Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling

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Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling

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FOREWORD

These *Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling* have been prepared as an industry service by the Petroleum Equipment Institute. The text represents the consensus views of the PEI Aboveground Tank Installation Committee, comprised of the following members:

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All questions and other communications relating to this document should be sent only to PEI Headquarters, addressed to the attention of the PEI Aboveground Tank Installation Committee.

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CONTENTS

Foreword iii

SECTIONS

1. Introduction 1
- 1.1 Background 1
- 1.2 Purpose 1
- 1.3 Scope 1
- 1.4 Source 1
- 1.5 Use of PEI/RP100 1
- 1.6 Importance of Competent Installers 1
- 1.7 Written Plans and Specifications 2
- 1.8 Federal Regulations 2
- 1.9 Approval of Local Authorities 2

2. Site Planning 2
- 2.1 Tank Location 2
- 2.2 Tank Configurations 2
- 2.3 Property Lines and Buildings 2
- 2.4 Tank Spacing Requirements 3
- 2.5 Bases and Foundations 3
- 2.6 Retail Service Stations 3
- 2.7 Commercial Fleet Fueling Facilities 3
- 2.8 Marinas 3
- 2.9 Product Deliveries 3
- 2.10 Traffic Flow 4
- 2.11 SPCC Plan 4
- 2.12 Electronic Equipment 4
- 2.13 Physical Protection 4
- 2.14 Fire Protection 4
- 2.15 Utilities 4
- 2.16 Emergency Planning 4

3. Foundations, Support and Anchorage 4
- 3.1 General 4
- 3.2 Soil Analysis 4
- 3.3 Tank Foundation Design 4
- 3.4 Excavation 5
- 3.5 Base Course 5
- 3.6 Vertical Tank Bases 5
- 3.7 Horizontal Tank Saddles 6
  - 3.7.1 Electrical Isolation of Tank Saddles 6
- 3.8 Reinforced Concrete Tank Slabs 6
- 3.9 Anchoring 6

4. Dikes 7
- 4.1 Purpose 7
  - 4.1.1 Alternatives to Diking 7
- 4.2 Dike Capacity 7
- 4.3 Dike Construction 7
- 4.4 Impervious Barrier 7
- 4.5 Dike Penetrations 7
- 4.6 Access 7
- 4.7 Drainage Control 8
- 4.8 Oil/Water Separator 8

5. Vaults and Special Enclosures 8
5.1 General 8
5.2 Vault Design 8
5.3 Vault Construction 9
5.4 Venting 9
5.5 Leak Detection 9
5.6 Liquid Recovery 9
5.7 Vault Ventilation 9
5.8 Collision Protection 9
5.9 Electrical Installation 9
5.10 Special Enclosures 9

6. Tanks 10
6.1 General 10
6.2 Standards 10
6.2.1 Underwriters Laboratories 10
6.2.1.1 Horizontal Tanks 10
6.2.1.2 Vertical Tanks 10
6.2.1.3 Protected Tanks 11
6.2.2 Steel Tank Institute 11
6.3 Tank Openings 11
6.4 Preinstallation Inspection 11
6.5 Material Handling 11
6.6 Air-and-Soap Test 11
6.6.1 Preparation 11
6.6.2 Testing Equipment 11
6.6.3 Testing Single-Walled Tanks 12
6.6.4 Testing Multi-Walled Tanks 12

7. Pumps and Valves 12
7.1 Materials and Design 12
7.2 Pumping Systems 12
7.2.1 Suction Pumping Systems 12
7.2.2 Remote Pumping Systems 13
7.3 Fire/Emergency Valves 13
7.4 Block Valves 13
7.5 Anti-Siphon Valves 14
7.6 Check Valves 14
7.7 Pressure Relief Valves 14

8. Tank Filling, Gauging, Dispensing and Venting 15
8.1 Materials and Design 15
8.2 Tank Filling 15
8.2.1 Submerged Fill Tubes 15
8.2.2 Spill Prevention 16
8.2.3 Overfill Protection 16
8.2.4 Hydraulic Shock 16
8.3 Dispensing Systems 16
8.4 Gauging Systems 17
8.5 Tank Venting 17
8.5.1 Normal Venting 17
8.5.2 Emergency Venting 17

9. Aboveground Piping and Fittings 18
9.1 General Requirements for Aboveground Piping 18
9.2 Aboveground Piping Materials 18
9.3 Aboveground Piping Practices 18
9.4 Aboveground Piping Layout 18
9.5 Fittings for Aboveground Piping 19
9.6 Testing Aboveground Piping 19
9.7 Corrosion Protection for Aboveground Piping 19

10. Underground Piping and Fittings 19
10.1 General Requirements for Underground Piping 19
10.2 Underground Piping Materials 19
10.3 Underground Piping Practices 20
10.4 Underground Piping Layout and Trenches 20
10.5 Underground Piping Backfill and Compaction 20
10.6 Fittings for Underground Piping 20
10.6.1 Flexible Connectors 20
10.6.2 Unions 21
10.7 Corrosion Protection for Underground Piping Components 21
10.8 Underground Fiberglass Piping 21
10.9 Underground Flexible Piping 21
10.10 Containment Sumps 21
10.11 Testing of Underground Primary Piping 21
10.11.1 Initial Test 21
10.11.2 Monitoring During Construction 22
10.11.3 Precision Tightness Test 22
10.12 Testing of Underground Secondary Piping 22
10.12.1 Initial Test for Underground Secondary Piping 22
10.12.2 Monitoring During Construction 22
10.12.3 Final Tightness Test for Secondary Piping 22

11. Corrosion Protection 22
11.1 General 22
11.2 Applicability 22
11.3 Coatings 22
11.3.1 Tank-Bottom Coatings 22
11.3.2 Fiberglass Coatings 23
11.4 Protection of Buried Metallic Components 23
11.5 Galvanic Cathodic Protection 23
11.5.1 Galvanic Anode Installation 23
11.5.2 Galvanic Cathodic Protection for Piping 23
11.5.3 Galvanic Cathodic Protection of Tank Bottoms 24
11.6 Impressed-Current Systems 24
11.7 Wiring and Electrical Connections 24
11.8 Inspection and Testing 25

12. Environmental Protection 25
12.1 General 25
12.2 Release Detection Methods 25
12.2.1 Release Detection Using Secondary Containment 25
12.2.2 Release Detection Using Volumetric Methods 25
12.2.3 Piping Release Detection 25
12.3 Vapor Recovery 26

13. Electrical Installation 26
13.1 General Requirements 26
13.2 Classifications 26
13.3 Electrical Equipment 26
13.4 Emergency Shutoff 26
13.5 Wiring 27
13.6 Intrinsically Safe 27
13.7 Grounding and Bonding 27
13.8 Ensuring Uninterrupted Power 27

14. Testing and Inspection 28
14.1 General 28
14.2 Test Results 28
14.3 Other Testing 28

15. Documentation, Maintenance and Training 30
15.1 "As-Built" Drawings 30
15.2 Component Documentation 30
15.3 Scheduled Maintenance 30
15.4 Training 30

APPENDICES

Appendix A: Size Calculations for Dikes 31
A.1 Volume Calculation 31
A.2 Information Available 31
A.3 Required Containment Volume 31
A.4 Vertical Tanks 31
A.5 Unavailable Capacity 32
A.6 Calculation of Dike Height 32
A.7 Horizontal Tanks 32
A.8 Horizontal Tank Dike Dimensions 32
A.9 Unavailable Capacity – Horizontal Tanks 32
A.10 Additional Requirements 33

Appendix B: Venting 34
B.1 Purpose 34
B.2 Operating/Design Pressure 34
B.3 Normal Venting 34
B.4 Pressure/Vacuum Vents 34
B.5 Emergency Venting 34
B.6 Emergency Vent Sizing 34
B.7 Vent Selection 35
B.8 Calculations for a Cylindrical Horizontal Tank 35
B.9 Calculations for a Cylindrical Vertical Tank 35
B.10 Calculations for a Rectangular Tank 35

Appendix C: Code Requirements for ASTs at Motor Vehicle Fuel Dispensing Facilities 38

Appendix D: Publication Reference 42

1. INTRODUCTION

1.1 Background. Historically, petroleum products at service stations and other motor vehicle fueling sites have been stored in underground tanks. In response to environmental requirements and emerging technology, however, aboveground tanks at motor vehicle fueling sites have become much more common.

1.2 Purpose. The purpose of this document is to provide a concise reference that describes recommended practices for the installation of aboveground storage systems at service stations, marinas and other motor vehicle fueling sites. The intent is to recommend practices that will minimize the possibility of aboveground storage system failure and reduce fire safety and environmental hazards, while avoiding practices that will needlessly increase installation costs.

This document is not meant to serve as a basic instruction manual. Because storage system installation is a specialized craft, it is assumed that those using these recommended practices will have a fundamental comprehension of essential procedures for pipe fitting, excavating, concrete placement, electrical installation and related construction techniques.

1.3 Scope. These recommended practices apply to aboveground, stationary, shop-fabricated tanks and associated piping and equipment intended to dispense gasoline, diesel and related fluids into motor vehicles at commercial and retail service stations and marinas. These recommended practices may be applied to horizontal and vertical tanks, single- and multi-walled tanks, as well as insulated, fire resistant and protected tanks. Tanks covered in these recommended practices are intended for the storage of liquid motor fuels at or near atmospheric pressure. Product piping associated with these tanks may be aboveground, underground or a combination of the two.

These recommended practices are not intended for terminals, oilfield production tanks, field-fabricated storage tanks, and storage systems for liquefied petroleum gases, liquefied natural gases or compressed natural gases.

For purposes of this document, a tank that is in a vault in which backfill is placed around the tank to any extent is considered an underground tank. Refer to PEI/RP100 for recommended practices concerning underground storage system installation.

These practices relate directly to installation procedures and are not intended to fully address the design, operation, repair or maintenance of aboveground storage tank systems.

This document is not meant to provide interpretation of regulatory or legislative requirements related to tank storage, nor does it endorse or recommend particular materials, equipment, suppliers or manufacturers. The inclusion of procedures for the installation of equipment or devices is not meant to imply that such equipment or devices should always be used. Nothing in this document is intended to discourage the development and implementation of new methods and procedures.

1.4 Source. The practices outlined in this document represent a synthesis of recommendations published by various organizations, including the National Fire Protection Association (NFPA), International Code Council (ICC), American Petroleum Institute (API), Steel Tank Institute (STI), California Air Resources Board (CARB), U.S. Environmental Protection Agency (USEPA), Underwriters Laboratories (UL) and NACE International (NACE).

In addition, some installation specifications and procedures have been derived from manufacturers of tanks, piping and related equipment. In instances when there were differences or omissions in material available from these sources, the Aboveground Tank Installation Committee of the Petroleum Equipment Institute has included consensus recommendations based on the practical experience of committee members with these systems.

1.5 Use of PEI/RP100. Aboveground tank installations may require some underground construction. For example, to achieve code separation distances between the tank and dispenser, it may be necessary to install piping below ground. The user of this document should refer to PEI/RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems,* for additional guidance in the installation of underground components of aboveground storage systems.

1.6 Importance of Competent Installers. The installation of liquid motor fuel storage systems is a highly complex field and requires a wide range of construction knowledge and experience. In addition to proper design of an aboveground system, reliance on tank installers who possess both the experience and integrity to insist on doing the job right constitutes the greatest protection against ultimate tank system failure and liability exposure.