chemical Fate and Impact of Oxygenates in Groundwater: Solubility of BTEX from Gasoline-oxygenate Mixtures

Oxygenated hydrocarbon compounds may be added to gasoline mixtures to improve emission quality and octane ratings or to conserve petroleum resources, which may alter the behavior of dissolved organic compounds in groundwater following a fuel spill. This study evaluates the effects of oxygenate additives such as methanol or methyl-tertiary-butyl ether (MTBE) on the aqueous solubility of dissolved aromatic hydrocarbons (benzene, toluene, ethylbenzene, and the isomers of xylene, collectively referred to as BTEX) from gasoline. It also explores the nature of the dissolved contaminant plumes that could develop from a spill of gasoline containing methanol. Pages: 110

August 1991 / Product Number: I45310 / Price: $49.00

Publ 4593 ✣
Transport and Fate of Non-BTEX Petroleum Chemicals in Soils and Groundwater

This literature survey documents available information on the chemical composition of petroleum products and the subsurface fate and transport of selected non-BTEX constituents of these products. The evaluation focuses on a representative group of 12 hydrocarbons and hetero-organic compounds based on their abundance in petroleum products and anticipated future interest from regulatory agencies.

September 1994 / Product Number: I45930 / Price: $53.00

Publ 4601 ✣
Transport and Fate of Dissolved Methanol, MTBE and Monoaromatic Hydrocarbons in a Shallow Sand Aquifer

This report describes a field investigation into the effect of oxygenates methanol and methyl-tertiary-butyl ether (MTBE) on the fate and transport of benzene, toluene, ethylbenzene, and xylene (BTEX) in groundwater. Natural gradient tracer experiments were conducted to simulate the transport of dissolved plumes resulting from subsurface releases of oxygenated fuels. In these experiments, methanol, MTBE, and BTEX concentrations were monitored by sampling from a dense network of multilevel piezometers, and plume contours were mapped through application of moment analysis. A laboratory study on the effects of methanol and MTBE on the biodegradation of BTEX in groundwater was also conducted. The relative mobility and persistence of BTEX and the oxygenates were characterized based on field and laboratory study data. Pages: 338

April 1994 / Product Number: I46010 / Price: $101.00

Publ 4627
In Situ and On-Site Biodegradation of Refined and Fuel Oils: A Review of Technical Literature 1988–1991

This report reviews more than 200 technical articles published between 1988 and 1991 in the area of on-site and in situ bioremediation of petroleum hydrocarbons. It focuses specifically on current field and laboratory research related to petroleum hydrocarbon biodegradation including biodegradation of crude oil and solvents. Recent work in fate and transport modeling that can be applied to petroleum hydrocarbon contamination in groundwater is also covered. The review is designed to complement an earlier (pre-1988) review published by the U.S. Navy. Pages: 146

June 1995 / Product Number: I46270 / Price: $49.00

Publ 4633
Barium in Produced Water: Fate and Effects in the Marine Environment

This review provides a summary of what is currently known about the physical and chemical behavior of barium in produced water and in the ocean. It discusses the factors that influence the rate of precipitation of barium as barite. The toxicity of barium to marine and freshwater organisms and humans is discussed in relation to the concentrations and forms in which it occurs in aquatic environments. Pages: 68

September 1995 / Product Number: I46330 / Price: $47.00

Publ 4643 ✣
Estimation of Infiltration and Recharge for Environmental Site Assessment

A Risk-Based Corrective Action analysis of a site suspected of chemical contamination requires site-specific knowledge of the rate water infiltrates through the soil to the water table. A comprehensive discussion of the current physical/chemical methods and mathematical models available to quantify those rates along with suggestions for selecting an appropriate technique, depending on site conditions, are provided in this report. Pages: 204

July 1996 / Product Number: I46430 / Price: $78.00

Publ 4654 ✣
Field Studies of BTEX and MTBE Intrinsic Bioremediation

A gasoline release field site in the Coastal Plain of North Carolina was monitored for more than 3 years to allow calculation of in situ biodegradation rates. Laboratory microcosm experiments were performed to further characterize the biodegradation of BTEX and MTBE under ambient, in situ conditions. Finally, groundwater modeling studies were conducted to facilitate the interpretation of field data and to evaluate various approaches for predicting the fate and effects of these gasoline constituents in the subsurface. Pages: 244

October 1997 / Product Number: I46540 / Price: $63.00

Publ 4674 ✣
Assessing the Significance of Subsurface Contaminant Vapor Migration to Enclosed Spaces—Site-Specific Alternative to Generic Estimates

Vapors in enclosed spaces pose two levels of concern. First, enclosed-space vapors may be found at concentrations near those that pose immediate flammability and/or health risks. These sites warrant immediate attention and response as required by most state and federal regulatory guidance. In the second class of sites, concentrations are lower and the concern is for longer term health risks. This report focuses exclusively on this second class of sites, where advection and diffusion occur through a soil layer and into an enclosed space, and time is available to adequately address the problem on a site-specific basis. The options considered in this document include:

- Direct measurement through sampling of enclosed-space vapors,
- Use of near-foundation or near-surface soil gas sampling results,
- Use of site-specific homogeneous and layered soil diffusion coefficients in generic algorithms, and
- Assessment of bioattenuation potential. Pages: 56

December 1998 / Product Number: I46740 / Price: $63.00

Publ 4741
Collecting and Interpreting Soil Gas Samples from the Vadose Zone: A Practical Strategy for Assessing the Subsurface-Vapor-to-Indoor-Air Migration Pathway at Petroleum Hydrocarbon Sites

This document covers the collection of soil gas samples for assessing the significance of the subsurface-vapor-to-indoor-air exposure pathway. While soil gas collection is not the only means of assessing this pathway, it plays a prominent role in many regulatory guidance documents.

This document allows for flexibility in the selection and refinement of practicable and defensible sampling methods. The focus is on identifying key issues associated with soil gas sampling and data interpretation. Field project managers should find this document of use when developing scope-of-work requirements for site-specific work plans and bid requests.

Topics covered in the document include:

- soil gas transport, with emphasis on petroleum hydrocarbon vapors, including a brief synopsis of expected soil gas profiles based on empirical analysis of existing data.

- the conceptual vapor-migration model.
- sampling locations, depths, and sampling frequency.
- monitoring installations and sample collection procedures.
- methods of soil gas analysis.
- interpretation of soil gas data.

to be published Q1, 2005

Remedial Technologies

DR 225 ✣

Remediation of a Fractured Clay Till Using Air Flushing: Field Experiments at Sarnia, Ontario

This study was conducted over a 3-year period at a well-characterized test site located in Canada near Sarnia, Ontario. A synthetic gasoline blend of known mass, volume, and composition was released into a test cell. Samples were collected and analyzed for gasoline range organics to establish the three-dimensional distribution of the release. Conventional air flushing technologies, soil vapor extraction (SVE) and in situ air sparging (IAS), were able to remove ~40% of the spilled mass during the initial 2 months of operation. Following active remediation, primarily low-volatility compounds remained in the soil and almost no benzene or toluene remained. Based on mass balance data, a significant portion of the BTEX compounds was biodegraded. Pages: 220

October 1998 / Product Number: I00225 / Price: $78.00

Publ 4525

A Compilation of Field-collected Cost and Treatment Effectiveness Data for the Removal of Dissolved Gasoline Components from Groundwater

This study was conducted to document, summarize, and evaluate cost and treatment effectiveness data for air stripping and carbon adsorption systems designed to remove dissolved petroleum hydrocarbons from groundwater. The compounds of primary interest were benzene, toluene, ethylbenzene, and xylene isomers (BTEX) as well as the oxygenates methyl-tertiary-butyl ether (MTBE) and isopropyl ether (IPE). Operating data were gathered from 57 field sites throughout the United States, and treatment system profiles were generated for each site. The data will be used to assist companies in planning pump-and-treat remediation systems for removal of BTEX and oxygenates from groundwater. Pages: 240

November 1990 / Product Number: I45250 / Price: $63.00

Publ 4609

In Situ Air Sparging: Evaluation of Petroleum Industry Sites and Considerations for Applicability, Design and Operation

This report describes the important literature findings as well as the hands-on experiences of the petroleum industry at 59 air sparging sites. Design and operational data are analyzed for relationships that can be used to optimize the technology or provide a better understanding of its fundamental processes. Topics covered include: site characterization; pilot testing; system design and installation; and system operation, monitoring, and performance. Pages: 132

May 1995 / Product Number: I46090 / Price: $78.00

Publ 4631

Petroleum Contaminated Low Permeability Soil: Hydrocarbon Distribution Processes, Exposure Pathways and In Situ Remediation Technologies

This report presents a set of 10 papers on light nonaqueous phase liquids (LNAPLs) in low permeability soils. Collectively, the papers address four key areas: (1) processes affecting the migration and removal of LNAPLs; (2) exposure potential posed by clay soil and hydrocarbons via soil, groundwater, and air pathways; (3) models for predicting LNAPL removal; and (4) techniques of remediation. Pages: 298

September 1995 / Product Number: I46310 / Price: $70.00

Publ 4655 ✣

Field Evaluation of Biological and Non-biological Treatment Technologies to Remove MTBE/Oxygenates From Petroleum Product Terminal Wastewaters

A pilot/demonstration study was conducted on three treatment technologies—the fluidized bed biological reactor process, the activated sludge process incorporated with iron flocculation, and the ultraviolet light/hydrogen peroxide process—to evaluate their effectiveness in the treatment of petroleum marketing terminal wastewater contaminated with methyl-tert-butyl ether (MTBE). Contaminated groundwater was the primary constituent of the wastewater, which also contained benzene, toluene, xylenes, and ethylbenzene (BTEX). All three technologies were able to remove at least 95 percent of the MTBE and BTEX in the feed waters. Pages: 194

August 1997 / Product Number: I46550 / Price: $101.00

Publ 4671 ✣

Technical Bulletin on Oxygen Releasing Materials for In Situ Groundwater Remediation

Oxygen Releasing Materials (ORMs) are commercially available materials that are being used to enhance bioremediation treatment of petroleum hydrocarbon contaminated groundwater aquifers. This technical bulletin provides a systematic approach for evaluating the utility of ORM treatment and for designing ORM installations. It summarizes the current state of understanding of this technology to provide guidance for site managers evaluating options for enhanced groundwater remediation. Pages: 52

July 1998 / Product Number: I46710 / Price: $55.00

Publ 4682 ✣

Free-Product Recovery of Petroleum Hydrocarbon Liquids

This document addresses the application of proven technologies for recovering free-product petroleum releases to groundwater. An approach is given to optimize free-product recovery for minimal water production and free-product smearing. Information and guidance for design and analysis of free-product recovery systems using trenches, skimmer wells, single- and dual-pump wells, and vacuum-enhanced wells are provided. The principles that govern the distribution and movement of free-product petroleum hydrocarbons near the water table in an unconfined aquifer are reviewed. Pages: 178

June 1999 / Product Number: I46820 / Price: $88.00

Publ 4715

Evaluating Hydrocarbon Removal from Source Zones and its Effect on Dissolved Plume Longevity and Concentration

Provides valuable information and utilities for regulators and practitioners interested in understanding the possible benefits of free-product removal. This report provides theory and concepts needed to evaluate LNAPL source distribution, chemistry, dissolution and the effects various remediation strategies may have on risk-reduction for the groundwater and vapor exposure pathways. The companion software, API-LNAST, links the multiphase and chemical processes controlling in situ LNAPL distribution, mobility, and cleanup to quantify estimates of the time-dependent concentrations within the LNAPL source and the down gradient dissolved plume. API-LNAST users can screen whether incremental LNAPL removal provides any risk-reduction benefit over a time frame of interest, e.g., 30 years.

September 2002

The report and software can be downloaded from API's website: www.api.org/lnapl

Publ 4730 ✪

Groundwater Remediation Strategies Tool

This guide provides strategies for focusing remediation efforts on 1) the change in contaminant mass flux in different subsurface transport compartments (e.g. the vadose zone, smear zone or a zone within an aquifer of interest) and 2) the change in remediation timeframe.

In this approach, groundwater flow and contaminant concentration data are combined to estimate the rate of contaminant mass transfer past user-selected transects across a contaminant plume. The method provides the user with a means to estimate the baseline mass flux and remediation timeframe for various transport compartments and then evaluate how different remedies reduce the mass flux and the remediation timeframe in each transport compartment. Pages: 71

December 2003 / Product Number: I47300 / Price: $105.00

Site Characterization

Publ 4599

Interlaboratory Study of Three Methods for Analyzing Petroleum Hydrocarbons in Soils

This report presents the results of an interlaboratory study of three methods—Diesel-Range Organics, Gasoline-Range Organics, and Petroleum Hydrocarbons—used to analyze hydrocarbons in soils. Each method is validated, its performance judged from measurements of accuracy and precision, and practical qualification levels (PQLs) are estimated for each method. The full text of each method is included in the report. Pages: 166

July 1994 / Product Number: I45990 / Price: $78.00

Publ 4635 ✣

Compilation of Field Analytical Methods for Assessing Petroleum Product Releases

This report presents a compilation of the most widely used field analytical methods available to perform on-site analyses of organic compounds in soil and groundwater. These methods include total organic vapor analyzers, field gas chromatography, immunoassay, infrared analyzers, and dissolved oxygen/oxidation-reduction potential electrodes. Practical applications and limitations of each method are discussed and an objective-oriented Data Quality Classification Scheme is presented to assist in selecting an appropriate method. Information is also presented on emerging technologies. Pages: 100

December 1996 / Product Number: I46350 / Price: $70.00

Publ 4657 ✣

Effects of Sampling and Analytical Procedures on the Measurement of Geochemical Indicators of Intrinsic Bioremediation: Laboratory and Field Studies

This study evaluates the effects of various sampling and analytical methods of collecting groundwater geochemical data for intrinsic bioremediation studies. Sampling and analytical methods were tested in the laboratory and in the field. Several groundwater sampling and analytical methods may be appropriate for measuring geochemical indicators of intrinsic bioremediation. The methods vary in accuracy, level of effort, and cost. Pages: 86

November 1997 / Product Number: I46570 / Price: $49.00

Publ 4658 ✣

Methods for Measuring Indicators of Intrinsic Bioremediation: Guidance Manual

This guidance manual is intended to be a resource for practitioners of intrinsic bioremediation in allowing selection of sampling and analytical methods that meet project-specific and site-specific needs in scoping field investigations, provides procedures that will improve the representative quality of the collected data, and considers potential biases introduced into data through the sampling and analytical techniques employed in the site investigation. Pages: 96

November 1997 / Product Number: I46580 / Price: $55.00

Publ 4659 ✣

Graphical Approach for Determining Site-Specific Dilution-Attenuation Factors (DAFs): Technical Background Document and User's Guide

The dilution attenuation factor (DAF) plays a key role in assessing potential impact from the soil-to-groundwater pathway at sites where groundwater quality is, or may be, affected by a leak, spill, or other accidental release of hydrocarbons or other chemicals of concern. A simplistic, graphically-based approach for determining generic and site-specific DAFs was developed, allowing for varying levels of site specificity. Currently, to develop a DAF, one must make complicated calculations by hand or use computer-based modeling software. This publication consists of two documents. The first document describes the technical basis for the Graphical Approach for Determining Site-Specific Dilution-Attenuation Factors. The second document, the User's Guide, provides a concise set of instructions for use of the graphical approach. Pages: 233

February 1998 / Product Number: I46590 / Price: $94.00

Publ 4668 ✣

Delineation and Characterization of the Borden MTBE Plume: An Evaluation of Eight Years of Natural Attenuation Processes

In 1988, a natural gradient tracer test was performed in the shallow sand aquifer at Canada Forces Base (CFB) Borden to investigate the fate of a methyl-tertiary-butyl-ether (MTBE) plume introduced into the aquifer. Solutions of groundwater mixed with oxygenated gasoline were injected below the water table along with chloride (Cl^-), a conservative tracer. The migration of benzene, toluene, ethylbenzene, the xylenes (BTEX); MTBE; and Cl^- was monitored in detail for about 16 months. The mass of BTEX in the plume diminished significantly with time due to intrinsic biodegradation. MTBE, however, was not measurably attenuated. In 1995–1996, a comprehensive groundwater sampling program was undertaken to define the mass of MTBE still present in the aquifer. Only about 3 percent of the initial MTBE mass was found, and it is hypothesized that biodegradation played an important role in its attenuation. Additional evidence is necessary to confirm this possibility. Pages: 88

June 1998 / Product Number: I46680 / Price: $49.00

Publ 4670 ✣

Selecting Field Analytical Methods—A Decision-tree Approach

This publication presents a decision-tree approach for selecting and using field analytical methods for on-site analyses of organic compounds in soil, groundwater, and soil gas samples at petroleum release sites. This approach will assist project or site managers with guidance for on-site investigations from initial site assessment to site closure. The decision tree charts are supported by quality control packages to increase the credibility of the data by documenting method performance. The publication also provides training suggestions for personnel who will perform the testing. Easy to use checklists for field quality control and formal documentation are included. Pages: 88

August 1998 / Product Number: I46700 / Price: $70.00

Publ 4699

Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE

Applies the principles of risk-informed decision making to the evaluation of MTBE-affected sites by adding exposure and risk considerations to the traditional components of the corrective action process. The risk factors at a given site are evaluated through a "Conceptual Site Model", which is an inventory of all known or potential oxygenate sources, pathways, and receptors. Based on these risk factors, three levels of assessment are defined: standard, limited, and detailed. The appropriate level of assessment is initially determined based

on receptor data, which can typically be obtained from a survey of nearby wells and land uses. A subsurface investigation may then be conducted to obtain information on sources and pathways. The level of assessment can be "upgraded" or "downgraded" as warranted by the resulting source and pathway information. Includes a review of the chemical properties and subsurface behavior of MTBE and other oxygenated fuel additives. It also provides an overview of characterization monitoring issues at oxygenate release sites, as well as a detailed review of the tools and techniques used for subsurface assessment. The expedited site assessment process and the use of modern direct-push tools are particularly emphasized, since these approaches are especially well suited for use at MTBE-affected sites.

www.api.org / June 2000

Publ 4709

Risk-Based Methodologies for Evaluating Petroleum Hydrocarbon Impacts at Oil and Natural Gas E&P Sites

The process of calculating human health risk-based screening levels for total petroleum hydrocarbons (TPH) is described in an easy-to-understand question and answer format. (Risk-based screening levels [RBSLs] are chemical-specific concentrations in environmental media that are considered protective of human health.) Risk assessment concepts developed by the EPA, and research groups such as the Petroleum Environmental Research Forum (PERF) and the Total Petroleum Hydrocarbon Criteria Working Group (TPHCWG), are used to calculate RBSLs for TPH in crude oil and condensates obtained from around the world. These methodologies were also applied to polyaromatic hydrocarbons (PAHs), metals, and benzene in TPH. Additional resources contained in this manual include a description of the physical and chemical characteristics of crude oil, condensate, and E&P wastes (contrasted with refined products), a summary of the federal regulatory status of E&P wastes, and a listing of key equations used for calculating RBSLs.

February 2001 / Product Number: I47090 / Price: $66.00

Publ 4711

Methods for Determining Inputs to Environmental Petroleum Hydrocarbon Mobility and Recovery Models

This publication is an invaluable reference for operators, consultants and regulators responsible for cleanup of subsurface petroleum releases. Important fluid and soil property parameters are explained. Methods to measure each parameter are presented in order of relevance for use in environmental free-product mobility/recovery assessments. Fluid property parameters covered include density, viscosity, surface tension and interfacial tension. Laboratory-scale soil property parameters include: capillary pressure vs. saturation, relative permeability vs. saturation, water and non-aqueous phase liquid (NAPL) saturation, Brooks-Corey and van Genuchten model parameters. Field-scale bail-down and production tests are explained and cited. Sample collection and handling procedures are summarized. A listing and abstract of relevant ASTM methods is provided in the appendix.

July 2001 / Product Number: I47110 / Price: $90.00

Publ 4731 ✪

Light Non-Aqueous Phase Liquid (LNAPL) Parameters Database—Version 2.0—Users Guide

The Light Non-aqueous Phase Liquid (LNAPL) Parameters Database is a collection of information about samples that have had their capillary parameters determined, as well as other physical parameters measured. Capillary properties are critical in multiphase calculations, and those results have very high sensitivity to these properties. The primary purpose of this database is to provide information to users who are trying to characterize the movement and distribution of LNAPL within a site that has a limited set of direct observations of the capillary properties of the site. Other databases of related parameters have typically been derived from measurements in the agricultural or the petroleum extraction industries; neither being necessarily representative of near-surface environmental conditions. This database give the user the opportunity to understand the range of capillary characteristics observed at sites that are geologically similar, but where there are more direct and laboratory observations available.

A CD is included containing the Database. Microsoft® Access and Excel 2000 or higher are required. Pages: 73

December 2003 / Product Number: I47310 / Price: $105.00

Publ 4739

API Interactive LNAPL Guide - Version 2.0

The API Interactive LNAPL Guide is a comprehensive and easy-to-use electronic information system and screening utility. The Guide is designed to provide an overall approach for evaluating LNAPL at a site; assessing its potential risk, quantitatively defining mobility and recoverability, developing remedial strategies, and examining methods to enhance site closure opportunities.

The Guide includes:

- 11 primers covering all aspects of LNAPL from LNAPL basics to remediation
- 14 assessment tools, including API-LNAST Version 2.0, "Charbeneau" spreadsheets for LNAPL recovery (August 2003), the API LNAPL Parameter Database
- LNAPL decision-making frameworks
- Videos and animated figures
- An extensive reference list

August 2004 / The Guide is available from API's website: http://groundwater.api.org/lnaplguide

Environmental Stewardship Program Publications

Promoting Partnerships ✣

Cooperation Between the Petroleum Industry and Environmental, Educational and Community Groups

Features over 300 examples of partnerships provided by API member companies that demonstrate efforts aimed at one of the key objectives of the industry's Environmental Stewardship Program—to build sustained understanding and credibility with a broad range of industry stakeholders. This report is organized into three categories: environmental, educational, and community partnerships.

September 1996 / Product Number: R90013 / Price: First five free* Additional copies are $13.00

RP 75

Development of a Safety and Environmental Management Program for Outer Continental Shelf Operations and Facilities

Provides guidance for use in preparing safety and environmental management programs (SEMP) for oil, gas, and sulphur operations and facilities located on the outer continental shelf (OCS). These guidelines are applicable to well drilling, servicing, and production; and pipeline facilities and operations that have the potential for creating a safety or environmental hazard at OCS platform sites. Eleven major program elements are included for application to these facilities and operations. Identification and management of safety and environmental hazards are addressed in design, construction, startup, operation, inspection, and maintenance of new, existing, and modified facilities.

3rd Edition / May 2004 / Product Number: G07503 / Price: $74.00

Publ 4714

A Guide to Polycyclic Aromatic Hydrocarbons for the Non-Specialist

See also, Health and Environmental Issues, Environmental and Safety Data

February 2002 / Product Number: I47141 / Price: $63.00

RP 9000 ✣
Management Practices, Self-assessment Process, and Resource Materials

This document can be used to bridge API's Environmental, Health and Safety Mission and Guiding Principles and individual company activities aimed at improving environmental, health, and safety performance. The self-assessment process provides a mechanism for measuring progress in implementing the management practices. The management practices, self assessments, and resource materials are organized around the following strategic elements: pollution prevention; operating and process safety; community awareness; crisis readiness; product stewardship; proactive government interaction; and resource conservation.

2nd Edition / October 1998 / Product Number: R90002 / Price: $66.00

Publ 9100 ✣
Model Environmental, Health & Safety (EHS) Management System and Guidance Document

The Model Environmental, Health & Safety (EHS) Management System and Guidance Document comes with a binder complete with both API Publ 9100A and API Publ 9100B—see descriptions listed below.

October 1998 / Product Number: R9100S / Price: $130.00

Publ 9100A ✣
Model Environmental, Health and Safety (EHS) Management System

This document is intended to be used as a voluntary tool to assist companies interested in developing an EHS management system or enhancing an existing system. The model, which applies a quality systems approach to managing EHS activities, focuses on people and procedures by pulling together company EHS policies, legal requirements, and business strategies into a set of company or facility expectations or requirements.
(Please refer to the companion document, API Publ 9100B *Guidance Document for Model EHS Management System*, for additional information. Publ 9100A and Publ 9100B are intended to be companion documents, and can be purchased as a set, or individually.)

October 1998 / Product Number: R9100A / Price: $60.00

Publ 9100B ✣
Guidance Document for Model EHS Management System

The guidance document provides assistance to corporate and operating organization employees who are developing, implementing, and assessing environmental, health and safety management systems. It intends to serve as self-study source material, enhances efficiency of interchange among employees by use of common terminology, clarifies relationships between operating and other systems, describes how to evaluate effectiveness of an EHS management system and its elements, and facilitates system continuity over time. (Those using this guidance document should be familiar with API Publ 9100A *Model Environmental, Health and Safety (EHS) Management System*. Publ 9100A and Publ 9100B are intended to be companion documents and can be purchased as a set, or individually.)

October 1998 / Product Number: R9100B / Price: $87.00

API Guiding Environmental Principles and Management Practices ✣
Synopsis of API Recommended Practice 9000

A synopsis of API RP 9000 that summarizes the purpose of the management practices and self-assessment process and presents each a set of management practices. (It does not include self-assessment forms or resource materials.)

December 1993 / Product Number: R90005 / Price: Free*

Promoting Environmental, Educational and Community Partnerships ✣
This 12-page Environmental Stewardship Program pamphlet presents examples of some of the partnerships API member companies have with governments, schools, environmental groups, and others as part of the Environmental Stewardship Program. These cooperative efforts are part of the petroleum industry's commitment to improve health, environment, and safety performance and to build understanding and credibility with industry stakeholders. (A complete listing of over 300 partnerships is available in the full Partnership report.) Pages: 12

September 1996 / Product Number: R90012 / Price: Free*

Collecting and Recycling Used Motor Oil ✣
A pamphlet that briefly describes the used oil program and provides a list of states that have adopted the API state model legislation encouraging collection and recycling of used oil. Included are some tips on preparing used motor oil for recycling.

June 1995 / Product Number: R07720 / Price: Free*

Petroleum Industry Environmental Performance ✣
Sixth Annual Report

See also Subscriptions and Information Technology Products, Online Data

Product Number: N10050 / Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣
Fifth Annual Report

See also Subscriptions and Information Technology Products, Online Data

Product Number: N10040 / Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣
Fourth Annual Report

See also Subscriptions and Information Technology Products, Online Data

Product Number: Q10030 / Price: Free* for printed copy

Petroleum Industry Environmental Performance ✣
Third Annual Report

See also Subscriptions and Information Technology Products, Online Data

Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣
Second Annual Report

See also Subscriptions and Information Technology Products, Online Data

Product Number: N10010 / Price: Free for printed copy*

Storage Tank Research

Publ 301
Aboveground Storage Tank Survey: 1989

This report presents a survey of petroleum aboveground storage tanks. Estimates are made of the number, capacity, and age of the tanks in each sector of the petroleum industry. Survey forms and statistical extrapolations methodology are included in the report. Pages: 44

1991 / Product Number: J30100 / Price: $51.00

Publ 306
An Engineering Assessment of Volumetric Methods of Leak Detection in Aboveground Storage Tanks

This report provides the results of a leak detection project in aboveground storage tanks which utilized volumetric methods to detect leaks. A series of field tests were conducted on a 114-foot diameter tank that contained a heavy naphtha petroleum product. The analytical and experimental results of this

project suggest that volumetric leak detection methods can be used to detect small leaks in aboveground storage tanks.

1991 / Product Number: J30600 / Price: $58.00

Publ 307

An Engineering Assessment of Acoustic Methods of Leak Detection in Aboveground Storage Tanks

This report provides the results of a leak detection project in aboveground storage tanks which utilized acoustic methods to detect leaks. A series of field tests were conducted on a 114-foot diameter tank that contained a heavy naphtha petroleum product. The analytical and experimental results of this project suggest that passive-acoustic leak detection methods can be used to detect small leaks in aboveground storage tanks.

1991 / Product Number: J30700 / Price: $58.00

Publ 315

Assessment of Tankfield Dike Lining Materials and Methods

To assess tankfield materials and methods of containment, API commissioned a review of environmental regulations as well as a survey of candidate liner materials and installation methods to explore the technology base. The study was limited to diked areas surrounding storage tanks. Liner installations for secondary containment underneath tanks were excluded. Pages: 50

July 1993 / Product Number: J31500 / Price: $58.00

Publ 322 ✣

An Engineering Evaluation of Acoustic Methods of Leak Detection in Aboveground Storage Tanks

This report describes a set of controlled experiments conducted on a 40-ft. diameter refinery tank to determine the nature of acoustic leak signals and ambient noise under a range of test conditions. The features of a leak detection test needed for high performance are explored. The report concludes that accurate and reliable leak detection of aboveground storage tanks can be achieved through the use of acoustic methods.

January 1994 / Product Number: J32200 / Price: $58.00

Publ 323 ✣

An Engineering Evaluation of Volumetric Methods of Leak Detection in Aboveground Storage Tanks

Two volumetric approaches to detecting leaks from aboveground storage tanks—precision temperature sensors and mass measurement approaches—are evaluated in this report. A set of controlled experiments on a 117-ft. diameter refinery tank is used to examine the effects of differential pressure on conventional level and temperature measurement systems. The features of a leak detection test needed for high performance are also explored.

January 1994 / Product Number: J32300 / Price: $58.00

Publ 325 ✣

An Evaluation of a Methodology for the Detection of Leaks in Aboveground Storage Tanks

This report describes the results of the fourth phase of a program to define and advance the state of the art of leak detection for aboveground storage tanks (ASTs). Three leak detection technologies are examined—passive-acoustic, soil-vapor monitoring, and volumetric—over a wide range of tank types, petroleum fuels, and operational conditions. This study also assesses the applicability of a general leak detection methodology involving multiple tests and product levels as well as determines the integrity of 14 ASTs using two or more test methods.

May 1994 / Product Number: J32500 / Price: $73.00

Publ 327 ✣

Aboveground Storage Tank Standards: A Tutorial

This tutorial presents procedures and examples to help designers, owners, and operators of aboveground storage tanks understand and comply with API's Recommended Practices, Standards, and Specifications concerning leak prevention. These API documents provide requirements designed to minimize environmental hazards associated with spills and leaks. The tutorial also shows how the API inspection and maintenance requirements influence the design of such tanks. It does not attempt to address additional rules and requirements imposed by individual jurisdictions or states. Pages: 70

September 1994 / Product Number: J32700 / Price: $58.00

Publ 328 ✣

Laboratory Evaluation of Candidate Liners for Secondary Containment of Petroleum Products

This document provides comparative data on the physical properties of liner materials as a function of their controlled exposure to fuels and/or additives. Six membrane and two clay liners were tested. Project test results were used to rank the liners in terms of vapor permeation and relative changes in properties such as chemical resistance and liquid conductivity measured after immersion. Pages: 142

January 1995 / Product Number: J32800 / Price: $66.00

Publ 340

Liquid Release Prevention and Detection Measures for Aboveground Storage Facilities

Written for managers, facility operators, regulators, and engineers involved in the design and selection of facility components and prevention of liquid petroleum releases, this report presents an overview of available equipment and procedures to prevent, detect or provide environmental protection from such releases. Also presented are the advantages, disadvantages, and relative costs, as well as maintenance and operating parameters of various control measures. Pages: 116

October 1997 / Product Number: J34000 / Price: $66.00

Publ 341 ✣

A Survey of Diked-area Liner Use at Aboveground Storage Tank Facilities

In 1997, API conducted a survey designed to evaluate the effectiveness of diked-area liner systems and to document operational problems involved with their use. The survey data indicated that the effectiveness of liners in protecting the environment is limited because liner systems frequently fail. The data further showed that there are few releases from aboveground storage tanks that would be addressed by diked-area liners. Because there were few releases, the data do not directly demonstrate the effectiveness or ineffectiveness of liner systems in containing releases; however, it was concluded that measures that prevent aboveground storage tank releases are more effective in protecting the environment and are more cost-effective in the long run. Pages: 32

February 1998 / Product Number: J34100 / Price: $58.00

Publ 346 ✣

Results of Range-finding Testing of Leak Detection and Leak Location Technologies for Underground Pipelines

This study reviewed the current leak detection and leak location methods for pressurized underground piping commonly found at airports, refineries, and fuel terminals. Four methods for testing underground pipes of 6 to 18 inches in diameter and 250 feet to 2 miles in length were selected for field demonstration. These technologies were constant-pressure volumetric testing, pressure-decay testing, chemical tracer testing, and acoustic emission testing. No single leak detection system was found to work in all situations; site-specific conditions may affect any method, and combinations of methods may provide the most effective approach. Pages: 252

November 1998 / Product Number: J34600 / Price: $66.00

Publ 4716
Buried Pressurized Piping Systems Leak Detection Guide

This Study Documentation Report (the Study) analyzes of the performance of different types of leak detection technologies that were applied to buried pressurized piping systems used in airport hydrant fueling and petroleum product terminals. The Study was conducted by Argus Consulting and Ken Wilcox Associates on behalf of the Air Transport Association of America (ATA) and the American Petroleum Institute (API). This report is intended to provide an overview of the Study methodology and results. Pages: 47

April 2002 / Product Number: I47160 / Price: $75.00

Publ 4717
Predictors of Water-soluble Organics (WSOs) in Produced Water—A Literature Review

API Publication 4717 is a report that reviews the scientific literature on the identity and physical/chemical characteristics of the water-soluble organics (WSOs) in produced water in relation to characteristics of fossil fuels and their reservoirs. Pages: 24

March 2002 / Product Number: I47170 / Price: $58.00

Publ 4721
Analytical Detection and Quantification Limits: Survey of State and Federal Approaches

The purpose of this review was to determine the analytical detection and quantification limit policies of various state agencies. Of particular interest were policies for setting wastewater discharge permit limits at or below detection or quantification limits, for determining compliance with such limits, and for using alternative approaches to determining detection or quantification limits. Although the main focus of this review was on state policies involving water quality issues, included in the review were the policies of programs in other environmental areas as well as in federal regulations and statutes. Pages: 129

June 2002 / Product Number: I47210 / Price: $114.00

Surface Water Research

DR 342
Toxicity Bioassays on Dispersed Oil in the North Sea: June 1996 Field Trials

See also, Health and Environmental Issues, Natural Resource Damage Assessment

June 2002 / Product Number: I34200 / Price: $114.00

Publ 4664 ✣
Mixing Zone Modeling and Dilution Analysis for Water-Quality-Based NPDES Permit Limits

This report is designed to

- provide an overview of the Environmental Protection Agency's (EPA) policies and technical guidance on the role of mixing zones in the NPDES permitting process;
- present state mixing zone regulations, policies, and guidance;
- introduce important concepts related to the hydrodynamics of effluent dilution in receiving waters and the design of outfall diffusers;
- review available mixing zone models;
- identify EPA sources for the models;
- discuss strategic issues for dischargers to consider when applying models; and
- describe the use of dye tracer studies as alternatives or supplements to mixing zone models. Pages: 176

April 1998 / Product Number: I46640 / Price: $78.00

DR 343
Automated Validation System for the Offshore Operations Committee Mud and Produced Water Discharge Model.

This report describes the development of an automated validation system for the Offshore Operators Committee Mud and Produced Water Discharge Model (the "OOC Model"), a computer program that predicts the initial fate of drilling fluids, drill cuttings, and produced water discharged into the marine environment. The system automates the process of validating OOC Model predictive capabilities by comparing model predictions with the results of laboratory and field studies of plume behavior. The system was developed to automate the laborious process of confirming that model code enhancements do not degrade the predictive abilities of the OOC Model. The automated validation system approach described here also serves as a template for routine documentation of discharge model performance that could be applied to other models used by industry, consultants, or regulatory agencies. Two of relevant studies found in a literature search were incorporated into the suite of automated test cases for the OOC Model. Summaries of the data sets used for OOC Model validation were prepared in such a way that they could be used conveniently outside of the automated system to validate of any relevant discharge model.

November 2002 (CD ROM only)

Publ 4672 ✣
The Use of Treatment Wetlands for Petroleum Industry Effluents

Treatment wetlands are becoming widely used for cleansing some classes of wastewater effluents. Although the use of treatment wetlands is well established for wastewater categories such as municipal waste, stormwater, agricultural wastewater, and acid mine drainage water, their use in treating a variety of industrial wastewaters is less well developed. Constructed treatment wetlands hold considerable promise for managing some wastewaters generated by the petroleum industry. Several large-scale wetland projects currently exist at oil refineries, and numerous pilot studies of constructed treatment wetlands have been conducted at terminals, gas and oil extraction and pumping stations, and refineries. This report summarizes current information about the use of treatment wetlands for managing petroleum industry wastewaters and also presents background information on the general performance, design, and operation of treatment wetlands based on experience with a variety of wastewater types. Pages: 222

October 1998 / Product Number: I46720 / Price: $78.00

Publ 4676 ✣
Arsenic: Chemistry, Fate, Toxicity, and Wastewater Treatment Options

Arsenic is a naturally occurring element in rocks, soils, water, sediments, and biological tissues. It is also present in fossil fuels. Arsenic in the environment has both anthropogenic and natural sources, and certain anthropogenic sources have caused localized adverse effects on ecological systems and human health. Based on extensive review of the literature, this monograph is intended to serve as a reference volume on the sources of arsenic in the environment, the chemistry and fate of arsenic compounds, biomedical effects, the toxicity of arsenic to aquatic and terrestrial species, wastewater treatment options, and regulatory standards for arsenic in the environment. Pages: 196

October 1998 / Product Number: I46760 / Price: $78.00

Publ 4688 ✣
Temporary Treatment Options for Petroleum Distribution Terminal Wastewaters

This document provides guidance to terminal operators and engineers in evaluating mobile treatment systems for wastewater generated at petroleum distribution terminals. Some of the variables that must be considered include the characteristics of the wastewater, the permitting process, and contractor experience. This document provides sufficient information to guide an operator/engineer through evaluation of mobile treatment systems, including

problem definition, treatment technology selection, contractor selection and implementation.

November 1999 / Product Number: I46880 / Price: $98.00

Publ 4694 ✣

Laboratory Analysis of Petroleum Industry Wastewaters

A guidance manual to assist in arranging for and understanding laboratory analysis of petroleum industry wastewaters. Designed for environmental coordinators, managers, corporate staff, and others who must address environmental compliance reporting and regulatory issues. It is also useful for field personnel responsible for obtaining wastewater sample analyses to fulfill environmental regulatory requirements. Guidance and information are provided for setting data quality objectives; planning analyses; selecting a laboratory; and reviewing laboratory reports, detection and quantification limits, quality assurance/quality control practices, method references, method-defined analytes, and statistical calculations. Examples of case studies, laboratory reports, and data calculations are given throughout the manual. Checklists are provided to help users understand, plan, and review laboratory data. Pages: 175

December 1999 / Product Number: I46940 / Price: $98.00

Publ 4695 ✣

Understanding and Preparing Applications for Petroleum Facility NPDES Discharge Permits

A manual to assist member companies and others in preparing applications and negotiating with permit authorities for National Pollutant Discharge Elimination System (NPDES) permits for wastewater discharges. The manual is intended to help permittees and permit applicants to understand the permit process from application to final permit, and to provide tools and strategies for assuring that the permit is fair and properly implements the applicable regulations. Much of the information in this manual is based on practical experience with many NPDES permits and applications. Examples and case histories are provided to help the user understand the permit application process.

December 1999 / Product Number: I46950 / Price: $107.00

Publ 4698 ✣

A Review of Technologies to Measure the Oil and Grease Content of Produced Water from Offshore Oil and Gas Production Operations

This document identifies and evaluates practical alternative methods for routine monitoring of oil and grease in produced waters. Traditional monitoring methods relied on Freon-113r extraction of oil and grease; however, owing to the phase-out of Freon-113r these methods can no longer be used, and new methods must be sought. This study evaluates two infrared detection methods and one fluorescence detection method for identifying and measuring oil and grease in produced waters. Performance information, and the correlation of analytical results with EPA's hexane extraction method, Method 1664, is provided. Pages: 138

November 1999 / Product Number: I46980 / Price: $98.00

Biomonitoring

TR 402 ✣

Toxicity to Freshwater Alga, Selenastrum capricornutum

This report describes a study conducted to assess the effect of tert-amyl methyl ether (TAME) on the growth of the freshwater alga, Selenastrum capricornutum. At 24-hour intervals, cell counts and observations of the health of the cells were recorded. EC10, EC50, and EC90 values (the concentration of test material which reduced cell densities by 10%, 50%, and 90%, respectively) were calculated based on cell density 72 and 96 hours after exposure. Pages: 76

February 1995 / Product Number: I00402 / Price: $49.00

TR 406 ✣

TAME—Acute Toxicity to Daphnids Under Flow-Through Conditions

This report describes the measurement of acute toxicity of TAME to Daphnids under flow-through conditions. Nominal concentrations of TAME—690, 410, 250, 150, and 89 mg A.I./L—were maintained in exposure vessels and mean exposure concentrations calculated. Biological observations and physical characteristics were recorded at test initiation, and at 3, 6, 24, and 48 hours. Pages: 76

February 1995 / Product Number: I00406 / Price: $49.00

TR 407 ✣

TAME—Acute Toxicity to Mysid Shrimp (Mysidopsis bahia) Under Static Renewal Conditions

This report describes the measurement of acute toxicity of TAME to mysid shrimp under static renewal conditions. Nominal concentrations of TAME—1.6, 4.0, 7.3, 15, 30, and 60 mg A.I./L—were maintained by renewing solutions at 24, 48, and 72 hours of exposure. Observations were recorded at test initiation and every 24 hours until the test was terminated. Pages: 84

February 1995 / Product Number: I00407 / Price: $49.00

TR 408 ✣

TAME—Acute Toxicity to Rainbow Trout Under Flow-Through Conditions

This report describes the measurement of acute toxicity of TAME to rainbow trout under flow-through conditions. During the test, nominal concentrations of TAME—950, 570, 340, 210, and 120 mg A.I./L—were maintained and mean exposure concentrations calculated. Biological observations and physical characteristics were recorded at test initiation and every 24 hours thereafter until test termination. Pages: 80

February 1995 / Product Number: I00408 / Price: $49.00

Publ 4610 ✣

Critical Review of Draft EPA Guidance on Assessment and Control of Bioconcentratable Contaminants in Surface Waters

This document reviews the Environmental Protection Agency's proposed methods and underlying assumptions for assessing bioconcentratable contaminants in petroleum industry effluents. It focuses on the effluent option and its application to NPDES-permitted discharges from oil refineries, petroleum product marketing terminals, and oil/gas production platforms. The review also includes a general evaluation of the suitability of the tissue residue option for evaluating oil industry effluents. Pages: 134

January 1995 / Product Number: I46100 / Price: $55.00

Publ 4656 ✣

Bioaccumulation: How Chemicals Move From the Water Into Fish and Other Aquatic Organisms

This report provides an intermediate-level primer on the accumulation of chemicals by aquatic organisms with emphasis on polycyclic aromatic hydrocarbons (PAHs). Key factors governing bioaccumulation are described to enhance understanding of this complex phenomenon. Approaches for assessing the bioaccumulation potential of chemicals are examined and an evaluation of each method's advantages and shortcomings is offered. Pages: 54

May 1997 / Product Number: I46560 / Price: $70.00

Publ 4666 ✣

The Toxicity of Common Ions to Freshwater and Marine Organisms

Whole effluent toxicity (WET) tests have become a common tool in the evaluation of effluent for discharge acceptability. Recent investigations have indicated that deficiencies or excesses of "common" ions (inorganic ions that are nearly always present in most aquatic systems at nontoxic concentrations) can cause significant acute or chronic toxicity in WET tests. This report presents the results of a review of toxicological and physiological data on inorganic ions that have been implicated in causing significant toxicity—

bicarbonate, borate, bromide, calcium, chloride, fluoride, magnesium, potassium, strontium, and sulfate. Pages: 114

April 1999 / Product Number: I46660 / Price: $78.00

Publ 4701

Bioaccumulation: An Evaluation of Federal and State Regulatory Initiatives

August 2000 / Product Number: I47010 / Price: $71.00

Effluents: Exploration & Production

DR 351 ✣

Proceedings: Workshop to Identify Promising Technologies for the Treatment of Produced Water Toxicity

These proceedings present the discussions, conclusions and recommendations of an API workshop held in October 1994 to identify technologies which could potentially be used for the treatment of produced water toxicity offshore. Background information on the candidate technologies; information on produced water toxicity limitations, characteristics and composition; results of Toxicity Identification Evaluations; and a discussion of the engineering restrictions imposed by offshore platforms are included. Pages: 122

June 1996 / Product Number: I00351 / Price: $57.00

Publ 4611

Interlaboratory Study of EPA Methods 1662, 1654A and 1663 for the Determination of Diesel, Mineral and Crude Oils in Drilling Muds from Offshore and Gas Industry Discharges

This report describes an interlaboratory round-robin study to validate the tiered approach of EPA's three methods—1662, 1654A, and 1663—for monitoring diesel oil in drilling muds. Various extraction methods were evaluated and analytical measurement techniques were tested for measuring diesel oil. Pages: 106

April 1995 / Product Number: I46110 / Price: $57.00

Publ 4633

Barium in Produced Water: Fate and Effects in the Marine Environment

This review provides a summary of what is currently known about the physical and chemical behavior of barium in produced water and in the ocean. It discusses the factors that influence the rate of precipitation of barium as barite. The toxicity of barium to marine and freshwater organisms and humans is discussed in relation to the concentrations and forms in which it occurs in aquatic environments. Pages: 68

September 1995 / Product Number: I46330 / Price: $47.00

Publ 4641

Summary of Produced Water Toxicity Identification Evaluation Research

This report summarizes the results of a three-part study to evaluate the ability of EPA proposed toxicity identification evaluations (TIEs) to determine the potential toxicants in produced water from oil and gas production operations in various locations. Factors affecting the results of the TIEs were identified as well as potential toxicants. Suggestions for improving TIE procedures are included. Pages: 102

June 1996 / Product Number: I46410 / Price: $71.00

Publ 4702

Technologies to Reduce Oil and Grease Content of Well Treatment, Well Completion, and Workover Fluids for Overboard Disposal

Product Number: I47020 / Price: $100.00

Effluents: Marketing

Publ 4602 ✣

Minimization, Handling, Treatment and Disposal of Petroleum Products Terminal Wastewaters

This report is intended to be a basic guide and information resource for all wastewater operations at petroleum product terminals. It includes the regulatory framework for wastewater issues, a detailed description of the sources of terminal wastewater and associated contaminants as well as guidance on means for analyzing the wastewater situation at a terminal, for minimizing wastewater flow contamination, and for wastewater handling and disposal. Pages: 120

September 1994 / Product Number: I46020 / Price: $108.00

Publ 4606 ✣

Source Control and Treatment of Contaminants Found in Petroleum Product Terminal Tank Bottoms

This report presents the results of one of a series of technical studies to characterize petroleum product terminal wastewater and ways to handle and treat such wastewater. The focus is on the sources of ammonia, arsenic, copper, and zinc in tank bottoms and potential options to prevent these substances from entering terminal waters. The report also evaluates two treatment systems used to remove organics and metals—activated sludge with iron coprecipitation and activated sludge with powder-activated carbon. Pages: 120

August 1994 / Product Number: I46060 / Price: $63.00

Publ 4665 ✣

Analysis and Reduction of Toxicity in Biologically Treated Petroleum Product Terminal Tank Bottoms Water

The objectives of this study were to measure toxicity in biologically treated petroleum product terminal tank bottoms waters, identify the chemical constituents causing that toxicity, identify treatment options, and measure the effectiveness of the treatment techniques in removing the constituents and reducing toxicity. Nine gasoline and two diesel tank bottoms water samples were collected from petroleum product terminals at various geographical locations. The samples were normalized to a fixed chemical oxygen demand, then subjected to biological treatment. Treated samples were tested for acute toxicity in 24-hour exposure tests using Mysidopsis bahia and for chronic toxicity in 7-day static renewal toxicity tests also using Mysidopsis bahia. Biological treatment was observed to effectively remove metals, but produced highly variable degrees of chemical oxygen demand, biochemical oxygen demand, and total organic carbon. Pages: 84

April 1998 / Product Number: I46650 / Price: $63.00

Publ 4673 ✣

Impacts of Petroleum Product Marketing Terminals on the Aquatic Environment

This document examines the potential impact of petroleum product marketing terminal (PPMT) wastewater discharges to aquatic environments to ascertain if there is a need for more stringent regulations. Wastewater discharges by PPMTs were evaluated, the constituents normally present in these waste streams were identified, and their possible aquatic impacts were investigated. It was determined that PPMT wastewater discharges pose little environmental risk; therefore, stricter regulations for PPMT dischargers are unwarranted. Pages: 52

April 1999 / Product Number: I46730 / Price: $78.00

Publ 4700

Primer for Evaluating Ecological Risk at Petroleum Release Sites

This primer is designed to help site and facility managers acting as site investigators decide how and to what extent to address ecological risks that may result from a release of petroleum products. The focus is on "downstream"

operations related to transportation, distribution or marketing of petroleum products, but the general principles may be adapted to other parts of the industry as well. The ecological risk assessment process is briefly described, and guidance is given about the preliminary investigation to assess the possible nature and extent of risk. This information is an initial part of a tiered decision-making process used to determine the depth and breadth of the site investigation.

May 2001 / Product Number: I47000 / Price: $84.00

Effluents: Refining

DR 148 ✣

Identification of Organic Toxicants in Treated Refinery Effluents

Effluents from five oil refineries were examined for the presence of chronic toxicity caused by nonpolar, organic compounds. U.S. EPA guidelines for Phase I Toxicity Characterization procedures were used. The refinery effluent containing the most nonpolar toxicity was selected for more detailed analyses and identification of the nonpolar toxicants using Phase II procedures. Extraction and elution conditions were modified to increase chronic toxicity recovery and also reduce the complexity of the nonpolar organic effluent fraction containing toxicity. Results showed that simple modifications of U.S. EPA guidance for C_{18} solid phase extraction procedures, combined with proper toxicity testing conditions, successfully tracked and isolated toxicity in an effluent fraction. Findings also indicated that sources of refinery effluent toxicants were a phenol associated with a jet fuel additive, and two brominated organics believed to be reaction products of cooling tower water treatment chemicals, rather than from crude oil constituents. Pages: 64

December 1997 / Product Number: I00148 / Price: $49.00

Publ 352 ✣

Management of Residual Materials: 1997 Petroleum Refining Performance

This report is the ninth in a series of reports presenting the results of the API Annual Refining Residual Survey. Included in the report are detailed assessments of generated quantities and management practices for 14 residual streams representing approximately 80 percent of all residuals managed at U.S. refineries. Prior to the 1997 survey, the management techniques had included recycling to the cat cracker, which referred to routing a residual to a catalytic cracking unit. Further study revealed that the quantity for residuals actually recycled to a cracking unit was very small-perhaps nonexistent–and was therefore deleted from the 1997 survey. Data for prior years were adjusted. Industry trend toward increased recycling of residuals has continued. Pages: 108

September 1999 / Product Number: J35200 / Price: $98.00

Oil Spills

Bull D16 ✣

Suggested Procedure for Development of a Spill Prevention Control and Countermeasure Plan

See also, Exploration and Production, Voluntary Operating Agreements and Bulletins.

Bulletin D16 and Plan Template:
3rd Edition / December 2002 / Product Number: GD1603 / Price: $220.00

Template Only:
4th Edition / May 2004 / Product Number GD1604T / Price: $79.00

Publ 4558

Options for Minimizing Environmental Impacts of Freshwater Spill Responses

Developed for contingency planners and field responders, this guide provides information on 29 response methods and classifies their relative environmental impact for combinations of 4 oil types and 12 freshwater environments and habitats. Spill topics of concern in freshwater settings are discussed, including public health, conditions under which oil might sink in freshwater, oil behavior in ice conditions, permafrost, and firefighting foam use. Pages: 146

February 1995 / Product Number: I45580 / Price: $70.00

Publ 4640

Petroleum in the Freshwater Environment, An Annotated Bibliography, 1946–1993

The growing concern for petroleum contamination in freshwater ecosystems led API to generate an annotated bibliography to serve as a valuable resource of existing literature on petroleum and its impact on the freshwater environment. It cites literature from 1946 through 1993 on the impact of petroleum products and oil spill cleanup agents on the biota of freshwater ecosystems, on the chemistry and fate of petroleum and cleanup agents in freshwater, and on the review of cleanup methods in freshwater systems. The electronic companion infobase has been prepared in two versions to enhance the value of the annotations: The VIP editable version of the infobase allows the user to add new references, make personal annotations (e.g., bookmarks, notes, highlights, and pop-ups), and delete unwanted references. The standard noneditable version is read-only. Both versions are completely searchable; each word in the bibliography is indexed. Pages: 224

March 1997 / available at www.api.org

Publ 4649

The Use of Chemical Countermeasures Product Data for Oil Spill Planning and Response, Volumes I and II

These proceedings address many of the issues related to potential uses of chemical countermeasure products (CCPs) in mitigating the environmental impacts of spilled oil. Volume I summarizes Workshop deliberations and presents consensus recommendations from the sessions on environmental effects, effectiveness, and decision making. Volume II contains 13 background papers for Workshop participants on various scientific and operational topics, e.g., aquatic toxicity, oil weathering, and decision-making. Pages: 380

April 1995 / Product Number: I46490 / Price: $45.00

Publ 4675 ✣

Fate and Environmental Effects of Oil Spills in Freshwater Environments

This report provides basic information necessary for the formulation of spill response strategies that are tailored to the specific chemical, physical, and ecological constraints of a given spill situation. It summarizes environmental effects from inland oil spills into fresh surface waters. It provides technical information for persons responsible for inland spill response and cleanup, for researchers, and for others dealing with protection of the environment from possible oil spill hazards. This research identifies, describes, and compares the behavior, fate, and ecological implications of crude oil and petroleum products in inland waters. Pages: 160

December 1999 / Product Number: I46750 / Price: $117.00

Publ 4684 ✣

Compilation and Review of Data on the Environmental Effects of In Situ Burning of Inland and Upland Oil Spills

Burning of spilled oil provides a relatively easy, low-cost clean-up method by reducing removal, transportation, and disposal costs as well as reducing the time required for cleanup. This study was commissioned by the American Petroleum Institute to identify those environmental conditions under which burning should be considered as a response option for oil spilled in inland

and upland habitats. This report presents a summary of the case histories and lessons learned from previous uses of burning in inland environments, with and without oil. While some information on human health and safety is included, the focus of this report is on the environmental fate and effects of in situ burning. Pages: 198

March 1999 / Product Number: I46840 / Price: $94.00

Publ 4689

Chemical Human Health Hazards Associated with Oil Spill Response

API publication number 4689 contains an overview of human health hazards that could be encountered by personnel involved with spills or leaks of petroleum products. The discussion includes potential risks of basic components and products of concern. Environmental factors that may affect exposure and a brief summary of other exposure considerations are also included.

August 2001 / Product Number: I14689 / Price: $66.00

Publ 4691 ✣

Fate of Spilled Oil in Marine Waters: Where Does It Go? What Does It Do? How Do Dispersants Affect It?

This is the first of three short summary publications commissioned for preparation by the American Petroleum Institute for oil spill response decision-makers to provide concise easy-to-use information on understanding the fate of spilled oil and dispersants, their use, effectiveness, and effects. When making decisions regarding dispersant use, or any other oil spill response countermeasure, it is important to have a clear understanding of the overall fate of the oil entering the environment. With this publication you will receive a complete yet concise review of oil chemistry and oil weathering. Also provided is information on how to interpret dispersant information more effectively and how dispersants alter or affect the weathering processes of oil. Pages: 30

March 1999 / Product Number: I46910 / Price: Free*

Publ 4692 ✣

A Decision-maker's Guide to Dispersants: A Review of the Theory and Operational Requirements

This is the second of three short summary publications commissioned for preparation by the American Petroleum Institute for oil spill response decision-makers to provide concise easy-to-use information on understanding the fate of spilled oil and dispersants, their use, effectiveness, and effects. This publication provides a summary of dispersant technology. It focuses on chemical dispersant technology and the information needs of decision-makers regarding the use of chemical dispersants and their potential benefits and risks. A reference that every oil spill response decision-maker must have! Pages: 52

March 1999 / Product Number: I46920 / Price: Free*

Publ 4693

Effects of Oil and Chemically Dispersed Oil In the Environment

Crude oil is a complex, highly variable mixture of hydrocarbons and other trace compounds and exposure may cause a variety of adverse effects. Dispersants are mixtures of chemicals, solvents and surfactants used to reduce oil viscosity and help the oil break up and disperse into the water column. This booklet is intended to help bridge the gap in understanding information about exposure and effects of untreated oil and chemically dispersed oil in the marine environment.

May 2001 / Product Number: I4693 / Price: Free*

Publ 4706

Environmental Considerations for Marine Oil Spill Response

The American Petroleum Institute is offering a new revision of Environmental Considerations for Marine Oil Spill Response, generally known as the "Marine Manual." The American Petroleum Institute, the National Oceanographic and Atmospheric Administration, the U.S. Coast Guard and the U.S. Environmental Protection Agency developed the Marine Manual for oil spill contingency planners and field responders. The information allows both planners and responders to identify techniques that minimize the ecological impact of both the response action and the spilled oil. Matrix tables allow comparison of 28 different methods for response, and classify their relative environmental impacts for combinations of 5 different oil types and 25 marine habitats.

July 2001 / Product Number: I47060 / Price: $60.00

Publ 4724

Recovery of Four Oiled Wetlands Subjected to In Situ Burning

Four sites, including a diversity of oil types burned and habitats, were selected for follow-up review and evaluation of the effects of in situ burning (ISB); Mosquito Bay spill in Louisiana, burned in April 2001, Lakehead Pipe Line spill in Ruffy Brook, Minnesota, burned in July 2000, Louisiana Point pipeline spill, burned in February 2000, and Chevron Pipe Line Milepost 68 near Corinne, Utah, burned twice, in March and April 2000. Site visits were conducted in July (Minnesota and Utah) and October (two sites in Louisiana). All available data on each site were collected from those involved in the burns and the post-burn monitoring. State and local monitoring data provided additional information. The site was photographed from the same position and perspective as photographs taken during and shortly after the spill and burn, creating time-series photography as a visual record of the use of in situ burning and vegetative recovery. In combination with quantitative field measurements, photography provides an excellent understanding of the specific site conditions and how the results might apply to other sites. Because this report includes a large number of color photographs for the sites, which would make traditional printing of hardcopy reports very expensive, the report is being published in digital format on CD-ROM.

June 2003 / Product Number: I47240 / Price: $68.00

Publ 4735 ✪

In-Situ Burning: The Fate of Burned Oil

The in situ burn (ISB) is an oil spill response option that has been used far less frequently than mechanical countermeasures (booms, skimmers, etc.), and consequently, familiarity with ISB operations is limited. Decision-makers need a comprehensive understanding of the oil, how it acts in the environment and aspects of the burn process in order to understand the behavior of any ISB by-products and the potential impacts from an in-situ burn. This document was designed to capture that knowledge and present it clearly and concisely so you will have the necessary information to understand issues associated with fate and effects of oil to which ISB has been applied. It is not a set of instructions for carrying out a specific ISB.

April 2004 / Product Number: I47350 / Price: Free*

DR 145

Identification of Oils that Produce Non-buoyant In Situ Burning Residues and Methods for Their Recovery

There is an environmental concern about the possibility of sinking residues from in situ burns (ISBs), leading to the potential for damage to the water bottom. The objective of the study presented in this publication was to start the process of establishing operational tools and procedures for dealing with such non-buoyant burn residues. There were two tasks: develop protocols for identifying ISB residues likely to sink, and evaluate options for dealing with those residues in the field. Pages: 62

February 2002 / Product Number: IDR1450 / Price: $75.00

Oil Spills: MSRC Reports

Marine Spill Response Corporation (MSRC) Research & Development Technical Reports are available from the Linda Hall Library. To order, contact Document Services 800-662-1545 or 816-363-4600, Fax Number: 816-926-8785, Web address: *www.lindahall.org*.

TR 91-001
Priority Topics for Research and Development in Oil Spill Response

TR 92-001
An Analysis of Historical Oil Spills and Current Cleanup Requirements to Aid in Selecting New Technologies for Spill Cleanup Operations

TR 92-002
Airborne Surveillance Technology Options for Improving Oil Spill Cleanup and Response

TR 92-003
Tenyo Maru Oil Spill (Remote Sensing Data Analysis)

TR 92-004
Oil Spill Detection Using Satellite-based SAR

TR 92-006
Incorporation of State of the Art Technologies to Oil Spill Modeling

TR 93-001
Evaluation of Marine Post-Spill Sites for Long-Term Recovery Studies

TR 93-002.1
ROPME Sea Oil Spill Nearshore Geochemical Processes Study (Vol. 1)

TR 93-002.2
ROPME Sea Oil Spill Nearshore Geochemical Processes Study (Vol. 2) (Hydrocarbon Chemistry Analytical Results for Year One)

TR 93-002.3
ROPME Sea Oil Spill Nearshore Geochemical Processes Study (Vol. 3) (Remote Sensing Derived Habitat Classification and Error Evaluation for Year One)

TR 93-003.1
Interlaboratory Calibration Testing of Dispersant Effectiveness: Phase 1

TR 93-003.2
Interlaboratory Calibration Testing of Dispersant Effectiveness: Phase 2

TR 93-004
Oil Spill Detection: Documentation of Historical Remote Sensing Projects and Status

TR 93-006
MSRC Oil Spill Response Vessel Recovered Oil Systems Tests

TR 93-007
Occupational Health Implications of Crude Oil Exposure: Literature Review and Research Needs

TR 93-009.1
Aerial Dispersant Application: Assessment of Sampling Methods and Operational Altitudes, Vol. 1

TR 93-012
MSRC Workshop Report: Research on Worker Health & Safety

TR 93-013
MSRC Workshop Report: Research on Bioremediation of Marine Oil Spills

TR 93-014
MSRC Workshop Report: Research on the Ecological Effects of Dispersants and Dispersed Oil

TR 93-018
Formation and Breaking of Water-in-Oil Emulsions: Workshop Proceedings

TR 93-019
Mesocosm Test Facility Strawman Design

TR 93-023
Seminar on Software for Oil Spill Response and Contingency Planning

TR 93-024
Summary Report MSRC/IKU Flume Design Workshop

TR 93-026
Demulsification By Use of Heat and Emulsion Breaker

TR 93-027
Transfer of Crude Oil Weathering Technology

TR 93-028
Evaluation of a Toxicity Test Method Used for Dispersant Screening in California

TR 93-029
Technical Evaluation of the Coastal Oil Spill Simulation System Prototype

TR 93-030
Determination of Oil and Emulsions Viscosity and Interfacial Tension

TR 93-031
Recovered Oil and Oily Debris Handling to Facilitate Disposal

TR 93-032
Weathering Properties and Chemical Dispersibility of Crude Oils Transported in U.S. Waters

TR 94-001
In-situ Burning of Water-in-Oil Emulsions

TR 94-003
Waterbird Deterrent Techniques

TR 94-004
A Review of the Methods and Ecological Consequences of Substrate Aeration for the Enhancement of Oil Bioremediation in Wetlands

TR 94-005
Coastal Oil Spill Simulation System Prototype Testing Program

TR 94-006
MSRC Workshop Report: Research on Waterbird Deterrents at Marine Oil Spills

TR 94-007
Phase 1: Oil Containment Boom at Sea Performance Test

TR 94-008
Rheological Correlation Studies on Water-in-Oil Emulsions

TR 94-010
Dispersed Oil and Dispersant Fate and Effects Research, California Program Results for 1993–94

TR 94-011
Toxicity Bioassays on Dispersed Oil in the North Sea: August 1994 Field Trials

TR 94-012
Demulsification by Use of Heat and Emulsion Breakers, Phase 2

TR 94-013
The Science, Technology and Effects of Controlled Burning of Oil Spills at Sea

TR 94-015
Comparison of Physically and Chemically Dispersed Crude Oil Toxicity Under Continuous and Spiked Exposure Scenarios

TR 94-018
Potential Use of the Microtox Assay as an Indicator of the Toxicity of Dispersed Oil

TR 94-019
Aerial Dispersant Application: Field Testing Research Program (Alpine, Texas)

TR 95-001
Phase 2: At Sea Towing Tests of Fire Resistant Oil Containment Booms

TR 95-002
Isolation and Identification of Compounds and Mixtures Which Promote and Stabilize Water-in-Oil Emulsions

TR 95-003
Phase 3: Oil Containment Boom at Sea Performance Tests

TR 95-004
Utility of Current Shoreline Cleaning Agent Tests in Field Testing

TR 95-005
An Analysis of Historical Opportunities for Dispersant and In-situ Burning Use in the Coastal Waters of the United States Except Alaska

TR 95-007
Field Evaluation of Bioremediation in Fine Sediments

TR 95-010
Laboratory Studies of the Properties of In-situ Burn Residues

TR 95-011
Formulation of New Fireproof Boom Designs

TR 95-012
Dispersed Oil and Dispersant Fate and Effects Research: California Program Results for 1994–1995

TR 95-014
The Effects of Oil and Chemically Dispersed Oil in Tropical Ecosystems: 10 Years of Monitoring Experimental Sites

TR 95-015
Reduction in the Toxicity of Crude Oil During Weathering on the Shore

TR 95-017
Mesoscale In-situ Burn Aeration Test

TR 95-018
Proceedings of the Third Meeting of the Chemical Response to Oil Spills: Ecological Effects Research Forum

TR 95-019
A Mental Models Approach to Preparing Summary Reports on Ecological Issues Related to Dispersant Use

TR 95-020.1
Development of Protocols for Testing Cleaning Effectiveness and Toxicity of Shoreline Cleaning Agents (SCAs) in the Field

TR 95-020.2
Test Cleaning Effectiveness and Toxicity of Shoreline Cleaning Agents (SCAs): Data Report

TR 95-021
New Brunswick Bird Deterrent Study

TR 95-022
Proceedings of the Workshop on Technical Issues Related to Mesocsm Research in the Coastal Oil Spill Simulation System Facility

TR 95-024
Oil Weathering Study of the Morris J. Berman No. 6 Cargo Oil

TR 95-025
Oil Weathering Study of Arabian Light Crude Oil

TR 95-026
Oil Weathering Study of Maya Crude Oil

TR 95-027
Weathering Characterization of Heavy Fuels

TR 95-029
Dispersant Effectiveness: Phase 3

TR 95-030
Standard Method for Viscosity Measurement of Water-in-Oil Emulsions

TR 95-031
Toxicity Assessment of Oiled and Treated Sediments from and Experimental Bioremediation Site in Delaware Bay, USA

TR 95-033
Large Scale Testing of the Effect of Demulsifier Addition to Improve Oil Recovery Efficiency

TR 95-034
Evaluation of Oil Spill Cleanup Techniques in Coastal Environments

TR 95-038
Key Factors that Control the Efficiency of Oil Spill Mechanical Recovery Methods

Biennial Oil Spill Conference Proceedings

These conferences are sponsored by the American Petroleum Institute, the Environmental Protection Agency, the U.S. Coast Guard, the International Petroleum Industry Environmental Conservation Association, and the International Maritime Organization. They address oil-spill prevention, behavior, effects, control and cleanup.

Publ 4452
1987 Conference Proceedings
Product Number: I44520 / Price: $45.00

Publ 4479
1989 Conference Proceedings
Product Number: I44790 / Price: $45.00

Publ 4529
1991 Oil Spill Conference Proceedings
Product Number: I45290 / Price: $45.00

Publ 4575
Proceedings of the 1991 Oil Spill Conference Infobase
The Proceedings of the 1991 Oil Spill Conference are available on 3.5" or 5.25" computer diskette. More than 700 pages of proceedings, including hundreds of illustrations, can be loaded onto IBM or IBM-compatible personal

computers. The minimum requirements of 512K RAM, hard disk drive, VGA monitor, and DOS 3.0 or higher, are listed in the Reference Manual that gives complete instructions for operating the infobase. A tutorial and glossary are included.

January 1993 / 3.5-inch format: Product Number: I45751 / Price: $47.00
5.25-inch format: Product Number: I45752 / Price: $47.00

Publ 4580
1993 Oil Spill Conference Proceedings

Product Number: I45800 / Price: $47.00

Publ 4620
1995 Oil Spill Conference Proceedings

Product Number: I46200 / Price: $47.00

Publ 46201
1995 Abstracts to Oil Spill Conference Proceedings

Product Number: I46201 / Price: $47.00

Publ 4621
1995 Oil Spill Conference White Papers

Three white papers—(1) "Implementing an Effective Response Management System," (2) "The Use and Misuse of Science in Natural and Resource Damage Assessment," and (3) "Perspectives on Establishing and Maintaining Oil Pollution Capabilities"—were prepared for the 1995 Oil Spills Conference to address issues of varying scientific and sociopolitical importance to the oil spill community. During the 1995 Conference, each white paper was the topic of a special panel session. Pages: 199

Product Number: I46210 / Price: $47.00

Publ 4651
1997 Oil Spill Conference Proceedings

April 1997 / Product Number: I46510 / Price: $47.00

Publ 4652
1997 Oil Spill Conference Issue Papers

Three issue papers—(1) "Putting Dispersants to Work: Overcoming Obstacles;" (2) "International Responsibilities: Are We Our Brothers' Keeper?;" and (3) "Differences in Risk Perception: How Clean is Clean?"—were prepared for the 1997 Oil Spills Conference to address issues of varying scientific and socio-political importance to the oil spill community. During the 1997 conference, each issue paper was the topic of a special panel session. Pages: 196

April 1997 / Product Number: I46520 / Price: $47.00

Publ 4686
1999 Oil Spill Conference Proceedings

1999 / CD ROM Product Number: I4686A / Price: $47.00
Hard Copy Product Number: I4686B / Price: $47.00

Publ 4687
1999 International Oil Spill Conference Issue Papers

Two issue papers: (1) "Myths and Realities of Oil Spill Planning and Response: The Challenges of a Large Spill"—This paper reviews the myths and realities of spill preparedness and response—where improvements have occurred, which elements have been most or least effective, and where future investment should concentrate. Too many myths remain, and too few realities are understood; (2) "Judging Oil Spill Response Performance: The Challenge of Competing Perspectives"—This paper explores the roles of various participants and interested observers in a spill response and the criteria by which they judge it. Recommendations are offered to move toward a more systematic approach based on teamwork and guided by goals and performance criteria that have been accepted in advance by all stakeholders. These papers were prepared for the 1999 Oil Spills Conference to address issues of varying scientific and sociopolitical importance to the oil spill community. Pages: 106

1999 / Product Number: I46870 / Price: $47.00

Publ 4686
2001 Oil Spill Conference Proceedings

2001 / CD ROM Product Number: I4686A / Price: $47.00
Hard Copy Product Number: I4686B / Price: $47.00

Publ 4710
2003 Oil Spill Conference Proceedings

CD ROM Product Number: I4710A / Price: $263.00
Hard Copy Product Number: I4710B / Price: $263.00

Sediments

Publ 4607 ✣
User's Guide and Technical Resource Document: Evaluation of Sediment Toxicity Tests for Biomonitoring Programs

This document serves as a comprehensive guide for the selection of sediment toxicity tests. It compares the types of tests available, specific test methods, and selection of species for their strengths and weaknesses for a particular kind of habitat. Descriptions are provided on test types, test species, and sediment preparations. This publication additionally includes a User's Guide for readers unfamiliar with sediment toxicity testing. See also document Publ 4608. Pages: 236

November 1994 / Product Number: I46070 / Price: $87.00

Publ 4608 ✣
User's Guide: Evaluation of Sediment Toxicity Tests for Biomonitoring Programs

This User's Guide provides an introduction to sediment toxicity testing and presents to those unfamiliar with such testing how the resource manual (Publ 4607) can be used. The document contains descriptions of habitat type, sediment test systems, and biological endpoints. Site-specific concerns are identified to aid in test selection. Brief summaries of sampling and data analysis issues are also presented. Pages: 34

November 1994 / Product Number: I46080 / Price: $47.00

Publ 4632
Reducing Uncertainty in Laboratory Sediment Toxicity Tests

This report evaluates some of the critical components of laboratory experiments that need to be considered to obtain accurate sediment toxicity assessments. The report describes the formulation and evaluation of a reference sediment, it examines the tolerances of common testing species to sediment characteristics, it evaluates copper sulfate as a reference toxicant by determining the relative sensitivities of freshwater testing organisms, and evaluates potential sublethal endpoints for sediment potency. Pages: 152

September 1995 / Product Number: I46320 / Price: $49.00

Waste Research

Overview of Exploration and Production Waste Volumes and Waste Management Practices in the United States

This document presents the results of a survey of the industry covering 1995 that describes current volumes of wastes generated from the production of oil and gas, how those wastes are managed, and identifies changes in waste management practices over the past decade. The report includes numerous tables presenting the results from the survey.

May 2000 / This document can be downloaded from API's web site at: www.api.org/ehs/E&P_Wastes

DR 53
Characterization of Exploration and Production Associated Wastes

Approximately 0.1 percent of the total volume of exploration and production wastes generated annually by the oil and gas industry is classified as associated waste. This report presents the analytical characterization of 120 samples representing 12 different associated waste categories. Fate and transport modeling of the characterization data are also included. The modeling suggests that associated wastes do not pose a threat to groundwater when managed in accordance with API guidance on landspreading, roadspreading and burial. Pages: 160

November 1996 / Product Number: I00053 / Price: $113.00

Publ 351 ✣
Overview of Soil Permeability Test Methods

The determination of soil permeability is one of the most important items in assessing aboveground storage tank facilities' secondary containment areas. This publication outlines various methods to test the permeability of soil and distinguishes between laboratory and field methods, though it does not supply an exhaustive list of all available permeability methods. These methods are identified according to their applicability to particular soil types. The methods presented in this report are applicable to fine-grained soils (silts and clays) and coarse-grained soils (sands and gravels), but may not be appropriate to organic soils, such as peat, or to materials such as construction and demolition debris. All methods should be fully investigated for appropriateness and to determine its suitability to a particular situation. Pages: 60

April 1999 / Product Number: J35100 / Price: $73.00

Publ 4465
Evaluation of the Treatment Technologies for Listed Petroleum Refinery Wastes

The study evaluated the efficacy of five treatment methods, alone and in combination, for listed petroleum refinery wastes: mechanical treatment (filtration), solvent extraction, thermal treatment (drying), chemical fixation, and pyrolysis. The use of all the methods resulted in wastes of substantially reduced hazard, as measured by total and leachable concentration of residues in the product solid. Pages: 200

December 1987 / Product Number: I44650 / Price: $55.00

Publ 4527
Evaluation of Limiting Constituents Suggested for Land Disposal of Exploration and Production Wastes

This report describes a study to develop salinity and petroleum hydrocarbon threshold guidance values that typically should not be exceeded for one-time land application of exploration and production wastes. Definition, technical justification, and guidance for application of threshold values are provided. Measurable parameters that serve as indices for proper environmental management of salinity and petroleum hydrocarbons include: electrical conductivity (EC), sodium adsorption ratio (SAR) and exchangeable sodium percentage (ESP) for salinity, and oil and grease (OG) for petroleum hydrocarbons. Pages: 66

August 1993 / Product Number: I45270 / Price: $49.00

Publ 4733 ✪
Risk-Based Screening Levels for the Protection of Livestock Exposed to Petroleum Hydrocarbons

The purpose of this study was to develop toxicity values and screening guidelines for evaluating risks to livestock from exposure to petroleum hydrocarbons. This report addresses how to determine whether livestock should be included in a risk evaluation, and estimate risks of petroleum hydrocarbon exposures to livestock.

July 2004 / Product Number: I48330 / Price: $74.00

Publ 4734 ✪
Modeling Study of Produced Water Release Scenarios

This document provides a scientific basis for operators, regulators and landowners to determine if assessment or remediation of produced water releases will provide a meaningful environmental benefit.Pages: 124

December 2004 / Product Number: I47340 / Price: $99.00

Publ 4600
Metals Criteria for Land Management of Exploration and Production Wastes: Technical Support Document of API Recommended Guidance Values

This report provides scientifically defensible guidelines for land management of E&P wastes containing metals. It provides the technical support for recommended maximum concentrations of 12 metals. The guidance values for arsenic, cadmium, chromium, copper, lead, mercury molybdenum, nickel, selenium, and zinc were adopted directly from sewage sludge regulations promulgated by EPA in 1993. A risk-based approach was used to develop guidance values for barium and boron. The report also provides practical information on sample collection, analyses, and calculation of waste application rates. Pages: 56

January 1995 / Product Number: I46000 / Price: $47.00

Publ 4618
Characteristics and Performance of Supercritical Fluid Extraction (SFE) in the Analysis of Petroleum Hydrocarbons in Soils and Sludges

This document summarizes the results of a study to evaluate and improve supercritical fluid extraction (SFE) methods and instrumentation for analytical-scale extractions of petroleum hydrocarbons from soils and sludges. The study determines which types of samples and waste are best suited for analysis by SFE and optimal conditions for complete extraction. Pages: 24

May 1995 / Product Number: I46180 / Price: $47.00

Publ 4663 ✣
Remediation of Salt-affected Soils at Oil and Gas Production Facilities

Water separated from oil and gas during production contains dissolved solids, including salt. If improperly handled, produced water with sufficient salt concentrations can damage plants and soils. Therefore, this manual was designed to assist the oil and gas environmental professional and field personnel to (1) assess sites with salt-affected soils; (2) evaluate remedial alternatives; and (3) conduct remedial activities, if necessary. It provides forms for organizing assessment information and conducting sample collection and analysis. Remediation options are divided into three primary groupings: natural remediation, in situ chemical amendment remediation, and mechanical remediation. A decision tree and worksheets are provided to aid in the selection of a remedial option(s). Technical approaches for applying each group of remedial options are discussed. A number of appendices provide supplementary information on various aspects of salt-affected soil remediation.

October 1997 / Product Number: I46630 / Price: $88.00

Guidelines for Commercial Exploration and Production Waste Management Facilities
Provides guidelines for the design and operations of commercial E&P waste management facilities to allow operators to identify areas where their facility could have impacts on the surrounding community and environment, and gives options for preventing/reducing those impacts. The guidelines are not meant to supercede any applicable local, state or federal requirements.

March 2001

For a free copy of this document, please go to the API Website at www.api.org and use the search function for "commercial waste facility"

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Nowadays, the oil and natural gas industry moves, quite literally, at the speed of light. Information races around the globe in the blink of an eye. Facts and figures fly back and forth, and if you're in the right place at the right time, you get the information you need.

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2005 Weekly Statistical Bulletin

An essential tool for producers, users, traders, and analysts of petroleum, it reports total U.S. and regional data relating to refinery operations and the production of the five major petroleum products: oxygenated, reformulated and other motor gasoline, and kerosine jet fuel, distillate (by sulphur content) and residual fuel oil. These products represent more than 80 percent of total refinery production. Inventories of these products as well as crude oil and unfinished oils are also included, along with refinery input data. In early 2004 there will be additional breakouts of gasoline blending components and distillate sulfur levels.

The Weekly Statistical Bulletin is usually published each Wednesday morning, and covers the previous week's activity. A separate Monthly Statistical Report, which is published 2 to 3 weeks following the end of the report month, analyzes and comments on the significance of trends reflected in the weekly data.

Prior years' data are available at a reduced cost. Customized reports are also available for specific weekly series at a negotiable cost, call (202) 682-8546.

Single subscriber		Member	Non-Member
T00040	**Weekly Statistical Bulletin** (immediate)	$8,223.00	$11,088.00
T00001	**WSB** (delayed -pm)	$4,720.00	$6,452.00
83400	**PDF format** (delayed 72 hours)	$538.00	$848.00

*Visit Access*API at www.api.org/axs-api*

2005 Monthly Statistical Report

Contains timely interpretation and analysis of recent developments for major products, production, imports, refinery operations, and inventories–accompanied by API's estimates of these data for the most recent month and graphs of major series, including product deliveries, crude oil production, imports, refinery activity, and inventories for the past 24 months.

In addition, the December issue, published in early January, presents year-end supply/demand estimates and summarizes developments of the year. Quarterly estimates are also included four times per year. API's Monthly Statistical Report is published 2 to 3 weeks following the end of the month.

Single subscriber		Member	Non-Member
T00002	**Monthly Statistical Report**	$1,667.00	$2,476.00
83404	**PDF Format**	$248.00	$500.00

2005 Imports and Exports of Crude Oil and Petroleum Products (12 Issues)

Published monthly by the API, the imports report contains detailed data on the imports of crude oil and petroleum products. Details include: importer of record, port of entry, country of origin, recipient, destination, quantity and API gravity (except residual fuel oil) and sulfur content (for crude oil and residual fuel oil).

The exports report is published monthly by the API and contains detailed data on crude oil and petroleum products exports. Included are port of exit, country of destination, the number of shipments, quantity, shipment value and derived prices.

Import data is based on reports filed with DOE's Energy Information Administration. The report is available by the second week of each month. Historical data are also available in electronic format.

The exports report is based on data collected by the Department of Commerce/Bureau of the Census and is available around the 15th of each month.

Single subscriber		Member	Non-Member
T00050	**IMPorts/EXPorts**	$5,778.00	$9,945.00
30000	**Hard Copy**	$1,812.00	$3,243.00

2005 Inventories of Natural Gas Liquids and Liquefied Refinery Gases

This report presents data on the inventory levels of ethane, propane, isobutane, normal butane, and pentanes plus. These inventories, located at natural gas plants, refineries, bulk terminals and in underground storage, are grouped into eight regional areas. The report is issued around the 27th of each month and it covers the previous month.

Single subscriber		Member	Non-Member
T00004	**Inventories of Natural Gas & Liquefied Refinery Gases**	$1,945.00	$3,264.00
42400	**PDF**	$2,083.00	$2,083.00

2005 Quarterly Well Completion Report

Provides detailed information on reported drilling activity, as well as estimates of the total number of wells and footage drilled for the current and recent quarters. The estimates of quarterly completions and footage are disaggregated by well type, depth interval, and quarter for the current year and 2 prior years.

The data on reported drilling by date of completion includes well and footage data by quarter on a state and/or area basis. The reported drilling activity is also presented by depth interval. These tables show the cumulative number of well completions for the current year and 2 prior years.

Separate tables are also provided by year for total wells, exploratory and development wells and new-field wildcat completions on a state and/or area basis. Reported completions by depth interval are given on an annual basis for the total United States, for exploratory wells, total U.S. onshore, and total U.S. offshore.

The report is available within two weeks following the end of a quarter.

T00006 Quarterly Well Completion Report / Call (202) 682-8508

90171 PDF (4 issues) **/ Call (202) 682-8505**

✪ **This publication is a new entry in this catalog.**

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Questions?
1-800-624-3974 (Toll-free: U.S. and Canada)
303-792-2181 (Local and International)

2004 Sales Natural Gas Liquids and Liquefied Refinery Gases

Presents the results of the seventeenth annual survey jointly sponsored by the American Petroleum Institute (API), Gas Processors Association (GPA, Antion Propane Gas Association (NPGA) and Propane Education & Research Council (PERC). This publication reports estimated sales of Natural Gas Liquids and Liquefied Refinery Gases and *not* consumption.

N62810 2004 Sales Natural Gas Liquids & Liquefied Refinery Gases
Call (202) 682-8505

2004 Joint Association Survey on Drilling Costs

This annual report is the only long-term source of information on detailed U.S. drilling expenditures. The survey, conducted since 1959, presents information on wells, footage and related expenditures for each active drilling area. Data for oil wells, gas wells, and dry holes are reported separately and the information is further disaggregated by depth interval for each state and area. Similar summary tables are provided for the offshore and onshore areas. Also included in the report are sections on drilling expenditures for exploratory and development wells, horizontal wells and coal-bed methane gas wells. A comparison of the impact of price change on the drilling costs is also included.

T00007 2002 Joint Association Survey / Call (202) 682-8505

2004 Basic Petroleum Data Book (2 issues)

Provides valuable domestic and world statistical background information, beginning in most instances with 1947. Included are data on energy, reserves, exploration and drilling, production, finance, prices, demand, refining, imports, exports, offshore transportation, natural gas, Organization of Petroleum Exporting Countries, and environmental.

The printed Data Book is updated and published twice a year. Each report is issued in a self-contained, bound volume, and is no longer needed once the next issue is published.

Both the electronic and printed versions also include a glossary of definitions and a source list (names, telephone numbers) for references in the Data Book.

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T00008	Basic Petroleum Data Book	$2,717.00	$5,295.00
05400	Hard Copy (2 issues only)	$966.00	$1,225.00

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Petroleum Industry Environmental Performance ✣

Sixth Annual Report

Contains information on a total of eight environmental indicators: chemical releases; refinery residuals; oil spills in U.S. waters; used motor oil collection; workplace safety; environmental expenditures by U.S. petroleum industry; and, underground storage tanks upgrades and gasoline vapor controls. Most of the statistics are current through 1996. Historical information is included where possible. This report is intended to be used as a yardstick to assess the industry's performance and measure its progress.

Product Number: N10050 / Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣

Fifth Annual Report

Contains information on a total of eight environmental indicators: chemical releases, refinery residuals, oil spills in U.S. waters, used motor oil collection, workplace safety, environmental expenditures by U.S. petroleum industry; and, underground storage tanks upgrades and gasoline vapor controls. Most of the statistics are current through 1995. Historical information is included where possible. This report is intended to be used as a yardstick to assess the industry's performance and measure its progress. Pages: 54

Product Number: N10040 / Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣

Fourth Annual Report

Same as the Fifth Annual Report except that most of the statistics are current through 1994.

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Petroleum Industry Environmental Performance ✣

Third Annual Report

Same as the Fourth Annual Report except that most of the statistics are current through 1993.

Price: Free for printed copy*

Petroleum Industry Environmental Performance ✣

Second Annual Report

Contains information on the petroleum industry's chemical releases, refinery residuals, oil spills in U.S. waters, used oil collection centers, job-related injuries and illnesses, and environmental expenditures for up to 1992. Where possible, historical data are provided.

Product Number: N10010 / Price: Free for printed copy*

Standard Definitions of Petroleum Statistics

Contains key definitions of terms used in API surveys and reports such as the Weekly Statistical Bulletin—including definitions for new products such as high and low sulfur distillate fuel and RFG. A new section containing environmental terms has also been added to this report.

These definitions were designed to provide a consistent basis for the reporting and interpretation of petroleum industry statistics. They are not intended to meet definitional requirements for disciplines such as taxation, engineering and law.

5th Edition / 1995 / Product Number: N72203 / Price: $70.00

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API State Information Network

The API State Information Network is an on-line database of state legislative and regulatory information presented from a petroleum industry perspective. Located on the world wide web, the API State Information Network is password-protected and available on an annual subscription basis.

For more information call 202-682-8212 or e-mail fowler@api.org.

Security

Security Guidance for the Petroleum Industry

API's second edition of "Security Guidance for the Petroleum Industry," is now in use at oil and gas facilities around the world to help managers decide how to deter terrorist attacks. Covering all segments of the industry (production, refining, transportation, pipeline, and marketing), this guidance builds on the existing solid foundation of design and operational regulations, standards and recommended practices, which relate to facility design and safety, environmental protection, emergency response, and protection from theft and vandalism. Produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies, these guidelines, viewed as a living document, are broadly applicable to facility security in light of September 11, 2001, and provide the starting point for developing security plans at oil and natural gas facilities and operations. Pages: 169

2nd Edition / April 2003 / Product Number: OS0001 / Price: $158.00

Security Vulnerability Assessment Methodology for the Petroleum and Petrochemical Industries ✪

The American Petroleum Institute and the National Petrochemical & Refiners Association jointly developed a new methodology for evaluating the likelihood and consequences of terrorist attacks against refineries and petrochemical

facilities. "Security Vulnerability Assessment Methodology for Petroleum and Petrochemical Facilities" is designed for companies to use in assessing vulnerabilities and potential damages from different kinds terrorist attacks. In the post September 11 era, companies have reevaluated and enhanced security at their facilities. The methodology will provide officials with a new analytical tool to determine "the likelihood of an adversary successfully exploiting vulnerability and the resulting degree of damage or impact." This vulnerability assessment methodology was produced in close collaboration with the U.S. Department of Homeland Security and other federal agencies. Pages: 155

October 2004 / Product Number: OSVA02 / Price: $158.00

Software

API Risk Based Inspection Software

API RBI software, created by petroleum refinery and chemical plant owner/users for owner/users, finds its basis in API Publication 581, Base Resource Document - Risk-Based Inspection. Practical, valuable features are built into the technology, which is based on recognized and generally accepted good engineering practices.

The purposes of the Risk-Based Inspection Program are:

- Screen operating units within a plant to identify areas of high risk.
- Estimate a risk value associated with the operation of each equipment item in a refinery or chemical process plant based on a consistent methodology.
- Prioritize the equipment based on the measured risk.
- Design a highly effective inspection program.
- Systematically manage the risks associated with equipment failures.

The RBI method defines the risk of operating equipment as the combination of two separate terms: the consequence of failure and the likelihood of failure.

For more information: e-mail rbi@api.org or call 281-537-8848

Spec 16D

Accumulator Sizing Software

This software will allow the user to determine the accumulator volume requirements for their specific well control system using the methodologies presented in API Specification 16D.

1st Edition / Product Number: G16D0S / $400.00
(There is no member discount for this software)

Publ 4575

Proceedings of the 1991 Oil Spill Conference Infobase

The Proceedings of the 1991 Oil Spill Conference are available on 3.5" or 5.25" computer diskette. More than 700 pages of proceedings, including hundreds of illustrations, can be loaded onto IBM or IBM-compatible personal computers. The minimum requirements of 512K RAM, hard disk drive, VGA monitor, and DOS 3.0 or higher, are listed in the Reference Manual that gives complete instructions for operating the infobase. A tutorial and glossary are included.

January 1993 / Product Number: I45751 / Price: $44.00

Publ 4636

HGSYSTEM 3.0: Technical Reference Manual and User's Guide

The Technical Reference Manual is intended as a source of background information for users who want to know more about the technical/scientific contents of the HGSYSTEM modules used to model atmospheric dispersion of neutrally buoyant and heavier-than-air gases. The modules calculate release terms, evaporating liquid pools, jet dispersion, and heavy gas dispersion. The User's Guide contains all the information necessary to run HGSYSTEM and interpret results. The IBM-compatible software provided includes the source and executable codes of HGSYSTEM 3.0. Users require a minimum of a 386 processor, DOS 3.3, 4 MB RAM and 2.5 MB disk space. (Two binders are included.) Pages: 281

November 1995 / Product Number: I46360 / Price: $220.00

Publ 4640

Petroleum in the Freshwater Environment, An Annotated Bibliography, 1946–1993

The growing concern for petroleum contamination in freshwater ecosystems led API to generate an annotated bibliography to serve as a valuable resource of existing literature on petroleum and its impact on the freshwater environment. It cites literature from 1946 through 1993 on the impact of petroleum products and oil spill cleanup agents on the biota of freshwater ecosystems, on the chemistry and fate of petroleum and cleanup agents in freshwater, and on the review of cleanup methods in freshwater systems. The electronic companion infobase has been prepared in two versions to enhance the value of the annotations: The VIP editable version of the infobase allows the user to add new references, make personal annotations (e.g., bookmarks, notes, highlights, and pop-ups), and delete unwanted references. The standard noneditable version is read-only. Both versions are completely searchable; each word in the bibliography is indexed. Pages: 224

March 1997
(noneditable) Product Number: I46400 / Price: $48.00
(VIP editable) Product Number: I46401 / Price: $60.00

Publ 4661 ✣

Exploration and Production Emission Calculator (EPEC)

The Exploration and Production Emissions Calculator (EPEC), a personal computer model, integrates user input, emission calculations, and data summaries for many equipment types used in the production of oil and natural gas. The calculation techniques and emission factors were, in most cases, established by the U.S. Environmental Protection Agency, API, and the Gas Research Institute. This software will enable oil and gas producing operators to more easily estimate emissions (criteria pollutants, other regulated pollutants, and hazardous air pollutants). System requirements are an IBM PC 486DX2 compatible or higher, at least 8 MB RAM, a math coprocessor, Microsoft® Excel and Windows® 3.11 or later. Pages: 130

September 1997 / Product Number: I46610 / Price: $305.00
Member / Price: $179.00

Publ 4680 ✣

Amine Unit Air Emissions Model Evaluation

The implementation of the 1990 Clean Air Act Amendments (CAAA) in the United States has created the need for a reliable method to estimate and report hydrocarbon emissions from amine units. A simulation package, called Amine Unit Air Emission Model (AMINECalc) Version 1.0 was developed. This report evaluates the AMINECalc model by comparing the simulation results with field data collected from operating gas plants. It also recommends improvements and modifications to refine the predictions. See also Publ 4679. Pages: 96

December 1998 / Product Number: I46800 / Price: $89.00

Publ 4697 ✣

Production Tank Emissions Model (E&P TANK, Version 2.0)

E&P TANK, developed in conjunction with the Gas Research Institute, is a personal computer model designed to use site-specific information in a user-friendly format to predict emissions from petroleum production storage tanks. The model calculates flashing losses and simulates working and standing losses, using data provided by the user. Calculations distinguish between HAPs and VOCs, showing detailed speciated emission rates from methane to decanes. System requirements are an IBM PC 386 compatible or higher, at least 2 MB RAM, a math coprocessor, and WINDOWS® 3.1 or later. Pages: 86

April 2000 / Product Number: I46970 / Price: $468.00
Member Price: $234.00

Electronic Business Standards (EDI and XML)

Publ 3800
AVNET– Electronic Document Formats for Aviation Fuel Sales

The AVNET Implementation Guideline includes instructions for implementing electronic formats for aviation fuel invoices, delivery tickets, price notifications, and electronic payment/remittance advice transactions sets. Conventions for the use of these documents encompass both the American National Standards Institute (ANSI) ASC X12 EDI format and the United Nations EDIFACT (UN/EDIFACT) standard.

Hard Copy Product Number: 038002 / Price: $397.00

Electronic (PDF) Product Number: 03800D / Price: $397.00

Publ 3802
Audit Control Guide

This publication is a comprehensive examination of the audit and control issues that should be taken into consideration when implementing Electronic Data Interchange (EDI). The guide is intended to be used as a reference document in the preparation of more definitive guidelines, programs and procedures for specific users and business risks.

Product Number: 038020 / Price: $123.00

Publ 3805
CDEX–Checkstub Data Exchange Implementation Guidelines

The CDEX Implementation Guideline provides information on the field formats and record layouts to facilitate the transmission and processing of crude oil and natural gas lease revenue checkstub detail.

Product Number: 038050 / Price: $119.00

Publ 3810
CODE–Crude Oil Data Exchange Implementation Guidelines

The CODE Implementation Guidelines provide information on the field formats and record layouts to facilitate the transmission and processing of crude oil run tickets, oil run statements and tank increments regarding purchases between producers and transporters.

Product Number: 038100 / Price: $119.00

Publ 3815
COS–Crude Oil Settlements Implementation Guidelines

The COS Implementation Guidelines provides instructions for facilitating the exchange of crude oil settlement invoices, account balance statements, and electronic payments/remittance advice transactions sets. The guideline includes industry conventions for the use of the American National Standards Institute (ANSI) ASC X12 Invoice (810), Payment Order/Remittance Advice (820), and Inventory Inquiry/Advice (846) Transaction Sets.

Product Number: 038150 / Price: $237.00

Publ 3820
GRADE–Gas Revenue Accounting Data Exchange Implementation Guideline (Proprietary Format)

The GRADE Implementation Guideline facilitates the transmission and processing of natural gas liquids and natural gas metered and allocated volumes, test data and plant/lease settlement data using a proprietary data format.

Product Number: 038200 / Price: $119.00

Publ 3821
GRADE–Gas Revenue Accounting Data Exchange Implementation Guideline (ANSI ASC X12 Format)

The GRADE Implementation Guide facilitates the transmission and processing of natural gas liquids and natural gas metered and allocated volumes, test data and plant/lease settlement data using the American National Standards Institute (ANSI) ASC X12 Report of Test Results (863) Transaction Set based on version/release 3060.

Product Number: 038210 / Price: $237.00

Publ 3822
JIBE–Joint Interest Billing Exchange Implementation Guideline

The JIBE Implementation Guideline provides information for the use of Electronic Data Interchange (EDI) for the exchange of joint interest billing data and invoice detail between trading partners. The guide gives the mapping specifications for the Joint Interest Billing (819) Transaction Set based on ASC X12 Version/Release 4140.

Product Number: 038220 / Price: $237.00

Publ 3830
PIPENET–Pipeline Operations Information

The PIPENET Implementation Guideline provides information for the use of electronic data interchange for the exchange of pipeline operations data between trading partners. It contains industry conventions for sending nominations, confirmations, meter and gauge tickets, inventory statements as well as pipeline invoices. This guide utilizes the Invoice (810), Inventory Inquiry/Advice (846), Receiving Advice (861), and Planning Schedule with Release Capability (830) transaction sets based on ASC X12 Version/Release 4010.

2nd Edition / Product Number: 038303 / Price: $397.00

Publ 3835-3
Purchasing and Materials Management Implementation Guideline

The Purchasing and Material Management Implementation Guideline contains conventions for purchasing documents including purchase orders, invoices, and acknowledgments. This publication includes industry conventions on the American National Standards Institute (ANSI) ASC X12 Invoice (810), Price/Sales Catalog (832), and Purchasing Suite (850/855/860/865) of transactions sets based on version/release 3030. The guideline also contains industry conventions for the ANSI ASC X12 Payment Order/Remittance Advice (820) Transaction Set based on version/release 3040 as well as the Request for Quotation (840) and Response to Request for Quotation (843) based on version/release 2040. In addition, conventions for the Ship Notice/Manifest (856), Order Status Inquiry (869), and Order Status Report (870) transaction sets based on version/release 3010 are included as well.

4th Edition / Hard Copy Product Number: 038353 / Price: $397.00

PDF File Product Number: 03835D / Price: $397.00

Publ 3855
WITS–Wellsite Information Transfer System Implementation Guideline

The WITS Implementation Guideline provides instructions and the format for transmitting real-time drilling parameters and information to joint interest partners.

Product Number: 038550 / Price: $237.00

Publ 3860
WODEX–Well-operating Data Exchange Implementation Guideline

The WODEX Implementation Guideline provides instructions to use Electronic Data Interchange (EDI) for the transfer of well-operating data between operators, working interest owners and regulatory agencies, using the American National Standards Institute (ANSI) ASC X12 Product Transfer and Resale Report (867) based on version/release 3030.

Product Number: 038600 / Price: $237.00

Publ 3865
PIDD—Petroleum Industry Data Dictionary

The diskette contains a working repository developed by PIDX of standardized business terms and definitions used to facilitate Electronic Data Interchange (EDI) across the petroleum industry.

Product Number: 038650 / Price: $119.00

Publ 3875
Progress of Electronic Commerce Implementation in the Petroleum Industry—1999

This latest in a series of surveys was designed and conducted to aid the process of collecting data to cost justify and support the benefits of PIDX and EDI. The inaugural survey was conducted in the Fall of 2000 and requested 1999 data.

Product Number: 038754 / Price: $300.00

Publ 3875
Progress of Electronic Commerce Implementation in the Petroleum Industry—1998

This is the third in a series of surveys which was designed and conducted to aid the process of collecting data to cost-justify and support the benefits of PIDX and EDI. This inaugural survey was conducted in the summer of 1998 and requested 1997 data.

Product Number: 038753 / Price: $172.00

Publ 3875
Progress of Electronic Commerce Implementation in the Petroleum Industry—1997

This is the second in a series of surveys which were designed and conducted to aid the process of collecting data to cost-justify and support the benefits of PIDX and EDI. The goals of the data collection efforts were to: measure the progress of EDI implementation within the industry and to identify areas for improvement; quantify the benefits to the industry of implementing EDI; determine industry averages for use as benchmarks; and analyze trends. This inaugural survey was conducted in the summer of 1997 and requested 1996 data.

Product Number: 038752 / Price: $172.00

Publ 3875
Progress of Electronic Commerce Implementation in the Petroleum Industry—1996

This is the first in a series of surveys which were designed and conducted to begin the process of collecting data to cost-justify and support the benefits of PIDX and EDI. The goals of the data collection efforts were to: measure the progress of EDI implementation within the industry and to identify areas for improvement; quantify the benefits to the industry of implementing EDI; determine industry averages for use as benchmarks; and analyze trends. This inaugural survey was conducted in the summer of 1996 and requested 1995 data.

Product Number: 038750 / Price: $172.00

RP 3901
PIDX XML Transaction Standards, Version 1.0

12 transaction XML schemas for Quote Request, Quote, Quote Notification, Return Requisition Request, Order, Order Response, Order Change, Field Ticket, Field Ticket Response, Invoice, Invoice Response, and Invoice Exception.

Standards for elements for transaction forms for Cementing Services, Coiled Tubing Services, Completion Services, Logging Services for cased and open holes, Perforating Services, Stimulation services, oilfield transportation services, well drilling and bit services, and well testing services.

Product Number: 039010 / Price: $68.00

CIMIS
Common Industry Material Identification Standard

A database of standardized descriptions and associated identifiers that will facilitate electronic commerce, EDI, and barcoding. Specific focus of these identifiers and descriptions are any commodities and services produced or used with the materials management supply chain of the petroleum and construction industries. The database is available through a subscription-fee based. In addition, the following commodity files may be ordered individually.

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CIMIS Files Available

File ID	Product	Records
C000075A.MDB	A105 CS BLIND FLANGES	1476
C000040A.MDB	A105 CS FORGED BUSHINGS	528
C000045A.MDB	A105 CS FORGED CAPS	192
C000071A.MDB	A105 CS FORGED COUPLINGS	204
C000065A.MDB	A105 CS FORGED CROSSES	252
C000034A.MDB	A105 CS FORGED ELBOWS	504
C000048A.MDB	A105 CS FORGED HALF COUPLINGS	204
C000051A.MDB	A105 CS FORGED INSERTS	408
C000054A.MDB	A105 CS FORGED PLUG	144
C000059A.MDB	A105 CS FORGED REDUCERS	996
C000062A.MDB	A105 CS FORGED STREET ELBOWS	96
C000074A.MDB	A105 CS FORGED STREET TEES	96
C000037A.MDB	A105 CS FORGED TEES	1512
C000068A.MDB	A105 CS FORGED UNIONS	126
C000076A.MDB	A105 CS LAPJOINT FLANGES	348
C000077A.MDB	A105 CS SLIPON FLANGES	1422
C000078A.MDB	A105 CS SOCKETWELD FLANGES	1968
C000079A.MDB	A105 CS THREADED FLANGES	1422
C000080A.MDB	A105 CS WELDNECK FLANGES	10128
C000005A.MDB	A106 GR A CS SMLS PIPE	4708
C000004A.MDB	A106 GR B CS SMLS NIPPLES	57456
C000006A.MDB	A106 GR B CS SMLS PIPE	4708
C000174A.MDB	A106 GR C CS SMLS PIPE	4708
C000499A.MDB	A126 GI CAST BLIND FLANGES	134
C000456A.MDB	A126 GI CAST FLGD CROSSES	116
C000451A.MDB	A126 GI CAST FLGD ELBOWS	844
C000462A.MDB	A126 GI CAST FLGD LATERALS	126
C000454A.MDB	A126 GI CAST FLGD RED ELBOWS	772
C000459A.MDB	A126 GI CAST FLGD REDUCERS	804
C000495A.MDB	A126 GI CAST FLGD TEES	1552
C000463A.MDB	A126 GI CAST FLGD WYES	132
C000500A.MDB	A126 GI CAST RED THRD FLANGES	760
C000501A.MDB	A126 GI CAST THRD (CI PIPE) FLANGES	42
C000449A.MDB	A126 GI CAST THRD BUSHINGS	364
C000464A.MDB	A126 GI CAST THRD CAPS	60
C000466A.MDB	A126 GI CAST THRD COUPLINGS	31
C000457A.MDB	A126 GI CAST THRD CROSSES	222
C000452A.MDB	A126 GI CAST THRD ELBOWS	442
C000465A.MDB	A126 GI CAST THRD FLG UNIONS	68
C000467A.MDB	A126 GI CAST THRD FLOOR FLANGES	24
C000468A.MDB	A126 GI CAST THRD INCREASERS	42
C000469A.MDB	A126 GI CAST THRD LATERALS	36
C000470A.MDB	A126 GI CAST THRD LOCKNUTS	10
C000471A.MDB	A126 GI CAST THRD PLUGS	110
C000472A.MDB	A126 GI CAST THRD P-TRAPS	21
C000460A.MDB	A126 GI CAST THRD RED COUPLINGS	132
C000455A.MDB	A126 GI CAST THRD RED ELBOWS	80
C000473A.MDB	A126 GI CAST THRD REDUCING WYES	330
C000474A.MDB	A126 GI CAST THRD RETURNS	36
C000475A.MDB	A126 GI CAST THRD RUNNING TRAPS	30
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C000476A.MDB	A126 GI CAST THRD WYES	150
C000502A.MDB	A126 GI CAST THREADED FLANGES	134
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C000114A.MDB	A182 F11 FORGED BUSHINGS	792
C000115A.MDB	A182 F11 FORGED CAPS	288
C000116A.MDB	A182 F11 FORGED COUPLINGS	306
C000117A.MDB	A182 F11 FORGED CROSSES	378
C000119A.MDB	A182 F11 FORGED HALF COUPLINGS	306
C000120A.MDB	A182 F11 FORGED INSERTS	1224
C000121A.MDB	A182 F11 FORGED PLUGS	216
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C000124A.MDB	A182 F11 FORGED STREET ELBOWS	144
C000125A.MDB	A182 F11 FORGED STREET TEES	144
C000126A.MDB	A182 F11 FORGED TEES	2268
C000127A.MDB	A182 F11 FORGED UNIONS	240
C000129A.MDB	A182 F11 LAPJOINT FLANGES	696
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C000135A.MDB	A182 F12 FORGED BUSHINGS	528
C000136A.MDB	A182 F12 FORGED CAPS	192
C000137A.MDB	A182 F12 FORGED COUPLINGS	204
C000138A.MDB	A182 F12 FORGED CROSSES	252
C000139A.MDB	A182 F12 FORGED ELBOWS	504
C000140A.MDB	A182 F12 FORGED HALF COUPLINGS	204
C000141A.MDB	A182 F12 FORGED INSERTS	816
C000143A.MDB	A182 F12 FORGED PLUGS	144
C000144A.MDB	A182 F12 FORGED REDUCERS	996
C000145A.MDB	A182 F12 FORGED REDUCING ELBOWS	1260
C000146A.MDB	A182 F12 FORGED STREET ELBOWS	96
C000147A.MDB	A182 F12 FORGED STREET TEES	96
C000148A.MDB	A182 F12 FORGED TEES	1512
C000149A.MDB	A182 F12 FORGED UNIONS	160
C000142A.MDB	A182 F12 LAPJOINT FLANGES	464
C000150A.MDB	A182 F12 SLIPON FLANGES	1896
C000151A.MDB	A182 F12 SOCKETWELD FLANGES	1968
C000152A.MDB	A182 F12 THREADED FLANGES	1880
C000153A.MDB	A182 F12 WELDNECK FLANGES	13504
C000154A.MDB	A182 F22 BLIND FLANGES	1428
C000155A.MDB	A182 F22 FORGED BUSHINGS	528
C000156A.MDB	A182 F22 FORGED CAPS	192
C000157A.MDB	A182 F22 FORGED COUPLINGS	204
C000158A.MDB	A182 F22 FORGED CROSSES	252
C000159A.MDB	A182 F22 FORGED ELBOWS	504
C000160A.MDB	A182 F22 FORGED HALF COUPLINGS	204
C000161A.MDB	A182 F22 FORGED INSERTS	816
C000163A.MDB	A182 F22 FORGED PLUGS	144
C000164A.MDB	A182 F22 FORGED REDUCERS	996
C000165A.MDB	A182 F22 FORGED REDUCING ELBOWS	1260
C000167A.MDB	A182 F22 FORGED STREET ELBOWS	96
C000168A.MDB	A182 F22 FORGED STREET TEES	96
C000170A.MDB	A182 F22 FORGED TEES	1512
C000172A.MDB	A182 F22 FORGED UNIONS	160
C000162A.MDB	A182 F22 LAPJOINT FLANGES	464

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C000166A.MDB	A182 F22 SLIPON FLANGES	1896
C000169A.MDB	A182 F22 SOCKETWELD FLANGES	1968
C000171A.MDB	A182 F22 THREADED FLANGES	1880
C000173A.MDB	A182 F22 WELDNECK FLANGES	13504
C000187A.MDB	A182 F304 BLIND FLANGES	357
C000175A.MDB	A182 F304 FORGED CAPS	48
C000176A.MDB	A182 F304 FORGED COUPLINGS	51
C000177A.MDB	A182 F304 FORGED CROSSES	63
C000178A.MDB	A182 F304 FORGED ELBOWS	126
C000179A.MDB	A182 F304 FORGED HALF COUPLINGS	51
C000180A.MDB	A182 F304 FORGED INSERTS	204
C000055A.MDB	A182 F304 FORGED PLUG	36
C000181A.MDB	A182 F304 FORGED REDUCERS	249
C000182A.MDB	A182 F304 FORGED REDUCING ELBOWS	315
C000183A.MDB	A182 F304 FORGED STREET ELBOWS	24
C000184A.MDB	A182 F304 FORGED STREET TEES	24
C000185A.MDB	A182 F304 FORGED TEES	378
C000186A.MDB	A182 F304 FORGED UNIONS	40
C000188A.MDB	A182 F304 LAPJOINT FLANGES	116
C000189A.MDB	A182 F304 SLIPON FLANGES	474
C000190A.MDB	A182 F304 SOCKETWELD FLANGES	558
C000191A.MDB	A182 F304 THREADED FLANGES	470
C000192A.MDB	A182 F304 WELDNECK FLANGES	3870
C000081A.MDB	A182 F304/304L BLIND FLANGES	357
C000038A.MDB	A182 F304/304L FORGED BUSHINGS	132
C000043A.MDB	A182 F304/304L FORGED CAPS	48
C000069A.MDB	A182 F304/304L FORGED COUPLINGS	51
C000063A.MDB	A182 F304/304L FORGED CROSSES	63
C000032A.MDB	A182 F304/304L FORGED ELBOWS	126
C000046A.MDB	A182 F304/304L FORGED HALF COUPLINGS	51
C000049A.MDB	A182 F304/304L FORGED INSERTS	204
C000052A.MDB	A182 F304/304L FORGED PLUGS	36
C000057A.MDB	A182 F304/304L FORGED REDUCERS	249
C000218A.MDB	A182 F304/304L FORGED REDUCING ELBOWS	315
C000060A.MDB	A182 F304/304L FORGED STREET ELBOWS	24
C000072A.MDB	A182 F304/304L FORGED STREET TEES	24
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C000083A.MDB	A182 F304/304L SLIPON FLANGES	474
C000084A.MDB	A182 F304/304L SOCKETWELD FLANGES	558
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C000086A.MDB	A182 F304/304L WELDNECK FLANGES	3870
C000193A.MDB	A182 F304H BLIND FLANGES	357
C000194A.MDB	A182 F304H LAPJOINT FLANGES	115
C000195A.MDB	A182 F304H SLIPON FLANGES	474
C000196A.MDB	A182 F304H SOCKETWELD FLANGES	558
C000197A.MDB	A182 F304H THREADED FLANGES	470
C000198A.MDB	A182 F304H WELDNECK FLANGES	3870
C000199A.MDB	A182 F304L BLIND FLANGES	357
C000200A.MDB	A182 F304L FORGED BUSHINGS	132
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C000201A.MDB	A182 F304L FORGED COUPLINGS	51
C000203A.MDB	A182 F304L FORGED CROSSES	63
C000204A.MDB	A182 F304L FORGED ELBOWS	126
C000205A.MDB	A182 F304L FORGED HALF COUPLINGS	51
C000206A.MDB	A182 F304L FORGED INSERTS	204
C000207A.MDB	A182 F304L FORGED PLUG	36
C000212A.MDB	A182 F304L FORGED REDUCERS	249
C000213A.MDB	A182 F304L FORGED REDUCING ELBOWS	315
C000214A.MDB	A182 F304L FORGED STREET ELBOWS	24
C000215A.MDB	A182 F304L FORGED STREET TEES	24
C000216A.MDB	A182 F304L FORGED TEES	378
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C000208A.MDB	A182 F304L LAPJOINT FLANGES	116
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C000400A.MDB	A182 F304L SOCKETWELD FLANGES	558
C000210A.MDB	A182 F304L THREADED FLANGES	470
C000211A.MDB	A182 F304L WELDNECK FLANGES	3870
C000253A.MDB	A182 F316 BLIND FLANGES	357
C000042A.MDB	A182 F316 FORGED BUSHINGS	132
C000269A.MDB	A182 F316 FORGED CAPS	48
C000270A.MDB	A182 F316 FORGED COUPLINGS	51
C000271A.MDB	A182 F316 FORGED CROSSES	63
C000272A.MDB	A182 F316 FORGED ELBOWS	126
C000273A.MDB	A182 F316 FORGED HALF COUPLINGS	51
C000274A.MDB	A182 F316 FORGED INSERTS	204
C000056A.MDB	A182 F316 FORGED PLUG	36
C000275A.MDB	A182 F316 FORGED REDUCER	249
C000276A.MDB	A182 F316 FORGED REDUCING ELBOWS	315
C000277A.MDB	A182 F316 FORGED STREET ELBOWS	24
C000278A.MDB	A182 F316 FORGED STREET TEES	24
C000279A.MDB	A182 F316 FORGED TEES	378
C000280A.MDB	A182 F316 FORGED UNIONS	40
C000260A.MDB	A182 F316 LAPJOINT FLANGES	116
C000261A.MDB	A182 F316 SLIPON FLANGES	474
C000262A.MDB	A182 F316 SOCKETWELD FLANGES	558
C000263A.MDB	A182 F316 THREADED FLANGES	470
C000264A.MDB	A182 F316 WELDNECK FLANGES	3870
C000087A.MDB	A182 F316/316L BLIND FLANGES	357
C000039A.MDB	A182 F316/316L FORGED BUSHINGS	132
C000044A.MDB	A182 F316/316L FORGED CAPS	48
C000070A.MDB	A182 F316/316L FORGED COUPLINGS	51
C000064A.MDB	A182 F316/316L FORGED CROSSES	63
C000033A.MDB	A182 F316/316L FORGED ELBOWS	126
C000047A.MDB	A182 F316/316L FORGED HALF COUPLINGS	51
C000050A.MDB	A182 F316/316L FORGED INSERTS	204
C000053A.MDB	A182 F316/316L FORGED PLUGS	36
C000058A.MDB	A182 F316/316L FORGED REDUCERS	249
C000314A.MDB	A182 F316/316L FORGED REDUCING ELBOWS	315
C000061A.MDB	A182 F316/316L FORGED STREET ELBOWS	24
C000073A.MDB	A182 F316/316L FORGED STREET TEES	24
C000036A.MDB	A182 F316/316L FORGED TEES	378
C000067A.MDB	A182 F316/316L FORGED UNIONS	40
C000088A.MDB	A182 F316/316L LAPJOINT FLANGES	116
C000089A.MDB	A182 F316/316L SLIPON FLANGES	474
C000090A.MDB	A182 F316/316L SOCKETWELD FLANGES	558
C000091A.MDB	A182 F316/316L THREADED FLANGES	470
C000092A.MDB	A182 F316/316L WELDNECK FLANGES	3870
C000254A.MDB	A182 F316H BLIND FLANGES	357

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File ID	Product	Records
C000255A.MDB	A182 F316H LAPJOINT FLANGES	115
C000256A.MDB	A182 F316H SLIPON FLANGES	474
C000257A.MDB	A182 F316H SOCKETWELD FLANGES	558
C000258A.MDB	A182 F316H THREADED FLANGES	470
C000259A.MDB	A182 F316H WELDNECK FLANGES	3870
C000265A.MDB	A182 F316L BLIND FLANGES	357
C000281A.MDB	A182 F316L FORGED BUSHINGS	132
C000282A.MDB	A182 F316L FORGED CAPS	48
C000283A.MDB	A182 F316L FORGED COUPLINGS	51
C000284A.MDB	A182 F316L FORGED CROSSES	63
C000285A.MDB	A182 F316L FORGED ELBOWS	126
C000286A.MDB	A182 F316L FORGED HALF COUPLINGS	51
C000287A.MDB	A182 F316L FORGED INSERTS	204
C000288A.MDB	A182 F316L FORGED PLUG	36
C000289A.MDB	A182 F316L FORGED REDUCER	249
C000290A.MDB	A182 F316L FORGED REDUCING ELBOWS	315
C000291A.MDB	A182 F316L FORGED STREET ELBOWS	24
C000292A.MDB	A182 F316L FORGED STREET TEES	24
C000293A.MDB	A182 F316L FORGED TEES	378
C000294A.MDB	A182 F316L FORGED UNIONS	40
C000405A.MDB	A182 F316L LAPJOINT FLANGES	116
C000266A.MDB	A182 F316L SLIPON FLANGES	474
C000401A.MDB	A182 F316L SOCKETWELD FLANGES	558
C000267A.MDB	A182 F316L THREADED FLANGES	470
C000268A.MDB	A182 F316L WELDNECK FLANGES	3870
C000223A.MDB	A182 F5/5a BLIND FLANGES	1428
C000224A.MDB	A182 F5/5a FORGED BUSHINGS	528
C000225A.MDB	A182 F5/5a FORGED CAPS	192
C000226A.MDB	A182 F5/5a FORGED COUPLINGS	204
C000227A.MDB	A182 F5/5a FORGED CROSSES	252
C000228A.MDB	A182 F5/5a FORGED ELBOWS	504
C000295A.MDB	A182 F5/5a FORGED HALF-COUPLINGS	204
C000296A.MDB	A182 F5/5a FORGED INSERTS	816
C000297A.MDB	A182 F5/5a FORGED PLUGS	144
C000298A.MDB	A182 F5/5a FORGED REDUCERS	996
C000299A.MDB	A182 F5/5a FORGED REDUCING ELBOWS	1260
C000300A.MDB	A182 F5/5a FORGED STREET ELBOWS	96
C000301A.MDB	A182 F5/5a FORGED STREET TEES	96
C000302A.MDB	A182 F5/5a FORGED TEES	1512
C000303A.MDB	A182 F5/5a FORGED UNIONS	160
C000229A.MDB	A182 F5/5a LAPJOINT FLANGES	464
C000230A.MDB	A182 F5/5a SLIPON FLANGES	1896
C000231A.MDB	A182 F5/5a SOCKETWELD FLANGES	1968
C000232A.MDB	A182 F5/5a THREADED FLANGES	1880
C000233A.MDB	A182 F5/5a WELDNECK FLANGES	13504
C000243A.MDB	A182 F9 BLIND FLANGES	714
C000244A.MDB	A182 F9 FORGED BUSHINGS	264
C000245A.MDB	A182 F9 FORGED CAPS	96
C000246A.MDB	A182 F9 FORGED COUPLINGS	102
C000247A.MDB	A182 F9 FORGED CROSSES	126
C000304A.MDB	A182 F9 FORGED ELBOWS	252
C000305A.MDB	A182 F9 FORGED HALF COUPLINGS	102
C000306A.MDB	A182 F9 FORGED INSERTS	408
C000307A.MDB	A182 F9 FORGED PLUGS	72
C000308A.MDB	A182 F9 FORGED REDUCERS	498
C000309A.MDB	A182 F9 FORGED REDUCING ELBOWS	630
C000310A.MDB	A182 F9 FORGED STREET ELBOWS	48
C000311A.MDB	A182 F9 FORGED STREET TEES	48
C000312A.MDB	A182 F9 FORGED TEES	756
C000313A.MDB	A182 F9 FORGED UNIONS	80
C000248A.MDB	A182 F9 LAPJOINT FLANGES	232
C000249A.MDB	A182 F9 SLIPON FLANGES	948
C000250A.MDB	A182 F9 SOCKETWELD FLANGES	984
C000251A.MDB	A182 F9 THREADED FLANGES	940
C000252A.MDB	A182 F9 WELDNECK FLANGES	6752
C000234A.MDB	A182 F91 BLIND FLANGES	714
C000235A.MDB	A182 F91 FORGED BUSHINGS	264
C000236A.MDB	A182 F91 FORGED CAPS	96
C000402A.MDB	A182 F91 FORGED COUPLINGS	102
C000238A.MDB	A182 F91 FORGED CROSSES	126
C000315A.MDB	A182 F91 FORGED ELBOWS	252
C000316A.MDB	A182 F91 FORGED HALF COUPLINGS	102
C000317A.MDB	A182 F91 FORGED INSERTS	408
C000318A.MDB	A182 F91 FORGED PLUGS	72
C000403A.MDB	A182 F91 FORGED REDUCERS	498
C000319A.MDB	A182 F91 FORGED REDUCING ELBOWS	630
C000320A.MDB	A182 F91 FORGED STREET ELBOWS	48
C000321A.MDB	A182 F91 FORGED STREET TEES	48
C000322A.MDB	A182 F91 FORGED TEES	756
C000323A.MDB	A182 F91 FORGED UNIONS	80
C000237A.MDB	A182 F91 LAPJOINT FLANGES	232
C000239A.MDB	A182 F91 SLIPON FLANGES	948
C000240A.MDB	A182 F91 SOCKETWELD FLANGES	984
C000241A.MDB	A182 F91 THREADED FLANGES	940
C000242A.MDB	A182 F91 WELDNECK FLANGES	6752
C000450A.MDB	A197 MI CAST BUSHINGS	486
C000478A.MDB	A197 MI CAST CAPS	50
C000458A.MDB	A197 MI CAST CROSSES	80
C000479A.MDB	A197 MI CAST EXTENSIONS	10
C000480A.MDB	A197 MI CAST FLOOR FLANGES	12
C000481A.MDB	A197 MI CAST LOCKNUTS	28
C000482A.MDB	A197 MI CAST PLUGS	110
C000503A.MDB	A197 MI CAST RED ELBOWS	80
C000461A.MDB	A197 MI CAST REDUCING COUPLINGS	150
C000483A.MDB	A197 MI CAST RETURNS	50
C000484A.MDB	A197 MI CAST RH COUPLINGS	44
C000485A.MDB	A197 MI CAST SO PLAIN ELBOWS	12
C000486A.MDB	A197 MI CAST SO PLAIN TEES	10
C000487A.MDB	A197 MI CAST STREET ELBOWS	84
C000488A.MDB	A197 MI CAST STREET TEES	32
C000498A.MDB	A197 MI CAST UNION ELBOWS	24
C000489A.MDB	A197 MI CAST UNIONS	134
C000490A.MDB	A197 MI CAST WASTE NUTS	16
C000491A.MDB	A197 MI CAST WYES	20
C000028A.MDB	A234 WBP 180 DEG RETURNS	555
C000410A.MDB	A234 WP11 180 DEG RETURNS	966
C000407A.MDB	A234 WP11 CAPS	678
C000408A.MDB	A234 WP11 LR & SR ELBOWS	1728
C000409A.MDB	A234 WP11 REDUCERS	2976
C000431A.MDB	A234 WP11 REDUCING ELBOWS	648
C000432A.MDB	A234 WP11 STUB ENDS	504
C000433A.MDB	A234 WP11 TEES	2136

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File ID	Product	Records
C000414A.MDB	A234 WP12 180 DEG RETURNS	644
C000411A.MDB	A234 WP12 CAPS	452
C000412A.MDB	A234 WP12 LR & SR ELBOWS	1152
C000413A.MDB	A234 WP12 REDUCERS	1984
C000434A.MDB	A234 WP12 REDUCING ELBOWS	432
C000435A.MDB	A234 WP12 STUB ENDS	336
C000436A.MDB	A234 WP12 TEES	1424
C000418A.MDB	A234 WP22 180 DEG RETURNS	644
C000415A.MDB	A234 WP22 CAPS	452
C000416A.MDB	A234 WP22 LR & SR ELBOWS	1152
C000417A.MDB	A234 WP22 REDUCERS	1984
C000437A.MDB	A234 WP22 REDUCING ELBOWS	432
C000438A.MDB	A234 WP22 STUB ENDS	336
C000439A.MDB	A234 WP22 TEES	1424
C000422A.MDB	A234 WP5 180 DEG RETURNS	322
C000419A.MDB	A234 WP5 CAPS	226
C000420A.MDB	A234 WP5 LR & SR ELBOWS	576
C000421A.MDB	A234 WP5 REDUCERS	992
C000440A.MDB	A234 WP5 REDUCING ELBOWS	216
C000441A.MDB	A234 WP5 STUB ENDS	168
C000442A.MDB	A234 WP5 TEES	712
C000430A.MDB	A234 WP9 180 DEG RETURNS	322
C000427A.MDB	A234 WP9 CAPS	226
C000428A.MDB	A234 WP9 LR & SR ELBOWS	576
C000429A.MDB	A234 WP9 REDUCERS	992
C000443A.MDB	A234 WP9 REDUCING ELBOWS	216
C000444A.MDB	A234 WP9 STUB ENDS	168
C000445A.MDB	A234 WP9 TEES	712
C000425A.MDB	A234 WP91 180 DEG RETURNS	322
C000423A.MDB	A234 WP91 CAPS	226
C000424A.MDB	A234 WP91 LR & SR ELBOWS	576
C000425A.MDB	A234 WP91 REDUCERS	992
C000446A.MDB	A234 WP91 REDUCING ELBOWS	216
C000447A.MDB	A234 WP91 STUB ENDS	168
C000448A.MDB	A234 WP91 TEES	712
C000013A.MDB	A234 WPB CAPS	411
C000016A.MDB	A234 WPB LR & SR ELBOWS	1194
C000022A.MDB	A234 WPB REDUCERS	2022
C000025A.MDB	A234 WPB REDUCING ELBOWS	324
C000019A.MDB	A234 WPB STUBENDS	252
C000369A.MDB	A234 WPB SWAGE NIPPLES	27504
C000031A.MDB	A234 WPB TEES	2106
C000219A.MDB	A312 TP304 NIPPLES	28139
C000345A.MDB	A312 TP304 PIPE	888
C000001A.MDB	A312 TP304/304L NIPPLES	28139
C000007A.MDB	A312 TP304/304L PIPE	880
C000220A.MDB	A312 TP304L NIPPLES	28139
C000346A.MDB	A312 TP304L PIPE	880
C000221A.MDB	A312 TP316 NIPPLES	28139
C000347A.MDB	A312 TP316 PIPE	888
C000002A.MDB	A312 TP316/316L NIPPLES	28139
C000008A.MDB	A312 TP316/316L PIPE	880
C000222A.MDB	A312 TP316L NIPPLES	28139
C000348A.MDB	A312 TP316L PIPE	880
C000324A.MDB	A335 P11 SMLS PIPE	9696
C000404A.MDB	A335 P12 SMLS PIPE	9696
C000325A.MDB	A335 P22 SMLS PIPE	9696
C000326A.MDB	A335 P5 SMLS PIPE	9696
C000327A.MDB	A335 P5b SMLS PIPE	9696
C000328A.MDB	A335 P5c SMLS PIPE	9696
C000329A.MDB	A335 P9 SMLS PIPE	9696
C000330A.MDB	A335 P91 SMLS PIPE	9696
C000331A.MDB	A403 304 180 DEG RETURNS	532
C000332A.MDB	A403 304 CAPS	110
C000333A.MDB	A403 304 LR & SR ELBOWS	1275
C000334A.MDB	A403 304 REDUCERS	3050
C000335A.MDB	A403 304 REDUCING ELBOWS	660
C000336A.MDB	A403 304 STUBENDS	2508
C000337A.MDB	A403 304 TEES	2166
C000011A.MDB	A403 304/304L CAPS	110
C000014A.MDB	A403 304/304L LR & SR ELBOWS	1275
C000020A.MDB	A403 304/304L REDUCERS	3050
C000023A.MDB	A403 304/304L REDUCING ELBOWS	660
C000017A.MDB	A403 304/304L STUBENDS	2508
C000029A.MDB	A403 304/304L TEES	2166
C000026A.MDB	A403 304/304L180 DEG RETURNS	532
C000338A.MDB	A403 304H 180 DEG RETURNS	532
C000339A.MDB	A403 304H CAPS	110
C000340A.MDB	A403 304H LR & SR ELBOWS	1275
C000341A.MDB	A403 304H REDUCERS	3050
C000342A.MDB	A403 304H REDUCING ELBOWS	660
C000343A.MDB	A403 304H STUB ENDS	2508
C000344A.MDB	A403 304H TEES	2166
C000355A.MDB	A403 304L 180 DEG RETURNS	532
C000349A.MDB	A403 304L CAPS	110
C000350A.MDB	A403 304L LR & SR ELBOWS	1275
C000351A.MDB	A403 304L REDUCERS	3050
C000352A.MDB	A403 304L REDUCING ELBOWS	660
C000353A.MDB	A403 304L STUBENDS	2508
C000354A.MDB	A403 304L TEES	2166
C000362A.MDB	A403 316 180 DEG RETURNS	532
C000356A.MDB	A403 316 CAPS	110
C000357A.MDB	A403 316 LR & SR ELBOWS	1275
C000358A.MDB	A403 316 REDUCERS	3050
C000359A.MDB	A403 316 REDUCING ELBOWS	660
C000360A.MDB	A403 316 STUBENDS	2508
C000361A.MDB	A403 316 TEES	2166
C000027A.MDB	A403 316/316L 180 DEG RETURNS	532
C000012A.MDB	A403 316/316L CAPS	110
C000015A.MDB	A403 316/316L LR & SR ELBOWS	1275
C000021A.MDB	A403 316/316L REDUCERS	3050
C000024A.MDB	A403 316/316L REDUCING ELBOWS	660
C000018A.MDB	A403 316/316L STUBENDS	2508
C000030A.MDB	A403 316/316L TEES	2166
C000363A.MDB	A403 316H 180 DEG RETURNS	532
C000364A.MDB	A403 316H CAPS	110
C000406A.MDB	A403 316H LR & SR ELBOWS	1275
C000365A.MDB	A403 316H REDUCERS	3050
C000366A.MDB	A403 316H REDUCING ELBOWS	660
C000367A.MDB	A403 316H STUB ENDS	2508
C000368A.MDB	A403 316H TEES	2166
C000370A.MDB	A403 316L 180 DEG RETURNS	532

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File ID	Product	Records
C000371A.MDB	A403 316L CAPS	110
C000372A.MDB	A403 316L LR & SR ELBOWS	1275
C000373A.MDB	A403 316L REDUCERS	3050
C000374A.MDB	A403 316L REDUCING ELBOWS	660
C000375A.MDB	A403 316L STUBENDS	2508
C000376A.MDB	A403 316L TEES	2166
C000377A.MDB	A53 GR A ERW PIPE	5808
C000378A.MDB	A53 GR A SMLS PIPE	4708
C000010A.MDB	A53 GR B ERW PIPE	5808
C000379A.MDB	A53 GR B SMLS PIPE	4708
C000380A.MDB	A53 TYPE E NIPPLES	9600
C000009A.MDB	A53 TYPE F FBW_CW PIPE	1218
C000003A.MDB	A53 TYPE F NIPPLES	27252
C000382A.MDB	A53 TYPE S NIPPLES	57456
C000383A.MDB	API 5CT C90 TYPE 1 CASING	1513
C000384A.MDB	API 5CT C90 TYPE 2 CASING	1512
C000385A.MDB	API 5CT C95 CASING	2840
C000386A.MDB	API 5CT H40 CASING	876
C000387A.MDB	API 5CT J55 CASING	6624
C000388A.MDB	API 5CT K55 CASING	6624
C000389A.MDB	API 5CT L80 TYPE 1 CASING	2840
C000390A.MDB	API 5CT L80 TYPE 13CR CASING	1420
C000391A.MDB	API 5CT L80 TYPE 9CR CASING	1420
C000392A.MDB	API 5CT N80 CASING	9380
C000393A.MDB	API 5CT P110 CASING	7739
C000394A.MDB	API 5CT Q125 TYPE 1 CASING	2200
C000395A.MDB	API 5CT Q125 TYPE 2 CASING	2112
C000396A.MDB	API 5CT Q125 TYPE 3 CASING	2112
C000397A.MDB	API 5CT Q125 TYPE 4 CASING	2112
C000398A.MDB	API 5CT T95 TYPE 1 CASING	1512
C000399A.MDB	API 5CT T95 TYPE 2 CASING	1512
C000093A.MDB	API 5L GR A ERW PIPE	4554
C000103A.MDB	API 5L GR A SMLS PIPE	4788
C000094A.MDB	API 5L GR B ERW PIPE	4554
C000104A.MDB	API 5L GR B SMLS PIPE	4788
C000095A.MDB	API 5L GR X42 ERW PIPE	3816
C000105A.MDB	API 5L GR X42 SMLS PIPE	3816
C000096A.MDB	API 5L GR X46 ERW PIPE	3816
C000106A.MDB	API 5L GR X46 SMLS PIPE	3816
C000097A.MDB	API 5L GR X52 ERW PIPE	3816
C000107A.MDB	API 5L GR X52 SMLS PIPE	3816
C000098A.MDB	API 5L GR X56 ERW PIPE	3816
C000108A.MDB	API 5L GR X56 SMLS PIPE	3816
C000099A.MDB	API 5L GR X60 ERW PIPE	3816
C000109A.MDB	API 5L GR X60 SMLS PIPE	3816
C000100A.MDB	API 5L GR X65 ERW PIPE	3816
C000110A.MDB	API 5L GR X65 SMLS PIPE	3816
C000101A.MDB	API 5L GR X70 ERW PIPE	3816
C000111A.MDB	API 5L GR X70 SMLS PIPE	3816
C000102A.MDB	API 5L GR X80 ERW PIPE	3816
C000112A.MDB	API 5L GR X80 SMLS PIPE	3816
C000381A.MDB	API 5L GRADE A25 CLASS 1 PIPE	1944
C000492A.MDB	B16.14 MERCHANT STEEL BUSHINGS	60
C000493A.MDB	B16.14 MERCHANT STEEL LOCKNUTS	10
C000494A.MDB	B16.14 MERCHANT STEEL PLUGS	64
C000571A.MDB	A216 WCB API 600 GATE VALVES TRIM 1 FLGD	7924
C000576A.MDB	A216 WCB API 600 GATE VALVES TRIM 10 FLGD	7924
C000577A.MDB	A216 WCB API 600 GATE VALVES TRIM 11 FLGD	7924
C000578A.MDB	A216 WCB API 600 GATE VALVES TRIM 12 FLGD	7924
C000579A.MDB	A216 WCB API 600 GATE VALVES TRIM 13 FLGD	7924
C000580A.MDB	A216 WCB API 600 GATE VALVES TRIM 14 FLGD	7924
C000572A.MDB	A216 WCB API 600 GATE VALVES TRIM 2 FLGD	7924
C000573A.MDB	A216 WCB API 600 GATE VALVES TRIM 5 FLGD	7924
C000574A.MDB	A216 WCB API 600 GATE VALVES TRIM 8 FLGD	7924
C000575A.MDB	A216 WCB API 600 GATE VALVES TRIM 9 FLGD	7924
C000621A.MDB	A217 C12 API 600 GATE VALVES TRIM 1 FLGD	7924
C000626A.MDB	A217 C12 API 600 GATE VALVES TRIM 10 FLGD	7924
C000627A.MDB	A217 C12 API 600 GATE VALVES TRIM 11 FLGD	7924
C000628A.MDB	A217 C12 API 600 GATE VALVES TRIM 12 FLGD	7924
C000629A.MDB	A217 C12 API 600 GATE VALVES TRIM 13 FLGD	7924
C000630A.MDB	A217 C12 API 600 GATE VALVES TRIM 14 FLGD	7924
C000622A.MDB	A217 C12 API 600 GATE VALVES TRIM 2 FLGD	7924
C000623A.MDB	A217 C12 API 600 GATE VALVES TRIM 5 FLGD	7924
C000624A.MDB	A217 C12 API 600 GATE VALVES TRIM 8 FLGD	7924
C000625A.MDB	A217 C12 API 600 GATE VALVES TRIM 9 FLGD	7924
C000611A.MDB	A217 C5 API 600 GATE VALVES TRIM 1 FLGD	7924
C000616A.MDB	A217 C5 API 600 GATE VALVES TRIM 10 FLGD	7924
C000617A.MDB	A217 C5 API 600 GATE VALVES TRIM 11 FLGD	7924
C000618A.MDB	A217 C5 API 600 GATE VALVES TRIM 12 FLGD	7924
C000619A.MDB	A217 C5 API 600 GATE VALVES TRIM 13 FLGD	7924
C000620A.MDB	A217 C5 API 600 GATE VALVES TRIM 14 FLGD	7924
C000612A.MDB	A217 C5 API 600 GATE VALVES TRIM 2 FLGD	7924
C000613A.MDB	A217 C5 API 600 GATE VALVES TRIM 5 FLGD	7924
C000614A.MDB	A217 C5 API 600 GATE VALVES TRIM 8 FLGD	7924
C000615A.MDB	A217 C5 API 600 GATE VALVES TRIM 9 FLGD	7924

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File ID	Product	Records
C000581A.MDB	A217 WC1 API 600 GATE VALVES TRIM 1 FLGD	7924
C000586A.MDB	A217 WC1 API 600 GATE VALVES TRIM 10 FLGD	7924
C000587A.MDB	A217 WC1 API 600 GATE VALVES TRIM 11 FLGD	7924
C000588A.MDB	A217 WC1 API 600 GATE VALVES TRIM 12 FLGD	7924
C000589A.MDB	A217 WC1 API 600 GATE VALVES TRIM 13 FLGD	7924
C000590A.MDB	A217 WC1 API 600 GATE VALVES TRIM 14 FLGD	7924
C000582A.MDB	A217 WC1 API 600 GATE VALVES TRIM 2 FLGD	7924
C000583A.MDB	A217 WC1 API 600 GATE VALVES TRIM 5 FLGD	7924
C000584A.MDB	A217 WC1 API 600 GATE VALVES TRIM 8 FLGD	7924
C000585A.MDB	A217 WC1 API 600 GATE VALVES TRIM 9 FLGD	7924
C000591A.MDB	A217 WC6 API 600 GATE VALVES TRIM 1 FLGD	7924
C000596A.MDB	A217 WC6 API 600 GATE VALVES TRIM 10 FLGD	7924
C000597A.MDB	A217 WC6 API 600 GATE VALVES TRIM 11 FLGD	7924
C000598A.MDB	A217 WC6 API 600 GATE VALVES TRIM 12 FLGD	7924
C000599A.MDB	A217 WC6 API 600 GATE VALVES TRIM 13 FLGD	7924
C000600A.MDB	A217 WC6 API 600 GATE VALVES TRIM 14 FLGD	7924
C000592A.MDB	A217 WC6 API 600 GATE VALVES TRIM 2 FLGD	7924
C000593A.MDB	A217 WC6 API 600 GATE VALVES TRIM 5 FLGD	7924
C000594A.MDB	A217 WC6 API 600 GATE VALVES TRIM 8 FLGD	7924
C000595A.MDB	A217 WC6 API 600 GATE VALVES TRIM 9 FLGD	7924
C000601A.MDB	A217 WC9 API 600 GATE VALVES TRIM 1 FLGD	7924
C000606A.MDB	A217 WC9 API 600 GATE VALVES TRIM 10 FLGD	7924
C000607A.MDB	A217 WC9 API 600 GATE VALVES TRIM 11 FLGD	7924
C000608A.MDB	A217 WC9 API 600 GATE VALVES TRIM 12 FLGD	7934
C000609A.MDB	A217 WC9 API 600 GATE VALVES TRIM 13 FLGD	7924
C000610A.MDB	A217 WC9 API 600 GATE VALVES TRIM 14 FLGD	7924
C000602A.MDB	A217 WC9 API 600 GATE VALVES TRIM 2 FLGD	7924
C000603A.MDB	A217 WC9 API 600 GATE VALVES TRIM 5 FLGD	7924
C000604A.MDB	A217 WC9 API 600 GATE VALVES TRIM 8 FLGD	7924
C000605A.MDB	A217 WC9 API 600 GATE VALVES TRIM 9 FLGD	7924
C000651A.MDB	A352 LC1 API 600 GATE VALVES TRIM 1 FLGD	15848
C000656A.MDB	A352 LC1 API 600 GATE VALVES TRIM 10 FLGD	15848
C000657A.MDB	A352 LC1 API 600 GATE VALVES TRIM 11 FLGD	15848
C000658A.MDB	A352 LC1 API 600 GATE VALVES TRIM 12 FLGD	15848
C000659A.MDB	A352 LC1 API 600 GATE VALVES TRIM 13 FLGD	15848
C000660A.MDB	A352 LC1 API 600 GATE VALVES TRIM 14 FLGD	15848
C000652A.MDB	A352 LC1 API 600 GATE VALVES TRIM 2 FLGD	15848
C000653A.MDB	A352 LC1 API 600 GATE VALVES TRIM 5 FLGD	15848
C000654A.MDB	A352 LC1 API 600 GATE VALVES TRIM 8 FLGD	15848
C000655A.MDB	A352 LC1 API 600 GATE VALVES TRIM 9 FLGD	15848
C000661A.MDB	A352 LC2 API 600 GATE VALVES TRIM 1 FLGD	15848
C000666A.MDB	A352 LC2 API 600 GATE VALVES TRIM 10 FLGD	15848
C000667A.MDB	A352 LC2 API 600 GATE VALVES TRIM 11 FLGD	15848
C000668A.MDB	A352 LC2 API 600 GATE VALVES TRIM 12 FLGD	15848
C000669A.MDB	A352 LC2 API 600 GATE VALVES TRIM 13 FLGD	15848
C000670A.MDB	A352 LC2 API 600 GATE VALVES TRIM 14 FLGD	15848
C000662A.MDB	A352 LC2 API 600 GATE VALVES TRIM 2 FLGD	15848
C000663A.MDB	A352 LC2 API 600 GATE VALVES TRIM 5 FLGD	15848
C000664A.MDB	A352 LC2 API 600 GATE VALVES TRIM 8 FLGD	15848
C000665A.MDB	A352 LC2 API 600 GATE VALVES TRIM 9 FLGD	15848
C000671A.MDB	A352 LC3 API 600 GATE VALVES TRIM 1 FLGD	15848
C000676A.MDB	A352 LC3 API 600 GATE VALVES TRIM 10 FLGD	15848
C000677A.MDB	A352 LC3 API 600 GATE VALVES TRIM 11 FLGD	15848
C000678A.MDB	A352 LC3 API 600 GATE VALVES TRIM 12 FLGD	15848
C000679A.MDB	A352 LC3 API 600 GATE VALVES TRIM 13 FLGD	15848
C000680A.MDB	A352 LC3 API 600 GATE VALVES TRIM 14 FLGD	15848

File ID	Product	Records
C000672A.MDB	A352 LC3 API 600 GATE VALVES TRIM 2 FLGD	15848
C000673A.MDB	A352 LC3 API 600 GATE VALVES TRIM 5 FLGD	15848
C000674A.MDB	A352 LC3 API 600 GATE VALVES TRIM 8 FLGD	15848
C000675A.MDB	A352 LC3 API 600 GATE VALVES TRIM 9 FLGD	15848
C000631A.MDB	A352 LCB API 600 GATE VALVES TRIM 1 FLGD	15848
C000636A.MDB	A352 LCB API 600 GATE VALVES TRIM 10 FLGD	15848
C000637A.MDB	A352 LCB API 600 GATE VALVES TRIM 11 FLGD	15848
C000638A.MDB	A352 LCB API 600 GATE VALVES TRIM 12 FLGD	15848
C000639A.MDB	A352 LCB API 600 GATE VALVES TRIM 13 FLGD	15848
C000640A.MDB	A352 LCB API 600 GATE VALVES TRIM 14 FLGD	15848
C000632A.MDB	A352 LCB API 600 GATE VALVES TRIM 2 FLGD	15848
C000633A.MDB	A352 LCB API 600 GATE VALVES TRIM 5 FLGD	15848
C000634A.MDB	A352 LCB API 600 GATE VALVES TRIM 8 FLGD	15848
C000635A.MDB	A352 LCB API 600 GATE VALVES TRIM 9 FLGD	15848
C000641A.MDB	A352 LCC API 600 GATE VALVES TRIM 1 FLGD	15848
C000646A.MDB	A352 LCC API 600 GATE VALVES TRIM 10 FLGD	15848
C000647A.MDB	A352 LCC API 600 GATE VALVES TRIM 11 FLGD	15848
C000648A.MDB	A352 LCC API 600 GATE VALVES TRIM 12 FLGD	15848
C000649A.MDB	A352 LCC API 600 GATE VALVES TRIM 13 FLGD	15848
C000650A.MDB	A352 LCC API 600 GATE VALVES TRIM 14 FLGD	15848
C000642A.MDB	A352 LCC API 600 GATE VALVES TRIM 2 FLGD	15848
C000643A.MDB	A352 LCC API 600 GATE VALVES TRIM 5 FLGD	15848
C000644A.MDB	A352 LCC API 600 GATE VALVES TRIM 8 FLGD	15848
C000645A.MDB	A352 LCC API 600 GATE VALVES TRIM 9 FLGD	15848

Policy and Economic Studies

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Discussion Papers

DP 091
Carbon Sinks and The Kyoto Protocol

Carbon sinks (parts of the ecosystem that absorb carbon dioxide) offer an exciting opportunity to reduce the level of carbon dioxide in the atmosphere. However, while sinks may offer a way of sequestering a significant quantity of carbon at a relatively low cost, the Kyoto Protocol only partially embraces their use. The options open to the United States under the Kyoto Protocol are limited compared with the opportunities actually present. Pages: 40
March 1999

DP 090
A Review of the Literature on Health-health Threshold Values

"Health-health" threshold analyses quantify the health risks a society incurs as spending on regulatory compliance displaces voluntary spending on health and safety. This API paper examines the threshold estimates made to date and the debate about them. The study argues that today's threshold estimates can, within a limited context, provide useful information to policy makers and that with further development threshold analysis could have greater applicability. Pages: 40
April 1998

DP 089
Climate Change Policy Commitments: A Reality Check

This paper assesses the energy market adjustments required to achieve and maintain greenhouse gas emission targets similar to the 1997 Kyoto Protocol. The conclusion is that the U.S. target reduction is unrealistic and such a large reduction in emissions cannot be achieved in such a short period of time. Even the large scale reductions in GDP and energy price increases that occurred during the 1970s would not produce the required emissions reduction. The adoption of new technologies at an optimistic rate would not reverse the continuing rise in carbon emissions. Pages: 32
December 1997

DP 088
Restoring Natural Resources: Legal Background and Economic Analysis

This paper reviews the legislative and legal history behind the resource damage restoration regulations under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Oil Pollution Act (OPA). The damage restoration debate is whether the objective is to restore a natural resource's lost services or whether to restore the exact chemical, biological and physical characteristics. This paper reviews the debate over these approaches to restoration and the economic implications of adopting one approach over another. This paper supports a services approach and suggests modifications to the current interpretation of restoration requirements. Pages: 32
October 1997

DP 087
Competition and Electric Power Generation

This paper examines electric power generation markets and the possible impacts of the changed incentives that will accompany competitions as the industry is restructured. Competitive pressures will induce firms to operate existing facilities more intensively; to invest more in technology, which increases the production and energy efficiency of generation; and to invest in some plants that are scheduled for retirement. The finding here is that the capability to produce electric power from existing facilities could increase substantially under competition, resulting in downward pressure on electric prices.
April 1997

DP 086
Opposition to OCS Development, Historical Context and Economic Considerations

This paper reviews the history of offshore leasing, focusing on the long conflict between the federal government and the states over control of the leasing process. The paper then examines economic aspects of leasing and relates these to the controversy surrounding leasing. The conclusions of the analysis suggest that consideration should be given to sharing a portion of federal offshore revenues with affected coastal communities. This sharing has the potential to reduce opposition to offshore leasing and allow the nation to realize more of the net benefits from tapping offshore oil and natural gas resources.
November 1996

DP 085
Restructuring the Electric Power Industry: Overview and Impact on the Petroleum Industry

Efforts are underway to reduce regulation of the electric power industry and increase the role of competition. The petroleum industry will be impacted by restructuring in a number of ways, which are discussed in this paper. The largest and most immediate impact would come from lower electricity prices. The prospects for fuel sales into the power industry are less clear. Most oil companies do not expect restructuring to increase natural gas sales in the short run. Two problems must be resolved if the restructuring is to proceed: the disposition of stranded costs and the environmental consequences of restructuring.
August 1996

DP 084R
Analysis of the Costs and Benefits of Regulations: Review of Historical Experience

Recent legislative proposals to reform the regulatory process have included the use of benefit cost analysis to decide whether or not a regulation should be implemented. The purpose of this paper is to assess the current practices of benefit cost analysis, primarily through examination of the series of Regulatory Impact Analyses (RIAs) mandated by Presidential Executive Orders. While the record is mixed, it shows that in many, but perhaps not all, cases it is possible to develop a reasonable estimate of the benefits and costs of proposed regulations and to decide among regulatory alternatives on the basis of these analyses.
December 1996

DP 083
The Funding of Roads in New Jersey: Taxes Collected from Road Users Versus Expenditure on Roads

Shows that according to the latest available data, road users in New Jersey are paying 42 percent more in taxes and fees related to driving than is being spent on roads. These results refute the work of two studies done by Komanoff Energy Associates and sponsored by the Tri-State Transportation Campaign.
November 1995

DP 082
The Funding of Roads in New York: Taxes Collected from Road Users Versus Expenditure on Roads

Documents that according to the latest available data, road users in New York are paying nearly 23 percent more in taxes and fees related to driving than is being spent on roads. These results refute the work of two studies done by

Komanoff Energy Associates and sponsored by the Tri-State Transportation Campaign.
November 1995

DP 081
Are We Running Out of Oil?

Since the dawn of the petroleum industry in the mid-19th century, there have been recurrent waves of concern that exhaustion of the world's petroleum resource base was imminent. This study examines carefully both the historical record and the most prominent recent geological assessments. The analysis shows that the obvious concern—that of imminent exhaustion of world oil resources—is actually the most easily dismissed. Nature continues to be quite generous in providing oil resources for development. However, there is a danger that attempts by government to address the non-problem of resource exhaustion will distract from or even aggravate the challenge of removing institutional barriers to supply development.
December 1995

DP 080
Efficiency and Equity Effects of Value-added and Other Broad-based Consumption Taxes: A Review of the Literature

This study reviews the economic literature on the likely efficiency and equity effects of adopting a value-added or other broad-based consumption taxes, relative to the existing income tax system. The paper also provides comparisons with various energy taxes. The paper finds that broad-based consumption taxes can improve the efficiency of the tax system and will increase incentives for savings, investment and economic growth. Such taxes may raise equity concerns that can be addressed in several ways. Given the likelihood of debate about tax increases and tax reform in the future, the paper will serve as a resource document to the likely economic impacts of both broad- and narrow-based consumption taxes.
July 1995

DP 079
Water Effluent Trading

In 1990, the petroleum industry spent more than $2.7 billion on water pollution control. It is likely these same controls will cost the petroleum industry more than $12 billion per year by the year 2000 as new requirements are imposed on offshore platforms, refineries, and other industry activities. By allowing industries affected by water pollution control to trade credits that are earned for reducing discharges below permitted levels, water pollution control activities could be more cost effective. This study reviews water effluent trading systems, how they could be applicable to the petroleum industry, and the potential for trading to lower water pollution control compliance costs.
July 1995

DP 078
Potential Expenditures by The Petroleum Industry for Water Pollution Control Measures

Discusses the possible costs to the petroleum industry of potential clean water regulations. It summarizes key features of potential Clean Water Act reauthorization, and Gulf of Mexico legislation, then develops water pollution control regulatory scenarios and attempts to provide applicable cost estimates to the petroleum industry. Scenarios include: the mandated application of Best Available Technology requirements on refineries; refinery stormwater permit requirements; refinery process wastewater reuse mandates; the application of groundwater pollution control measures at refineries; the assessment and remediation of sediment in refinery outfall areas; retail gasoline outlet pollution prevention and control measures; and the injection of produced water in offshore exploration and production operations.
May 1995

DP 077
Alternative Wetland Mitigation Programs

The Corps of Engineers and EPA have issued Memoranda of Agreement and guidance that restrict the petroleum industry's ability to explore for and produce oil and natural gas in wetlands. In particular, federal agency rules require wetland mitigation banks—that could be used to compensate for possible wetland losses—to be fully functional before industry can use them. However, state and local governments often allow for concurrent and in lieu fee banking arrangements; these allow for payments to a group or agency that will undertake wetland restoration or preservation in lieu of managing such activities directly. This study examines those programs, their relationship to the federal permitting process, how they assure mitigation is successful, and how they achieve no overall net loss of wetlands.
February 1995

DP 076
Federal Subsidies for Alternative Fuels and Alternative-Fuel Vehicles

Identifies and attempts to evaluate the economic value of the many federal programs that subsidize alternative fuels such as ethanol, methanol, compressed natural gas, liquefied natural gas, propane, and electric cars. The subsidies take many forms: research and development; preferential tax treatment; direct government purchases; exemptions from environmental requirements; and quality mandates; and can be directed at the fuel itself or at vehicles that use the fuel or the fuel distribution infrastructure.
September 1994

DP 075
Effluent Fees: Present Practice and Future Potential

Wastewater discharge fees or water pollution taxes are gaining attention because of their potential to supplement traditional environmental regulation by generating revenue and providing incentives for pollution reduction. The use of effluent fees is being proposed in legislation as part of the Clean Water Act reauthorization debate. This paper examines in detail the current practice in all 50 states concerning charges for point-source water effluent discharge permits and the extent to which these charges relate to the quantity or toxicity of discharges.
December 1993

DP 074
Current Status of Watershed Management in the United States

To understand the current status of watershed programs, this paper reviews watershed approaches of individual watershed programs and institutions. Each case study also discusses, in a general manner, the impact on petroleum industry activity within the watershed. Background information is also provided on the CWA, the nonpoint source pollution problem in the United States, and the current emphasis on watershed management approaches. For additional information on the following studies, please contact the Policy Analysis and Strategic Planning department directly at 202-682-8543.
November 1993

DP 073
International Management of Wetlands
December 1992

DP 072
Water Quality Management: Policy and Practice in Selected Countries
March 1992

DP 071
Petroleum and Public Policy: The Post-World War II Experience
February 1992

DP 070R
Costs to the Petroleum Industry of Major New and Future Federal Government Environmental Requirements
Examines major new and potential federal environmental requirements that could impose significant compliance costs on the U.S. petroleum industry in the 1990s. Available cost estimates are presented by programs. The industry's costs of compliance with new environmental laws and regulations could total between $16 billion and $24 billion by the end of the 1990s, and the petroleum industry may incur 13 percent to 17 percent of national environmental expenditures in the year 2000.
October 1993

DP 069
The Cleanup of Inactive Hazardous Waste Sites in Selected Industrialized Countries
August 1991

DP 068
International Comparisons of Energy-Gross National Product Ratios
June 1991

DP 067
Petroleum Industry Technology to Meet Today's Challenges
June 1991

DP 066
World Petroleum Supply: History, Prospects, and Policy Issues
May 1991

DP 065
Economic Evaluation of Wetlands
April 1991

DP 064
Used Oil Management in Selected Industrialized Countries
January 1991

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The Measurement of Regressivity: The Case of the Motor Fuels Tax
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An Historical Overview of Solid Waste Management in the Petroleum Industry
October 1990

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Can Energy Conservation Fully Replace Incremental Energy Production in a Growing U.S. Economy?
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The Cost of Alcohol Fuel Mandates: Transportation, Marketing, Distribution, Fire and Safety, and Measurement
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The Decline of Gasoline Service Stations and Motorists' Access to Car Maintenance Services
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Competition in the Interstate Natural Gas Pipeline Industry
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Workers Compensation and Disease
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DP 047
Compensation for Medical Expenses and Lost Wages of the Chronically Ill
January 1986

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Mineral Leasing on Federal Lands: A Comparison of Key Leasing Elements
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Value Added Taxes: The Experience of Western European Countries
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The Longshoremen's and Harbor Workers' Compensation Act: The 1972 and 1984 Amendments
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A Review of Evidence of the Consequences of United States Cargo Preference Programs
January 1985

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Labor Responses to Income-Providing Programs: A Literature Review
September 1984

DP 033
Compatibility of Oil and Gas Operations on Federal Onshore Lands with Environmental and Rural Community Values
June 1984

DP 031
A Legislative History and Analysis of the Black Lung Program
February 1984

DP 030
The Consumer Impacts of Mandatory Markup Laws and Related Restrictions
February 1984

DP 028
Oil Exploration in Less Developed Countries: The Activities of Private Oil Companies
August 1983

DP 027
Mineral Access Status of the Federal Lands
August 1983

DP 023
Oil Industry Participation in Emergency Planning
May 1981

DP 022
Energy, Conservation, and Economic Growth
March 1981

Research Studies

RS 095 ✣
The Kyoto Protocol: Implications of Emissions Trading Scenarios

The Kyoto Protocol requires the U.S. to cut emissions of greenhouse gases to a target of seven percent below 1990 levels by the 2008–2012 period. The rules, institutions, monitoring and enforcement mechanisms necessary to implement the Protocol have yet to be agreed upon. The uncertainty surrounding the implementation of these mechanisms, especially different emission credit trading options, allows for a wide range of estimates of the economic costs and changes in energy use required to meet the emissions targets. This study compares estimates of different emissions trading scenarios developed by the Clinton Administration, Battelle Pacific Northwest National Laboratories, Charles Rivers Associates (CRA), DRI, the Energy Information Administration (EIA), WEFA, and others. The approach taken in this study looks at the core variables that drive emissions as formulated under the Kaya Identity. These are the carbon content of the energy used in the economy (C/E), the energy intensity of economic activity (E/GDP), Pages: 60
July 1999

RS 094 ✣
How Unilateral Economic Sanctions Affect the U.S. Economy: An Inter-Industry Analysis

The National Association of Manufacturers [1997] estimates that a total of 61 U.S. laws and executive actions targeting 35 countries and billions of dollars of goods and services have been unilaterally enacted over the 1993–1996 period. Hufbauer et al. [1997] have estimated that U.S. unilateral sanctions in force in 1995 reduced exports by $15 billion to $19 billion in that year, putting at risk 200,000 to 250,000 high-wage export supported jobs. This report provides sector and industry specific breakdowns of such aggregate impacts. Also, the initial impact in a given industry is traced to supporting industries, e.g., to input suppliers, and transport and marketing industries. Thus, while the direct burden of sanctions may fall on a narrow set of industries, the analysis reveals the extent to which the impacts spill over into other sectors of the economy, an area to date that has not received adequate attention. It follows that foregone exports are too narrow a measure of the costs of unilateral economic sanctions. The report also notes that capital goods, energy, chemicals, and agricultural products have been disproportionately impacted by U.S. unilateral sanctions.
November 1998

RS 093
Implications of the Kyoto Protocol Targets for OECD Countries

This study finds that meeting the proposed Kyoto Protocol greenhouse gas emission reduction targets would require major changes in how most developed countries use energy, what energy is used, and how fast economic growth occurs. Covering 35 years of history plus government projections through 2010 for 22 OECD countries, this analysis finds that for most countries, the nature and extent of economic and energy use changes necessary to meet the protocol targets would far exceed the changes that occurred even in the energy crisis years (1974–1986) when energy prices quadrupled. The study's findings cast serious doubt on the claim that the Kyoto Protocol targets are realistic. Pages: 60
May 1998

RS 092
Modifying Single-hull Tankers: Costs and Benefits

This study provides an analysis of the costs and benefits of requiring single-hulled tankers to engage in Hydrostatic Balanced Loading (HBL). It finds that HBL would impose costs 3 to 11 times greater than the environmental benefits. These results indicate that the Coast Guard was correct in its decision not to require HBL and that the decision should stand despite the legal challenge brought by the Natural Resources Defense Council. Pages: 23
March 1998

RS 091
International Upstream Activity by U.S. Firms: Trends, Prospects, and Policy Issues

This study examines the role of U.S.-based petroleum companies in the exploration and production (upstream) segment of the international petroleum market. Despite massive expansion in global supply over the past decade, worldwide liquids supply by U.S. firms actually declined slightly. While U.S. firms are positioned to play a major role in the growth expected over the next decade in the Former Soviet Union, Latin America, Africa, and Asia, they face major challenges in each area. In addition to traditional host country challenges, and new foreign competitors, increasingly the problems faced are generated by policies of the U.S. government itself. The study identifies several U.S. policies, particularly tax treatment of foreign source income and the growing use of unilateral sanctions, which have constrained U.S. activity abroad in the recent past, and jeopardize future activity. Pages: 55
February 1998

RS 090
Impacts of Market-based Greenhouse Gas Emission Reduction Policies on U.S. Manufacturing Competitiveness

This study provides an in-depth industry analysis of the impacts of market-based greenhouse gas emission reduction policies on U.S. manufacturing. It shows that, due to differences in production processes and fuel patterns, emission reduction policies will create significant regional disparities in economic performance. Further, the industrial competitiveness of U.S. energy-intensive industries would decline, even under an all-inclusive greenhouse gas treaty. Pages: 69
January 1998

RS 089
The Benefits of Road Travel and Transport

This paper examines the tangible and intangible benefits of road travel and transport for consumers. It finds that the tangible benefits of road travel and transport amount to trillions of dollars per year. Travelers and transporters derive benefits from their use of roads far in excess of their expenditures for vehicles, fuels and road user taxes. These benefits also exceed estimates of the

social cost of road transportation, including the cost of congestion and air pollution. Pages: 53
January 1998

RS 088
The Funding of Roads in the United States: How the Taxes and Fees Collected From Motorists are Spent

This report updates and expands earlier work documenting receipts from motorists and expenditures on roads. It documents the amount and type of taxes and fees collected nationwide from motorists in 1994, the amount diverted to nonroad uses, and the amount spent on roads. State-by-state comparisons and results also are included in this update. The results show that only 58 percent of the nearly $142 billion collected from motorists in 1994 was actually spent directly on roads. The other 42 percent, or $60 billion, was diverted to nonroad use. About half of all the federal taxes and fees collected from motorists were diverted to nonroad use. On a state-by-state basis, motorists in 47 states were shown to be not only fully funding roads, but also subsidizing nonroad activities.
May 1997

RS 087
An Examination of Incentives for and Obstacles to Pollution Prevention in the Petroleum Industry

A brief history shows that the petroleum industry was developing and adopting environmentally protective source reduction, recycling, treatment, and disposal activities long before "pollution prevention" was a matter of public debate. Today, the industry faces a variety of incentives for, and obstacles to, furthering its pollution prevention activities. This paper analyzes three hypothetical pollution prevention options a refinery might consider, using methodology developed by EPA. The analysis shows that refinery actions to protect the environment can have quite different financial implications for the refiner. The history and the economic analyses support the need for flexible pollution prevention policies, as opposed to policies that would mandate specific changes in manufacturing processes.
March 1997

RS 086
Household and Government Budget Impacts of Market-Based Greenhouse Gas Emission Reduction Policies

This input-output study provides an in-depth analysis of the distributional impacts of carbon taxes by household income level, household composition, and region of the country. The effects on state and local government budgets are also analyzed in detail. The results provide a good indication of those households that would be put under the greatest financial stress by policies aimed at large reductions in carbon emissions. The study also shows that state and local government budgets would be put under considerable stress by the effects of a carbon tax.
March 1997

RS 085
The Monetary Benefits of An 8-Hour 0.08 ppm Ozone Standard in Chicago

Estimates the value of health benefits that would accrue under compliance with an 8-hour 0.08 ppm ambient ozone standard in metropolitan Chicago. Calculated benefits for a 1 exceedance standard range between $5.3 million and $33.5 million. These benefits are minuscule in comparison to the compliance cost, estimated at between $2.5 billion and $7 billion in a companion cost study.
August 1996

RS 084
U.S. Highway Fuel Demand: Trends and Prospects

Highway fuel consumption in the United States has a been a major theme in discussion of energy and environmental policy. Demand for such fuel has been the subject of numerous studies, though the bulk of those studies were completed some time ago and the more recent of those studies have suggested that key parameters have changed. This paper attempts to integrate and update some of these recent changes, describes their effect on demand and provides a basis for future analysis of government policies affecting U.S. highway fuel demand.
November 1996

RS 083
Octane Requirements of the Motor Vehicle Fleet and Gasoline Grade Sales

An empirical investigation of the correspondence between octane needs of vehicles and octane purchases by motorists as revealed in gasoline grade market share data. Shows that Americans buy no more octane than the vehicle fleet needs. In addition, this study examines pertinent information on gasoline additives; vehicle engine design; labeling and enforcement policies; and economic factors that influence purchasing patterns.
August 1996

RS 082
Superfund Liability and Taxes: Petroleum Industry Shares in Their Historical Context

Summarizes historic and current information about petroleum industry superfund cleanup liability and taxes. It estimates the amount of Superfund taxes paid from 1982 through the early 1990s and then calculates the petroleum industry's share of Superfund taxes. This paper documents the large disparity that exists between the share of superfund taxes paid by the petroleum industry and the share of contamination that can be attributed to the petroleum industry; the results show that the petroleum industry's share of general superfund taxes far exceeds its share of cleanup costs.
July 1996

RS 081
Initial Cost Impacts of a Carbon Tax on U.S. Manufacturing Industries and Other Sectors

Concern over potential global warming has spurred interest in carbon taxes as an instrument to reduce emissions of greenhouse gases, principally carbon dioxide. This study provides estimates of the effects that a carbon tax would likely have on the production cost structure of 470 industries in the U.S. economy. The results provide a good indication of which industries and sectors of the economy would be put under the greatest initial stress by policies aimed at widespread reduction in greenhouse gas emissions.
May 1996

RS 080
Subsidies to Alternative Transportation Fuels and Alternative Fuel Vehicles in Twelve Eastern States and the District of Columbia

Examines alternative fuel and vehicle subsidy programs in12 eastern states and the District of Columbia. The paper finds the total subsidy amounts vary significantly from state to state. Subsidies across all 13 states will increase in the future, possibly reaching $6.8 billion in the year 2005. Among the larger subsidy programs are the zero-emission vehicle requirements in Massachusetts and New York and the federal unfunded state fleet vehicle purchase mandate.
September 1995

RS 079
Household Energy Consumption in the United States: Lifestyles and Conservation Policy

Surveys trends in household energy consumption (including transportation) and estimates the relative importance of the household sector in total energy consumption. Projections of household energy use based on assumptions regarding possible future energy efficiency improvements are developed. Also discussed are the implications of energy conservation policies aimed at life-

styles. The paper finds that the impact of rising incomes and population growth on consumption are likely to offset energy efficiency gains given the current price of energy. Some changes in lifestyles would reduce household energy consumption, but potentially would impose a large cost on individuals.
July 1995

RS 078
Estimates of Annual U.S. Road User Payments Versus Annual Road Expenditures

It is commonly asserted that drivers are not paying enough taxes and fees each year to cover the amount spent on our nation's roads and bridges, and that other revenue sources are tapped for an increasingly large share of the expense. The work presented in this report documents that, in fact, the opposite is true. Drivers pay considerably more each year in taxes and fees related to driving than is being spent on roads.
March 1995

RS 077
Jobs and Payrolls in the Petroleum Industry: Description and Analysis of the Declines During 1981–1993

Describes and measures job and payroll losses in the petroleum industry during 1981–1993. The paper specifically analyzes employment in the oil and gas field services. This paper explores the decline in employment in petroleum industry components relative to the overall economy; the changing composition of the industry workforce; trends in industry wages and payrolls, and the impact of technological advancement on employment. This paper also discusses and analyzes factors that affect the demand for labor in the oil and gas field services segments of the industry.
April 1995

RS 076
Paying for Automobile Insurance at the Pump: A Critical Review

Proponents of pay-at-the-pump (PAP) auto insurance advocate replacing the current system of driver-purchased motor vehicle insurance with a new one where a major portion of the cost of insurance would be paid for by new taxes at the gasoline pump. Some groups and states have given some consideration to a form of PAP insurance. This paper examines efficiency and equity effects of such proposals. It finds the PAP proposals are (a) based on false assumptions of accident causes; (b) not needed to solve the uninsured motorist problem; (c) incorrectly link promises of large savings to paying for insurance at the pump; and, (d) both inequitable and inefficient.
December 1994

RS 075
Improving Cost-Effectiveness Estimation: A Reassessment of Control Options to Reduce Ozone Precursor Emissions

Regulators and industry use cost-effectiveness techniques as a decision tool to rank the desirability of emission control strategies. This paper examines the conceptual basis for cost-effectiveness estimates for the control of stationary mobile source emissions focusing on volatile organic compounds that are precursors of ozone. The paper also provides an independent set of cost-effectiveness estimates for enhanced inspection/maintenance programs, vehicle scrappage, the low emission vehicle standard and reformulated gasoline.
August 1994

RS 074
Air Emissions Banking and Trading: Analysis and Implications for Wetland Mitigation Banking

Examines the history of the air emissions banking and trading policy initiated by EPA in the early 1970s, and identifies the factors that hindered its success. The lessons learned from the air emissions program are applied to wetland mitigation banking. It is hoped that wetlands banking and trading mechanisms will increase the ability to proceed with economic activity and still preserve wetlands. Potential solutions for avoiding the problems encountered in the air emissions trading program are also discussed.
February 1994

RS 073
Electric Vehicles, Their Technical and Economic Status

Air quality concerns, particularly in urban areas not meeting the ozone air quality standard, have led legislators and regulators to seek new measures to reduce vehicle emissions. Replacing traditional gasoline-powered internal combustion engine vehicles with electric vehicles is one measure being considered, and in some cases mandated, by various governments. This paper presents the current technical and economic status of electric vehicles, including the potential market, life-cycle costs, emissions, and other possible benefits compared to internal combustion engine vehicles.
January 1994

RS 072
RCRA Economic Impact Analysis: Refinery Nonhazardous Wastewater Surface Impoundments

The management of nonhazardous wastewater in surface impoundments has been identified by API's Reauthorization Task Force, Waste Program Group, and Health and Environment Subcommittee as one of several priority issues. This paper evaluates the cost implications of possible new laws and regulations impacting the use of such impoundments. The study reports results of a refinery surface impoundment survey; outlines legislative/regulatory scenarios; summarizes unit cost estimates for technical options; estimates potential compliance costs to U.S. refiners; and evaluates the sensitivity of the cost estimates to key assumptions.
September 1993

RS 071
Petroleum Product Taxation in the OECD Countries: How Much are They, Who Pays Them, and What are They Doing to Petroleum Markets?

Examines recent trends in petroleum taxation among the OECD countries, and the effectiveness of such taxes in achieving their stated goals. Generally such taxes have increased in real terms over the past decade, especially in the countries with the lowest historical rates, such as the United States and Canada. By 1991, such taxes raised over $200 billion in the 7 largest OECD countries. Increasingly, such taxes are used for general revenues. The evidence suggests that petroleum taxes are a poor choice as an incremental source of revenue or as an instrument for correcting environmental concerns, relative to alternatives.
October 1993

RS 070
The Differential Impact of Motor Fuel Taxes on States and Regions

This report differs from other work on the equity of motor fuel taxes by combining measurements of the geographic impact of motor fuel taxes with measurements of income levels of those states and regions. The data indicate that motor fuel tax increases motivated by environmental policy concerns would have the perverse effect of raising the largest amount per capita from people who live in the least polluted regions of the country, who have the fewest alternatives to driving, and who are the least able to afford the tax increase.
October 1993

RS 069
Energy Prices and Externalities

Examines the theoretical argument for taxing energy because of negative externalities (external costs) associated with the consumption of energy. In principle, taxes would raise the price of energy, so that it reflects external as well as private costs. However, regulation also can address external costs. Various estimates of external energy costs are presented. Finally, the paper examines the extent to which current government regulations already (or soon

will) internalize the external costs of gasoline consumption, the major oil product consumed in the United States.
May 1993

RS 068
Do Product Prices Respond Symmetrically to Changes in Crude Prices?
December 1992

RS 067
The Cost Effectiveness of Vehicle Inspection and Maintenance Programs

Several states began automobile inspection and maintenance (I/M) programs during the 1970s as part of their effort to reduce carbon monoxide and ozone precursor emissions. The Clean Air Act Amendments of 1990 further increased the scope of I/M programs. This paper offers an evaluation of inspection and maintenance from the perspective of cost-effectiveness: program costs divided by program effectiveness. Effectiveness is measured in tons of pollutants removed: volatile organic compounds (VOC), carbon monoxide (CO) and nitrogen oxides (NO_x). Where possible, individual program components are evaluated with respect to cost-effectiveness that should be included in assessments of I/M: a formal decision tree model of the I/M process; cost-effectiveness estimates of current and enhanced I/M programs; and, alternatives for making I/M more cost effective.
December 1993

RS 066
Economic Aspects of Workplace Safety Regulation with Application to the U.S. Petroleum Industry
September 1992

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Estimated Costs and Benefits of Retrofitting Aboveground Petroleum Industry Storage Tanks with Release Prevention Barriers
September 1992

RS 064
U.S. Petroleum Supply: History, Prospects, and Policy Implications
September 1992

RS 063
Serious Incidents in the U.S. Petroleum Refining Industry: 1985–1989

Examines several aspects of workplace safety in the U.S. petroleum refining industry. It covers incidents which caused substantial damage to life and property, and is based on information provided by refiners comprising 97% of operable refinery capacity, including almost all refineries with over 10,000 barrels per day capacity. Major areas of interest include the relationship of serious incidents to refinery size and complexity, and to the use of contract labor in refineries. For additional information on the following studies, please contact the Policy Analysis and Strategic Planning department directly at (202) 682-8543.
May 1992

RS 062
The Impact of State Legislation on the Number of Retail Gasoline Outlets
October 1991

RS 061
Energy Consumption/Gross State Product Ratios in the United States
October 1991

RS 060
Price Adjustment in Gasoline and Heating Oil Markets
August 1991

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August 1991

RS 058
Meeting the Oxygenate Requirements of the 1990 Clean Air Act Amendments
June 1991

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January 1991

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Economics of Alternative Fuel Use: Compressed Natural Gas as a Vehicle Fuel
December 1990

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Gasoline Distribution and Service Station Margins: An Assessment of EPA Assumptions and Implications for Methanol
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Non-OPEC Supply and World Petroleum Markets: Past Forecasts, Recent Experience and Future Prospects
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August 1990

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Analysis of Factors Influencing the Consumption of Premium Motor Gasolines
July 1990

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The Use of Economic Incentive Mechanisms in Environmental Management
June 1990

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The Costs and Benefits of Federally Mandated Policies to Promote Energy Conservation: The Case of the Automobile Efficiency Standard
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December 1987

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August 1987

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July 1987

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Efficiency Issues in Other Continental Shelf Leasing
June 1987

RS 037
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July 1986

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Diligence Requirements for Federal Coal
July 1985

RS 035
The Cost of OCS Bid Rejection
September 1984

RS 034
The Efficiency Loss and Income Distribution Effects of Crude Oil and Natural Gas Price Controls
June 1984

RS 033
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May 1984

RS 032
An Empirical Analysis of the Determinants of Petroleum Drilling
December 1983

RS 031
Survey of Oil and Gas Activities on Federal Wildlife Refuges and Waterfowl Production Areas
October 1983

RS 026
Economic Theory and Evidence on Cross-Subsidization of Retail Gasoline Operations
Revised October 1983

RS 022
The Origin and Evolution of Gasoline Marketing
October 1981

Pamphlets

PA 016
Heating Oil in the United States
This pamphlet provides an overview of domestic heating oil use in those homes and businesses, and addresses questions about heating oil supply, demand and prices. It argues that recent proposals to regulate heating oil stocks are unnecessary owing to the competitive nature of heating oil markets.
December 2002

PA 014
Regular, Mid-grade or Premium: Which Should I Buy?
This short, user-friendly synopsis of a 1996 API study on octane requirements of the motor vehicle fleet, answers motorists' basic questions about octane and how to choose the best grade of gasoline for their vehicles. It also gives the study's major finding that Americans do not buy more premium gasoline than the fleet requires. Please refer to Research Study 083 for the complete octane requirements study.
November 1996

PA 013
Superfund Liability and Taxes: Petroleum Industry Shares in Their Historical Context
This 14-page pamphlet briefly summarizes information about the petroleum industry's Superfund cleanup liability and taxes. It shows the disparity between the share of Superfund taxes paid and the share of site contamination attributable to the petroleum industry. This pamphlet also discusses several implications for policy and offers a variety of charts and tables on the development of the Superfund program. For a copy of the complete research study (which provides full references), please refer to Research Study 082.
May 1997

Issue Analyses

IA 106
The Feasibility of "No Cost" Efforts To Reduce Carbon Emissions in the United States
A critical issue before the American people and policy makers is to approve the Kyoto Protocol and therefore commit to reducing greenhouse gases by a large amount and in a short time period. Most economic studies conclude that the costs of achieving the terms of the Kyoto Protocol are large if the adjustments are within the U.S. economy. A few studies conclude that carbon emissions can be reduced at rates consistent with the Kyoto target, and with no net costs. These studies assume an enormous potential to reduce energy use by the early adoption of energy efficient technologies. This study examines assumptions of studies that conclude the Kyoto Protocol will not be costly to the U.S. economy and refutes their validity.
May 1999

IA 105
Economic Sanctions Against Oil Producers: Who's Isolating Whom?
Many of the recent targets of U.S. economic sanctions are oil-producing countries. This study examines the effects of these sanctions, and others under consideration. It finds that current sanctions directly cover countries accounting for 10 percent of current world oil production and 16 percent of estimated remaining oil resources. New sanctions and unintended spillovers from existing sanctions threaten to expand the coverage to countries accounting for two thirds of current production and over 80 percent of estimated remaining oil resources. The study argues that these sanctions have been far more effective in isolating U.S. commercial activity and eroding the credibility of U.S. foreign policy than in changing any objectionable behavior by the targeted regimes, and that future sanctions threaten to expand this isolation still further.
August 1998

IA 104
Country Impacts of Multilateral Oil Sanctions and the Conduct of U.S. Foreign Policy

In recent years, economic sanctions have become an important tool in the conduct of U.S. foreign policy. This study presents results on the economic impacts of imposing multilateral sanctions on major oil producing countries. The results show that while such sanctions impose harm on the target country, they also impose costs on consumers and adversely affect the economies of some other nations. These results indicate that sanctions are a complicated foreign policy tool whose many international economic effects should be considered before deciding to use them. Pages: 16
April 1998

IA 103R
Achieving The Kyoto Protocol: An Analysis Of Policy Options

This API study examines the feasibility of meeting the emissions reduction target established for the United States by the Kyoto Protocol in December 1997. The study concludes that reducing carbon emissions in the United States to the target level would require unprecedented reductions in fossil energy use and impose enormous costs on consumers. The study supports this conclusion by detailed examination of historical trends in energy use and possible utilization of new technology in each major energy using sector. Only large energy price increases and much slower economic growth reduce energy demand and carbon emissions enough to meet the Kyoto target. Pages: 24
March 1998

IA 101
Impacts of Oil Sanctions in World Markets

Economic sanctions generally, and oil sanctions particularly, have been a principal tool of U.S. foreign policy over the past several years. This paper examines sanctions applied to restrict a country's oil exports and those applied to restrict investment in the country's oil markets. This paper finds that because the United States is but one competitor in world oil markets, unilateral oil sanctions are generally ineffective, imposing only small costs on targeted countries while also imposing costs on U.S. refiners and equipment suppliers. Multilateral sanctions, on the other hand, are more effective in imposing economic costs on a targeted country but they impose significant costs on consumers. This paper concludes that oil sanctions sometimes may be the best means available to constrain a foreign regime, but they are an expensive and not particularly effective means to achieve foreign policy objectives. Pages: 18
December 1997

Other Publications

Competition is Alive and Well in Gasoline Marketing
A Critique of Destroying Competition and Raising Prices

Prepared by Edward W. Erickson and Craig M. Newmark. Examines the hypothesis and data in a September 1991 report by Citizen Action, which claims that high levels of gasoline market concentration lead to higher than average gasoline prices. In fact, systematic analysis of market data shows that retail gasoline markets are highly competitive.
January 1992

Market Shares and Individual Company Data for U.S. Energy Markets, 1950–1991

Presents company-by-company data on concentration in various segments of the U.S. petroleum industry and other energy industries for selected years from 1950 to 1991.
October 1992

Economic Costs of Technology-Forcing Mandates

Prepared by Dr. A. E. Blakemore and Dr. M. B. Ormiston, Dept. of Economics, Arizona State University. Examines the economics of government-imposed technology-forcing mandates as a means to achieve a desired social objective such as pollution control. Proponents of technology-forced mandates view them as an efficient method of solving the social problems at issue while yielding other economic benefits. This paper examines the costs and potential benefits, compares them to alternative policy instruments and also illustrates who bears the burden of these mandates. This paper finds that, in contrast to the claims of proponents, mandated technology advances are an inefficient policy instrument for achieving social goals or environmental objectives. Available through Policy Analysis and Strategic Planning. Direct inquiries to 202-682-8549.
May 1996

The Economics of Energy Security

Prepared by Douglas R. Bohi and Michael A. Toman Thisan. This book examines energy security as a basis for designing energy policy. Energy security refers to the loss of economic welfare that may occur as a result of change in price or availability of energy. (ISBN 0-7923-9664-2)
January 1996
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Domestic Petroleum Production and National Security
December 1986

The Economic Impact of ANWR Development
May 1990 / by The WEFA Group

An Economic Analysis of the Distributor-Dealer Wholesale Gasoline Price Inversion of 1990

The Effects of Different Contractual Relations, by Philip E. Sorenson et al. (includes Supplement, September, 1991)
April 1991

The Sense and Nonsense of Energy Conservation
by Richard B. McKenzie
July 1991

Regulation and Jobs—Sorting Out the Consequences

Prepared by Thomas D. Hopkins, Rochester Institute of Technology. Clarifies the significance of the disparate consequences of environmental regulation and its effects on jobs and spending, as well as on the quality of our air and water. The principle point is that job creation is a cost rather than a benefit of environmental regulation. Explores the question of how best to characterize the job and spending consequences of environmental regulation. Provides a primer on benefits and costs of regulations aimed at encouraging more rational discussion of environmental policy.
October 1992

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The Policy Analysis and Statistics Department offers a variety of papers on specific policy issues.

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Describes brief facts about oil and lists some of the many products used in our everyday life that come from oil.

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Video

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A 17-minute (VHS Format) educational and entertaining video for teen students that illustrates with pop music and dance the often invisible role petroleum products play in our lives. It shows how oil is transformed into products such as gasoline, jet fuel, cosmetics, clothing, CDs and even aspirin. The video, designed for a middle-school audience, was produced by Emmy award-winning journalist Ellen Kingsley with a cast including a real science teacher and several teens. It also is being distributed by the National Science Teachers Association. (Teachers may wish to order the free booklet, "Running on Oil" listed above, to use in class with this video).

September 1996 / Price: No charge for single copies.

To Order, contact API Communications Department: 202-682-8062

Out-of-Print Publications

MPMS Chapter 11.1—1980

Chapter 11.1—1980 has not been withdrawn, but superseded The Standards(s) should no longer be utilized on new applications. Chapter 11.1—2004 (page 29 of this Catalog) is to be utilized on all new applications.

Chapter 11.1

Volume Correction Factor—VCF Software

PC-based software used to perform net corrected volume calculations for virtually all petroleum custody transfer and inventory control procedures. This software implements all Petroleum Measurement Tables (Volumes I–IX, and Volumes XIII–XIV). The first edition add-in works with Microsoft® Excel versions 4 and 5 and also Lotus 1-2-3® versions 4 and 5; while the second edition add-in works with Microsoft® Excel versions 7 and 8 (which are part of Office 95 and Office 97, respectively). Users will be able to print customized VCF tables for API Gravity (Density) and temperature for ranges of API Gravity, density, and temperature within which they normally buy and sell crude and liquid petroleum products including lubricating oils. The first edition dynamic link library (DLL) allows information systems programmers to implement the VCF standards within existing or new programs that utilize 16-bit Microsoft applications, such as Visual Basic 3.0. The second edition DLL utilizes 32-bit Microsoft applications, such as Visual Basic 6.0.

2nd Edition / July 1998

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Chapter 11.1

Volume Correction Factors

Fortran Source Code Text File: Tape is 9-track, 1600 bpi, EBCDIC, unlabeled, fixed block and requires a 32-bit or higher machine. Factors are printed in 0.1° API increments. A printed version of this tape is not available from API.

August 1980 / Reaffirmed, March 2002
Product Number: H27150 / Price: $1,022.00 / Specify tape or disk

Chapter 11.1

Volume Correction Factors—"C" Language Source Code

API is now making the Volume Correction Factor source code available in "C" computer language. This "C" source code is a direct conversion of the original Fortran source code that was used to generate the volume correction factor tables, and the implementation procedure used to develop the computer subroutines. API is offering this "C" source code under a license agreement with API. There are two types of licenses, INDIVIDUAL, and DISTRIBUTOR, which are described below. Orders are filled on a prepaid basis only and a license agreement must be signed by the licensee. Included, upon request, with the documentation is the Institute of Petroleum, *Petroleum Measurement Paper No. 3, Computer Implementation Procedures for Correcting Densities and Volumes to 20°C*, October 1988.

Individual User

An individual user uses the subroutines on an in-house basis. The fee for this license permits use at one location of a corporation, research institute or one campus of a university. One location is defined to include all facilities of the licensee within a 10-mile radius. For an additional fee, as noted below, the licensee may use the computerized edition at other facilities in its organization more than 10 miles away either by transfer of the material to these locations or by remote access through a telecommunications system. (This pertains to local area networks and wide area networks.) The license agreement will specify the locations at which use or access to the material is permitted.

Individual User Fees for a Chapter 11.1 VCF Package—"C" Code Release 1 (1993)

This package includes a diskette containing the subroutines for the calculation of the Volume Correction Factors in Chapter 11.1 of the *Manual of Petroleum Measurement Standards* and documentation for the computerized materials.

August 1980 / Reaffirmed, March 1997 / One location: $2,379.00
Two to five locations: $3,520.00 / More than five locations: $4,759.00
Extra copies of the diskettes are available for $118.00 each
Extra copies of the documentation are available for $107.00 each

Chapter 11.1

Volume I

Table 5A—Generalized Crude Oils and JP-4, Correction of Observed API Gravity to API Gravity at 60°F.
Table 6A—Generalized Crude Oils and JP-4, Correction of Volume to 60°F Against API Gravity at 60°F.

August 1980 / Reaffirmed, March 1997
Product Number: H27000 / Price: $45.00

Chapter 11.1

Volume II

Table 5B—Generalized Products, Correction of Observed API Gravity to API Gravity at 60°F.
Table 6B—Generalized Products, Correction of Volume to 60°F Against API Gravity at 60°F.

August 1980 / Reaffirmed, March 1997
Product Number: H27015 / Price: $45.00

Chapter 11.1

Volume III

Table 6C—Volume Correction Factors for Individual and Special Applications, Volume Correction to 60°F Against Thermal Expansion Coefficients at 60°F.

August 1980 / Reaffirmed, March 1997
Product Number: H27032 / Price: $45.00

Chapter 11.1

Addendum to Volume III/IX Volume Correction—MTBE

Provides users of the API Manual of Petroleum Measurement Standards Chapter 11.1, Volume III (Table 6C) and Volume IX (Table 54C) with revised volume correction factor tables for MTBE. The tables can be used to expedite calculation of the volume of mixtures composed predominantly of MTBE at standard conditions from volumes at other conditions. These tables apply to commercially available mixtures containing at least 85 weight percent MTBE. The information gained from using these tables can be used to determine quantities of MTBE in tanks, shipping containers, and other storage containers typically used in the petroleum industry. Table 6C—Volume Correction Factors for Individual and Special Applications, Volume Correction for MTBE to 60°F

and Volume IX, Table 54C—Volume Correction for Individual and Special Applications, Volume Correction for MTBE to 15°C. Pages: 4
1st Edition / January 1995 / Product Number: H27033 / Price: $45.00

Chapter 11.1
Volume IV
Table 23A—Generalized Crude Oils, Correction of Observed Relative Density to Relative Density at 60/60°F.
Table 24A—Generalized Crude Oils, Correction of Volume to 60°F Against Relative Density 60/60°F.
August 1980 / Reaffirmed, March 1997
Product Number: H27045 / Price: $50.00

Chapter 11.1
Volume V
Table 23B—Generalized Products, Correction of Observed Relative Density to Relative Density at 60/60°F.
Table 24B—Generalized Products, Correction of Volume to 60°F Against Relative Density 60/60°F.
August 1980 / Reaffirmed, March 1997
Product Number: H27060 / Price: $50.00

Chapter 11.1
Volume VI
Table 24C—Volume Correction Factors for Individual and Special Applications, Volume Correction to 60°F Against Thermal Expansion Coefficients at 60°F.
August 1980 / Reaffirmed, March 1997
Product Number: H27085 / Price: $45.00

Chapter 11.1
Volume VII
Table 53A—Generalized Crude Oils, Correction of Observed Density to Density at 15°C.
Table 54A—Generalized Crude Oils, Correction of Volume to 15°C Against Density at 15°C.
August 1980 / Reaffirmed, March 1997
Product Number: H27100 / Price: $50.00

Chapter 11.1
Volume VIII
Table 53B—Generalized Products, Correction of Observed Density to Density at 15°C.
Table 54B—Generalized Products, Correction of Volume to 15°C Against Density at 15°C.
August 1980 / Reaffirmed, March 1997
Product Number: H27115 / Price: $50.00

Chapter 11.1
Volume IX
Table 54C—Volume Correction Factors for Individual and Special Applications, Volume Correction to 15°C Against Thermal Expansion Coefficients at 15°C.
August 1980 / Reaffirmed, March 1997
Product Number: H27130 / Price: $45.00

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Volume X
Background, Development, and Computer Documentation, including computer subroutines in Fortran IV for all volumes of Chapter 11.1, except Volumes XI/XII, XIII, and XIV. Implementation procedures, including rounding and truncating procedures, are also included. These subroutines are not available through API in magnetic or electronic form. Pages: 403
August 1980 / Reaffirmed, March 1997
Product Number: H27145 / Price: $45.00

Chapter 11.1
Volume XI/XII
Two combined volumes, containing Petroleum Measurement Subsidiary Tables 1–4, 8–14, 21, 22, 26–31, 33, 34, 51, 52, 56–58, which provide conversions between volume measures and density measures.
January 1980 / Reaffirmed, December 1999
Order from ASTM
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Chapter 11.1
Volume XIII
Table 5D—Generalized Lubricating Oils, Correction of Observed API Gravity to API Gravity at 60°F.
Table 6D—Generalized Lubricating Oils, Correction of Volume to 60°F Against API Gravity at 60°F.
January 1982 / Reaffirmed, March 1997
Product Number: H27185 / Price: $50.00

Chapter 11.1
Volume XIV
Table 53D—Generalized Lubricating Oils, Correction of Observed Density to Density at 15°C.
Table 54D—Generalized Lubricating Oils, Correction of Volume to 15°C Against Density at 15°C.
January 1982 / Reaffirmed, March 1997
Product Number: H27200 / Price: $50.00

Chapter 11.2.1
Compressibility Factors for Hydrocarbons: 0–90° API Gravity Range
This chapter provides tables to correct hydrocarbon volumes metered under pressure to corresponding volumes at the equilibrium pressure for the metered temperature. It contains compressibility factors related to meter temperature and API gravity (60°F) of metered material. Pages: 149
1st Edition / August 1984 / Reaffirmed, May 1996
Product Number: H27300 / Price: $142.00

Chapter 11.2.1M
Compressibility Factors for Hydrocarbons: 638–1074 Kilograms per Cubic Meter Range
This chapter provides tables in metric (SI) units to correct hydrocarbon volumes metered under pressure to corresponding volumes at the equilibrium pressure for the metered temperature. It contains compressibility factors related to meter temperature and density (15°C) of metered material. Pages: 187
1st Edition / August 1984 / Reaffirmed, May 1996
Product Number: H27305 / Price: $142.00

Chapter 11.2
Computer Tape and Documentation of Chapters 11.2.1, 11.2.1M, 11.2.3, 11.2.3M
Includes a magnetic tape of tables found in Chapters 11.2.1, 11.2.1M, 11.2.3 and 11.2.3M, along with a computer documentation manual containing text information from those chapters. The tables, presented in both standard and metric (SI) units, cover compressibility factors for hydrocarbons and water calibration of volumetric provers. The tape is 9-track, 1600 bpi, unlabeled, 4-file type, and is available in either ASCII or EBCDIC format. Format desired must be specified when ordering. Now available on disk. Please specify when ordering.
1st Edition / 1984
ASCII Tape and Documentation Manual
Product Number: H27290 / Price: $242.00
EBCDIC Tape and Documentation Manual
Product Number: H27295 / Price: $251.00

Chapter 11.2,
Computer Tape Information and Documentation for Chapters 11.2.1, 11.2.1M, 11.2.3 and 11.2.3M
Provides only the text information from Chapters 11.2.1, 11.2.1M, 11.2.3 and 11.2.3M, and information pertaining to the use of the magnetic tape described above. The manual is included with orders for the magnetic tape. Pages: 11
1st Edition / 1984 / Product Number: H27320 / Price: $47.00

Withdrawn in 2004

Spec 2C
Offshore Cranes
5th Edition / April 1995 / Product Number: G02C05

RP 4G
Maintenance and Use of Drilling and Well Servicing Structures
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Spec 5L
Line Pipe
42nd Edition / January 2000 / Product Number: G05L42

Spec 6A
Wellhead and Christmas Tree Equipment
17th Edition / November 1999 / Product Number: G06A17

Spec 9A ✣ ▲
Wire Rope
24th Edition / June 1, 1995 /Product Number: G09A24

Spec 9A ✣
Wire Rope—Russian
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Testing of Heavy Brines—Spanish
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1st Edition / January 1993 / Product Number: G07228

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Measuring the Viscous Properties of a Cross-linked Water-based Fracturing Fluid
3rd Edition / May 1998 / Product Number: G39003

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2nd Edition / February 1998 / Product Number: G40002

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Chapter 6.2
Loading Rack and Tank Truck Metering Systems for Non-LPG Products
2nd Edition / April 1994 / Product Number: H06022

API/IP Spec 1583
Specification and Qualification Procedures for Aviation Fuel Filter Monitors with Absorbent Type Elements
3rd Edition / November 2000 / Product Number: A15833

Std 594
Check Valves: Wafer, Wafer-lug and Double Flanged Type
5th Edition / November 1997 / Product Number: C59405

Std 598
Valve Inspection and Testing
7th Edition / October 1996 / Product Number: C59807

Std 609
Butterfly Valves: Double Flanged, Lug- and Wafer-Type
5th Edition / May 1997 / Product Number: C60905

Std 610
Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries
9th Edition / January 2003 / Product Number: C61009

Std 682
Pumps—Shaft Sealing Systems for Centrifugal and Rotary Pumps
2nd Edition / July 2002 / Product Number: C68202

RP 936
Refractory Installation Quality Control Guidelines
1st Edition / October 1996 / Product Number: C93601

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Spark Ignition Properties of Hand Tools
3rd Edition / July 1989 / Product Number: K22140

RP 2221 ✣
Manager's Guide to Implementing a Contractor Safety Program
1st Edition / June 1996 / Product Number: K22211

PA 017
How Much We Pay for Gasoline—The Cost of Motor Gasoline to Consumers—1998 Annual Review and 1999 January-August
October 1999

Encouraging Innovation: R&D in the Petroleum Industry
October 1995

Financial Trends of Leading U.S. Oil Companies 1968–1991
November 1992

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Historical Publications

Certain out-of-print API standards, specifications, recommended practices, bulletins, publications, and technical reports that have been taken out of print are listed on the following pages. The listing shows the first and last edition available, and editions in between. These publications may be ordered as faxes or photocopies

Exploration and Production

Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

Offshore Operating Agreement, Second Edition, 1996
Vocational Training Series 1-6
Book 1, Introduction to Oil and Gas Production, 4th ed. 1983
Book 2, Corrosion of Oil and Gas Well Equipment, 1st ed. 1958—2nd ed. 1990
Book 3, Subsurface Salt Water Injection and Disposal, 2nd ed. 1978
Book 4, Well Testing, 2nd ed. 1976
Book 5, Wireline Operations and Procedures, 1983
Book 6, Gas Lift, 1984
Glossary of Oil Field Production Terminology, 1st ed. 1988

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1 Oil Field Belting, 10th ed. 1947–12th ed. 1957

1A Oil-Field Flat Belting, 1st ed. 1957

1B Oil-Field V-Belting, 1st ed. 1957–5th ed. 1978

2 Oil Field Boilers, 1st ed. 1928–10th ed. 1949

2A Planning, Designing, and Constructing Fixed Offshore Platforms, 1st ed. 1969–19th ed. 1991

2A-LRFD, Draft recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms—Load and Resistance Factor Design, 1st ed. 1989

2B Fabricated Structural Steel Pipe, 1st ed. 1969–3rd ed. 1977

2C Offshore Cranes, 1st ed. 1971–5th ed. 1995

2D Operation and Maintenance of Offshore Cranes, 1st ed. 1972–4th ed. 1999

2E Drilling Rig Packaging for Minimum Self-Contained Platforms, 1st ed. 1973

2F Mooring Chain, 1st ed. 1974–4th ed. 1987

2G Production Facilities on Offshore Structures, 1st ed. 1974

2H Carbon Manganese Steel Plate for Offshore Platform Tubular Joints, 1st ed. 1974–6th ed. 1990

2J Bulletin on Comparison of Marine Drilling Riser Analysis, 1st ed. 1977

2K Care and Use of Marine Drilling Risers, 1st ed. 1977–2nd ed. 1982

2L Planning, Designing, and Constructing Heliports for Fixed Offshore Platforms, 1st ed. 1978–2nd ed. 1983

2M Qualifications Testing of Steel Anchor Designs for Floating Structures, 2nd ed. 1996

2N Planning and Designing, and Constructing Fixed Offshore Structures in Ice Environments, 1st ed. 1982

2P The Analysis of Spread Mooring Systems for Floating Drilling Units, 1st ed. 1984

2Q Design and Operation of Marine Drilling Riser Systems, 1st ed. 1982–2nd ed. 1984

2W Specification for Steel Plates for Offshore Structures, Produced by Thermo-Mechanical Control Processing (TMCP), 1st ed. 1987–2nd ed. 1990

2X Ultrasonic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Ultrasonic Technicians, 1st ed. 1980

2Y Specification for Steel Plates, Quenched-and-Tempered, for Offshore Structures, 1st ed. 1987–2nd ed. 1990

2Z Recommended Practice for Production Qualification for Steel Plates for Offshore Structures, 1st ed. 1987

3 Recommended Practice for Cable Drilling and Fishing Tools, 1st ed. 1928–2nd ed. 1988

3 Specification for Cable-Drilling Tools, 1st ed. 1928–13th ed. 1988

4 Standard Rigs and Derricks, 2nd ed. 1934–13th ed. 1947

4A Steel Derricks (Including Standard Rigs), 14th ed. 1952–16th ed. 1967

4B Wooden Derricks, 14th ed. 1952

4C Rig Irons, 8th ed. 1939

4D Guyed Portable Masts, 1st ed. 1952–6th ed. 1967

4E Drilling and Well Servicing Structures, 1st ed. 1970–3rd ed. 1988

4F Specification for Drilling and Well Servicing Structures, 1st ed. 1985

4G Maintenance and Use of Drilling and Well Servicing Structures. 2nd ed. 1998

5 Care and Use Of Oil Country Tubular Goods, 1st ed. 1929

5A Sharp-Thread Casing and Tubing, 3rd ed. 1955–39th ed. 1987

5A1 Minimum Performance Properties Proposed API High-Strength Casing Joints, 3rd ed. 1949

5A2 High-Pressure Thread Compound, 1st ed. 1952–5th ed. 1972

5A3 Thread Compounds for Casing, Tubing, and Line Pipe (supersedes Bull 5A2), 1st ed. 1996

5A4 Care and Use of Reinforced Thermosetting Resin Casing and Tubing, 1st ed. 1976

5A5 Field Inspection of New Casing, Tubing and Plain-End Drill Pipe, 1st ed. 1982–4th ed. 1989

5AC Casing and Tubing For Sulfide Service, 1st ed. 1963–16th ed. 1987

5AQ Q125 Casing, 1st ed. 1985–2nd ed. 1987

5AR Reinforced Thermosetting Resin Casing and Tubing, 1st ed. 1975–2nd ed. 1981

5AX High-Strength Casing and Tubing, 1st ed. 1960–15th ed. 1987

5B Inspection of External and Internal Pipe Threads, 3rd ed. 1954–13th ed. 1988

5B1 Gaging and Inspection of Casing, Tubing, and Line Pipe Threads, 1st ed. 1983–2nd ed. 1987

5C1 Care and Use of Casing, Drill Pipe, and Tubing, 3rd ed. 1949–16th ed. 1988

5C2 Performance Properties of Casing and Tubing, 4th ed. 1948–20th ed. 1987

5C3 Casing, Tubing, Drill Pipe, and Line Pipe Properties, 1st ed. 1971–5th ed. 1989

5C4 Round Thread Casing Joint Strength With Combined Internal Pressure and Bending, Second Edition, 31, 1987

5C5 Evaluation Procedures for Casing and Tubing Connections, 2nd ed. 1996

5CT Specification for Casing and Tubing, 1st ed. 1988–6th ed. 1998

5CTM Casing and Tubing (Metric Units), 5th ed. 1995

5D Conversion of English to Metric Units as Applicable to API Standards on Tubular Goods, 1st ed. 1960

5D Specification for Drill Pipe, 1st ed. 1988–2nd ed. 1991

5G1 Iron and Steel Flanged Gate, Plug, and Check Valves for Pipe Line Service, 4th Ed. 1946

5G2 Steel Flanged Gate and PlugValves for Drilling and Production Service, 5th Ed. 1946

5L Line Pipe Specifications, 1st ed. 1928–42th ed. 2000

5L1 Railroad Transportation of Line Pipe, 1st ed. 1965–5th ed. 1996

5L2 Internal Coating of Line Pipe for Gas Transmission Service, 1st ed. 1968–3rd ed. 1987

5L3 Conducting Drop-Weight Tear Tests on Line Pipe, 1st ed. 1969

5L4 Care and Use of Reinforced Thermosetting Resin Line Pipe, 1st ed. 1972–2nd ed. 1976

5L5 Marine Transportation of Line Pipe, 1st ed. 1975

5L6 Transportation of Line Pipe on Inland Waterways, 1st ed. 1979

5L7 Recommended Practices for Unprimed Internal Fusion bonded Epoxy Coating of Line Pipe, 1st ed. 1986

5LA Aluminum Alloy Line Pipe, 1st ed. 1962

5LC Specification for CRA Line Pipe, 1st ed. 1988

5LE Polyethylene Line Pipe, 1st ed. 1975–3rd ed. 1981

5LP Thermoplastic Line Pipe, 1st ed. 1968–5th ed. 1981

5LR Glass Fiber Reinforced Thermosetting Resin Line Pipe, 1st ed. 1968–4th ed. 1976

5LS Spiral-Weld Line Pipe, 1st ed. 1965–12th ed. 1982

5LU Ultra High-Test Heat Treated Line Pipe, 1st ed. 1972–3rd ed. 1980

5LX High-Test Line Pipe, 1st ed. 1948–24th ed. 1982

5T1 Nondestructive Testing Terminology, 1st ed. 1969–8th ed. 1987

6 Rig Irons, 1st ed. 1929

6A Threads In Valves, Fittings and Flanges, 5th ed. 1947–17th ed. 1999

6D Iron and Steel Gate, Plug, and Check Valves for Pipe-Line Service, 6th ed. 1949–15th ed. 1986

6A1 Obsolete Appendixes from Spec 6A Eleventh Edition (Wellhead Equipment), 1st ed. 1979

6AB 30,000 PSI Flanged Wellhead Equipment, 1st ed. 1983

6A4 Specification for Repair and Remanufacture of Wellhead and Christmas Tree Equipment, 1st ed. 1988

6B Ring-Joint Flanges, 4th ed. 1949–6th ed. 1960

6BX Ring-Joint Flanges for Drilling and Production Service for Extreme Pressures, 1st ed. 1958–3rd ed. 1960

6C Flanged Steel Gate and Plug Valves for Drilling and Production Service, 7th ed. 1949–11th ed. 1960

6CM Flanged Steel Gate and Plug Valves For Multiple Parallel String Completions In Production Service, 1st ed. 1960

6D Steel Gate, Plug, and Check Valves for Pipeline Service, 7th ed. 1956, 20th ed. 1991, 21st ed. 1994

6E Wellhead Equipment, 2nd ed. 1950–6th ed. 1960

6F Fire Test For Valves, 1st ed. 1978–3rd ed. 1982

6FA Fire Test for Valves, 1st ed. 1985

6FB API Specification for Fire Test for End connections, 1st ed. 1987

6FC Specification for Fire Test for Valves With Selective Backseats, 1st ed. 1989

6F1 Performance of API and ANSI End Connections in a Fire Test According to API Specification 6FA, 1st ed. 1987

6F2 Fire Resistance Improvements for API Flanges, 1st ed. 1987

6G Through Flowline (TFL) Pump Down Systems, 1st ed. 1978–3rd ed. 1982

6RS Referenced Standards for Committee 6, Standardization of Valves and Wellhead Equipment, 1st ed. 1990

7 Transmission Standard, 1st ed. 1922–6th ed. 1944

7 Rotary Drilling Equipment, 11th ed. 1953–36th ed. 1989

7A Recommended Practice for Hard Facing Rotary Bits, 1st ed. 1932

7A1 Rotary Shouldered Connection Thread Compounds, 1st ed. 1980

7B Rotary Drilling Equipment, 1st ed. 1927–10th ed. 1947

7B-11C, Internal-Combustion Engines and Unit-Type Radiator coolers for Oil-Field Service, 6th ed. 1953–8th ed. 1981

7C Dimensional Standards for Line Shafts, 1st ed. 1927

7C-11F, Installation, Maintenance, and Operation of Internal-Combustion Engines, 2nd ed. 1955–4th ed. 1981

7C-11G, Rating of Drilling and Production Hoisting Equipment, 1st ed. 1949

7D Oil-Field Boilers, 10th ed. 1949

7E Care and Use of Oil-Field Boilers, 3rd ed. 1949

7F Oil-Field Roller Chain, 1st ed. 1965–6th ed. 1999

7G Drill Stem Design and Operating Limits, 1st ed. 1970–14th ed. 1990

7H Drilling Machinery, 1st ed. 1979–7th ed. 1981

7J Specification for Drill Pipe/Casing Protectors (DP/CP), 1st ed. 1985

8A Rating of Drilling and Production Hoisting Equipment, 1st ed. 1949–11th ed. 1985

8B Hoisting Tool Inspecting and Maintenance Procedures, 1st ed. 1961, 4th ed. 1979, 6th ed. 1997

8B Internal-Combustion Engines and Unit-Type Radiator Coolers and Oil-Field Service, 6th ed. 1953

8C Installation, Maintenance, and Operation of Internal-Combustion Engines, 1st ed. 1953–3rd ed. 1997

8C Specification for Drilling and Production Hoisting Equipment (PSL 1 and PSL 2), 1st ed. 1990

9A Wire Rope, 5th ed. 1927–24th ed. 1995

9B Application, Care, and Use of Wire Rope For Oil-Field Service, 1st ed. 1951, 8th ed. 1980, 10th ed. 1999

10 Materials and Testing for Well Cements, 1st ed. 1982–5th ed. 1990

10A Oil-Well Cements, 1st ed. 1953, 21st ed. 1991, 22nd ed. 1995

10B for Testing Oil-Well Cements, 3rd ed. 1953–21st ed. 1979

10C Oil-Well Cement Nomenclature, 1st ed. 1963, 3rd ed. 1984

10D Casing Centralizers, 1st ed. 1971, 4th ed. 1991, 5th ed. 1995

10E Application of Cement Lining To Steel Tubular Goods, Handling, Installation and Joining, 1st ed. 1978–2nd ed. 1987–3rd ed. 1994

10F Performance of Cementing Float Equipment, 2nd ed. 1995

11A Care and Use of Oil Well Pumps, 1st ed. 1927–7th ed. 1944

11AR Care and Use of Subsurface Pumps, 1st ed. 1968–2nd ed. 1983

11AX Subsurface Pumps and Fittings, 1st ed. 1961–8th ed. 1986

11B API Sucker Rod Specifications, 1st ed. 1927–24th ed. 1990

11B Installation, Operation and Care of Oil Field Gas Engines, 1st ed. 1933

11BR Care and Use of Sucker Rods, 1st ed. 1950–8th ed. 1989

11C Internal Combustion Engine and Clutches for Oil Field Service, 1st ed. 1927–5th ed. 1942

11C Reinforced Plastic Sucker Rods, 1st ed. 1986–2nd ed. 1988

11D Miscellaneous Pumping Equipment, 1st ed. 1923–7th ed. 1964

11E Pumping Units, 4th ed. 1941–16th ed. 1989

11ER Recommended Practice for Guarding of Pumping Units, 1st ed. 1976

11G Rating of Sucker Rod and Tubing Hoisting Equipment, 2nd ed. 1941

11G Recommended Practice for Installation and Lubrication of Pumping Units, 1st ed. 1956–3rd ed. 1988

11H Recommended Practice for Electrical Surface Pumping Equipment, 1st ed. 1959

11J Recommended Practice for Placement of Electrical Equipment on Production Leases, 1st ed. 1961

11K Data Sheet for the Design of Air Exchange Coolers for Packaged Compressor Units, 1st ed. 1974

11L Recommended Practice for Design Calculations for Sucker Rod Pumping systems, 1st ed. 1967–3rd ed. 1977

11L2 Catalog of Analog Computer Dynamometer Cards, 1st ed. 1969

11M Recommended Practice for Grounded 830-Volt, Three-Phase Electrical System for Oil Field Service, 1st ed. 1973

11N Specification for Lease Automatic Custody Transfer (LACT) Equipment, 1st ed. 1975–2nd ed. 1979

11P Specification for Packaged High Speed Separable Engine Driven Reciprocating Gas Compressors, 1st ed. 1975, 2nd ed. 1989

11R Recommended Practice for Electric Submersible Pump Installations, 1st ed. 1980–2nd ed. 1986

11S Recommended Practice for Operation, Maintenance and Troubleshooting of Electric Submersible Pump Installations, 1st ed. 1982

11S1 Recommended Practice for Electrical Submersible Pump Teardown Report, 1st ed. 1987

11S4 Sizing and Selection of Electric Submersible Pump Installations, 1st ed. 1993

11T Recommended Practice for Installation and Operation of Wet Steam Generators, 1st ed. 1983

11U Recommended Practice for Sizing and Selection of Electric Submersible Pumps, 1st ed 1984–2nd ed. 1986

11V1 Specification for Gas Lift Valves, Orifices, Reverse Flow Valves and Dummy Valves, 1st ed. 1988

12A Specification for Standard Tanks with Riveted Shells, 1st ed. 1928–7th ed. 1941

12B Bolted Tanks, 5th ed. 1944–13th ed. 1990

12C All-Welded Oil Storage Tanks, 1st ed. 1936–15th ed. 1958

12D Large Welded Production Tanks, 3rd ed. 1944–9th ed. 1982

12E Wooden Tanks, 1st ed. 1943–6th ed. 1956

12F Small Welded Production Tanks, 1st ed. 1954–10th ed. 1988

12G Welded Aluminum-Alloy Storage Tanks, 1st ed. 1957

12H Recommended Practice for Installation of New Bottoms In Old Storage Tanks, 1st ed. 1957

12J Oil and Gas Separators, 1st ed. 1960–6th ed. 1988

12K Indirect Type Oil-Field Heaters, 1st ed. 1960–6th ed. 1988

12L Vertical Emulsion Treaters, 1st ed. 1967–2nd ed. 1973

12M Oil Field Thermal Recovery Steam Generators, 1st ed. 1966–2nd ed. 1967

12N Recommended Practice for the Operation, Maintenance and Testing of Firebox Flame Arrestors, 1st ed. 1986

12P Specification for Fiberglass Reinforced Plastic Tanks, 1st ed. 1986

12R1 Recommended Practice for Setting, Connecting, Maintenance and Operation of Lease Tanks, 1st ed. 1973–3rd ed. 1986

13A Oil-Well Drilling-Fluid Materials, 5th ed. 1969–15th ed. 1993

13B Standard Procedure for Testing Drilling Fluids, 1st ed. 1962–14th ed. 1991

13B-2 Recommended Practice Standard Procedure for Field Testing Oil-Based Drilling Fluids, 1st ed. 1990

13C Drilling Fluids Processing Equipment, 1st ed. 1974

13D The Rhealogy of Oil-Well Drilling Fluids, 1st ed. 1980–3rd ed. 1995

13E Recommended Practice for Shale Shaker screen Cloth Designation, 1st ed. 1977–3rd ed. 1993

13F Drilling Mud Report Form, 1st ed. 1981

13G Drilling Fluid Bioassays, 1st ed. 1984–3rd ed. 1991

13I Laboratory Testing Drilling Fluids, 1st ed. 1984–6th ed. 2000

13J Testing of Heavy Brines, 2nd ed 1996

14A Subsurface Safety Valves, 1st ed. 1973–7th ed. 1988

14B Design, Installation, and Operation of Subsurface Safety Valve Systems, 1st ed. 1973–3rd ed. 1990

14BM User's Manual for API 14B Subsurface Controlled Subsurface Safety Valve Sizing computer Program, 1st ed. 1974–2nd ed. 1978

14C Analysis, Design, Installation and Testing of Basic Surface Safety Systems on Offshore Production Platforms, 1st ed. 1974–4th ed. 1986

14D Wellhead Surface Safety Valves For Offshore Service, 1st ed. 1975–8th ed. 1981–9th ed. 1994

14E Design and Installation of Offshore Production Platform Piping systems, 1st ed. 1975–4th ed. 1984

14F Design and Installation of Electrical Systems For Offshore Production Platforms, 1st ed. 1978–2nd ed. 1985

14G Fire Prevention and Control On Open Type Offshore Production Platforms, 1st ed. 1978–2nd ed. 1986

14H Surface Safety Valves and Underwater Safety Valves Offshore, 1st ed. 1982–3rd ed. 1991

15A4 Care and Use of Reinforced Thermosetting Resin Casing and Tubing, 1st ed. 1976

15AR Reinforced Thermosetting Resin Casing and Tubing, 2nd ed. 1981–3rd ed. 1987

15HR Specification for High Pressure Fiberglass Line Pipe, 1st ed. 1988

15L4 Care and Use of Reinforced Thermosetting Resin Line Pipe, 2nd ed. 1976

15LE Polyethylene Line Pipe (PE), 1st ed. 1985

15LP Thermoplastic Line Pipe, 5th ed. 1981–6th ed. 1987

15LR Reinforced Thermosetting Resin Line Pipe, 4th ed. 1976–5th ed. 1986

15LT PVC Lined Steel Tubular Goods, 1st ed. 1993

16E Design of Control Systems for Drilling Well Control Equipment, 1st ed. 1990

16J Comparison of Marine Drilling Riser Analyses,1st ed 1992

17A Design and Operation of Subsea Production Systems, 2nd ed. 1996

17B Flexible Pipe, 2nd ed. 1998

17C TFL (Through Flowline) Systems, 1st ed. 1991

17E Subsea Production Control Umbilicals, 2nd ed. 1998

17I Installation of Subsea Umbilicals, 1st ed. 1996

25 Measuring Field Production and Storage Tanks, 1st ed. 1929–7th ed. 1948

26 Form of Agreement and Specifications for Pipe Line Crossings under Railroad Tracks, 1st ed. 1935

27 Standard for Determining Permeability of Porous Media, 1st ed. 1935–3rd ed. 1952

28 Code of Metallurgical Terms for Ferrous Alloys, 1st ed. 1937

29 Standard Field Procedure for Testing Drilling Fluids, 2nd ed. 1942–4th ed. 1957

30 Corrosion Fatigue Testing of Sucker Rod Materials, 1st ed. 1945

31 Standard Electrical Log Form, 1st ed. 1948–3rd ed. 1967

32 Testing Cements Used In Wells, 1st ed. 1948–2nd ed. 1950

33 Standard Radioactivity Log Form, 1st ed. 1948–3rd ed. 1974

34 Standard Hydrocarbon Mud Log Form, 1st ed. 1958

35 Oil-Mapping Symbols, 1st ed. 1957

36 Determining Productivity Indices, 1st ed. 1958

37 Recommended Practice Proof-Test Procedure for the Evaluation of High-Pressure Casing and Tubing Connection Designs, 1st ed. 1958–2nd ed. 1980

38 Biological Analysis of Water-flood Injection Waters, 1st ed. 1959–3rd ed. 1975

39 Standard Procedure for the Evaluation of Hydraulic Fracturing Fluids, 1st ed. 1960–3rd ed. 1998

40 Core-Analysis Procedure, 1st ed. 1960–2nd ed. 1998

41 Recommended Practice Standard Procedure for Preventing Performance Data onHydraulic Fracturing Equipment, 1st ed. 1961

42 Laboratory Testing and Field Data Analysis of Surface-Active Agents for Well Stimulation, 1st ed. 1962–2nd ed. 1977

43 Standard Procedure for Evaluation of Well Perforators, 1st ed. 1962–4th ed. 1985–5th ed. 1991

44 Sampling Petroleum Reservoir Fluids, 1st ed. 1966

45 Analysis of Oil-Field Waters, 1st ed. 1965–2nd ed. 1968

46 Testing Foam Agents for Mist Drilling, 1st ed. 1966

47 Drilling Mud Report Form, 1st ed. 1969

48 Drill Stem Test Report Form, 1st ed. 1972

49 Safe Drilling of Wells Containing Hydrogen Sulfide, 1st ed. 1974–2nd ed. 1987

50 Gas Plant Good Operating Practices for Protection of the Environment, 1st ed. 1975

51 Onshore Oil and Gas Production Practices for Protection of the Environment, 2nd ed. 1995

50A Measuring, Sampling, and Testing Natural Gas, 1st ed. 1937–4th ed. 1957

50B Measuring, Sampling, and Testing Natural Gasoline and Other Light Liquid petroleum Hydrocarbons, 3rd ed. 1949–4th ed. 1957

51 Recommended Onshore Production Operating Practices for Protection of the Environment, 1st ed. 1974

52 Recommended Land Drilling Operating Practices for Protection of the Environment, 1st ed. 1975

53 Blowout Prevention Equipment Systems, 1st ed. 1976–2nd ed. 1984

54 Oil and Gas Well Drilling And Servicing Operations, 1st ed. 1981

55 Conducting Oil and Gas Production Operations Involving Hydrogen Sulfide, 1st ed. 1981

56 Recommended Practices for Testing Sand Used in Hydraulic Fracturing Operations, 1st ed. 1983

57 Offshore Well Completion, Servicing, Workover, and Plug and Abandonment Operations, 1st ed. 1986

58 Recommended Practices for Testing Sand Used in Gravel Packing Operations, 1st ed. 1986

60 Recommended Practices for Testing High Strength Proppants Used in Hydraulic Fracturing Operations, 1st ed. 1989

61 Recommended Practices for Evaluating Short Term Proppant Pack Conductivity, 1st ed. 1989

62 Recommended Practice/Guidelines for Evaluation of Mobile Offshore Drilling Unit (MODU) Emergency Power Systems and Fire Protection Systems, 1st ed. 1988

66 Exploration and Production Data Digital Interchange (Version 2.00), 2nd ed. 1996

68 Well Servicing and Workover Operations Involving Hydrogen Sulfide, 1st ed. 1998

D2 Organization and Procedure for the Central Committee on District Activities and for Districts and Chapters, 3rd ed. 1941–8th ed. 1955

D2A Vocational Training in Oil and Gas Production, 1st ed. 1940–2nd ed. 1943

D2A Planning and Conducting an API District Meeting, 2nd ed. 1957–3rd ed. 1958

D2B Informational Bulletin Special Training Available for Leaders On Conduct of Foremanship Training Conferences, 1st ed. 1942

D3 Activities and Procedure of the Central Committee on Drilling and Production Practice, 1st ed. 1936–8th ed. 1965

D4 The Effects of Drilling-Mud Additives on Oil-Well Cements, 1st ed. 1951, Corrected 1963

D6 Selection and Evaluation of Well-Completion Methods, 1st ed. 1955

D7 Casing Landing Recommendations, 1st ed. 1955

D9 Recommendations for Digital Well Logging on Magnetic Tape, 1st ed. 1965–3rd ed. 1981

D10 Selecting Rotary Drilling Equipment, 1st ed. 1965

D11 Glossary of Drilling-Fluid and Associated Terms, 1st ed. 1965–2nd ed. 1979

D12 Well Data Glossary, 1st ed. 1966

D12A The API Well Number and Standard State and County Codes, 1st ed. 1968

D13 Installation and Use of Blowout-Preventer Stacks and Accessory Equipment, 1st ed. 1966

D14 A Statistical Study of Recovery Efficiency, 1st ed. 1967

D15 Recommendations for Proper Usage and Handling of Inhibited Oilfield Acids, 1st ed. 1973

D16 Suggested Procedure for Development Of Spill Prevention Control and Countermeasure Plans, 1st ed. 1974, 2nd ed. 1989

D17 Running and Cementing Liners in the Delaware Basin, Texas, 2nd ed. 1983—3rd ed. 1989

D18 Environmental Protection Laws and Regulations Related to Exploration, Drilling, Production, and Gas Processing Plant Operations, 1st ed. 1975

D19 Summary and Analysis of API Onshore Drilling Mud and Produced Water Environmental Studies, 1st ed. 1983

D20 Bulletin on Directional Drilling Survey Calculation Methods and Terminology, 1st ed. 1985

E1 Bulletin on the Generic Hazardous Chemical Category List and Inventory for the Oil and Gas Exploration and Production Industry, 1st ed. 1989

E2 Management of Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Production, 1st ed. 1992

E4 Environmental Guidance Document: Release Reporting for the Oil and Gas Exploration and Production Industry as Required by the CWA, CERCLA, and SARA Title III, 1st ed. 1993

Q1 Quality Programs, 1st ed. 1985–6th 1999

S1 Organization and Procedure for the Standardization of Oil Field Equipment, 5th ed. 1952–16th ed. 1990

S2 Publications of the API Division of Production, 26th ed. 1948–62nd ed. 1985

T1 Function and Procedure of Committees on Training of the Division of Production, 5th ed. 1967

T3 Vocational Training Courses, 1st ed. 1959

T4 Supervisory Development Services Available from Public and Private Agencies and Institutions, 1st ed. 1953

RPT1 Orientation Program for Personnel Going Offshore for the First time, 1st ed. 1974–2nd ed. 1986

RPT2 Qualification Programs for Offshore Production Personnel Who Work With Anti-Pollution Safety Devices, 1st ed. 1974

RPT3 Training and Qualification of Personnel in Well Control Equipment and Techniques for Drilling on Offshore Locations, 1st ed. 1976

T5 Employee Motivation Programs for Safety and Prevention of Pollution in Offshore Operations, 1st ed. 1974–2nd ed. 1983

V2 Organization and Teaching of Courses on Specialized Vocational Training In the Production of Oil and Gas, 1st ed. 1949

V3 Information Bulletin Special Training Available for Leaders On Conduct of Foremanship Training Conferences, 1st ed, 1951

Refining

Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

421 Management of Water Discharges: Design and Operation of Oil-Water Separators. 1st ed. 1990

500 Classification of Areas for Electrical Installations in Petroleum Refineries. 1st ed.–4th ed. 1955–1987

500C Recommended Practice for Classification of Areas for Electrical Installations at Petroleum and Gas Pipeline Transportation Facilities, 1st ed. 1966 to 1984

510 Pressure Vessel Inspection Code, 1st ed Sept. 1958–6th ed. 1989

520 Design and Construction of Pressure–Relieving Systems in Refineries, 1st ed. 1955–4th ed. 1994

521 Guide for Pressure-Relieving and Depressuring Systems, 2nd ed. 1982

525 Testing Procedure for Pressure–Relieving Devices Discharging Against Variable Back Pressure, 1st ed. 1960

526 Flanged Steel Safety Relief Valves for use in Petroleum Refineries, 1st ed. 1963–4th ed. 1995

527 Commercial Seat Tightness of Safety Relief Valves with Metal–to–Metal seats, 1st ed. 1964–2nd ed. 1978

528 API Standard for Safety Relief Valve Nameplate Nomenclature, 1st ed. 1964

530 Calculation of Heater–tube Thickness in Petroleum Refineries. 1st ed. 1958–4th ed. 1996

532 Measurement of the Thermal Efficiency of Fired Process Heaters.1st ed. 1982

533 Air Preheat Systems for Fired Process Heaters, 1st ed. 1986

540 Electrical Installations In Petroleum Refineries, 1st ed. 1959–2nd ed.1974

541 Form-Wound Squirrel-Cage Induction Motors (200 HP and Larger), 1st ed. 1972

542 Grouped Motor Controller Specification–Low Voltage (600 Volts), 1st ed. 1977

543 Medium Voltage Motor Controllers, 1st ed.1976

544 Metal-Clad Switchgear Specification–5kV to 15 kV, 1st ed. 1980

550 Installation of Refinery Instruments and Control Systems, 1st ed.–4th ed.

Part 1 Process Instrumentation and Control

Section 1—Flow, 3–4th, 1974 and 1986

Section 2—Level, 4th, 1980

Section 3—Temperature, 3rd 1965–4th 1980

Section 4, Pressure, 3rd 1974–4th 1980

Section 5—Controllers and Control Systems, 3rd 1977– 4th 1985

Section 6—Control Valves and Accessories, 3rd 1976–4th 1985

Section 7—Transmissions Systems, 3rd 1974

Section 8—Seals, Purges, and Winterizing, 3rd 1974–4th 1980

Section 9—Air Supply Systems, 3rd 1974–4th 1980

Section 10—Hydraulic Systems, 3rd 1974–4th 1980

Section 11—Electrical Power Supply, 3rd 1981

Section 12—Control Centers, 3rd 1977

Section 13—Alarms and Protective Devices, 3rd 1976—4th 1985

Section 14—Process Computer Systems, 1st 1982

550 Part II–Process Stream Analyzers

Section 1—Analyzers, 4th, 1985

Section 2—Process Chromatographs, 4th, 1981

Section 4—Moisture Analyzers, 4th, 1983

Section 5—Oxygen Analyzers, 4th, 1983

Section 6—Analyzers for the Measurement of Sulfur and Its Components, 4th, 1984

Section 7—Electrochemical Liquid Analyzers, 4th, 1984

Section 9—Water Quality Analyzers, 1984, 4th

Section 10—Area Safety Monitors, 183, 4th

550 Part III, Fired Heaters and Inert Gas Generators, 3rd 1985

550 Part IV, Installation of Refinery Instruments and Control System, 1st 1975–2nd 1984

573 Inspection of Fired Boilers and Heaters, 1st ed. 1991

575 Inspection of Atmospheric & Low Pressure Storage Tanks, 1st ed. 1995

589 Fire Test for Evaluation of Valve Stem Packing, 2nd ed. 1998

590 Steel Line Blanks, 1st ed. 1985

591 User Acceptance of Refinery Valves, 2nd ed. 1998

593 Ductile Iron Plug Valves, 1st 1973–2nd 1981

594 Wafer–Type Check Valves, 1st 1974–5th 1997

595 Cast–Iron Gate Valves, Flanges Ends, 2nd 1979

597 Steel Venturi Gate Valves, 1st 1968–3rd 1981

598 Valve Inspection and Test, 1st 1968–7th 1996

599 Steel Plug Valves, 1st 1970, 3rd 1988, 4th ed. 1994

600 API Standard on Flanged and Welding–End Steel Wedge–Gate and Plug Valves for Refinery Use,1st 1949–8th 1981

600A API Standard on Flanged Steel Outside–Screw–and Yoke Wedge Gate Valves, 1st 1942

600B API Standard on Flanged Steel Plug Valves, 1st 1942

601 Metallic Gaskets for Piping, 3rd 1972–7th 1988 Replaced by ASME B16.20

602 Compact Design Carbon Steel Gate Valves for Refinery Use, 1st 1964–4th 1978

603 150-lb, Light-Wall, Corrosion-Resistant Gate Valves for Refinery Use, 1st 1962–4th 1984

604 Flanged Nodular Iron Gate and Plug Valves for Refinery Use, 1st 1963–4th 1981

605 Large-Diameter Carbon Steel Flanges, 1st 1967–4th 1988

606 Compact Carbon Steel Gate Valves, 1st 1976–3rd 1989

607 Fire Test for Soft-Seated Ball Valves, 1st 1977–3rd 1985

608 Metal Ball Valves—Flanged, Threaded and Butt-Welding Ends, 2nd ed. 1995

609 Butterfly Valves, 1st 1973–5th ed. 1997

610 Centrifugal Pumps for General Refinery Services, 1st 1954–9th ed. 2003

611 General-Purpose Steam Turbines For Refinery Service, 1st 1969–2nd 1982

612 Special-Purpose Steam Turbines For Refinery Services, 2nd 1979–4th ed, 1995

613 High-Speed, Special-Purpose Gear Units For Refinery Services, 1st 1968–4th ed. 1995

614 Lubrication, Shaft-Sealing, and Control Oil Systems 1st 1973–2nd 1984

615 Mechanical–Drive Steam Turbines for General Refinery Services, 1st 1961

616 Combustion Gas Turbines for General Refinery Services, 1st 1968–2nd 1982

617 Centrifugal Compressors For General Refinery Services, 1st 1958–6th ed. 1995

618 Reciprocating Compressors for General Refinery Services, 1st 1964–2nd 1974

619 Rotary-Type Positive Displacement Compressors For General Refinery Services, 1st 1975

620 The Design and Construction of Large, Welded, Low-Pressure Storage Tanks, 1st 1956–7th 1982

630 Tube Dimensions for Fired Heaters, 1st 1959–2nd 1961

631M Measurement of Noise from Air-Cooled Heat Exchangers, 1st 1981

632 Winterization of Air-Cooled Heat Exchangers, 1st ed. 1988

640 Tube Dimensions for Heat Exchangers, 1st 1959–2nd 1961

650 Welded Steel Tanks for Oil Storage, 1st 1961–8th 1988

660 Heat Exchangers for General Refinery Services, 1st 1964–6th ed. 2001

661 Air-Cooled Heat Exchangers for General Refinery Services, 1st 1968–4th ed. 1997

662 Plate Heat Exchangers for General Refinery Services, 1st ed. 1995

665 API Fired Heater Data Sheet, 1st 1966

670 Noncontacting Vibration and Axial Position Monitoring System, 1st 1976–2nd 1986

671 Special–Purpose Couplings For Refinery Services, 1st 1982

672 Packaged, Integrally Geared, Centrifugal Plant and Instrument Air Compressors For General Refinery Services, 1st 1979–3rd ed. 1996

673 Special–Purpose Centrifugal Fans For General Refinery Service, 1st 1982

674 Positive Displacement Pumps--Reciprocating, 1st ed. 1980

675 Positive Displacement Pumps--Controlled Volume, 1st ed. 1980

676 Positive Displacement Pumps–Rotary, 1st 1980

677 General-Purpose Gear Units for Refinery Service, 1st ed. 1989

678 Accelerometer-Based Vibration Monitoring System, 1st 1981

680 Packaged Reciprrocating Plant and Instrument Air Compressors for General Refinery Services. 1st ed. 1987

682 Shaft Sealing Systems for Centrifugal and Rotary Pumps 1st ed. 1994–2nd ed. 2002

700 Checklist for Plant Completion, 1st, 1972–2nd, 1981
705 Tetralin, 1978
706 cis-and trans-Decalin, 1978
707 Naphthalene, 1978
708 Anthracene and Phenathrene, 1979
709 Four-Ring Condensed Aromatic Compounds, 1979
710 Pyridine and Phenylpridines, 1979
711 Quinoline, 1979
712 Isoquinoline, 1979
713 Indanols, 1980
714 Indan and Indene, 1980
715 Acenaphthylne, Acenaphthene, Fluorene, and Fluoranthene, 1981
716 Carbazole, 9-Methylcarbazole, and Acridine, 1981
717 Thiophene, 2,3-and 2,5-Dihydrothiophene, and Tetrahydrothiophene, 1981
718 Aniline, 1982
719 Indole, 1982
720 2-, 3-, and 4-Methylaniline, 1982
722 Isopropylbenzene and 1-Methyl-2-, -3-, and -4-isopropylbenzene, 1984
723 tert-Butyl methyl ether, 1984
724 1- and 2-Methylnaphthalene and Dibenzanthracenes, 1st ed. 1985
750 Management of Process Hazards, 1st ed 1990
752 Equal Employment Opportunity: An Interpretive Guide, 1st 1972
753 How to Install and Validate Employee Selection Techniques, 1st 1971
754 Validity Study Results for Jobs Relevant to the Petroleum Refining Industry, 1st 1972
755 Interpretive Guide for the API Test Validity Generalization Project, 1st, 1980, 2nd 1982
756 Recommended Guidelines for Documentation of Training, 1st 1977
757 Training and Materials Catalog, 1st 1979
758 Safety Digest of Lessons Learned
Section 1, General Safety Precautions in Refining 1986
Section 2, Safety in Unit Operations, 1979
Section 3, Safe Operations of Auxiliaries, 1980
Section 4, Safety in Maintenance, 1981
Section 5, Safe Operation of Utilities, 1981
Section 6, Safe Operation of Storage Facilities, 1982
Section 7, Safe Handling of Petroleum Products, 1983
Section 8, Environmental Controls,1983
Section 9, Precautions Against Severe Weather Conditions, 1983
800 Literature Survey: Subsurface and Groundwater Protection Related to Petroleum Refinery Operations, 1st ed. 1988
850 API Standards 620, 650, and 653 Interpretations—Tank Construction and In-service Inspection, 1st ed. 1997
910 Digest of State Boiler and Pressure Vessel Rules and Regulations, 1st, 1987–5th, 1991
920 Prevention of Brittle Fracture of Pressure Vessels, 1st ed. 1990
926 Digest of State Inspection Laws—Petroleum Products, 5th ed. 1989
927 1972 Sour Water Stripping Survey Evaluation, 1st 1972
928 Hydrocarbon Emissions From Refineries, 1st 1973
936 Refractory Installation Quality Control Guidelines, 1st ed. 1996
937 Evaluation of Design Criteria for Storage Tanks with Frangible Roof Joints, 1st ed. 1996
940 Steel Deterioration in Hydrogen, 1st 1967
941 Steels for Hydrogen Service at Elevated Temperatures and Pressures in Petroleum Refineries and Petrochemical Plants, 1st ed. 1970–5th ed. 1997
942 Welded, Plain Carbon Steel Refinery Equipment for Environmental Cracking Service, 1st 1971–2nd 1982
943 High–Temperature Crude Oil Corrosivity Studies, 1st 1974
944 1972 Survey of Materials Experience and Corrosion Problems in Sour Water Strippers, 1st 1974
945 A Study of the Effects of High–Temperature, High–Pressure Hydrogen on Low–Alloy Steels, 1st 1975–2nd ed. 1997
946 Sour Water Stripping Project Committee on Refinery Environmental Control American Petroleum Institute, 1st, 1975–2nd, 1981
947 Granular Media Filtration of Petroleum Refinery Effluent Waters, 1st 1975
948 A Study of Variables that Affect The Corrosion of Water Strippers, 1st 1976
949 Water Reuse Studies, 1st 1977
Disposal of Refinery Waste, 1st 1930–7th 1963
Section II Waste Gases and Vapors 1st 1931–5th 1957
Section III Waste Water Containing Solute, 1st 1935–4th 1960
Section IV Sampling and Analysis of Waste Water, 1st 1953
Section V, Sampling and Analysis of Waste Gas and Particulate Matter, 1st 1954
Section VI, Disposal of Refinery Wastes, 1st 1963
Biological Treatment of Petroleum Refinery Wastes, 1st 1963
Manual on Disposal of Refinery Wastes, 1st 1969
Chapter 1—Introduction, 1969
Chapter 2—Information on Water Pollution, 1969
Chapter 3—Collection and Treatment, 1969
Chapter 4—Liquid Flow Measurement Methods, 1969
Chapter 5—Oil Water Separator Process Design, 1969
Chapter 6—Construction Details of Gravity- Type Separators
Chapter 7—Ballast Water
Chapter 8—Treatment of Recovered Oil Emulsions
Chapter 9—Filtration, Flocculation, and Flotation
Chapter 10—Stripping, Extraction, Adsorption, and Ion Exchange
Chapter 11—Oxidation, 1969
Chapter 12—Oxygenation, 1969
Chapter 13—Biological Treatment, 1975
Chapter 14—Disposal by Sale, at Sea, in Wells, and Incineration, 1969
Chapter 15—Common Refinery Wastes and Process Summaries, 1969
Chapter 16—Petrochemical Waste Treatment, 1969
Chapter 17—Monitoring, 1969
Chapter 18—Diffusion of Effluent into Receiving Waters, 1969
Chapter 19—Stream Survey Methods, 1969
Chapter 20—Solubility and Toxicity Data, 1969
Chapter 21—Handling Stormwater Runoff, 1980
950 Survey of Construction Materials and Corrosion in Sour Water Strippers--1st ed. 1978–2nd ed. 1983
952 Gaussion Dispersion Models Applicable to Refinery Emission, 1st 1972
953 Pilot Studies on Enhancement of the Refinery Activated Sludge Process, 1st 1977
954 Evaluation of Ammonia "Fixation" Components in Actual Refinery Sour Waters, 1st 1978
955 A New Correlation of NH_3, CO_2, and H_2S Volatility Data from Aqueous Sour Water Systems, 1st 1978
956 Hydrogen-Assisted Crack Growth in 2¼ Cr–1½ Mo Steel, 1st 1978
957 Pilot Studies on Activated Carbon Enhancement of the Refinery Activated Sludge Process–Phase II, 1st 1978
958 Pilot Studies on the Toxicity of Effluent from Conventional and Carbon Enhanced Treatment of Refinery Wastewater–Phase III, 1st 1981
960 Evaluation of the Principles of Magnetic Water Treatment, 1st ed. 1985
1200 Federally Mandated Training 1st ed. 1994—3rd ed. 1998
1200E Electronic Curriculums Manager for Federally Mandated Training and Information 1st ed. 1996—2nd ed. 1999
1210 Trainer Competencies, 1st ed. 1994
1220 Guidelines for Evaluating Vendors and Training Programs. 1st ed. 1998
Technical Data Book, 11th Revision Package, 1994
Technical Data Book, 12th Revision Package, 1997
Technical Data Book, 13th Revision Package, 1999

Transportation
Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

Training and Qualification of Liquid Pipeline Maintenance Personnel, First Edition, 1992
998 Technical Data Book–Petroleum Refining, Metric ed.
Proceedings of the 1992 API Tanker Conference (Withdrawn)
1001 API Specifications for Tank Vehicles, 1st 1937–2nd 1946
1003 Precautions Against Electrostatic Ignition During Loading of Tank Motor Vehicles, 1st 1965–3rd 1986

1004 Tank Vehicles Bottom Loading and Unloading, 1st 1967–7th ed. 1988

1006 The Loading and Unloading of Unleaded Gasoline by Tank Motor Vehicles, 1st 1974

1101 Measurement of Petroleum Liquid Hydrocarbons by Positive Displacement Meter, 1st 1960

1102 Pipe Line Crossing Under Railroad Tracks, 1st 1949–5th 1981

1103 Bulletin on Recommended Practices in the Setting, Connecting, Maintenance and Operation of Lease Tanks, 1st 1951–4th 1965

1104 Standard for Field Welding of Pipe Lines, 1st 1953–17th 1988

1105 Bulletin on Construction Practices for Oil and Products Pipe Lines, 1st 1955

1106 Bulletin on a Classification of Communications Circuits for Use in Automation in the Oil Industry, 1st 1959–2nd 1961

1107 Recommended Pipe Line Maintenance Welding Practices, 1st, 1966–2nd 1978

1109 Recommended Practice for Marking Liquid Petroleum Pipeline Facilities, 1st 1971–2nd ed. 1993

1110 Recommended Practice for the Pressure Testing of Liquid Petroleum Pipelines, 1st 1972–2nd 1981

1111 Recommended Practice for Design, Construction, Operation and Maintenance of Offshore Hydrocarbon Pipelines, 1st, 1976

1112 Developing a Highway Emergency Response Plan for Incidents Involving Hazardous Materials, 1st 1984

1113 Pipeline Supervisory Control Center Checklist, 1st 1986

1118 Training and Qualification of Liquid Pipeline Controllers, 1st ed 1991

1119 Training and Qualification of Liquid Pipeline Operators, 1st ed 1991

1120 Training and Qualification of Liquid Pipeline Maintenance Personnel, 1st ed 1992

1122 Emergency Preparedness and Response for Hazardous Liquids Pipelines, 1st 1991

1123 Development of Public Awareness Programs by Hazardous Liquid Pipeline Operators, 2nd ed. 1996

1129 Assurance of Hazardous Liquid Pipeline System Integrity, 1st ed 1996

1130 Computational Pipeline Monitoring, 1st ed. 1995

1139 Training Guidelines for Tank Ship Personnel, 1st 1992–2nd ed. 1993

1140 Guidelines for Developing Bridge Management Teams, 1st ed. 1991

1201 Code for Tank Car Quantities or Code for Calibrating Tank Car Tanks and for Measuring, Sampling and Calculating Tank Car Quantities (Non–pressure Type), 1st 1948–2nd 1957

1202 Code For Pressure Tank Car Quantities or Code for Calibrating Tank Car Tanks and for Measuring, Sampling and Calculating Tank Car Quantities (Pressure Type), 1st 1951–2nd 1960

Manual for the Prevention of Water Pollution During Marine Oil Terminal Transfer Operations, 1st 1964

"Responding to a Pipeline Emergency" Videotape

Marketing

Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

1500 Developing Your Men Builds Profits, 1952

1500 Storage and Handling of Aviation Fuels at Airports, 1st 1976

1502 The Installation of Fixed Fuel Handling Equipment at Airports, 1st 1952–4th 1963

1503 The Storage and Handling of Jet Fuels, 1st 1952–5th 1965

1504 A System of Accounting for Distributors and Jobbers of Petroleum Products, 1st 1953–2nd 1959

1505 Airport Fueling Systems, 1st 1954–2nd 1961

1506 Service Station Management, 1st 1954

1507 Know Your Motor Oil, 1st 1954–5th 1980

1508 How to Sell Motor Oil, 1st 1954–4th 1972

1509 Classification of Internal Combustion Engine Service, 3rd 1965–7th 1988

1509 Engine Oil Licensing and Certification System, 14th ed. 1996

1510 Business Tools for Service Station Dealers, 1st 1956

1511 The New API Engine Oil Service Classification Symbol, 1st 1984–2nd 1986

1513 Management Institutes Pay off!, 1st 1955

1514 Personal Development Plans, 1st 1955

1515 Training of Motor Vehicle Drivers, 1st 1955

1516 Urban Consumer Expenditures for Transportation, 1st 1955

1517 Motor Oils and Lubrication, 1st 1956

1518 Marketing Research in the Petroleum Industry, 1st 1957

1519 The People in Your Business, 1st 1959

1520 1993 Directory of ESLS Licensees, 1st ed. 1993

1523 Fueling Turbine–Powered Aircraft, 1st 1957–4th 1973

1524 Study of Crimes Committed at Service Stations, 1st 1957

1525 A Short Course in the Lubrication of Automotive Equipment, 1st 1957

1526 Petroleum Marketing, 1st 1958

1527 How to Plan and Organize Management Institute Programs for Oil Marketers, 1st 1958

1529 Recommended Performance Requirements for Aviation Fueling Hose, 2nd 1963, 3rd 1982

1530B The Choice is Yours Change Your Oil at Least Every 60 Days, 1st 1966

1531 Good Plant Practice for Workers Using Petroleum Products, 1st 1959

1531A Good Plant Practices for Workers Using Cutting Fluids, 1st 1972

1534 Oil Change Practices and Lubrication, 1st 1959

1535 Buy on Performance, 1959

1536 Members Handbook on Marketing Division, 1st 1961

1537 Literature Pertaining to The Art Science of Oil Burning for Residential Applications, 1st 1960, 1537A– 1961, 1537B –1962

1539 Liability and Property Insurance, 1st 1961–5th 1984

1542 Aviation Fuels Identification & Airport Equipment Marking and Color Coding, 1st 1961–6th 1996

1543 Aviation Fuelers Truck Bottom Loading Systems, 1st 1961

1545 Opportunity Around the Corner, 1st 1961

1546 How You Can Cooperate with Distributive Education to Develop Dealers for Tomorrow, 1st 1965

1547 Case Histories in Petroleum Marketing Research, 1st 1962

1948 Sources of Petroleum Marketing Statistics, 1st 1963

1550 Petroleum Marketing Reference Materials, 1st 1963

1551 Motor Oil Guide, 1st 1964–6th 1988

1552 Building a Future in a Business of Your Own, 1st 1964, 4th 1967

1553 Using a Break–Even System, 1st 1965

1554 Using Credit to Increase Sales and Profits, 1st 1966

1555 Do You Get the Best Out Your Men?, 1st 1965

1557 Case Studies in Credit for Oil Jobbers, 1st 1966

1558 Check List of On–The–Job Training Experiences for Service Station Employees, 1st 1965–2nd 1977

1559 Service Station Burglaries and Robberies, 1st 1966

1560 Lubricant Service Designations for Automotive Manual Transmissions and Axles, 1st 1966–5th 1981

1563 A First Step, 1st 1971

1567 Farm Equipment Lubrication, 1st 1968–2nd 1976

1568 Oil Jobber's Guide to Liability and Property Insurance, 1st 1966

1570 Promotional Aids Instructional Materials for Service Station and Petroleum Marketing Employees, 1st 1967

1571 Diesel Fuel Questions and Answers For Your Car, 2nd 1982

1571 Periodic Motor Vehicle Inspection Programs, Part 1, Procedure Guidelines, 1st 1967

1572 Diesel Fuel Questions and Answers For Heavy– Duty Equipment, 1st 1982

1572 Part 2, Periodic Motor Vehicle Inspection Programs, Organization Guidelines, 1968

1573 How to Plug Service Station Profit Leaks, 1st 1968–2nd 1978

1574 Pathways to Prestige, 1st 1969

1575 Basics for Service Station Salesmen, 1st 1969

1578 Lubrication of Earth Moving and Other Heavy Duty Equipment, 1st 1970

1579 Diesel Fuel Questions & Answers, 1st 1977

1580 Gasoline Questions & Answers For Your Car, 1st 1982–5th 1988

1581 Specifications and Qualification Procedures Aviation Jet Fuel Filter/Separators, 1st 1973–4th 2000

1582 Waste Oil Roundup... No.1, 1st 1972

1583 Automatic Transmission Fluids (ATF) for Passenger Cars and Light–Duty Trucks, 1st 1973–3rd ed. 2000

1584 API Standard for Four Inch Hydrant System Components and Arrangements, 1st 1975

1585 Student Employment Program for Service Stations, 1st 1975

1586 Student Employment Program for Service Stations, 1st 1975

1587 Waste Oil Roundup... No. 3, 1st 1974

1588 Energy From Used Lubricating Oils, 1st 1975

1589 Gasoline Marketing Structure Facts Demographics, 1st 1976

1590 Conversion to ISO Viscosity Measurement Temperatures–40 and 100 Celsius, 1st 1977

1591 Recycle Used Motor Oil, 1st 1979–3rd 1988

1592 Recent Changes in Retail Gasoline Marketing, 1st 1981

1593 Gasoline Marketing in the United States Today, 1st 1983–2nd 1986

1600 Regulations and Ordinances Applying to Petroleum Marketing Facilities, 1st 1959

1601 Base Lay–Out of Single–Unit Service Station Pumps or Dispensers, 1st 1959

1602 Recommended Standard for Underground Gasoline Tanks, 1st 1959

1603 Model Ordinance Regulating Curb Cuts and Approaches to Service Stations, 1st 1959

1604 Recommended Practice for Abandonment or Removal of Underground Tanks, 1st 1960

1605 Loading and Unloading Speeds For Gasoline Delivery Trucks, 1st 1961

1606 A Study of the Value of Coating the Underside of the Bottoms of Vertical Storage Tanks and the Value of Painting the Interior of the Types of Storage Tanks Generally Used in Marketing Operations, 1st, 1960

1607 A Report on the Use of Plastic Materials for Temporary or Permanent Repairs to Steel Storage Tanks, 1st 1960

1608 Driver Selection and Training Guide, 1st 1960

1609 Driver's Handbook, 1st 1960

1610 Recommended Standard for the Base Lay–Out of Single and Single Product Twin Service Station Pumps or Remote Dispensers, and Two Product Remote Dispensers, 1st 1965

1611 Service Station Tankage Guide, 1st 1961

1613 Bulk Plant Design Guide, 1st 1961

1614 Drivers' Paper Work, 1st 1961

1615 Installation of Underground Gasoline Tanks and Piping at Service Stations, 1st 1961–3rd 1971

1616 Petroleum Delivery Truck Operation and Maintenance, 1st 1961

1617 Information on Marketing Delivery of Light Refined and Packaged Petroleum Products, 1st 1966

1618 Structural Characteristics of Hose and Fittings, 1st 1962

1619 Guide for Selection of Petroleum Tank Trucks for Distributors and Jobbers, 1st 1963

1620 Bulk Design and Operating Practices to Protect Product Quality of Gasoline and Distillate Fuels, 1st 1963

1621 Bulletin on Recommended Good Practices for Bulk Liquid–Loss Control in Service Stations, 1st 1951–4th 1987

1622 Barge Terminal Design and Operating Practices to Protect Product Quality of Gasoline and Distillate Fuels, 1st 1963

1623 Recommended Good Practices for Bulks Liquid–Loss Control in Terminals and Depots, 1st 1963

1624 What to Do…When the Power Goes Off, 1st 1967

1625 Analysis of Temperature Effects on Gasoline Marketing Operations, 1st 1979

1626 Storing and Handling Ethanol and Gasoline–Ethanol Blends at Distribution Terminals and Service Stations, 1st 1985

1628 Underground Spill Cleanup Manual, 1st 1980

1630 Waste Water Handling and Treatment Manual for Petroleum Marketing Facilities, 1st 1979

1631 Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks, 1st 1983

1632 Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, 1st 1983

1633 Handling Water Discharges From Automotive Service Facilities Located at Petroleum Marketing Operations, 1st ed. 1992

1634 The Used Oil State Law Digest, 2nd ed 1994

1635 Recommended Practice for Underground Petroleum Product Storage Systems at Marketing and Distribution Facilities, 1st, 1984–3rd 1987

1800 Corrosion Control Maintenance of Permanently Installed Aviation Petroleum Storage and Dispensing Systems, 1st 1961–2nd 1971

API Engine Service Classification System: 1989 Licensees, 1st 1990

Statement of Position on Dyeing of Heating Oils, 1st 1974

Safety and Fire Protection

Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

2000 Venting Atmospheric and Low–Pressure Storage Tanks, 1st 1952–3rd 1982

2001 Fire Protection in Refineries, 1st 1933–6th 1984

2002 Fire Protection in Natural–Gasoline Plants, 1st 1954–2nd 1956

2002 API Inspection for Accident Prevention in Refineries, 1st 1984

2003 Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents, 1st 1956–4th 1982

2004 Inspection for Fire Protection, 1st 1984

2005 API Accident Prevention Manual on Operation of Service Stations, 1st 1933

Service Station Safety, 5th 1984

2007 Safe Maintenance Practices in Refineries, 1st 1962–2nd 1983

2008 Safe Operation of Inland Bulk Plants, 3rd 1976–4th 1984

2009 Safe Practices in Gas and Electric Cutting and Welding in Refineries, Gasoline Plants, Cycling Plants, and Petrochemical Plants, 3rd 1967–6th 1995

2010 Safe Practices in Drilling Operations, 3rd 1967

2011 Safe Practices in Air or Gas Drilling, 1st 1964

2013 Cleaning Mobile Tanks in Flammable or Combustible Liquid Service, 4th 1967–6th 1991

2015 Recommended Practice for Cleaning Petroleum Storage Tanks 1st 1968

Safe Entry and Cleaning of Petroleum Storage Tanks, 4th 1991

2015A Guide for Controlling the Lead Hazard Associated with Tank Entry and Cleaning, 1st 1975–2nd 1982

2015B Cleaning Open–Top and Covered Floating–Roof Tanks, 1st 1981

2016 Cleaning Tanks Used for Gasoline, 4th 1961

2017 First–Aid and Safety–Training Guide, 1st 1951–8th 1985

2019 API Instructors First Aid Guide For Class Training, 1st 1934, Administrative Guide for American Petroleum Institute Course in First Aid Training, 6th 1985

2020 Driver Improvement Course, 1st 1970

2021 Guide for Fighting Fires in and Around Petroleum Storage Tanks, 1st 1974–3rd 1991

2022 Fire Hazards of Oil Spills on Waterways, 1st 1977–2nd 1982

2023 Guide for Safe Storage and Handling of Heated Petroleum–Derived Asphalt Products and Crude–Oil Residue, 1st 1977–2nd 1988

2024 Safe Practices in Geophysical Exploration Operations, 1st 1961

2025 Emergency Planning and Mutual Aid For Products Terminals and Bulk Plants, 1st 1978

2027 Ignition Hazards Involved in Abrasive Blasting of Tanks in Service, 2nd 1988

2028 Flame Arresters in Piping Systems, 1st 1984–2nd, 1991

2031 Combustible-Gas Detector Systems and Environmental/Operational Factors Influencing their Performance, 1st ed. 1991

2200 Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines, 1st 1973–2nd 1983

2201 Procedures for Welding Or Hot Tapping On Equipment Containing Flammables, 1st 1963–4th ed. 1995

2202 Guidelines for Protecting Against Lead Hazard When Dismantling and Disposing of Steel from Tanks that Have Contained Leaded Gasoline, 1st 1975–3rd 1991

2203 Fire Precautions for Fuelling Fixed, Portable, and Self–Propelled Engine–Driven Equipment, 1st 1974–3rd 1987

2204 Fracturing Oil or Gas Wells with Flammable Fluids, 1st 1964

2205 Guide for the safe Storage and Loading of Heavy Oil and Asphalt, 1st, 1966–2nd 1969

2206 Identification of Compressed Gases in Cylinders, 1st 1970

2207 Preparing Tank Bottoms for Hot Work, 2nd 1974–3rd 1982

2209 Pipe Plugging Practices, 1st 1978

2210 Flame for Vents of Tank Storing Petroleum Products, 1st 1971–2nd 1982

2211 Precautions While Working in Reactors Having an Inert Atmosphere, 1st 1971

2212 Ignition Risks of Ordinary Flashlights, 1st 1972–2nd 1983

2213 Ignition Risks of Ordinary Telephones, 1st 1974

2214 Spark Ignition Properties of Hard Tools, 1st 1980–3rd ed. 1998

2215 Crude Oil as a Burner Fuel, 1st 1974–2nd 1982

2216 Ignition Risk of Hot Surfaces in Open Air, 1st 1980—2nd 1991

2217 Guidelines for Confined Space Work in the Petroleum Industry, 1st 1984

2219 Safe Operation of Vacuum Trucks in Petroleum Service, 1st 1986

2221 Manager's Guide to Implementing a Contractor Safety Program, 1st ed, 1996

2300 Evaluation of Fire Fighting Foams As Fire Protection for Alcohol Containing Fuels, 1st 1985

1A Cleaning Petroleum Storage Tanks-Section A, Crude Oil and Unfinished-Products Tanks, 1955

1B Cleaning Petroleum Storage Tanks-Section B, Gasoline Tanks, 1955

3 Gas and Electric Cutting and Welding, 1953

4 Organization for Accident Prevention, 1942

5 Service Station Safety, 1959

6 Safe Practices in Well-Pulling Operations, 1956

8 Safe Practices in Bulk-Plant Operations, 1955

10 Safe Practices in Drilling Operations, 1953

13A Cleaning Mobile Tanks Used for Transportation of Flammable Liquids—Section A, Tank Vehicles, 1955

13B Cleaning Mobile Tanks Used for Transportation of Flammable Liquids—Section B, Tank Cars, 1958

Measurement

Standards, Specifications, Recommended Practices, Bulletins, Publications, and Reports

2500 Measuring, Sampling, and Testing Crude Oil, 1st 1955–2nd 1961

2501 Crude–Oil Tank Measurement and Calibration, 1st 1955–2nd 1961

2502 API Recommended Practice for Lease Automatic Custody Transfer, 1st 1961

2502 STD Lease Automatic Custody Transfer, 1st 1967

2508 Design and Construction of Ethane and Ethylene Installations at Marine and Pipeline Terminals, Natural Gas Processing Plants, Refineries, Petrochemicals Plants, and Tank Farms, 1st 1979

2509A Bulletin on Lease Automatic Custody Transfer, 1956

2509B Shop Testing of Automatic Liquid-Level Gauges1961

2509C Volumetric Shrinkage Resulting from Blending Volatile Hydrocarbons with Crude Oils, 2nd ed. 1967—Reaffirmed 1992

2510 The Design and Construction of Liquefied–Petroleum–Gas Installations At Marine and Pipeline Terminals, Natural–Gasoline Plants, Refineries, and Tank Farms, 1st 1957, 6th 1989

2511 Bulletin on Precautionary Labels, 1st 1958–3rd 1969

2512 Tentative Methods of Measuring Evaporation Loss From Petroleum Tanks and Transportation Equipment, 1957

2513 Evaporation Loss in the Petroleum Industry–Causes and Control, 1959

2514 Bulletin on Evaporation Loss From Tank Cars, Tank Trucks, and Marine Vessels, 1959

2515 Bulletin on Use of Plastic Foam to Reduce Evaporation Loss, 1961

2516 Evaporation Loss From Low-Pressure Tanks, 1962

2517 API Bulletin on Evaporation Loss From Floating–Roof Tanks, 1st 1962–2nd 1980

2518 Evaporation Loss From Fixed–Roof Tanks, 1962

2519 Bulletin on Use of Internal Floating Covers for Fixed–Roof Tanks to Reduce Evaporation Loss, 1962, 1976

2520 Bulletin on Use of Variable-Vapor-Space Systems to Reduce Evaporation Loss, 1964

2521 Use of Pressure-Vacuum Vent Valves for Atmospheric Pressure Tanks to Reduce Evaporation Loss, 1966

2522 Comparative Methods for Evaluating Conservation Mechanisms for Evaporation Loss, 1967

2523 Petrochemical Evaporation Loss From Storage Tank, 1st 1969

2529 Recommended Practice for Measuring, Sampling, and Testing Natural Gas Fluids, 1st 1968–2nd 1972

2530 Orifice Metering of Natural Gas, 1st 1955–2nd 1978

Formerly 2530, Manual of Petroleum Measurement Standards

2531 Mechanical Displacement Meter Provers, 1st 1960—2nd 1963

2533 Recommended Practice for Metering Viscous Hydrocarbons, 1st 1969

2534 Measurement of Liquid Hydrocarbons by Turbine Meter Systems, 1st 1970

2540 Chapter 11–Section 1.5, 1974

Gravity Reduction to 60° F

1.6 Volume Reduction Factors, 1974

1.6A Volume Reduction factors Extrapolated, 1976

1.24 Volume Reduction Factors, 1974

1.54 Volume Reduction Factors, 1976

3 Orifice Metering of Natural Gas, 1972

2541 Standard Tables for Positive Displacement Meter Prover Tanks, 1966

2542 Methods of Test for Water and Sediment in Crude Oils, 1968

2543 Method of Measuring the Temperature of Petroleum and Petroleum Products, 1965

2544 Method of Test for API Gravity of Crude Petroleum and Petroleum Products, 1967

2545 Method of Gauging Petroleum and Petroleum Products, 1st ed. 1965

2546 Method of Sampling Petroleum and Petroleum Products, 1965

2547 Density, Specific Gravity, or API Gravity of Crude Petroleum and Liquid Petroleum Products, 1967

2548 Method of Test for Water and Sediment in Crude Oils and Fuel Oils by Centrifuge, 1968

2550 Measurement and Calibration of Upright Cylindrical Tanks, 1966

2551 Measurement and Calibration of Horizontal Tanks, 1966

2552 Measurement and Calibration of Spheres and Spheroids, 1966

2553 Measurement and Calibration of Barges, 1966

2554 Measurement and Calibration of Tank Cars, 1966

2555 Liquid Calibration of Tanks, 1966

Section 4–Standard Methods of Test for Water and Sediment in Crude Oils, 1970

2556 Recommended Practice for Correcting Gage Tables for Incrustation, 1st 1968

2560 Standard Method of Test for Water in Petroleum and Other Bituminous Materials, 1968

2561 Standard Method of Test for Sediment in Crude and Fuel Oils by Extraction, 1st 1966

2563 Metric Practice Guide, 1st 1970–2nd 1972

2564 Conversion of Operational and Process Measurement Unit to the Metric System, 1st 1974

2564.2 Suggested Format Guidelines for the Conversion of API Documents to the Metric System, 1974

API Manual of Petroleum Measurement Standards

Chapter 1 Vocabulary, 1977

Chapter 4 Proving Systems, 1978

Chapter 4 Proving Systems, Section 2 Pipe Provers 2nd 2001

Chapter 4 Proving Systems, Section 3 Small Volume Provers, 1st ed. 1988

Chapter 5 Metering, Section 1, Foreword, General Considerations and Scope, 1977

Chapter 5 Metering, Section 2, Measurement of Petroleum Liquid Hydrocarbons by Positive Displacement Meter, 1960

Chapter 6, Metering Assemblies, Section 2, Loading Rack and Tank Truck Metering Systems, 1st ed. 1983–2nd ed. 1994

Chapter 6, Metering Assemblies, Section 3, Service Station Dispensing Metering Systems, 1st ed. 1983–2nd ed. 1994

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MPMS	Ch. 10.8	Standard Test Method for Sediment in Crude Oil by Membrane Filtration	1st	1991	H30208	$60.00	30
MPMS	Ch. 10.9	Standard Test Method for Water in Crude Oils by Coulometric Karl Fischer Titration	2nd	2002	H10092	$37.00	30
MPMS	Ch. 11.1	Temperature And Pressure Volume Correction Factors For Generalized Crude Oils, Refined Products, And Lubricating Oils		2004	See Listing		31
MPMS	Ch. 11.1	Dynamic Link Library		2004	See Listing		31
MPMS	Ch. 11.1	Add-In Program for Microsoft Excel		2004	See Listing		31
MPMS	Ch. 11.1	C-code Subroutines		2004	See Listing		31
MPMS	Ch. 11.1	C-code Subroutines, DLL & XL Add In Combined		2004	See Listing		31
MPMS	Ch. 11.2.2	Compressibility Factors for Hydrocarbons: 0.350 – 0.637 Relative Density (60°F/60°F) and –50°F to 140°F Metering Temperature (GPA 8286)	2nd	1986	H27307	$136.00	32
MPMS	Ch. 11.2.2-A1	Addendum to Correlation of Vapor Pressure Correction for NGLs	1st	1994	H27308	$142.00	32
MPMS	Ch. 11.2.2M	Compressibility Factors for Hydrocarbons: 350 – 637 Kilograms per Cubic Meter Density (15°C) and –46°C to 60°C Metering Temperature	1st	1986	H27309	$142.00	32
MPMS	Ch. 11.2	Computer Tape and Documentation of Chapters 11.2.2 and 11.2.2M	1st	1986	See Listing		32
MPMS	Ch. 11.3.2.1	Ethylene Density		1974	H25650	$251.00	32
MPMS	Ch. 11.3.3.2	Propylene Compressibility		1974	H25656	$251.00	32
MPMS	Ch. 11.4	Properties of Reference Materials-Part 1-Density of Water and Water Volumetric Correction Factors for Water Calibration of Volumetric Provers	1st	2003	H11411	$42.00	32
MPMS	Ch. 12.1	Calculation of Static Petroleum Quantities-Part 1-Upright Cylindrical Tanks and Marine Vessels	2nd	2001	H12112	$75.00	32, 78
MPMS	Ch. 12.1	Calculation of Static Petroleum Quantities-Part 2-Calculation Procedures for Tank Cars	1st	2003	H12121	$89.00	33
MPMS	Ch. 12.2	Calculation of Liquid Petroleum Quantities Measured by Turbine or Displacement Meters	1st	1981	H30302	$72.00	33
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MPMS	Ch. 12.2	Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors-Part 2-Measurement Tickets	3rd	2003	H12223	$82.00	33
MPMS	Ch. 12.2	Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors-Part 3-Proving Reports	1st	1998	H12023	$95.00	33
MPMS	Ch. 12.2	Calculation of Petroleum Quantities Using Dynamic Measurement Methods-Part 4-Calculation of Base Prover Volumes by Waterdraw Method	1st	1997	H12024	$98.00	33
MPMS	Ch. 12.2	Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors-Part 5-Calculation of Base Prover Volume by Master Meter Method	1st	2001	H12025	$141.00	33
MPMS	Ch. 12.3	Calculation of Volumetric Shrinkage From Blending Light Hydrocarbons with Crude Oil	1st	1996	H12031	$72.00	33
MPMS	Ch. 13.1	Statistical Concepts and Procedures in Measurement	1st	1985	H30321	$66.00	33
MPMS	Ch. 13.2	Statistical Methods of Evaluating Meter Proving Data	1st	1994	H13021	$78.00	34
MPMS	Ch. 14.1	Collecting and Handling of Natural Gas Samples for Custody Transfer	5th	2001	H14015	$78.00	34
MPMS	Ch. 14.2	Compressibility Factors of Natural Gas and Other Related Hydrocarbon Gases	2nd	1994	See Listing		34
MPMS	Ch. 14.3	Part 1-General Equations and Uncertainty Guidelines-Concentric, Square-edged Orifice Meters	3rd	1990	H30350	$136.00	34
MPMS	Ch. 14.3	Part 2-Specification and Installation Requirements-Concentric-Square-edged Orifice Meters	4th	2000	H14324	$155.00	34
MPMS	Ch. 14.3	Part 3-Natural Gas Applications	3rd	1992	H30353	$136.00	34
MPMS	Ch. 14.3	Part 3-Natural Gas Applications-Software Program	3rd	1993	See Listing		34
MPMS	Ch. 14.3	Part 4-Background, Development, Implementation Procedures and Subroutine Documentation	3rd	1992	H30354	$136.00	34

Pub	Number	Title	Edition	Date	Product #	Price	Page #
MPMS	Ch. 14.4	Converting Mass of Natural Gas Liquids and Vapors to Equivalent Liquid Volumes	1st	1991	H30344	$47.00	35
MPMS	Ch. 14.5	Calculation of Gross Heating Value, Specific Gravity, and Compressibility of Natural Gas Mixtures from Compositional Analysis	2nd	1981	H14052	$47.00	35
MPMS	Ch. 14.6	Continuous Density Measurement	2nd	1991	H30346	$110.00	35
MPMS	Ch. 14.7	Mass Measurement of Natural Gas Liquids	2nd	1995	H14072	$47.00	35
MPMS	Ch. 14.8	Liquefied Petroleum Gas Measurement	2nd	1997	H14082	$78.00	35
MPMS	Ch. 14.9	Measurement of Natural Gas by Coriolis Meter			See Listing		35
MPMS	Ch. 15	Guidelines for Use of the International System of Units (SI) in the Petroleum and Allied Industries	3rd	2001	H15003	$92.00	35
MPMS	Ch. 16.2	Mass Measurement of Liquid Hydrocarbons in Vertical Cylindrical Storage Tanks by Hydrostatic Tank Gauging	1st	1994	H16021	$78.00	35, 78
MPMS	Ch. 17.1	Guidelines for Marine Cargo Inspection	4th	2001	H17014	$107.00	36
MPMS	Ch. 17.1	Guidelines for Marine Cargo Inspection-Spanish	4th	2001	H1701SP	$113.00	36
MPMS	Ch. 17.2	Measurement of Cargoes on Board Tank Vessels	2nd	1999	H17022	$110.00	36
MPMS	Ch. 17.3	Guidelines for Identification of the Source of Free Waters Associated With Marine Petroleum Cargo Movements	1st	1992	H30407	$87.00	36
MPMS	Ch. 17.4	Method for Quantification of Small Volumes on Marine Vessels (OBQ/ROB)	1st	1994	H30410	$78.00	36
MPMS	Ch. 17.4	Method for Quantification of Small Volumes on Marine Vessels (OBQ/ROB)-Spanish	1st	1994	H30410SP	$82.00	36
MPMS	Ch. 17.5	Guidelines for Cargo Analysis and Reconciliation	2nd	2003	H17052	$84.00	36
MPMS	Ch. 17.6	Guidelines for Determining Fullness of Pipelines Between Vessels and Shore Tanks	1st	1994	H17061	$78.00	36
MPMS	Ch. 17.6	Guidelines for Determining Fullness of Pipelines Between Vessels and Shore Tanks-Spanish	1st	1994	H17061SP	$82.00	36
MPMS	Ch. 17.7	Recommended Practices for Developing Barge Control Factors (Volume Ratio)	1st	1995	H17071	$78.00	37
MPMS	Ch. 17.8	Marine Measurement-Guidelines for Pre-Loading Inspection of Marine Vessel Cargo Tank	1st	1998	H17081	$78.00	37
MPMS	Ch. 18.1	Measurement Procedures for Crude Oil Gathered From Small Tanks by Truck	2nd	1997	H18012	$92.00	37
MPMS	Ch. 19.1	Evaporative Loss From Fixed Roof Tanks	3rd	2002	H19013	$104.00	37, 78
MPMS	Ch. 19.1A	Evaporation Loss from Low-pressure Tanks		1962	H25160	$78.00	37, 78
MPMS	Ch. 19.1D	Documentation File for API Manual of Petroleum Measurement Standards Chapter 19.1-Evaporative Loss from Fixed Roof Tanks	1st	1993	H30553	$142.00	37, 78
MPMS	Ch. 19.2	Evaporative Loss from Floating-roof Tanks	2nd	2003	H19022	$136.00	37, 78
MPMS	Ch. 19.3	Part A-Wind Tunnel Test Method Deck Fitting Loss Factors for External Floating-roof Tanks	1st	1997	H1903A	$98.00	38, 79
MPMS	Ch. 19.3	Part B-Air Concentration Test Method-Rim Seal Loss Factors for Floating-roof Tanks	1st	1997	H1903B	$98.00	38, 79
MPMS	Ch. 19.3	Part C-Weight Loss Test Method-Deck-seam Loss Factors for Internal Floating-Roof Tanks	1st	1998	H1903C	$98.00	38, 79
MPMS	Ch. 19.3	Part D-Fugitive Emissions Test Method of Deck-seam Loss Factors for Internal Floating-Roof Tanks	1st	2001	H1903D	$98.00	38, 79
MPMS	Ch. 19.3	Part E-Weight Loss Test Method-Deck Fitting Loss Factors for Internal Floating-Roof Tanks	1st	1997	H1903E	$98.00	38, 79
MPMS	Ch. 19.3	Part F-Evaporative Loss Factor for Storage Tanks Certification Program	1st	1997	H1903F	$98.00	38, 79
MPMS	Ch. 19.3	Part G-Certified Loss Factor Testing Laboratory Registration	1st	1997	H1903G	$98.00	38, 79
MPMS	Ch. 19.3	Part H-Tank Seals and Fittings Certification Administration	1st	1998	H1903H	$98.00	38, 79
MPMS	Ch. 19.4	Recommended Practice for Speciation of Evaporative Losses	1st	1997	H19041	$98.00	38, 79
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Bull	D8	A Tabular Method for Determining the Change of the Overall Angle and Dog-leg Severity (for Hole Inclinations up to 70 degrees)	1st	1964	G10000	$110.00	21
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Bull	E3	Well Abandonment and Inactive Well Practices for U.S. Exploration and Production Operations, Environmental Guidance Document	1st	1993	G11007	$117.00	21
Bull	E4	Environmental Guidance Document-Reporting for the Oil and Gas Exploration and Production Industry as Required by the Clean Water Act, the Comprehensive Environmental Response, Compensation and Liability Act, and the Emergency Planning and Community Right-to-Know Act 22	2nd	2003	GE4002	$140.00	22

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Spec	Q1/ ISO TS 29001	Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry	7th	2003	GXQ1007	$82.00	1
API	S1	Organization and Procedures for Standardization of Oilfield Equipment and Materials			www.api.org		1
RP	T-1	Orientation Programs for Personnel Going Offshore for the First Time	4th	1995	GT1004	$47.00	20, 83
RP	T-2	Qualification Programs for Offshore Production Personnel Who Work with Safety Devices	2nd	2001	GT2002	$47.00	20, 83
RP	T-4	Training of Offshore Personnel in Nonoperating Emergencies	2nd	1995	GT4002	$47.00	20, 83
RP	T-6	Recommended Practice for Training and Qualification of Personnel in Well Control Equipment and Techniques for Wireline Operations on Offshore Locations	1st	2002	GT0601	$47.00	20, 83
RP	T-7	Training of Personnel in Rescue of Persons in Water	2nd	1995	GT7002	$45.00	20, 83
Bull	1	Summary of Processes, Human Exposures and Remediation Technologies Applicable to Low Permeability Soils		1996	www.api.org		49, 105
Spec	1B	Oil Field V-belting	6th	1995	G01B06	$87.00	1
RP	2A-LRFD	Planning, Designing and Constructing Fixed Offshore Platforms-Load and Resistance Factor Design	1st	1993	G00210	$238.00	1
RP	2A-WSD	Planning, Designing and Constructing Fixed Offshore Platforms-Working Stress Design	21st	2000	G2AWSD	$234.00	1
Spec	2B	Fabrication of Structural Steel Pipe	6th	2001	G02B06	$66.00	1
Spec	2C	Offshore Cranes	6th	2004	G02C06	$111.00	1
RP	2D	Operation and Maintenance of Offshore Cranes	5th	2003	G02D05	$99.00	2
Spec	2F	Mooring Chain	6th	1997	G02F06	$72.00	2
RP	2FPS	Recommended Practice for Planning, Designing, and Constructing Floating Production Systems	1st	2001	G2FPS1	$141.00	2
Spec	2H	Carbon Manganese Steel Plate for Offshore Platform Tubular Joints	8th	1999	G02H08	$66.00	2
RP	2I	In-service Inspection of Mooring Hardware for Floating Drilling Units	2nd	1996	G02I02	$92.00	2
RP	2L	Planning, Designing and Constructing Heliports for Fixed Offshore Platforms	4th	1996	G02L04	$66.00	2
Spec	2MT1	Carbon Manganese Steel Plate with Improved Toughness for Offshore Structures	2nd	2001	G2MT12	$66.00	2
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Bull	2V	Design of Flat Plate Structures	3rd	2004	G02V03	$158.00	3
Spec	2W	Steel Plates for Offshore Structures, Produced by Thermo-Mechanical Control Processing (TM-CP)	4th	1999	G02W04	$66.00	3
RP	2X	Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians	4th	2004	G02X04	$121.00	3
Spec	2Y	Steel Plates, Quenched-and-tempered, for Offshore Structures	4th	1999	G02Y04	$66.00	3
RP	2Z	Preproduction Qualification for Steel Plates for Offshore Structures	3rd	1998	G02Z03	$86.00	3
Bull	3	Ten Frequently Asked Questions about MTBE in Water		1998	www.api.org		49, 105
Spec	4F	Drilling and Well Servicing Structures	2nd	1995	G04F02	$78.00	3
RP	4G	Recommendation Practice for Use and Procedures for Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures	3rd	2004	G04G03	$86.00	3
Bull	5	Evaluation of Sampling and Analytical Methods for Measuring Indicators of Intrinsic Bioremediation		1998	www.api.org		49, 105
RP	5A3/ ISO 13678	Recommended Practice on Thread Compounds for Casing, Tubing, and Line Pipe, Petroleum and natural gas industries-Evaluation and testing of thread compounds for use with casing, tubing and line pipe	2nd	2003	GX5A302	$103.00	3
RP	5A5	Field Inspection of New Casing, Tubing, and Plain End Drill Pipe	6th	1997	G05A56	$130.00	4
Spec	5B	Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads	14th	1996	G05B14	$130.00	4
RP	5B1	Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads	5th	1999	G05B15	$117.00	4
RP	5C1	Care and Use of Casing and Tubing	18th	1999	G05C18	$92.00	4
Bull	5C2	Performance Properties of Casing, Tubing, and Drill Pipe	21st	1999	G05C21	$98.00	4
Bull	5C3	Formulas and Calculations for Casing, Tubing, Drill Pipe, and Line Pipe Properties	6th	1994	G05C36	$87.00	4

Pub	Number	Title	Edition	Date	Product #	Price	Page #
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RP	5C6	Welding Connections to Pipe	1st	1996	G05C61	$66.00	4
RP	5C7	Coiled Tubing Operations in Oil and Gas Well Services	1st	1996	G05C71	$110.00	4
Spec	5CT/ ISO 11960	Specification for Casing and Tubing, Petroleum and natural gas industries-Steel pipes for use as casing or tubing for wells	7th	2001	GX05CT7	$161.00	4
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Spec	5L	Specification for Line Pipe	43rd	2004	G05L43	$194.00	4
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RP	5L2	Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service	4th	2002	G5L204	$66.00	5
RP	5L3	Conducting Drop-weight Tear Tests on Line Pipe	3rd	1996	G05L33	$66.00	5
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RP	5L8	Field Inspection of New Line Pipe	2nd	1996	G05L82	$103.00	5
RP	5L9	Recommended Practice for External Fusion Bonded Epoxy Coating of Line Pipe	1st	2001	G5L901	$63.00	5
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Spec	5LCP	Coiled Line Pipe	1st	1999	G05LCP	$110.00	5
Spec	5LD	CRA Clad or Lined Steel Pipe	2nd	1998	G05LD2	$98.00	5
RP	5LW	Transportation of Line Pipe on Barges and Marine Vessels	2nd	1996	G05LW2	$66.00	5
Std	5T1	Imperfection Terminology	10th	1996	G05T10	$92.00	5
TR	5TRSR22	Technical Report in SR22 Supplementary Requirements for Enhanced Leak Resistance LTC	1st	2002	GSR221	$71.00	5
RP	5UE	Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections	1st	2002	G5UE01	$63.00	5
Form	5UO1	Voluntary Unit Agreement	4th	1993	G10800	$78.00	20
Form	5UO2	Voluntary Unit Operating Agreement	4th	1993	G10810	$78.00	21
Form	5UO3	Statutory Unit Agreement	2nd	1993	G10820	$78.00	21
Form	5UO4	Statutory Unit Operating Agreement	2nd	1993	G10830	$78.00	21
Spec	6A	Specification for Wellhead and Christmas Tree Equipment	19th	2004	GX06A19	$221.00	6, 81
Spec	6A718	Specification of Nickel Base Alloy 718 (UNS N07718) for Oil and Gas Drilling and Production Equipment	1st	2004	G6A7181	$69.00	6, 81
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TR	6F2	Fire Resistance Improvements for API Flanges	3rd	1999	G06F23	$87.00	6
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TR	6J1	Elastomer Life Estimation Testing Procedures	1st	2000	G06J11	$66.00	7
Spec	7	Rotary Drill Stem Elements	40th	2001	G07040	$144.00	7
RP	7A1	Testing of Thread Compound for Rotary Shouldered Connections	1st	1992	G03305	$52.00	7
Spec	7B-11C	Internal-Combustion Reciprocating Engines for Oil Field Service	9th	1994	G03409	$67.00	9
RP	7C-11F	Installation, Maintenance, and Operation of Internal-Combustion Engines	5th	1994	G03505	$66.00	9
Spec	7F	Oil Field Chain and Sprockets	7th	2003	G07F07	$93.00	7
RP	7G	Drill Stem Design and Operating Limits	16th	1998	G07G6A	$161.00	7
Spec	7K	Specification for Drilling and Well Servicing Equipment	3rd	2001	G07K03	$118.00	7
RP	7L	Inspection, Maintenance, Repair, and Remanufacture of Drilling Equipment	1st	1995	G07L01	$87.00	7
Bull	8	Characteristics of Dissolved Petroleum Hydrocarbon Plumes Results from Four Studies		1998	www.api.org		49, 105
Spec	8A	Drilling and Production Hoisting Equipment	13th	1997	G08A13	$87.00	8
RP	8B/ ISO 13534	Inspection, Maintenance, Repair, and Remanufacture of Hoisting Equipment, Petroleum and natural gas industries-Drilling and production equipment-Inspection, maintenance, repair and remanufacture of hoisting equipment	7th	2002	GX08B07	$66.00	8

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Pub	Number	Title	Edition	Date	Product #	Price	Page #
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Bull	9	Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil		2000	www.api.org		49, 105
Spec	9A/ ISO 10425	Specification for Wire Rope, Steel wire ropes for the petroleum and natural gas industries-Minimum requirements and terms for acceptance	25th	2004	GX9A25	$79.00	8
RP	9B	Application, Care, and Use of Wire Rope for Oil Field Service	11th	2002	G09B11	$92.00	8
Bull	10	Simulation of Transport of Methyl Tert-butyl Ether (MTBE) to Groundwater from Small-volume Releases of Gasoline in the Valdose Zone		2000	www.api.org		49, 105
Spec	10A/ ISO 10426-1	Specification for Cements and Materials for Well Cementing, Petroleum and natural gas industries-Cements and materials for well cementing-Part 1: Specification	23rd	2002	GX10A23	$110.00	8
RP	10B	Testing Well Cements	22nd	1997	G10B22	$161.00	8
RP	10B-3/ ISO 10426-3	Recommended Practice on Testing of Deepwater Well Cement Formulations, Petroleum and natural gas industries-Cements and materials for well cementing-Part 3: Testing of deepwater well cement formulations	1st	2004	GG10B31	$61.00	8
RP	10B-4/ ISO 10426-4	Recommended Practice on Preparation and Testing of Foamed Cement Slurries at Atmospheric Pressure, Petroleum and natural gas industries-Cements and materials for well cementing-Part 4: Preparation and testing of foamed cement slurries at atmospheric pressure	1st	2004	GG10B41	$61.00	8
Spec	10D/ ISO 10427-1	Specification for Bow-Spring Casing Centralizers, Petroleum and natural gas industries-Casing centralizers-Part 1: Bow-spring casing centralizers	6th	2002	GX10D06	$72.00	9
RP	10D-2/ ISO 10427-2	Centralizer Placement and Stop Collar Testing, Petroleum and natural gas industries-Equipment for well cementing-Part 2: Centralizer placement and stop-collar testing	1st	2004	GG10D21	$61.00	9
RP	10F/ ISO 10427-3	Recommended Practice for Performance Testing of Cementing Float Equipment, Petroleum and natural gas industries-Performance testing of cementing float equipment	3rd	2002	GX10F03	$52.00	9
TR	10TR1	Cement Sheath Evaluation	1st	1996	G10TR1	$98.00	9
TR	10TR2	Shrinkage and Expansion in Oilwell Cements	1st	1997	G10TR2	$98.00	9
TR	10TR3	Temperatures for API Cement Operating Thickening Time Tests	1st	1999	G10TR3	$130.00	9
Bull	11	Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE		2000	www.api.org		49, 105
RP	11AR	Care and Use of Subsurface Pumps	4th	2000	G11AR4	$103.00	9
Spec	11AX	Subsurface Sucker Rod Pumps and Fittings	11th	2001	G11AX1	$112.00	9
Spec	11B	Sucker Rods	26th	1998	G11B26	$92.00	9
Spec	11B	Sucker Rods-Russian	26th	1998	G11B0R	$98.00	9
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Spec	11E	Pumping Units	17th	1994	G11E17	$110.00	10
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RP	11L	Design Calculations for Sucker Rod Pumping Systems (Conventional Units)	4th	1988	G05500	$78.00	10
Bull	11L2	Catalog of Analog Computer Dynamometer Cards	1st	1969	G05700	$98.00	10
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Pub	Number	Title	Edition	Date	Product #	Price	Page #
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Spec	12D	Field Welded Tanks for Storage of Production Liquids	10th	1994	G12D10	$78.00	12, 73
Spec	12F	Shop Welded Tanks for Storage of Production Liquids	11th	1994	G12F11	$78.00	12, 73
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RP	13B-2	Standard Procedure for Field Testing Oil-based Drilling Fluids	3rd	1998	G13B23	$135.00	13
RP	13C	Recommended Practice on Drilling Fluids Processing Systems Evaluation	3rd	2004	G13C03	$78.00	13
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RP	13K	Chemical Analysis of Barite	2nd	1996	G13K02	$72.00	13
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RP	13M/ ISO 13503-1	Recommended Practice for the Measurement of Viscous Properties of Completion Fluids, Petroleum and natural gas industries-Completion fluids and materials-Part 1: Measurement of viscous properties of completion fluids	1st	2004	GX13M01	$79.00	14
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Pub	Number	Title	Edition	Date	Product #	Price	Page #
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Pub	Number	Title	Edition	Date	Product #	Price	Page #
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RP	652	Lining of Aboveground Petroleum Storage Tank Bottoms	2nd	1997	C65202	$78.00	60, 74
Std	653	Tank Inspection, Repair, Alteration, and Reconstruction	3rd	2001	C65303	$176.00	57, 60, 75
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Pub	Number	Title	Edition	Date	Product #	Price	Page #
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API	1130	Computational Pipeline Monitoring for Liquids Pipelines	2nd	2002	D11302	$69.00	52
Publ	1132	Effects of Oxygenated Fuels and Reformulated Diesel Fuels on Elastomers and Polymers in Pipeline/Terminal Component		1994	D11321	$82.00	52
RP	1141	Guidelines for Confined Space Entry on Board Tank Ships in the Petroleum Industry	1st	1994	E11411	$66.00	41
Publ	1149	Pipeline Variable Uncertainties and Their Effects on Leak Detectability	1st	1993	D11491	$155.00	52
Publ	1155	Evaluation Methodology for Software-based Leak Detection Systems	1st	1995	D11551	$155.00	52
Publ	1156	Effects of Smooth and Rock Dents on Liquid Petroleum Pipelines (Phase I), & Publ 1156 Addendum-Effects of Smooth and Rock Dents on Liquid Petroleum Pipelines (Phase II)	1st	1997	See Listing		53
Publ	1157	Hydrostatic Test Water Treatment and Disposal Options for Liquid Pipeline Systems	1st	1998	D11571	$194.00	53
Publ	1158	Analysis of DOT Reportable Incidents for Hazardous Liquid Pipelines, 1986 through 1996		1999	D11581	$47.00	53
Std	1160	Managing System Integrity for Hazardous Liquid Pipelines	1st	2001	D11601	$159.00	53
Publ	1161	Guidance Document for the Qualification of Liquid Pipeline Personnel	1st	2000	D11611	$194.00	53
RP	1162	Public Awareness Programs for Pipeline Operators	1st	2003	D11621	$77.00	53
Std	1164	SCADA Security	1st	2004	D11641	$105.00	53
Publ	1509	Engine Oil Licensing and Certification System	15th	2002	F150915	$109.00	47
Publ	1520	Directory of Licensees: API Engine Oil Licensing and Certification System			www.api.org		47
RP	1525	Bulk Oil Testing, Handling, and Storage Guidelines	1st	1997	F15251	$53.00	44
API/IP Std	1529	Aviation Fueling Hose	6th	2005	TBD		43
API/IP RP	1540	Design, Construction, Operation and Maintenance of Aviation Fuelling Facilities	1st	2004	A15401	$110.00	43
API/IP Std	1542	Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuelling Equipment	7th	2002	A15427	$110.00	43
Publ	1571	Diesel Fuel-Questions and Answers for Highway and Off-highway Use	4th	1996	See Listing		47
API/IP Spec	1581	Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators	5th	2002	A15815	$110.00	43
API/IP Spec	1582	Specification for Similarity for API/IP 1581 Aviation Jet Fuel Filter/Separators		2001	A15822	$110.00	43
API/IP Spec	1583	Specification and Qualification Procedures for Aviation Fuel Filter Monitors with Absorbent Type Elements	4th	2004	A15834	$110.00	43
API/IP Spec	1584	Four-inch Aviation Hydrant System Components and Arrangements	3rd	2001	A15843	$110.00	43
API/IP	1585	Guidance in the Cleaning of Airport Hydrant Systems	3rd	2001	A15852	$110.00	43
API/IP Spec	1590	Specifications and Qualification Procedures for Aviation Fuel Microfilters	2nd	2002	A15902	$110.00	44
Publ	1593	Gasoline Marketing in the United States Today	3rd	1992	A15930	$92.00	43
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Publ	1612	Guidance Document for Discharging of Petroleum Distribution Terminal Effluents to Publicly Owned Treatment Works	1st	1996	A16121	$78.00	47
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RP	1627	Storage and Handling of Gasoline-methanol/Cosolvent Blends at Distribution Terminals and Service Stations	1st	1986	A16270	$47.00	44
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RP	1650	Set of Six API Recommended Practices on Underground Petroleum Storage Tank Management	1st	1989	A16502	$251.00	45, 75
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Publ	1663A	Operation Underground			A1663A	$409.00	46, 84
Publ	1663B	Underground Storage Tank Installation Training Module			A1663B	$289.00	46, 84
Publ	1663C	Underground Storage Tank Installation			A1663C	$47.00	46, 84
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Std	2000	Venting Atmospheric and Low-pressure Storage Tanks: Nonrefrigerated and Refrigerated	5th	1998	C20005	$98.00	61, 75
RP	2001	Fire Protection in Refineries	8th	2005	TBD		69
RP	2003	Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents	6th	1998	K20036	$103.00	69
RP	2005	Service Station Safety	6th	1996	K20056	$55.00	70
RP	2009	Safe Welding, Cutting and Hot Work Practices in the Petroleum and Petrochemical Industries	7th	2002	K20097	$63.00	70
Std	2015	Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks	6th	2001	K20156	$112.00	71, 75
RP	2016	Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks	1st	2001	K20161	$159.00	72, 75
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Std	2551	Measurement and Calibration of Horizontal Tanks	1st	1965	H25510	$87.00	26, 77
Std	2552	Measurement and Calibration of Spheres and Spheroids	1st	1966	H25520	$78.00	26
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Publ	3802	Audit Control Guide			O38020	$123.00	124
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Publ	4575	Proceedings of the 1991 Oil Spill Conference Infobase		1993	I45751	$44.00	123
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C

D

E

F

G

H

M

N

O

P

Q

R

S

T

U

V

W

X

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2005 Training, Education and Meetings

This is a partial listing of API's 2005 PetroTEAM events, which encompass training, education and meetings. An updated list can be obtained from API's web site at www.api.org/petroteam or by calling 202-682-8195.

Additional information may be obtained from the contact information for each event shown below. Most of these events are open to both API members and non-members.

Date	Event	Location
Jan. 17-21	**2005 Tubular Goods and Drill Stem Standards Winter Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	San Diego, California
Jan. 19-21	**2005 API/AGA Joint Committee on Oil and Gas Pipeline Welding Practices** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	San Diego, California
Feb 15-17	**2005 Well Cement and Drilling Fluids Winter Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	Santa Ana Pueblo, New Mexico
Mar. 7-10	**2005 Committee on Petroleum Measurement Spring Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	Phoenix, Arizona
Apr. 14-18	**API Rotor Repair Course** Contact Susan Sherwood at 202-682-8187 or email sherwoods@api.org	Houston, Texas
Apr. 18-20	**2005 Spring Refining and Equipment Standards Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	New Orleans, Louisiana
Apr. 19	**2005 API/NPRA Spring Operating Practices Symposium** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	New Orleans, Louisiana
Apr. 19-20	**57th Annual Pipeline Conference** Contact Madeleine Sellouk at 202-682-8332 or email sellouk@api.org	Austin, Texas
May 15-19	**International Oil Spill Conference** Contact Madeleine Sellouk at 202-682-8332 or email sellouk@api.org	Miami Beach, Florida
June 27 - July 1	**2005 Summer Standardization Conference on Oilfield Equipment and Materials** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	Calgary, Alberta, Canada
Oct. 31 - Nov. 3	**2005 Committee on Petroleum Measurement Fall Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	New Orleans, Louisiana
Nov. 14-16	**2005 Fall Refining and Equipment Standards Meeting** Contact Arnetta Smith at 202-682-8149 or email smitha@api.org	Chicago, Illinios
TBD	**API Storage Tank Conference** Contact Jennifer Founds at 202-682-8158 or e-mail: founds@api.org	TBD

2005 Training Schedule

For information about dates, locations and registration fees, visit www.api.org/petroteam or contact the individuals listed below. API Training programs are held throughout the year.

Aboveground Storage Tank Course (based on API 620, 650, and 653)
Contact John Cornell at 740-892-2284 or e-mail: storagetanks@earthlink.net

Pressure Relieving Systems Course (based on API 520, 521, 526 and 2000)
Contact Georgia Zellhofer at 216-283-9519 (ext. 6013) or
e-mail: ggzellhofer@equityeng.com

Risk Based Inspection Course (based on API 580 and 581)
Contact Georgia Zellhofer at 216-283-9519 (ext. 6013) or
e-mail: ggzellhofer@equityeng.com

Workshop on Industry Security Vulnerability
Contact Jack Colbert, Acutech at 415-772-5972 or
email jcolbert@acutech-consulting.com

Fitness-for-Service Course for Engineers (based on API 579)
Contact Georgia Zellhofer at 216-283-9519 (ext. 6013) or
e-mail: ggzellhofer@equityeng.com

Fitness-for-Service Course for Inspectors (based on API 579)
Contact Georgia Zellhofer at 216-283-9519 (ext. 6013) or
e-mail: ggzellhofer@equityeng.com

Damage Mechanisims in Refining Course (based on API RP 571)
Contact Georgia Zellhofer at 216-283-9519 (ext. 6013) or
e-mail: ggzellhofer@equityeng.com

API Spec Q1® Training (based on API's Quality Programs)
Contact Kelly Roberts at 281-448-8432 or e-mail: kroberts@tiec.com

API PetroTEAM™
Training, Education And Meetings

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Quick Reference Guide

Contact	Phone Number	Fax Number
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Communications	202-682-8114	202-682-8115
Facilities	202-682-8020	202-682-8032
Federal Relations	202-682-8434	202-682-8294
Financial Operations	202-682-8352	202-962-4717
General Counsel	202-682-8047	202-682-8033
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• General Membership (Service and Supply Companies)	202-682-8291	202-682-8223
• Downstream	202-682-8164	202-682-8051
• Marine	202-682-8231	202-682-8579
• Pipeline	202-682-8231	202-682-8579
• Upstream	202-682-8058	202-962-4797
Information Systems	202-682-8365	202-682-8426
API PetroTEAM™ (Training, Education and Meetings)	202-682-8195	202-682-8222
• Meetings, Conferences and Workshops	202-682-8195	202-682-8222
• Training	202-682-8053	202-682-8154
Petroleum Measurement Standards	202-682-8234	202-962-4797
Policy Analysis	202-682-8024	202-682-8296
Quality Programs	202-682-8574	202-682-8070
• American Petroleum Institute Quality Registrar (APIQR®)	202-962-4791	202-682-8070
• Engine Oil Licensing and Certification System (EOLCS)	202-682-8516	202-962-4739
• Individual Certification Programs (ICP®)	202-682-8064	202-682-8348
• API Monogram® Program	202-962-4791	202-682-8070
• Program Sales Line	202-962-4791	202-682-8070
Regulatory and Scientific Affairs (RASA)	202-682-8564	202-682-8270
Security and Corporate Affairs Programs	202-682-8184	202-682-8207
State Government Relations and Issues Management	202-682-8312	202-682-8297
Statistics	202-682-8520	202-682-8408
Taxation	202-682-8466	202-682-8049