

# DER-26 / How to Prepare a Spill Prevention Report for a Chemical Bulk Storage Facility

New York State Department of Environmental Conservation

## DEC Program Policy

**Issuing Authority:** Val Washington

**Title:** Deputy Commissioner,  
Office of Remediation and Materials Management

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### I. Summary:

This program policy provides guidance on how to prepare a Spill Prevention Report (SPR) for Chemical Bulk Storage (CBS) facilities required by 6 NYCRR 598.1(k) of the Chemical Bulk Storage (CBS) regulations promulgated by the New York State Department of Environmental Conservation (DEC).

### II. Policy:

SPRs shall be prepared in accordance with this guidance to achieve compliance with 6 NYCRR 598.1(k).

### III. Purpose and Background:

#### A. Purpose

The purpose of this document is to provide guidance on the preparation of an SPR by CBS facility owners, operators or their consultants. This guidance is also intended to assist DEC inspectors reviewing SPRs. An SPR is required for every CBS facility and must be updated at least annually. In addition, an SPR must be updated when a significant release occurs, or whenever a substantial modification is made.

#### B. Background

The CBS regulations are available on the DEC website. [Home Page: <http://www.dec.ny.gov/> ] 6 NYCRR 598.1(k) sets forth the minimum requirements for an SPR. The SPR preparer will also find the Central and Regional Office contacts on the DEC website. As stated in DER-12, *Application Review Policy for PBS and CBS Registration Applications*, the cover page, table of contents, and signature page of the facility SPR must be submitted with the registration application for a CBS facility. These excerpts from the SPR document to DEC that the SPR has been updated and is signed by an appropriate person. The SPR has been a requirement of CBS regulations since 1994, however, the recent implementation of DER-12 has alerted many facility owners of the legal requirement to maintain and update the SPR annually.

## IV. Responsibility:

DEC's Central and Regional Office CBS staff are responsible for interpreting and implementing this program policy with appropriate input from other involved DEC Divisions, including the Office of General Counsel. The Bureau of Technical Support in the Division of Environmental Remediation (DER) is responsible for maintaining this program policy.

## V. Procedure:

### A. Preparing and Updating a Spill Prevention Report (SPR)

The following is general guidance for writing an SPR as required by the CBS regulations. The SPR must be developed based on an understanding of 6 NYCRR 598.1(k)(1), which states in part:

*“The comprehensiveness of the spill prevention report will be a function of the risks at the facility. At facilities with good operating histories, small quantities of low hazard substances in areas of minimal environmental risk, reports will contain basic information and assessments. Where facilities or risks are larger, the report will assess such risks and will be proportionately more complex.”*

Also stated in 6 NYCRR 598.1(k)(1):

*“The report must be properly indexed, logically organized, and filed on the premises of the facility at all times. The report must be updated at least annually or whenever a significant release occurs or a substantial modification is made.”*

The SPR should identify the measures being taken by the facility to prevent spills. Facility owners need to assess and evaluate best practices for preventing spills at their facility. Particular attention should be given to evaluating the procedures for the transfer and storage of chemicals. These steps should be included in detail within the SPR. 6 NYCRR 596.6(d)(1) and (2) describe the use of best management practices (BMPs). DEC may require the facility owner to submit a BMP plan for approval and implementation in the event of the following:

- a release that results in significant environmental impacts; or
- a series of releases that indicate the lack of use of generally accepted engineering practices that would prevent such repeated releases.

At least annually, a qualified person must review the document to ensure that no changes or spills have occurred, review the status report on compliance to ensure that all requirements have been met, and then update the SPR. The qualified person can note on a revision list, an example of which is provided in Appendix A, that conditions at the facility remain the same as the previous year. A new status report on compliance must be attached as described in 6 NYCRR 598.1(k)(2)(vii). The qualified person must sign and date any update to the SPR.

## B. Who Can Prepare an SPR

The SPR can be prepared by any “qualified person” as described in 6 NYCRR 598.1(k)(2)(iv). The definition of “qualified,” “qualified engineer,” “qualified technician” or “qualified inspector” is defined in 6 NYCRR 596.1(c)(37) as:

*“...a person who has knowledge of the physical sciences, technology or the principles of engineering and mathematics acquired by education and/or related practical experience, and is competent to engage in the practice so required. Engineers engaged in the practice of engineering must be licensed or otherwise permitted to practice engineering pursuant to Article 145 of the [New York] State Education Law.”*

While DEC strongly recommends that a NYS licensed Professional Engineer prepare the SPR, per the above referenced regulations, it is not required. Generally, at smaller facilities (one or two tanks **and** a total storage capacity not to exceed 2,000 gallons), the SPR can be prepared by any qualified person. A qualified person must be capable of following this guidance document and the details in the CBS regulations to produce a document acceptable to DEC (i.e., the SPR contains all the required information, appendices, and is updated annually or as otherwise required). At larger facilities (three or more tanks **or** greater than 2,000 gallons total storage capacity) or at any facility which stores one or more acutely hazardous substances as listed in Part 597, a New York State licensed PE should prepare the SPR. Appendix C provides certification language for an SPR.

## C. SPR Guidance

Appendix B has a suggested table of contents for an SPR.

The following sections *must* be included per 6 NYCRR 598.1(k)(2), as applicable. Information on each of the sections of the SPR is found in this policy document in the sections listed:

- copies of the registration applications and certificate issued under section 596.2 of this Title [see Section 1];
- management approval of the report evidenced by the signature of the principal executive officer or authorized representative [see Section 1];
- an up-to-date facility map(s) of sufficient detail to locate and identify tanks, transfer stations, and connecting pipes [see Section 1];
- the name, signature, and license number of the Professional Engineer licensed in New York State or other qualified person who prepared the plan [see Section 1];
- a listing and summary description, for the past five years, of releases: (1) required to be reported under state or federal law, or (2) which the facility can ascertain have occurred through an examination of existing books, records or other documentation. This must address the magnitude and impact of such releases and be updated to incorporate reports required under section 595.3 of this Title [see Section 2];
- identification and assessment of causes of spills, leaks and releases at the facility [see Section 2];
- status report on compliance with this Part and Parts 596 and 599 of this Title [see Section 3];
- an appendage of those records (or index of records) which must be kept and made available to the department pursuant to requirements of this Part and Parts 596 and 599 of this Title [see Section 4];

- evidence of financial responsibility if required by section 598.11 of this Part [see Section 5]; and
- a plan for spill response including a prediction of the direction of flow or dispersion of a spill; a map showing areas impacted by a spill including sewers, drainage ditches, water supplies, wells, streams and populated areas; a list of equipment and materials to contain a spill; name and phone number for emergency contacts, coordinators, and cleanup contractors; spill reporting procedures; plans for annual drills and other information consistent with generally accepted spill prevention control and countermeasure practices. [see Section 6].

**SECTION 1: GENERAL INFORMATION [6 NYCRR 598.1(k)(2)(i), (ii), (iii) and (iv)]**

The following descriptive information *must* be included:

- management approval of the SPR;
- SPR preparer’s certification; and
- copies of the registration applications and certificate.

The following information *should* be included at the beginning of the report:

- facility name and address;
- a description of the facility and its overall operations; and
- person responsible for implementing the SPR.

**SECTION 2: SUMMARY OF RELEASES WHICH HAVE OCCURRED OVER THE PAST FIVE YEARS [6 NYCRR 598.1(k)(2)(v)];  
IDENTIFICATION AND CAUSES OF SPILLS, LEAKS AND RELEASES  
[6 NYCRR 598.1(k)(2)(vi), 596.6(b), 595.3]**

6 NYCRR 595.1(c)(16) defines “spill” or “spillage” as “...*any escape of a substance from the containers employed in the normal course of storage, transfer, processing or use.*” “Release” is defined in 6 NYCRR 595.1(c)(12) as “...*any unauthorized pumping, pouring, emitting, emptying, overfilling, spilling, leaking, leaching or disposing, directly or indirectly, of a hazardous substance or any other substance which results in the formation of a hazardous substance upon release so that the substance or any related constituent thereof, or any degradation product of such a substance or a related constituent thereof, may enter the environment.*” Put simply, a spill is regulated material outside of the tank/piping and a release is a spill that enters the environment (i.e., air, water, land, flora, fauna).

The SPR must list and describe reportable releases [as defined under New York State or federal law] or any releases the facility owner or operator can determine to have occurred through an examination of existing records over the past five years. Examination of records should include a review of materials from daily, annual, and five-year inspection reports and materials. For example, if during a daily inspection, regulated material is observed in the secondary containment system that was not present the previous day, this observation should be noted. Determination of the existence of releases could also include mass balance estimates utilizing data on deliveries and chemical usage over time.

**Note:** Non-reportable spills must be documented in the SPR.

6 NYCRR 597.2 sets forth a list of regulated hazardous substances and the thresholds for reportable quantities of released substances.

An assessment of the magnitude and impact of spills and releases must be reported including the cause(s), total quantity, flow direction and area(s) affected at the facility. Also, a list of all corrective action(s) and preventive measure(s) taken should be included in the SPR. The SPR must include an actual “accounting,” which means the person preparing the SPR must know how much chemical was delivered and how much was used. In the event of a spill or a release, the quantity of lost product can be estimated. Including a detailed assessment of the spill is very important. Each assessment will be unique based on the specific layout of the facility. Issues to consider regarding the spill include:

- Was it near a stream, a storm sewer, or a drinking water supply?
- Did the spill seep into the groundwater?
- Was the product a vapor when it was released?
- Was air quality affected?
- Did the product find its way into the biota and nearby plant life?

Corrective actions and preventive measures are a key and essential part of the SPR. Reducing or eliminating spills can be accomplished by writing and implementing a series of best management practices which set forth procedures for ordering, delivery, handling product and, if required, disposal.

### **SECTION 3: STATUS REPORT ON COMPLIANCE & SPILL PREVENTION PREPAREDNESS [6 NYCRR 598.1(k)(2)(vii)]**

The SPR must include a status report on facility compliance, which is best prepared following the annual inspection. The status report must document compliance with 6 NYCRR Parts 596, 598 and 599. The status report should reflect any upgrades made to pre-1994 underground storage tanks and pre-1999 aboveground storage tanks to achieve compliance with 6 NYCRR Parts 598-599. Additional information on the status of compliance must be supplied to DEC upon request. This requirement can be satisfied by conducting the annual inspection utilizing DEC’s CBS inspection form to document facility compliance. The CBS inspection form may be obtained from the DEC website. [Home Page: <http://www.dec.ny.gov/>] If the inspection form is utilized, it must be filled out completely and accurately for all applicable tanks. The most recently completed inspection form must be included with the SPR. Although full compliance with the CBS regulations should result in effective spill prevention, facility owners must identify and implement additional facility-specific measures to reduce the potential for spills. The SPR must document these measures and procedures.

### **SECTION 4: PERIODIC EQUIPMENT INSPECTION RECORDS [6 NYCRR 598.1(k)(2)(viii)]**

Pursuant to 6 NYCRR 598.8, reports for each monthly, annual or five-year inspection required by 6 NYCRR 598.6 and 598.7 must be kept with the SPR, and made available to DEC upon request.

Records of annual inspections must be kept for five (5) years. Records of five-year inspections or tests must be kept for ten (10) years. DEC recommends facility owners keep written records of daily inspections. These records can be reviewed internally to determine the onset of a problem, i.e., when a spill to a secondary containment system may have begun.

All post-inspection corrective actions should be documented and kept with the SPR. 6 NYCRR 598.9(h) states that, “*All repaired equipment must be inspected for tightness and soundness before it is returned to service.*”

CBS regulations require that the SPR be properly indexed. The records required are listed in 6 NYCRR Parts 596, 598, and 599 [6 NYCRR 598.1(k)(2)(viii) and 598.8 discuss record keeping].

6 NYCRR 598.7(d)(1) states, in part, that five year inspections of aboveground piping systems and aboveground tanks “*...must be consistent with a consensus code, standard or practice and be developed by a nationally recognized association or independent testing laboratory and meet the specifications of this subdivision.*”

6 NYCRR 598.8(b) states, “*All reports must include the following information:*

1. *facility registration number;*
2. *identification number for tank, piping or equipment tested or inspected;*
3. *date of test or inspection;*
4. *results of tests and inspections, including a report on the condition of piping, tank, and ancillary equipment, expected life of service and need for repair;*
5. *test and inspection methods used;*
6. *certification by the engineer or technician that the test or inspection has been performed in a manner consistent with the requirements of this Part ;*
7. *statement of engineer or technician’s qualifications;*
8. *name of engineer or technician;*
9. *business address of engineer or technician; and*
10. *signature of engineer or technician.*”

#### **SECTION 5: FINANCIAL RESPONSIBILITY [6 NYCRR 598.1(k)(2)(ix)]**

6 NYCRR 598.11 states in part, “*Upon request by the department, an owner or operator must provide evidence of financial responsibility for corrective action and for operating, maintaining or closing storage tanks pursuant to this Part and Parts 595, 596 and 599 of this Title.*” This section is applicable **only if** DEC requests proof of financial responsibility.

6 NYCRR 598.11 outlines what must be in the SPR to document compliance with financial responsibility requirements.

#### **SECTION 6: SPILL RESPONSE PLAN [6 NYCRR 598.1(k)(2)(x)]**

A spill response plan must be included in the SPR. The plan must be reviewed and updated at least annually.

The spill response plan must include:

- spill reporting procedures; New York State Spill Hotline (1-800-457-7362 or 518-457-7362), name and phone number for emergency contacts, coordinators and cleanup contractor(s);
- material safety data sheets (MSDS) for all CBS regulated chemicals;\*

- identification and evaluation of potential spill hazards (small, medium, and worst-case discharge scenarios and response actions);\*
- a listing of health and safety issues and how they are addressed;\*
- initial response and containment procedures for the chemical stored;\*
- a prediction of the direction of flow or dispersion of a spill (for example: where the product will travel to, if product is likely to get into a storm sewer and out to a stream, a municipal sewage treatment plant, groundwater, surface water, etc.);
- a map detailing areas impacted by a spill including sewers, drainage ditches, water supplies, wells, streams and populated areas;
- a list of equipment and materials to contain a spill;
- storage place of equipment and materials to contain a spill;
- the name of a qualified individual having full authority to implement removal actions, and require immediate communication between the person and the appropriate authorities and responders;\*
- detailed implementation plan for containment and disposal;\*
- identify and ensure availability of resources to remove, to the extent practicable, a worst-case discharge;\*
- describe training, testing, unannounced drills, and response actions of persons at the facility;\*
- annual drills and other information consistent with generally accepted spill prevention control and countermeasure practices; and
- security (fences, lighting, alarms, guards, emergency cut-off valves and locks, etc.).\*

**Note:** Additional guidance and examples of Spill Prevention Control and Countermeasure Plans (SPCCs) and Facility Response Plans may be found on the United States Environmental Protection Agency’s website at [www.epa.gov/oilspill](http://www.epa.gov/oilspill)

\*Items denoted with an asterisk (\*) are not required or strictly mandated by regulation.

**SECTION 7: DISCUSSION AND ASSESSMENT OF EQUIVALENT EQUIPMENT, METHOD, OR PRACTICE [6 NYCRR 598.1(k)(3)]**

This section is applicable **only if** the facility uses equivalent technology. To date, DEC has not received any request for the use of equivalent technology. It should be noted that 6 NYCRR Part 599 allows for the use of other technologies without DEC approval as long as the technology meets a consensus code, practice, or standard developed by a nationally recognized association or independent testing laboratory.

Technology that does not meet a consensus code, practice, or standard developed by a nationally recognized association or independent testing laboratory requires DEC approval prior to use. If approval to use equivalent technology is granted, the approval letter from DEC must be included in the SPR.

**SECTION 8: SITE ASSESSMENT AND FINDINGS [6 NYCRR 598.1(k)(4)]**

When an owner or operator is directed to perform a site assessment by DEC pursuant to 6 NYCRR 598.1(g)(3), or conducts a site assessment pursuant to 6 NYCRR 598.10(e), the site assessment and findings must be included in the SPR.

In each case, *“The site assessment must include soil, vapor, or groundwater monitoring in sufficient depth to determine if environmental contamination exists in the vicinity of the tank site.”* [6 NYCRR 598.10(e)(1)] and *“The type of monitoring and the number and location of samples must be based on geology, water table contours, aquifer thickness, porosity, background water quality, and the substance known or suspected to have been stored at the facility.”* [6 NYCRR 598.10(e)(2)].

*“If contaminated soil, vapor, groundwater, or free product is discovered, the owner and operator must comply with the correction action requirements of section 596.6 of this Title.”* [6 NYCRR 598.10(e)(3)], and must report the release in accordance with 6 NYCRR 595.3(a)(3).

*“The site assessment report must be prepared by a qualified engineer or technician. Records of the date of closure and the report must be incorporated or referenced in the spill prevention report and maintained for the life of the facility.”* [6 NYCRR 598.10(e)(4)].

**SECTION 9: WRITTEN PROCEDURES TO PREVENT THE MIXING OF INCOMPATIBLE SUBSTANCES DURING TRANSFERS [6 NYCRR 598.4(b)(7)]**

6 NYCRR 596.1(c)(20) defines “incompatible” as *“...those substances or materials which if allowed to come in contact, may pose an adverse environmental impact such as releasing a toxic gas or vapor, causing or intensifying a fire, creating an explosion, or causing any other adverse reaction which may threaten human health, safety, welfare or the environment.”*

6 NYCRR 598.4(b)(7) requires that, by August 11, 1996, *“. . .equipment or practices must be in-place which prevent the mixing of incompatible substances. This must include either mating of couplings to prevent mixing, written site procedures which prevent delivery of a substance to the wrong tank and which prohibit transfer of incompatible substances at the same time within the same transfer station, or equivalent practices. Any written procedures developed pursuant to this subdivision must be specified in the spill prevention report required by section 598.1(k) of the Part.”* Written procedures should include step-by-step instructions that incorporate best management practices for receiving chemical deliveries.

Written procedures to conduct hazardous substance transfers are recommended, even if not explicitly required by 6 NYCRR 598.4. The operator or a carrier must know and follow all operating requirements provided in 6 NYCRR 598.4.(b)(1) through 598.4(b)(6). DEC recommends that facilities have written procedures so operators and carriers know the appropriate steps to follow during deliveries in order to minimize risk of spills.

**SECTION 10: CONSENSUS CODES FOR TANK DESIGN, CONSTRUCTION AND INSTALLATION [6 NYCRR 599.3(c)(3) and 6 NYCRR 599.8(b)(2)]**

A listing of pertinent consensus codes at the time of this writing is found in Appendix D. An updated list will be maintained on the DEC website. [Home Page: <http://www.dec.ny.gov/> ]

Consensus codes are required for:

- design, manufacture and installation of tanks and piping [required by 6 NYCRR 598.1(j); 599.6(i); and 599.6(j); 599.8(b)(1) and (2); 599.16(f); and 599.11(a) and (b)];
- repairs of fiberglass-reinforced plastic tanks, unless repaired in accordance with manufacturer's instructions [see 6 NYCRR 598.9(c)];
- corrosion protection of tanks and piping [see 6 NYCRR 598.9(e)]; and
- secondary containment systems of:
  - old aboveground storage tanks (ASTs) installed before 02/11/1995 [see 6 NYCRR 598.5(c)];
  - new ASTs installed on or after 02/11/1995 [see 6 NYCRR 599.9]; and
  - new on-ground and underground piping installed on or after 02/11/1995 [see 6 NYCRR 599.14].

DEC recommends that the SPR should contain a list of consensus codes. Having the codes listed and available is helpful to facility owners and operators for many reasons and serve as handy reference guides.

## **VI. Related References:**

- ◆ 6 NYCRR Parts 595-599, Chemical Bulk Storage Regulations, August 11, 1994 (revised).
- ◆ Spill Prevention Control and Countermeasure Plans, United States Environmental Protection Agency, [www.epa.gov/oilspill](http://www.epa.gov/oilspill)
- ◆ DER-12: Application Review Policy for PBS and CBS Registration Application, DEC Program Policy, October 14, 2005.

## **Attachments:**

- Appendix A - List of Revisions to the Spill Prevention Report**
- Appendix B - Suggested Table of Contents for a Spill Prevention Report**
- Appendix C - Suggested Certification Language for a Spill Prevention Report**
- Appendix D - Consensus Standards and Recommended Practices for Bulk Storage of Petroleum and Hazardous Substances in New York State**



## Appendix B

### **Suggested Table of Contents for a Spill Prevention Report**

Section 1	General Information	Page Number
Section 2	Summary and Causes of Spills, Leaks, and Releases	Page Number
Section 3	Compliance Status Report	Page Number
Section 4	Inspection Records	Page Number
Section 5	Financial Responsibility (if applicable)	Page Number
Section 6	Spill Response Plan	Page Number
Section 7	Equivalent Equipment, Method, or Practice (if applicable)	Page Number
Section 8	Site Assessment and Findings (if applicable)	Page Number
Section 9	Prevention of Mixing of Incompatible Substances (if applicable)	Page Number
Section 10	Consensus Codes	Page Number

**Appendix C**  
**Suggested Certification Language for a Spill Prevention Report**

Name of Facility: \_\_\_\_\_ CBS Number: \_\_\_\_\_  
Facility Address: \_\_\_\_\_  
Person Responsible for Spill Prevention Report at this facility:  
Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Work Phone: \_\_\_\_\_

**MANAGEMENT APPROVAL**

This Spill Prevention Report (SPR) has been prepared in accordance with good engineering practices and has the full approval and support of management at a level of authority to commit the necessary resources as may be required to protect public health, safety and the environment.

[Facility Owner's name]'s management acknowledges any compliance deficiencies identified in Section 3 (Compliance Status) of this report and is committed to taking immediate action to correct those deficiencies. The SPR has the full approval and support of the management of this facility and will be implemented as described herein.

Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_ Date: \_\_\_\_\_

**SPR PREPARER'S CERTIFICATION**

I certify that I have acquired, through education and/or related practical experience, knowledge of the physical sciences, technology and principles of storing and handling hazardous substances as it relates to this facility.

I have examined the facility, and being familiar with the provisions of 6 NYCRR Parts 595, 596, 597, 598, and 599, attest that this Spill Prevention Report has been prepared in accordance with requirements therein.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed Name of Qualified Person: \_\_\_\_\_  
Title: \_\_\_\_\_

OR

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Registered Professional Engineer:\* \_\_\_\_\_

**Seal**

Date: \_\_\_\_\_ Registration No. \_\_\_\_\_ State \_\_\_\_\_

\*Engineers engaged in the practice of engineering must be licensed or otherwise permitted to practice engineering pursuant to Article 145 of the State Education Law.

## Appendix D

# Consensus Standards and Recommended Practices for Bulk Storage of Petroleum and Hazardous Substances in New York State

Below is a partial listing of consensus standards and recommended practices applicable to the Chemical Bulk Storage (6 NYCRR Parts 595-599) and Petroleum Bulk Storage (6 NYCRR Parts 612-614) programs in New York State. Many of these consensus standards and practices are available for purchase, although a few of the documents (e.g., federal government publications) may be downloaded from the Internet at no cost.

Other comparable consensus codes, standards, or practices developed by a nationally recognized organization or independent testing laboratory, e.g., Underwriters Laboratories (UL); Petroleum Equipment Institute (PEI); Chlorine Institute (CI); Steel Tank Institute (STI); etc., and meet the standards of 6 NYCRR Parts 595-599 are also acceptable.

### 1. Steel Tank/Piping Systems

**"Pressure Vessel Inspection Code: Maintenance Inspection, Rating, Repair, and Alteration"** - Addresses the maintenance inspection, repair, alteration and re-rating procedures for pressure vessels used in the petroleum and chemical process industries. [API 510](#)

**"Piping Inspection Code: Inspection, Repair, Alteration and Rerating of In-Service Piping Systems"** - Addresses inspection, repair, alteration, and re-rating procedures for metallic piping systems that have been in service. [API 570](#)

**"Inspection of Pressure Vessels"** - Addresses the inspection of pressure vessels. It includes a description of the various types of pressure vessels and the standards that can be used for their construction and maintenance. [API RP 572](#)

**"Inspection Practices for Piping System Components, June 1998"** - Addresses the inspection practices for piping, tubing, valves (other than control valves), and fitting used in petroleum refineries and chemical plants. [API RP 574](#)

**"Inspection of Atmospheric and Low-Pressure Storage Tanks"** - Addresses the inspection of atmospheric storage tanks that have been designed to operate at pressures from atmospheric through 0.5 psig and inspection of low-pressure storage tanks that have been designed to operate at pressure above 0.5 psig but less than 15 psig. [API RP 575](#)

**"Inspection of Pressure Relieving Devices"** - Addresses the inspection and control of those devices used in the plants to ensure their proper performance. [API RP 576](#)

**"Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks,"** June 1990, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 620](#)

**"Welded Steel Tanks for Oil Storage,"** 9th Edition, 1993, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 650](#)

**"Cathodic Protection of Above-ground Petroleum Storage Tanks,"** 1991, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 651](#)

**"Lining of Aboveground Petroleum Storage Tank Bottoms,"** 1991, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 652](#)

**"Tank Inspection, Repair, Alteration, and Reconstruction"** - Provides guidance in the inspection, repair, alteration and reconstruction of steel storage tanks used in the petroleum and chemical industries. [API 653](#)

**"Installation of Underground Petroleum Storage Systems,"** 1987, with 1989 supplement, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 1615](#)

**"Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids,"** 1984, Underwriters' Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario, Canada M1R3A9. [CAN4-S601-M84](#)

**"Standard for Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids,"** 1984, Underwriters Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario, Canada M1R3A9. [CAN4-S630-M84](#)

**"Flammable and Combustible Liquids Code, No. 30,"** 1993, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269. [NFPA No. 30](#)

**"Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Storage Tanks by Lining Without the Addition of Cathodic Protection,"** 1991, National Leak Prevention Association, Route 2, Box 106A, Falmouth, KY 41040. [NLPA 631](#)

**"Steel Structures Painting Manual, Chapter 2 - Surface Preparation Specifications, Commercial Blast Cleaning,"** June 1991, Steel Structures Painting Council, 40 24th Street, Pittsburgh, PA 15222. [SSPC-SP 6](#)

**"Inspection of In-service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids,"** Steel Tank Institute. [STI Standard SP001-00](#)

**"Standard for Steel Underground Tanks for Flammable and Combustible Liquids,"** 1992, Underwriters Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario, Canada M1R3A9. [ULC Standard S603-92](#)

## 2. Corrosion

**"Cathodic Protection of Underground Petroleum Storage Tanks and Piping System,"** 1987, American Petroleum Institute Publishers, 1220 L Street, NW, Washington, DC 20005. [API 1632](#)

**"Recommended Practice - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,"** 2002, National Association of Corrosion Engineers, 1440 South Creek Drive, Houston, Texas 77084-4906. NACE RP-02-85-2002

**"Recommended Practice - Control of External Corrosion on Underground or Submerged Metallic Piping Systems, RP0169-2002,"** Reaffirmed 2002, National Association of Corrosion Engineers, 1440 South Creek Drive, Houston, Texas 77084-4906. NACE Standard RP-01-69-2002

**"Standard for Galvanic Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids,"** 1992, Underwriters Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario, Canada M1R3A9. ULC-S603.1-M1982

### **3. Federal Government Regulations**

**"Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST),"** Part 280 of Title 40 of the Code of Federal Regulations, July 1, 1993, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. 40 CFR 280

**"Approval of State Underground Storage Tank Programs,"** Part 281 of Title 40 of the Code of Federal Regulations, July 1, 1993, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. 40 CFR 281

**"Continuous Releases,"** Section 8, Part 302 of Title 40 of the Code of Federal Regulations, July 1, 1990, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. 40 CFR 302.8

### **4. Fiberglass/Plastic Tank/Piping Systems**

**"Specification for Filament-Wound Reinforced Thermosetting Resin Pipe,"** 1988, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. ASTM D2996-88

**"Filament-Wound Glass-Fiber-Reinforced Thermoset Resin Chemical-Resistant Tanks,"** 1988, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. ASTM D3299-88

**"Contact-Molded Glass-Fiber-Reinforced Thermoset Resin Chemical-Resistant Tanks,"** 1988, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. ASTM D4097-88

**"Standard Practice for Acoustic Emission Examination of Fiberglass Reinforced Plastics Resin (FRP) Tanks/Vessels,"** American Society For Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103. ASTM E 1067-96

**"Recommended Practice For Acoustic Emission Testing of Fiberglass Reinforced Plastic Resin (RP) Tanks/Vessels,"** Reinforced Plastics of the Composites Institute, Society of the Plastics Industry, Inc. Although this document is not a consensus standard, it is a peer reviewed guidance that serves as a Recommended Practice. The title of the document does not appear in the listing at the web address provided. However, the website provides a telephone number where a call can be placed to order the document. The Society of the Plastics Industry, Inc.

**"Reinforced Thermoset Plastic Corrosion Resistant Equipment,"** American Society of Mechanical Engineers (ASME) International. RTP-1-1995

**"Guidelines for Inspecting Used FRP Equipment,"** Technical Association of the Pulp and Paper Industry (TAPPI), 1999. While this document is not a consensus standard, it should be viewed as a Recommended Practice. TIP 0402 - 28

**"Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids,"** 1993, Underwriters' Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario, Canada M1R3A9. ULC-C107.7-1993

## **5. Other**

**"Non-Refrigerated Liquid Chlorine Storage"** - Addresses design, construction, location, installation and inspection of non-refrigerated liquid chlorine storage system. CI Pamphlet 5

**"Hydrochloric Acid Tank Motor Vehicle Loading/Unloading"** - Provides recommended practices for the safe shipping (loading), handling and/or receiving (unloading) of hydrochloric acid in tank motor vehicles. CI Pamphlet 150