Better Installation to Ensure Better Performance from New & Replacement UST Systems

with

API Recommended Practice 1615

22nd National Tanks Conference & Exposition

September 20 – 22, 2010 Boston, MA

1

API Structure

Over 400 member companies involved in all aspects of the oil & natural gas industry

Over 700 committees and task forces covering various advocacy & technical issues

Staff of 300 led by board of directors made up of member company CEO's

API History

1919: API founded as non-profit National Trade Association, New York City

1980s: API relocates to Washington, DC

1995: API Dallas Standards Office relocates to Washington, DC

2007: Opened first of 3 planned International Offices in Beijing, China

API Mission

- Influence public policy in support of strong US oil and natural gas industry
- Engage in legislative & regulatory advocacy
- Provide a forum to develop consensus industry policies/positions
- Work collaboratively with other associations
- Develop industry standards that ensure reliability and codify best work practices

Background on API Standards Program

The API Standardization Department was formed in 1924, and the first API standard was published the following year on drilling threads.

All industry segments now active in standardization:

- Exploration and Production
- Pipeline Transportation
- Refining
- Marketing

API Standards

- API now publishes ~500 technical standards covering all aspects of the oil and natural gas industry
  - Foundation of Self Supporting Programs
  - Basis for Worldwide Operations
  - Core of Institute's Technical Authority

Standards Development Process

- API is accredited by the American National Standards Institute (ANSI)
  - Openness, Balance, Consensus, Due Process
  - Regular program audits (conducted by ANSI)
- Transparent process (anyone can comment on any document in process)
  - All comments must be considered

Standards Development Process

- Developed by consensus (does not mean unanimity)
- Committee balance between users, manufacturers and contractors/consultants
- Standards developed using ANSI approved API Standards Development Procedures (available on-line at www.api.org)
- API corporate membership is not a requirement for participation on API standardization committees

Use of API Standards

- "De facto" international standards
- Adoption by reference common by State and Federal agencies – MMS, BLM, DOT and EPA
  - API does not promote adoption - prefers voluntary use
- Written for flexibility as performance based documents

API Recommended Practice - 1615

Installation of Underground Petroleum Storage Systems

This document is an API "Recommended Practice" … and not a Standard.

This RP is referenced widely in the federal and many state UST regulations.

API – RP 1615

Primary Motivations Behind Revisions

- *USTCA05*
- *Widespread Use of Double Containment*
- *Changes in Equipment Standards*
- *Changes in Equipment Use*
- *Greater Emphasis on Safety*

API – RP 1615 Revision

RP 1615 Workgroup Members:

BP	ConocoPhillips
Shell	STI
ExxonMobil	FT&PI
Marathon	OPW
Sunoco	Tanknology

API Staff:
Stephen Crimaudo API –Standards

API – RP 1615 - Revised Section Titles

1. Scope
2. Definitions and Acronyms
3. Referenced Publications, Laws and Regulations
4. Safety and Health
5. Materials and Equipment
6. Preconstruction and Preinstallation Site Analysis
7. Removal and Disposal of Used Storage Systems
8. Excavation
9. Handling, Inspection and Testing
10. Equipment Placement, Anchorage, Secondary Containment, and Ballasting

API – RP 1615 - Revised Section Titles

[Continued]

11. Backfilling
12. Pumping Systems Design
13. Piping
14. Overfill Protection and Spill Containment
15. Corrosion Protection
16. Electrical
17. Vapor Recovery
18. Detection of Releases
19. Final Testing

API – RP 1615 - New Release Prevention Recommendations Throughout

Detailed Recommendations on:

- Testing of Single-wall Tanks (9.5)
- Testing of Double-wall Tanks (9.6)
- Careful Layout, Design and Installation of Piping (13.2)
- Pipe Tightness Testing (13.8)
- Overfill Protection and Spill Containment (14.1)
- Cathodic Protection for Steel USTs (15.1, 15.2)

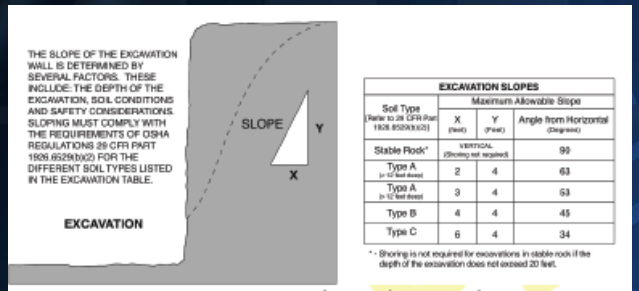
API – RP 1615 - New Release Prevention Recommendations Throughout

Leak Detection Methods (18.3), including:

- Tank Tightness Testing
- Line Tightness Testing
- Manual Tank Gauging
- Automatic Tank Gauging
- Automatic Line Leak Detection
- Interstitial Monitoring and Secondary Containment

[18.5.6.1 This RP no longer recommends the use of monitoring wells as a primary means of release detection.]

New & Additional Diagrams



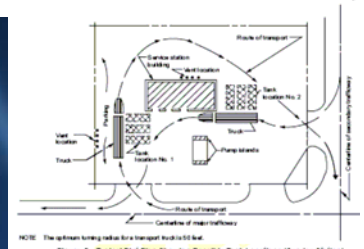
EXCAVATION SLOPES

Soil Type (Refer to 29 CFR Part 1926.652(b)(2))	Maximum Allowable Slope		
	X (Feet)	Y (Feet)	Angle from Horizontal (Degrees)
Stable Rock*	VERTICAL (Shoring not required)		90
Type A (< 12 feet deep)	2	4	63
Type A (< 12 feet deep)	3	4	53
Type B	4	4	45
Type C	6	4	34

* - Shoring is not required for excavations in stable rock if the depth of the excavation does not exceed 20 feet.

Figure 3A—Example of Shoring System for Unstable Soil Conditions

Unstable Soil Conditions



NOTE: The optimum turning radius for a transport truck is 50 feet.

Figure 6—Typical Plot Plan Showing Possible Tank Locations (Service Station)

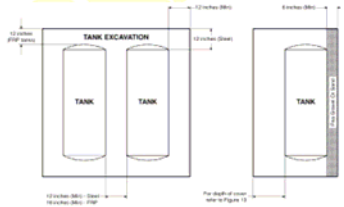
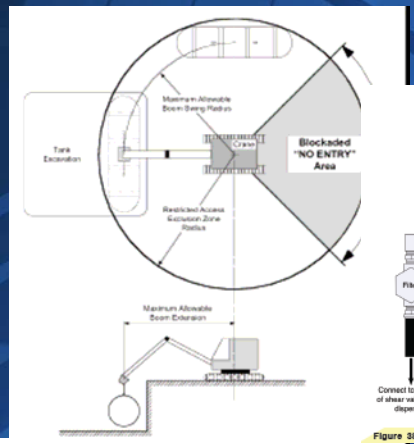


Figure 8—Dimensions of Tank Excavation (Steel and FRP Tanks)



adius Exclusion Zone

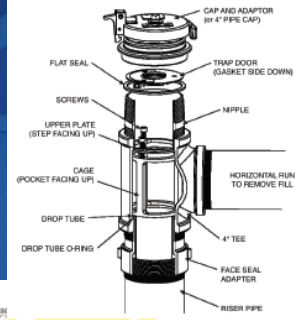


Figure 24—Remote Fill Configuration Details

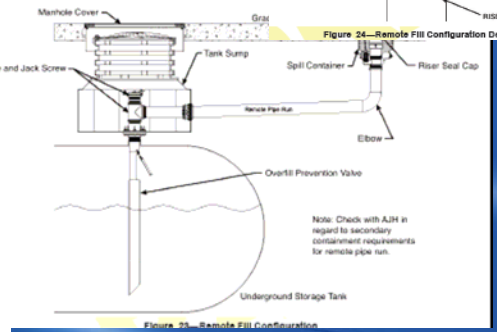
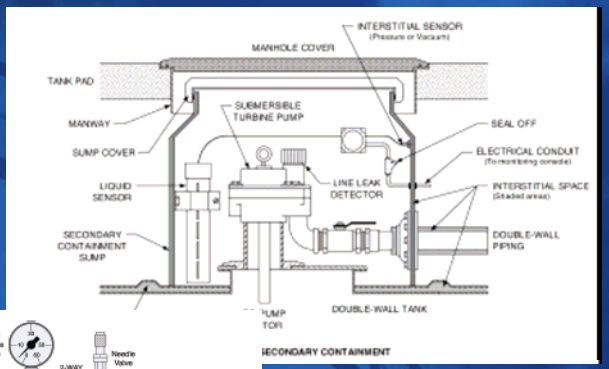


Figure 23—Remote Fill Configuration



ECONDARY CONTAINMENT

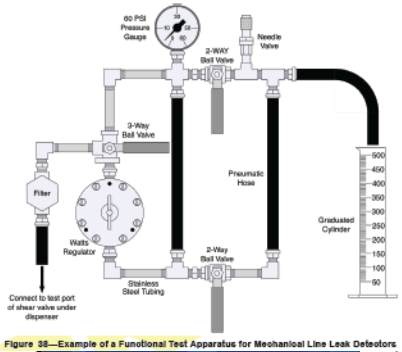


Figure 38—Example of a Functional Test Apparatus for Mechanical Line Leak Detectors

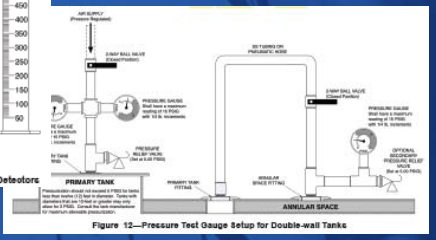
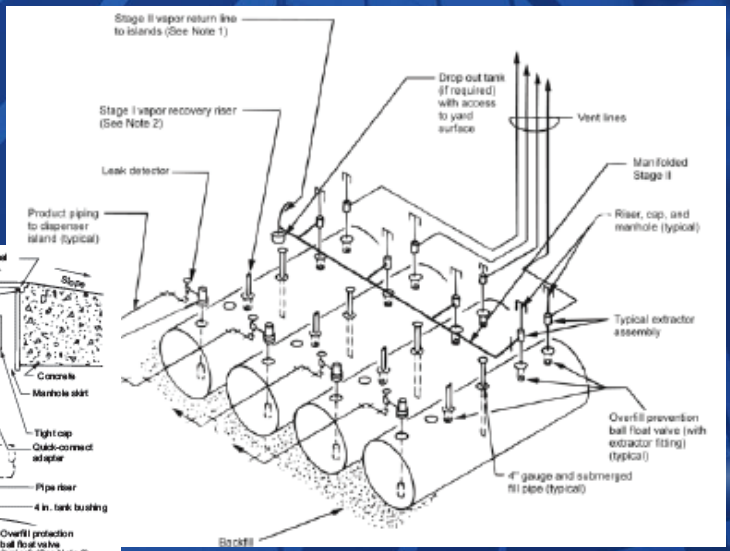
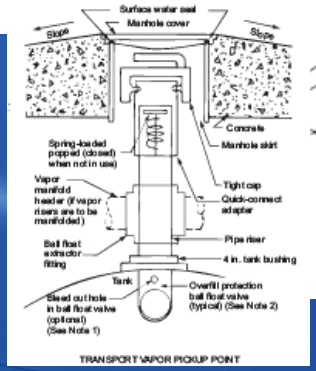


Figure 12—Pressure Test Gauge Setup for Double-wall Tanks





TRANSPORT VAPOR PICKUP POINT

API – RP 1615 – New UST installation Checklist (Annex C)

- There is a separate checklist for each section of the RP
- Owner/operator or the Contractor may use only those sections of the checklist as needed
- Can be used by the UST owner/operator as a "historical" document for filing with their facility environmental records.
- Serve as a process QA document for the installing contractors and the UST owner/operator.

API – RP 1615

Where does the revision process stand?

- The document is in the final Page Proof stage
- The API Retail Facilities Group has finished final Balloting to Review and Approve the document.
- The fully revised RP 1615 may be published and available before the end of 2010.

Other Related API RP Revisions

RP 1626 – Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations *[1st Edition, April 1985, Reaffirmed January 2000]*

The Second Edition of RP 1626 was published August 2010!!

Publication 1673 – *Compilation of Air Emission Estimating Methods for Petroleum Distribution and Dispensing Facilities*

The Second Edition was published July 2009!

Selected API Standards
will be available for
Free Viewing

- API intends to provide online public access to key safety oriented industry standards.
- These standards will be available as "Read Only" access.
- Not able to be edited, downloaded, printed, or shared.
- Approximately 160 standards will eventually be available online.

Interested? Go to API's main page – http://www.api.org/
… and click on icon: **API Safety and Cited Documents**

The selected standards will be available for Review Only. Hardcopies and printable versions will continue to be available for purchase.

API – RP 1615

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

API Recommended Practice - 1615

Questions?

James S. White, API RP 1615 Workgroup Leader
BP Products North America Inc.
6 Centerpointe Drive
La Palma, CA 90623
(714) 670-3921
james.white5@bp.com

API Recommended Practice - 1615

Thank you!

James S. White, API RP 1615 Workgroup Leader
BP Products North America Inc.
4 Centerpointe Drive
La Palma, CA 90623
(714) 670-3921
james.white5@bp.com