

Recommended Practices for the Installation of Marina Fueling Systems



CONTENTS

Foreword..... iii

SECTIONS

1. Introduction..... **1**

1.1 Origin 1

1.2 Background 1

1.3 Purpose 1

1.4 Scope 1

1.5 Sources 1

1.6 Use of Other PEI Recommended Practices 1

1.7 Regulations and Codes 2

1.8 Listing of Marina Piping 2

1.9 Importance of Competent Installers and Technicians 2

1.10 Importance of Competent Operators 2

2. Definitions **3**

2.1 Anti-Siphon Valve 3

2.2 Approved 3

2.3 Authority Having Jurisdiction (AHJ)..... 3

2.4 Ball Valve 3

2.5 Containment Sump..... 3

2.6 Dispenser 3

2.7 Dispenser Platform..... 3

2.8 Dispenser Sump..... 3

2.9 Emergency Shutoff Valve..... 3

2.10 Dock 3

2.11 Downstream..... 3

2.12 Flexible Pipe..... 3

2.13 Fueling System..... 3

2.14 Fully Ported Valve..... 3

2.15 Gangway..... 4

2.16 Intermediate Sump 4

2.17 Line Leak Detector..... 4

2.18 Listed 4

2.19 Marina Fueling Attendant 4

2.20 Marina Fueling Facility..... 4

2.21 Navigable Water 4

2.22 Onshore 4

2.23 Pressure Regulating Valve..... 4

2.24 Qualified Technician 4

2.25 Rigid Pipe..... 4

2.26 Safety Break 4

2.27 Secondary Containment 4

2.28 Semi-Rigid Pipe 4

2.29 Sensor 4

2.30 Submersible Pump..... 4

2.31 Suction Pump 4

2.32 Tank-Top Sump 4

2.33 Transition Sump 4

2.34 Upstream 5

2.35 Vessel..... 5

3.	Storage Tanks	6
3.1	General	6
3.2	Underground Tanks	6
3.3	Aboveground Tanks	6
4.	Onshore Piping	8
4.1	General	8
4.2	Underground Piping	8
4.2.1	Leak Detection for Underground Piping	8
4.3	Aboveground Piping	9
4.3.1	Leak Detection for Aboveground Piping	10
4.4	Special Requirements for Underground and Aboveground Marina Piping Systems	10
4.4.1	Anti-Siphon Valve	10
4.4.2	Ball Valve and Safety Break	10
4.5	Seasonal Factors or Weather Emergencies	11
5.	Gangway Piping	12
5.1	General	12
5.2	Factors to Consider	12
5.3	Piping Materials	12
5.4	Piping Design	12
5.4.1	Design #1: Piping Securely Fastened to the Gangway	12
5.4.2	Design #2: Piping Flexibly Supported by Gangway	13
5.4.3	Design #3: Piping Independent of the Gangway	14
5.5	Dock Transition Sump	16
5.6	Piping Leak Detection	16
5.7	Valves and Fittings	16
6.	Pier, Wharf or Bulkhead Piping	18
6.1	General	18
6.2	Factors to Consider	18
6.3	Piping Materials	18
6.4	Piping Location and Support	18
6.5	Piping Leak Detection	18
6.6	Transition Sumps	18
6.7	Intermediate Containment Sumps	18
6.8	Additional Valves	19
7.	Floating Dock Piping	20
7.1	General	20
7.2	Factors to Consider	20
7.3	Piping Materials	20
7.4	Piping Location and Support	20
7.5	Dock Transition Sump	20
8.	Pier, Wharf or Bulkhead Dispenser Installation	21
8.1	General	21
8.2	Pier, Wharf or Bulkhead Dispenser Installation	21
8.2.1	Leak Detection	21
8.2.2	Emergency Shutoff Valve	21
8.2.3	Pressure-Regulating Valve	21
8.2.4	Dispenser Anchoring	21
9.	Floating Dock Dispenser Installation	22
9.1	General	22
9.2	Floating Dock Dispenser Installation	22
9.2.1	Leak Detection	22
9.2.2	Emergency Shutoff Valve	22

9.2.3	Pressure Regulating Valve	22
9.2.4	Dispenser Anchoring	22
10.	Dispensing Hose and Nozzles	23
10.1	General	23
10.2	Hose Materials.....	23
10.3	Stowing the Hose	23
10.4	Stowing the Nozzle	23
10.5	Breakaway	23
10.6	Nozzle.....	23
11.	Electrical.....	24
11.1	General	24
11.2	Electrical Codes.....	24
11.3	Emergency Shutoff Switches	24
11.4	Continuity.....	24
12.	Installation and Pre-Operational Testing.....	25
12.1	General	25
12.2	Testing During Installation.....	25
12.3	Testing Prior to Operation.....	25
13.	Emergency Preparedness	27
13.1	General	27
13.2	Spill Prevention, Control, and Countermeasure (SPCC) Plans	27
13.3	National Fire Protection Association (NFPA) Codes.....	27
13.4	International Code Council (ICC).....	27
14.	Documentation, Training, Inspection and Maintenance	28
14.1	General	28
14.2	Documentation	28
14.3	Training	28
14.4	Inspection	29
14.5	Marina Equipment Maintenance	29
Appendix A: Publication Reference		30