State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER VR-102-N

Relating to Certification of Vapor Recovery Systems

OPW Fueling Components, Inc.
OPW Phase I Vapor Recovery System
(Including Remote-Fill and Remote-Additive Configuration)

WHEREAS, the California Air Resources Board (ARB) has established, pursuant to California Health and Safety Code sections 25290.1.2, 39600, 39601 and 41954, certification procedures for systems designed for the control of gasoline vapor emissions during the filling of underground gasoline storage tanks, in its **CP-201, *Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities*** (Certification Procedure), as last amended January 9, 2013, incorporated by reference in Title 17, California Code of Regulations, section 94011;

WHEREAS, ARB has established, pursuant to California Health and Safety Code sections 39600, 39601, 39607, and 41954, test procedures for determining the compliance of Phase I vapor recovery systems with emission standards;

WHEREAS, OPW Fueling Components, Inc. (OPW) requested and was granted certification of the OPW Phase I Vapor Recovery System (OPW system) pursuant to the Certification Procedure by Executive Order VR-102-A, first issued on October 10, 2002, and last modified on June 8, 2013, by Executive Order VR-102-M;

WHEREAS, OPW requested an amendment of the Executive Order to include a remote fuel additive as an alternate drop tube configuration;

WHEREAS, the Certification Procedure provides that the ARB Executive Officer shall issue an Executive Order if he or she determines that the vapor recovery system, including modifications, conforms to all of the applicable requirements set forth in the Certification Procedure;

WHEREAS, G-01-032 delegates to the Chief of the Monitoring and Laboratory Division the authority to certify or approve modifications to certified Phase I and Phase II vapor recovery systems for gasoline dispensing facilities (GDF); and

WHEREAS, I, Michael T. Benjamin, Chief of the Monitoring and Laboratory Division, find that the OPW Phase I Vapor Recovery System (including components that are compatible with E85 fuel blends), as modified herein, conforms with all of the requirements set forth in the Certification Procedure, and results in a vapor recovery system which is at least 98.0 percent efficient as tested in accordance with test procedure **TP-201.1**, ***Volumetric Efficiency for Phase I Systems (July 26, 2012)***;

NOW THEREFORE, IT IS HEREBY ORDERED that the OPW system is certified to be at least 98.0 percent efficient when installed and maintained as specified herein and in the following exhibits. Exhibit 1 contains a list of the certified components. Exhibit 2 contains the

performance standards and specifications, typical installation drawings, and maintenance intervals for the OPW system as installed in a gasoline dispensing facility (GDF). Exhibit 3 contains the manufacturing specifications. Exhibit 4 contains the manufacturer warranties.

IT IS FURTHER ORDERED that compliance with the applicable certification requirements, rules, and regulations of the Division of Measurement Standards of the Department of Food and Agriculture, the Office of the State Fire Marshal of the Department of Forestry and Fire Protection, the Division of Occupational Safety and Health of the Department of Industrial Relations, and the Division of Water Quality of the State Water Resources Control Board are made conditions of this certification.

IT IS FURTHER ORDERED that each component manufacturer listed in Exhibit 1 shall provide a warranty for the vapor recovery system and components to the initial purchaser and each subsequent purchaser within the warranty period. The warranty shall include the ongoing compliance with all applicable performance standards and specifications, and shall comply with all warranty requirements in Section 16.5 of the Certification Procedure. Manufacturers may specify that the warranty is contingent upon the use of trained installers. The manufacturer's warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

IT IS FURTHER ORDERED that the certified OPW system shall be installed, operated, and maintained in accordance with the ***ARB-Approved Installation, Operation and Maintenance Manual for the OPW Phase I Vapor Recovery System (IOM)*** **As Certified by Executive Order VR-102-N*.*** Equipment shall be inspected at the interval specified and per the procedures identified in the IOM. A copy of the Executive Order and the IOM shall be maintained at each GDF where a certified OPW system is installed.

IT IS FURTHER ORDERED that equipment listed in Exhibit 1, unless exempted, shall be clearly identified by a permanent identification showing the manufacturer's name, model number, and serial number.

IT IS FURTHER ORDERED that any alteration in the equipment, parts, design, installation, or operation of the system provided in the manufacturer's certification application or documents and certified hereby is prohibited and deemed inconsistent with this certification unless the alteration has been submitted in writing and approved in writing by the Executive Officer or Executive Officer's delegate.

IT IS FURTHER ORDERED that the following requirements be made a condition of certification. The owner or operator of the OPW system shall conduct and pass the following tests no later than 60 days after startup and at least once every three (3) years after startup testing, using the following test procedures: **TP-201.3,** ***Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities (July 26, 2012)***, **TP-201.1B*, Static Torque of Rotatable Phase I Adaptors (October 8, 2003)*** and depending on the system configuration, either **TP-201.1D*, Leak Rate of Drop Tube Overfill Prevention Devices and Spill Container Drain Valves (October 8, 2003)***; or **TP-201.1C, *Leak Rate of Drop Tube/Drain Valve Assembly (October 8, 2003)***. Shorter time periods may be specified in accordance with local district requirements. Notification of testing and submittal of test results shall be done in accordance with local district requirements and pursuant to the policies established by that district. Alternate test procedures, including most recent versions of test procedures listed above, may be used if determined by the ARB

Executive Officer or Executive Officer delegate, in writing, to yield equivalent results. Testing the Pressure/Vacuum (P/V) Vent valve will be at the option of the local districts. If P/V valve testing is required by the district, the test shall be conducted in accordance with **TP-201.1E, *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves*** (October 8, 2003) and Exhibit 2.

IT IS FURTHER ORDERED that the OPW system shall be compatible with gasoline in common use in California at the time of certification, including E85 (85% ethanol/15% gasoline) for specific components listed in Exhibit 1. Any modifications to comply with future California gasoline requirements shall be approved in writing by the Executive Officer or Executive Officer's delegate.

IT IS FURTHER ORDERED that GDF installations permitted for E85 fuel that use the PV-ZERO-E85 Pressure/Vacuum Vent Valve shall be subject to a throughput limitation of 1.2 million gallons per year (100,000 gallons per month).

IT IS FURTHER ORDERED that the certification of the OPW Phase I Vapor Recovery System is valid through May 31, 2017.

IT IS FURTHER ORDERED that Executive Order VR-102-M, issued on June 8, 2013, is hereby superseded by this Executive Order. OPW Phase I Vapor Recovery Systems certified under Executive Orders VR-102-A to M may remain in use at existing installations. This Executive Order shall apply to new installations or major modification of Phase I Systems.

Executed at Sacramento, California, this 25th day of January, 2014.

Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Attachments:

Exhibit 1 OPW Phase I Vapor Recovery System Equipment List
Exhibit 2 Installation, Maintenance and Compliance Specifications
Exhibit 3 Manufacturing Performance Standards and Specifications
Exhibit 4 Manufacturer Warranties

Exhibit 1

OPW Phase I Vapor Recovery System Equipment List

Equipment	Manufacturer/Model Number

(GAS/E85) = Identifies that these components are approved for standard gasoline & E85 fuel blends

Pressure/Vacuum Vent Valve	FFS PV-Zero (GAS/E85) Husky 5885
Spill Containers[1]	Spill Container OPW 1-Series (GAS/E85) OPW / Pomeco Container Bellows Capacity – 5, 7.5, or 15 gallons Single or Double Wall Type of Base – Composite or Cast Iron
Replacement Drain Valve Kit	OPW 1DK-2100 (GAS/E85)
Dust Caps	OPW 634TT-EVR (product) (GAS/E85) OPW 1711T-EVR (vapor) (GAS/E85) OPW 634LPC (product) (GAS/E85) OPW 1711LPC (vapor) (GAS/E85) CompX CSP1-634LPC CompX CSP3-1711LPC (vapor) CompX CSP2-634LPC (product) CompX CSP4-1711LPC (vapor)
Product Adaptor	OPW 61SALP OPW 61SALP-MA (GAS/E85)
Vapor Adaptor	OPW 61VSA OPW 61VSA-MA (GAS/E85)
Jack Screw Kit	OPW 61JSK-4410 (Only used with Composite Base Spill Container) OPW 61JSK-44CB (Only used with Cast Iron Base Spill Container) OPW 61JSK-4RMT (Only Used on Remote-Fill Configuration) OPW 71JSK-44MA (GAS/E85) OPW 71JSK-4RMT (GAS/E85)

[1] OPW 1-Series spill containers with a factory installed drain plug can be used on the fill side

Exhibit 1 (continued)

OPW Phase I Vapor Recovery System Equipment List

Equipment	Manufacturer/Model Number
Face Seal Adaptor	OPW FSA-400 OPW FSA-400-S (GAS/E85)
Drop Tube	OPW 61T (various lengths) OPW 61T-SS (various lengths) (GAS/E85)
Drop Tube Overfill Prevention Device [1]	OPW 61SO OPW 61SOM-412C-EVR (GAS/E85) OPW 71SO) OPW 710SOM-412C (GAS/E85)
Double Fill	OPW (Configuration Only)
Remote Fill	OPW (Configuration Only)
Remote Additive Fill	OPW (Configuration Only)
Tank Bottom Protector [1]	OPW/Pomeco 6111-1400
Tank Gauge Port Components[1]	OPW 62M (Cap and Adaptor) OPW 62M-MA (GAS/E85) Morrison Brothers 305XPA1100AKEVR (GAS/E85) (cap & adaptor kit) Morrison Brothers 305-0200AAEVR (GAS/E85) (replacement adaptor) Morrison Brothers 305XP-110ACEVR (GAS/E85) (replacement cap) Veeder-Root 312020-952 (cap & adaptor)

[1] If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.

Exhibit 1 (continued)

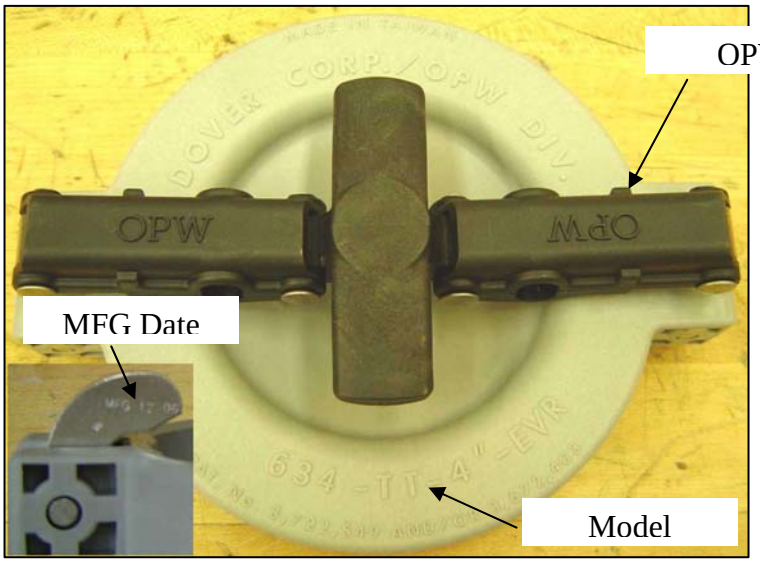
Table 1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Product Adaptor	OPW	61SALP-MA (GAS/E85)
Vapor Adaptor	OPW	61VSA-MA (GAS/E85)
Replacement Drain Valve	OPW	1DK-2100
Jack Screw Kit	OPW	61JSK-4410* 61JSK-44CB* 61JSK-4RMT* OPW 71JSK-44MA (GAS/E85) OPW 71JSK-4RMT (GAS/E85)
Tank Gauge Port Component (Cap and Adaptor)	Morrison Brothers Veeder-Root OPW	305XPA1100AKEVR (cap & adaptor kit) 305-0200AAEVR (replacement adaptor) 305XP-110ACEVR (replacement cap) Veeder-Root 312020-952 (cap & adaptor) 62M-MA (GAS/E85)
Drop Tube	OPW	61-T 61T-SS (various lengths) (GAS/E85)
Tank Bottom Protector	OPW/Pomeco	6111-1400
Sump / Sump Lids / Spill Container Covers	Varies	Varies

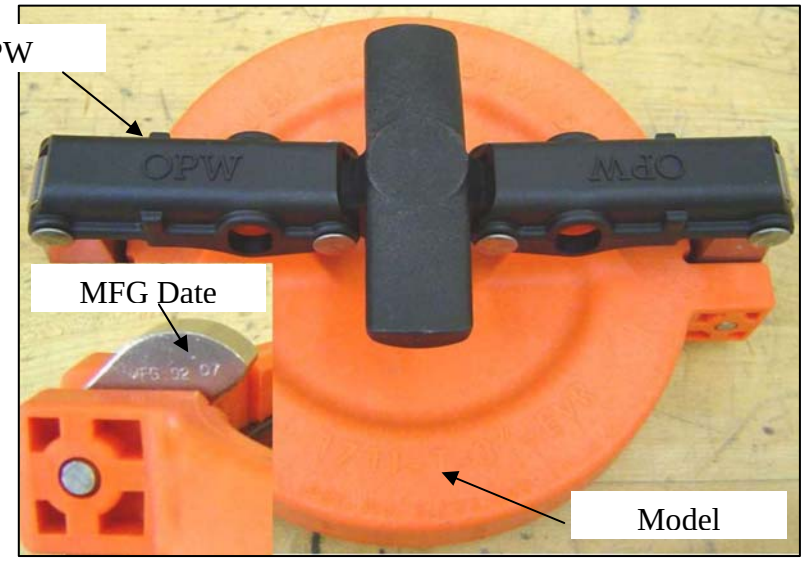
***** OPW 61JSK MFG date shall be stamped on each jack screw.

Exhibit 1 (continued)
Component Identification & Location

OPW 61VSA Vapor Adaptor



OPW 634-TT-EVR Product Dust Cap



OPW 1711-T-EVR Vapor Dust Cap

Exhibit 1 (continued)
Component Identification & Location

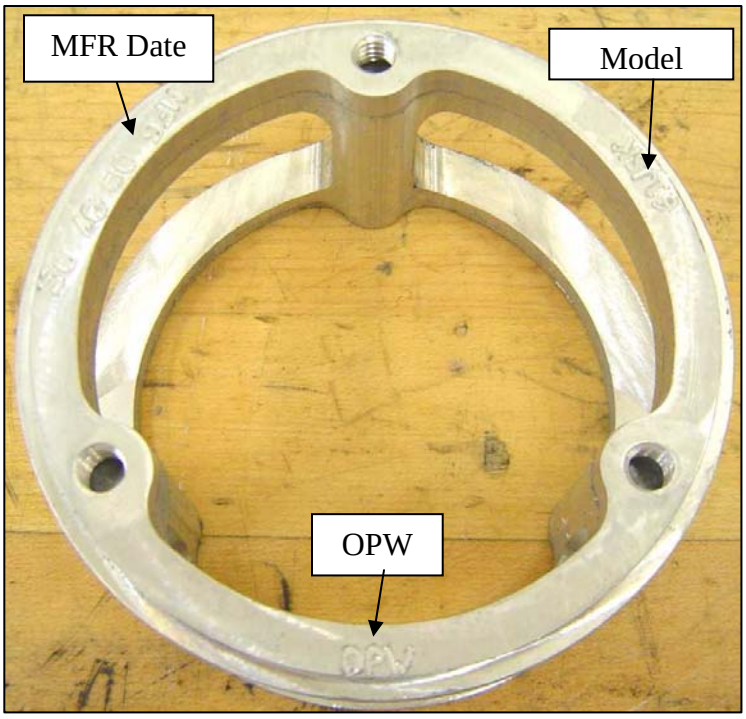
OPW 1-Series Spill Container (GAS/E85)

OPW 61SALP Product Adaptor

Exhibit 1 (continued)
Component Identification & Location

OPW 634LPC Product Dust Cap

OPW 1711LPC Vapor Dust Cap

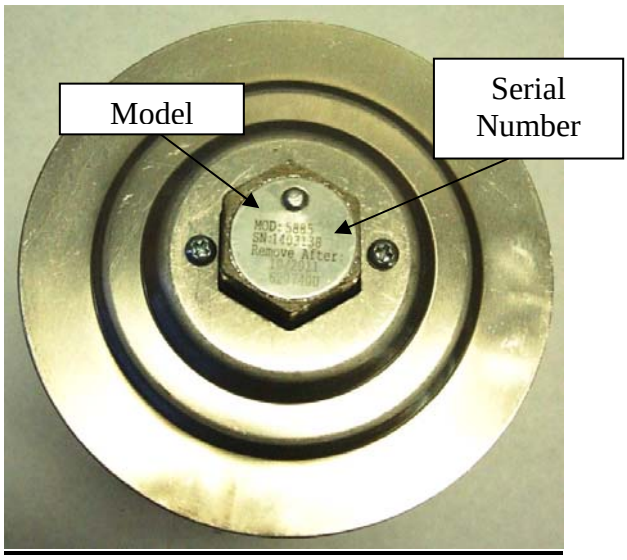


OPW 61JSK Jack Screw

OPW 62M Cap and Adaptor
(Only Cap is identified)

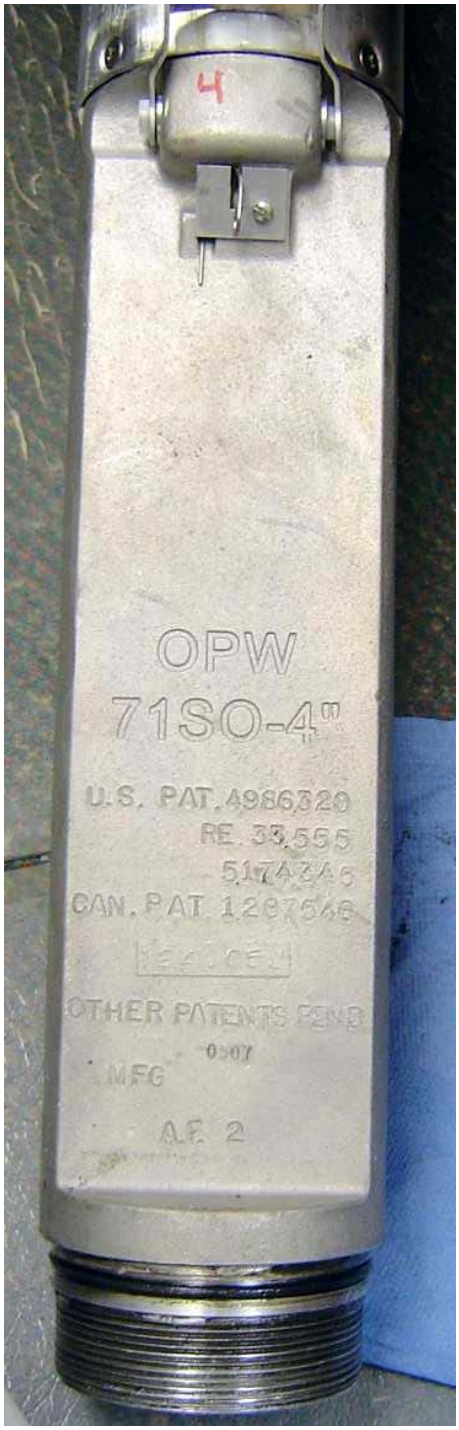
Exhibit 1 (continued)
Component Identification & Location

OPW FSA-400-S Face Seal Adaptor (GAS/E85)



Husky 5885 P/V Vent Valve
(Husky Name on Bottom Flange)

Exhibit 1 (continued)
Component Identification & Location



OPW 61SO and 71SO Overfill Prevention Devices

Exhibit 1 (continued)
Component Identification & Location

CompX CSP1-634LPC Product Dust Cap

CompX CSP3-1711LPC
Vapor Dust Cap

CompX Tank Commander Lid
Locks onto CSP1-634LPC and CSP3-1711LPC Dust Caps

Exhibit 1 (continued)
Component Identification & Location

CompX CSP2-634LPC Product Dust Cap

CompX CSP4-1711LPC Vapor Dust Cap

CompX Tank Commander Lid
Locks onto CSP2-634LPC and CSP4-1711LPC Dust Caps

Exhibit 1 (continued)
Component Identification & Location

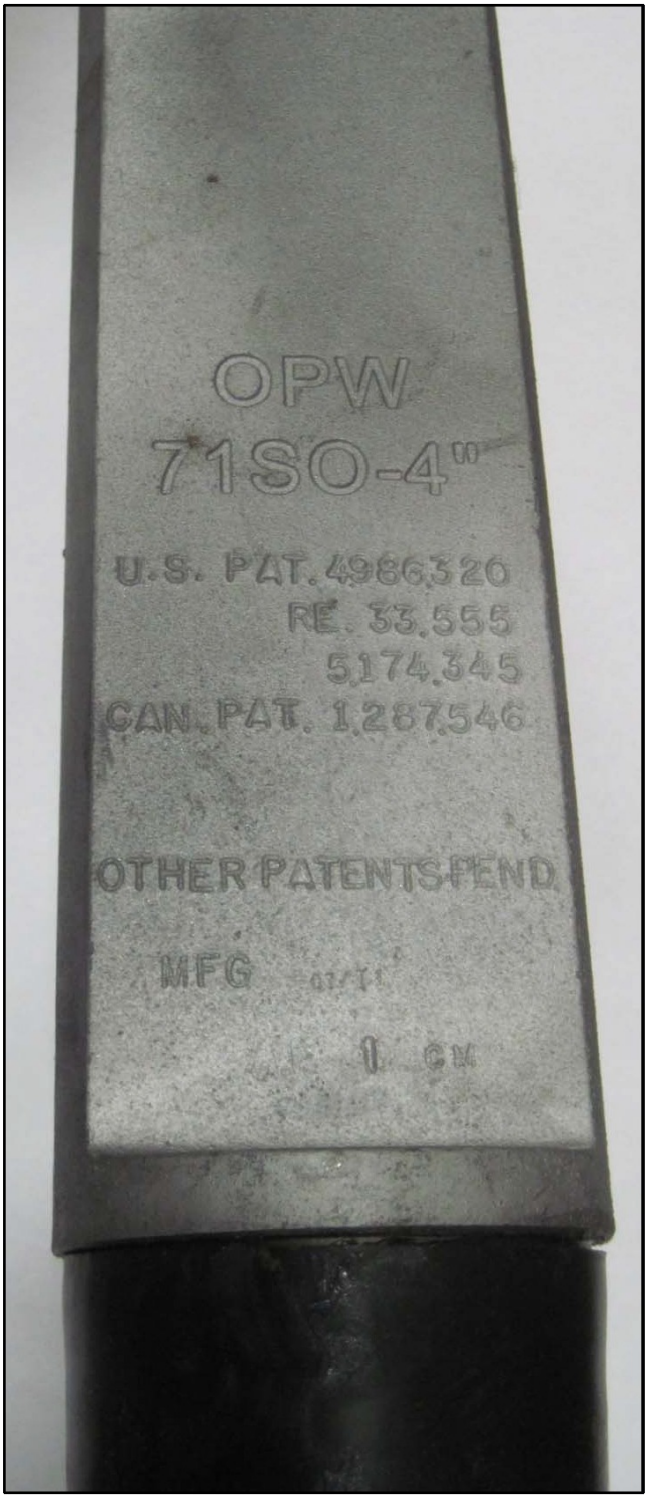
FFS PV-Zero P/V Vent Valve (GAS/E85)
(Model and Serial Number on White Tag)

Exhibit 1 (continued)
Component Identification & Location

OPW 61VSA-MA Vapor Adaptor (GAS/E85)

OPW 61SALP-MA Product Adaptor (GAS/E85)

Exhibit 1 (continued)
Component Identification & Location



OPW 710SOM-412C Overfill Prevention Device (GAS/E85)

Exhibit 1 (continued)
Component Identification & Location

71JSK-44MA Jack Screw Kit (GAS/E85)
71JSK-4RMT Jack Screw Kit (GAS/E85)

OPW 62M-MA Tank Gauge Port Component (GAS/E85)

Exhibit 2
Installation, Maintenance and Compliance Standards and Specifications

This exhibit contains the installation, maintenance and compliance standards, and specifications applicable to an OPW system installed in a gasoline dispensing facility (GDF).

General Specifications

1. Typical installations of the OPW system are shown in Figures 2A and 2B.

2. Typical installation of the OPW remote fill system is shown in Figures 2D and 2E. Typical installation of the OPW remote additive fill system is shown in Figure 2F.

3. The OPW system shall be installed, operated, and maintained in accordance with the ***ARB-Approved Installation, Operation and Maintenance Manual for the OPW Phase I Vapor Recovery System*** **As Certified by Executive Order VR-102-M (**IOM).

4. Any repair or replacement of system components shall be done in accordance with the IOM.

5. The OPW system shall comply with the applicable performance standards and performance specifications in CP-201.

6. Installation, maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by OPW Certified Technicians.

Pressure/Vacuum Vent Valves For Storage Tank Vent Pipes[1]

1. No more than three certified pressure/vacuum vent valves (P/V valves) listed in Exhibit 1 shall be installed on any GDF underground storage tank system.

2. Compliance determination of the following P/V valve performance specifications shall be at the option of the districts:

    a. The leak rate of each P/V valve shall not exceed 0.05 cubic feet per hour (CFH) at 2.00 inches of H_2O positive pressure and 0.21 CFH at 4.00 inches of H_2O negative pressure as determined by **TP-201.1E,** ***Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)***.

[1] The requirement that the vent pipe manifold be installed at a height not less than 12 feet above the grade stated in Executive Orders VR-102-A through VR-102-E is rescinded.

b. The positive pressure setting is 2.5 to 6.0 inches of H_2O and the negative pressure setting is 6.0 to 10.0 inches of H_2O as determined by **TP-201.1E *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)***.

3. Compliance determination of the P/V valve performance specifications in items 2a and 2b for the FFS PV-Zero P/V vent valve shall be conducted with the valve remaining in its installed position on the vent line(s). The PV-Zero portion of the IOM outlines the equipment needed to test the valve in its installed position.

4. A manifold may be installed on the vent pipes to reduce the number of potential leak sources and P/V valves installed. Vent pipe manifolds shall be constructed of steel pipe or an equivalent material that has been listed for use with gasoline. If a material other than steel is used, the GDF operator shall make available, information demonstrating that the material is compatible for use with gasoline. One example of a typical vent pipe manifold is shown in Figure 2G. This shows only one typical configuration; other manifold configurations may be used. For example, a tee may be located in a different position, or fewer pipes may be connected, or more than one P/V valve may be installed on the manifold.

5. Each P/V valve shall have permanently affixed to it a yellow, gold, or white colored label with black lettering stating the following specifications:

Positive pressure setting: 2.5 to 6.0 inches H_2O
Negative pressure setting: 6.0 to 10.0 inches H_2O
Positive Leakrate: 0.05 CFH at 2.0 inches H_2O
Negative Leakrate: 0.21 CFH at -4.0 inches H_2O

Rotatable Product and Vapor Recovery Adaptors

1. Rotatable product and vapor recovery adaptors shall be capable of at least 360-degree rotation and have an average static torque not to exceed 108 pound-inch (9 pound-foot). Compliance with this requirement shall be demonstrated in accordance with **TP-201.1B, *Static Torque of Rotatable Phase I Adaptors (October 8, 2003)***.

2. The vapor adaptor poppet shall not leak when closed. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of the underground storage tank is subjected to a non-zero gauge pressure. (Note: leak detection solution will detect leaks only when positive gauge pressure exists.)

Vapor Recovery and Product Adaptor Dust Caps

Dust caps with intact gaskets shall be installed on all Phase I tank adaptors.

Spill Container Drain Valve

The spill container drain valve shall be configured to drain liquid directly into the drop tube and shall be isolated from the underground storage tank ullage space. The leak rate of the drain valve shall not exceed 0.17 CFH at 2.00 inches H_2O. Depending on the presence of the drop tube overfill prevention device, compliance with this requirement shall be demonstrated in accordance with either **TP-201.1C*, Leak Rate of Drop Tube/Drain Valve Assembly (October 8, 2003),*** or **TP-201.1D, *Leak Rate of Drop Tube Overfill Prevention Devices and Spill Container Drain Valves (October 8, 2003).***

Drop Tube Overfill Prevention Device

1. The Drop Tube Overfill Prevention Device (overfill device) is designed to restrict the flow of gasoline delivered to the underground storage when liquid levels exceed a specified capacity. The overfill device is not a required component of the vapor recovery system, but may be installed as an optional component. Other regulatory requirements may apply.

2. The leak rate of the overfill device shall not exceed 0.17 CFH at 2.00 inches H_2O when tested in accordance with **TP-201.1D, *Leak Rate of Drop Tube Overfill Prevention Devices and Spill Container Drain Valves (October 8, 2003)***.

3. The discharge opening of the fillpipe must be entirely submerged when the liquid level is six inches above the bottom of the tank as shown in Figure 2A.

Face Seal Adaptor[1]

The Face Seal Adaptor shall provide a machined surface on which a gasket can seal and ensures that the seal is not compromised by an improperly cut or improperly finished riser. A Face Seal Adaptor shall be installed on the following required connections. As an option, the adaptor may be installed on other connections.

a. Product Spill Container (required)
b. Tank Gauging Components (required)
c. Vapor Recovery Spill Container (optional)
d. Rotatable Adaptors (optional)

Double Fill Configuration

1. OPW Double Fill Configuration shall be allowed for installation provided that no more than two fill and two vapor return points are installed on any single underground storage tank and that no offset of the vapor recovery riser pipe is installed. An example of an OPW Dual Fill configuration is shown in Figure 2C.

[1] Face Seal Adaptor is not required with double wall 1-3100 series spill containers.

Remote Fill Configuration

1. No liquid condensate traps are allowed with this configuration.

2. For new installations and existing installations undergoing major modifications, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum slope of one-eighth (1/8) inch per foot of pipe run. A slope of one-quarter (1/4) inch or more per foot of pipe run is recommended wherever feasible. For existing installations, the Phase I vapor return piping from the remote vapor access point to the tank shall be installed so that any liquid in the line will drain toward the storage tank.

3. For new installations and existing installations undergoing major modifications, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum nominal internal diameter of four inches (4" ID). For existing installations, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum nominal internal diameter of three inches (3" ID).

4. The submerged fillpipe riser shall be fitted with a 4" pipe cap or if the submerged fillpipe riser is used as a port to manually gauge the fuel level in the UST (sticking port), a 62M cap and adaptor, as specified in Exhibit 1, shall be installed.

Remote Additive Fill Configuration

1. Any gasoline additive can be used only if prior to use, OPW provides a written response that the additive is compatible with the OPW Phase I system. OPW can be contacted at:

   www.opwglobal.com/TechSupport/TechnicalServiceAssistance.aspx

Vapor Recovery Riser Offset

1. The vapor recovery tank riser may be offset from the tank connection to the vapor recovery Spill Container provided that the maximum horizontal distance (offset distance) does not exceed 20 inches. One example of an offset is shown in Figure 2H.

2. The vapor recovery riser shall be offset up to 20 inches horizontal distance with use of commercially available, 4 inch diameter steel pipe fittings.

Tank Gauge Port Components

The tank gauge adaptor and cap are paired. Therefore, an adaptor manufactured by one company shall be used only with a cap manufactured by the same company.

Warranty

Each manufacturer listed in Exhibit 1 shall include a warranty tag with the certified component(s). The manufacturer warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

Connections and Fittings

All connections and fittings not specifically certified with an allowable leak rate shall not leak. The absence of vapor leaks shall be verified with the use of commercial liquid leak detection solution (LDS) or by bagging, when the vapor containment space of the underground storage tank is subjected to a non-zero gauge pressure. (Note: leak detection solution will detect leaks only when positive gauge pressure exists).

Maintenance Records

Each GDF operator or owner shall keep records of maintenance performed at the facility. Such record shall be maintained on site or in accordance with district requirements or policies. Additional information may be required in accordance with district requirements or policies. The records shall include the maintenance or test date, repair date to correct test failure, maintenance or test performed, affiliation, telephone number, name and Certified Technician Number of individual conducting maintenance or test. An example of a Phase I Maintenance Record is shown in Figure 2I.

Table 2-1
Gasoline Dispensing Facility Compliance Standards and Specifications

Component / System	Test Method	Standard or Specification
Rotatable Phase I Adaptors	TP-201.1B	Minimum, 360-degree rotation Maximum, 108 pound-inch average static torque
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 in H_2O
Spill Container Drain Valve	TP-201.1C or TP-201.1D	≤0.17 CFH at 2.00 in H_2O
P/V Valve[1]	TP-201.1E	Positive pressure setting: 2.5 to 6.0 in H_2O Negative pressure setting: 6.0 to 10.0 in H_2O Positive Leakrate: 0.05 CFH at 2.0 in H_2O Negative Leakrate: 0.21 CFH at -4.0 in H_2O
Gasoline Dispensing Facility	TP-201.3	As specified in TP-201.3 and/or CP-201
Connections and fittings certified without an allowable leak rate	Leak Detection Solution or Bagging	No leaks

Table 2-2
Maintenance Intervals for System Components[2]
(Reference Exhibit 1 for list of certified components)

Manufacturer	Component	Maintenance Interval
Husky	Pressure/Vacuum Vent Valve	Annual
FFS	Pressure/Vacuum Vent Valve	Annual
All Manufacturers	Tank Gauge Components	Annual
OPW	Dust Caps (all models)	Annual
CompX	Dust Caps (all models)	Annual
OPW	61-T Straight Drop Tube	Annual
OPW	Rotatable Phase I Adaptors	Annual
OPW	Drop Tube Overfill Prevention Valve	Annual
OPW \ Pomeco	Spill Containers (all models)	Annual

[1] Compliance determination is at the option of the district.
[2] Maintenance must be conducted within the interval specified from the date of installation and at least within the specified interval thereafter.

Figure 2A
Typical Product Installation Using OPW System

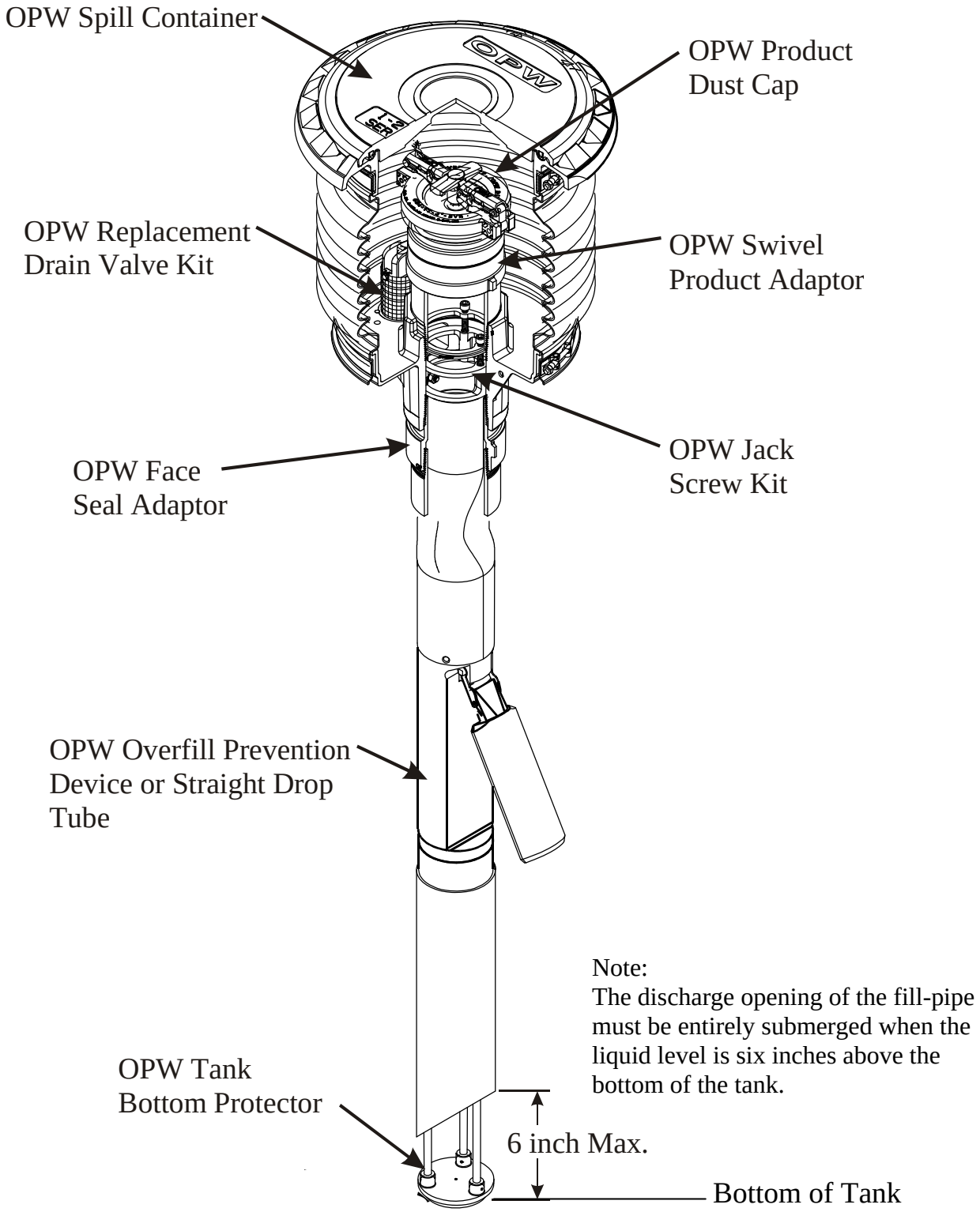


Figure 2B
Typical Vapor Installation Using OPW System

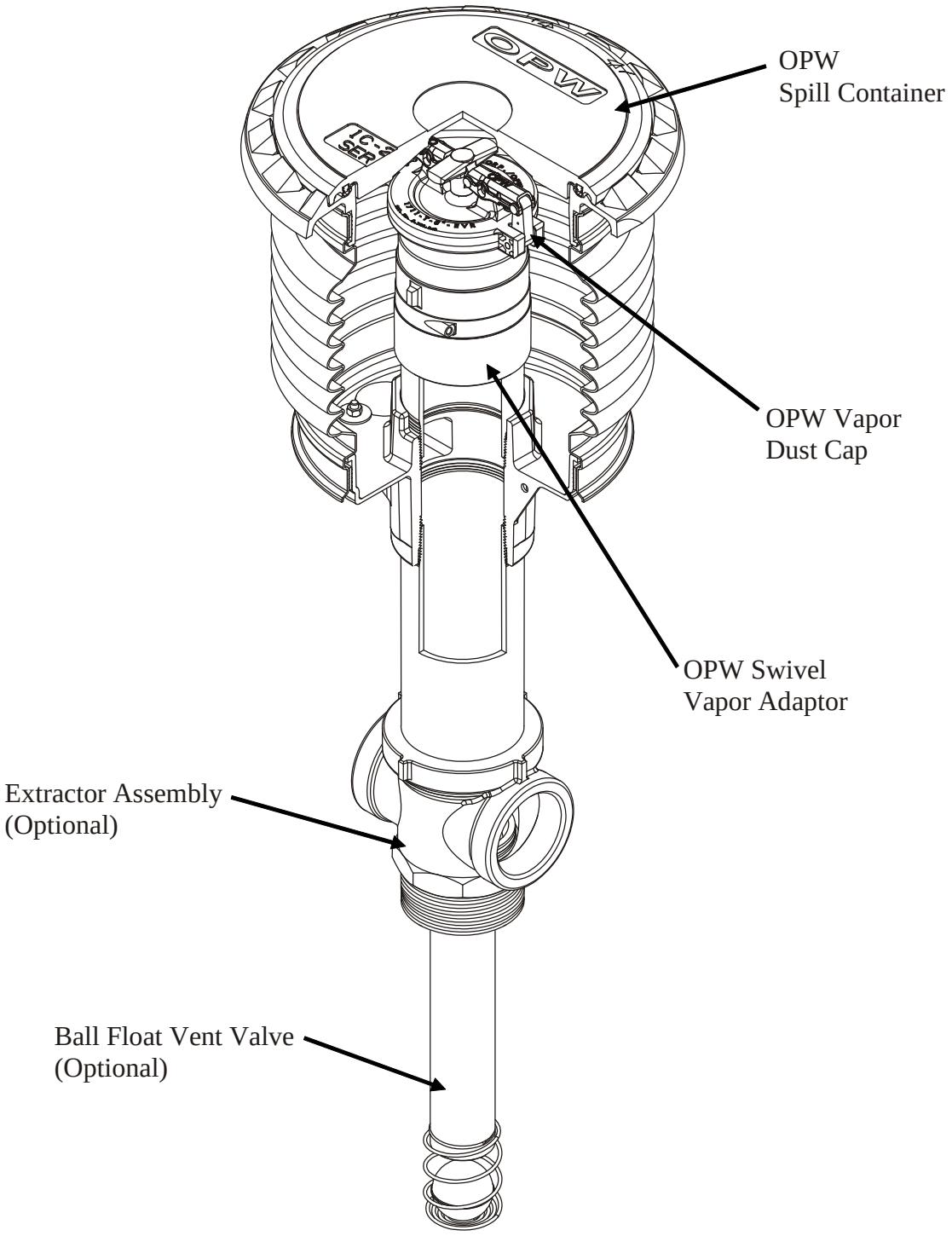


Figure 2C
Typical OPW/POMECO Double Fill Configuration

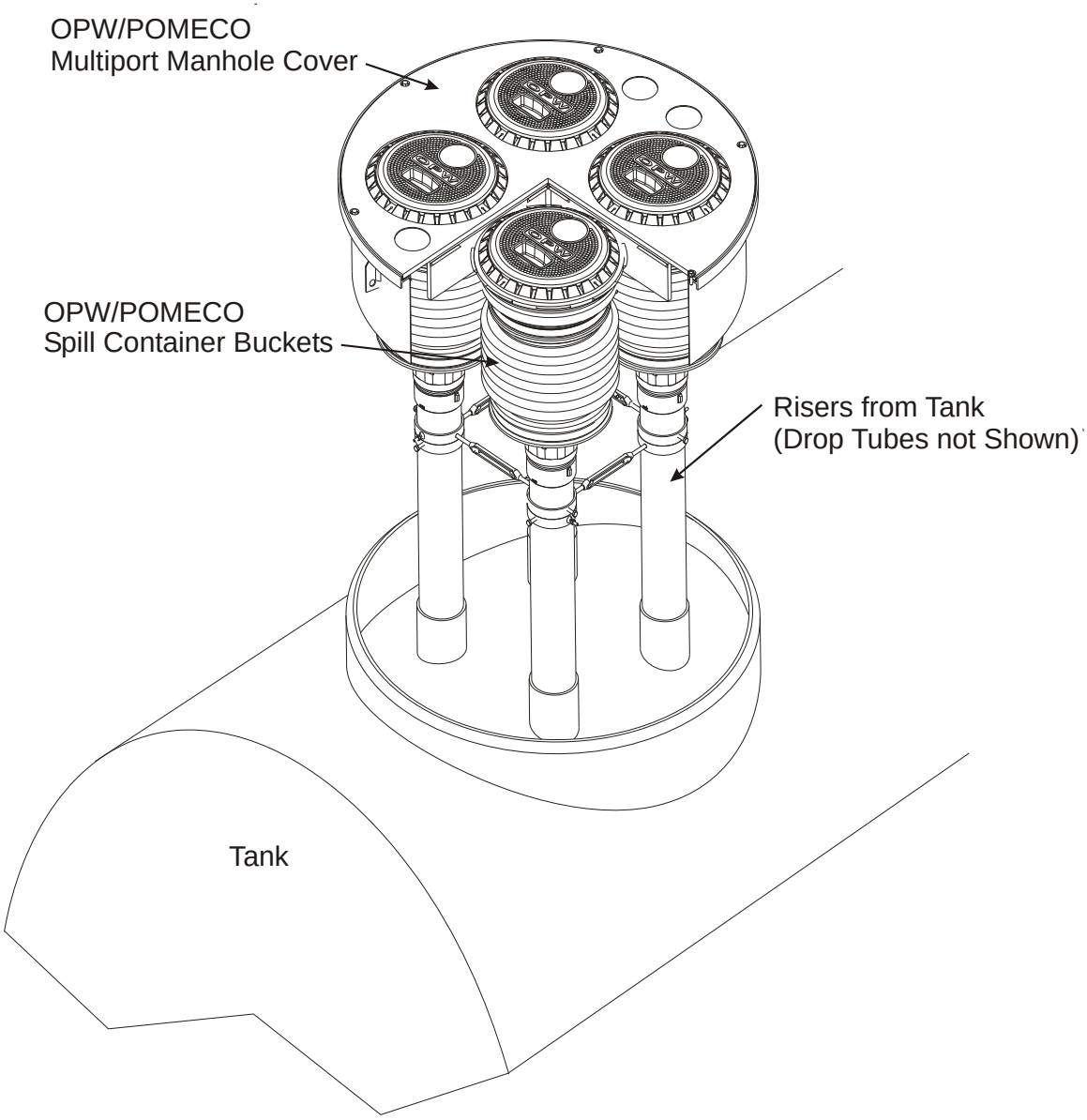


Figure 2D
Typical Remote-Fill Access Point Configuration

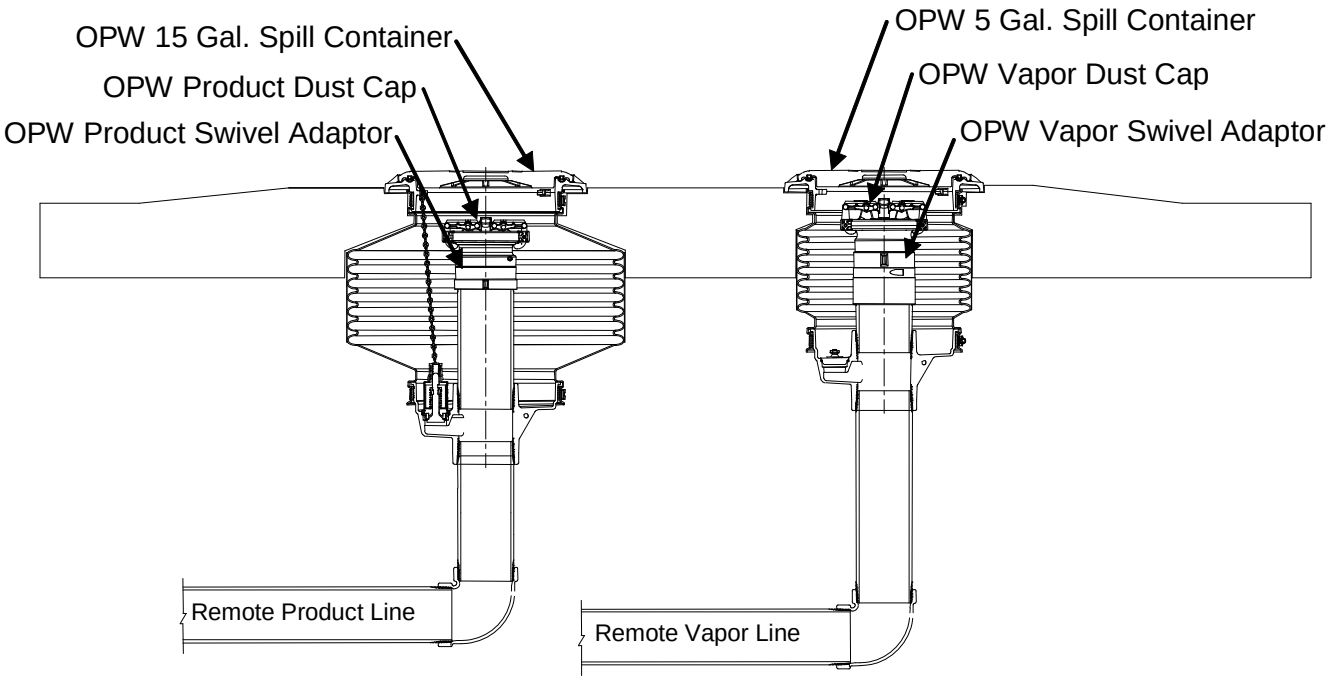


Figure 2E
Typical Remote-Fill Tank Top Configuration

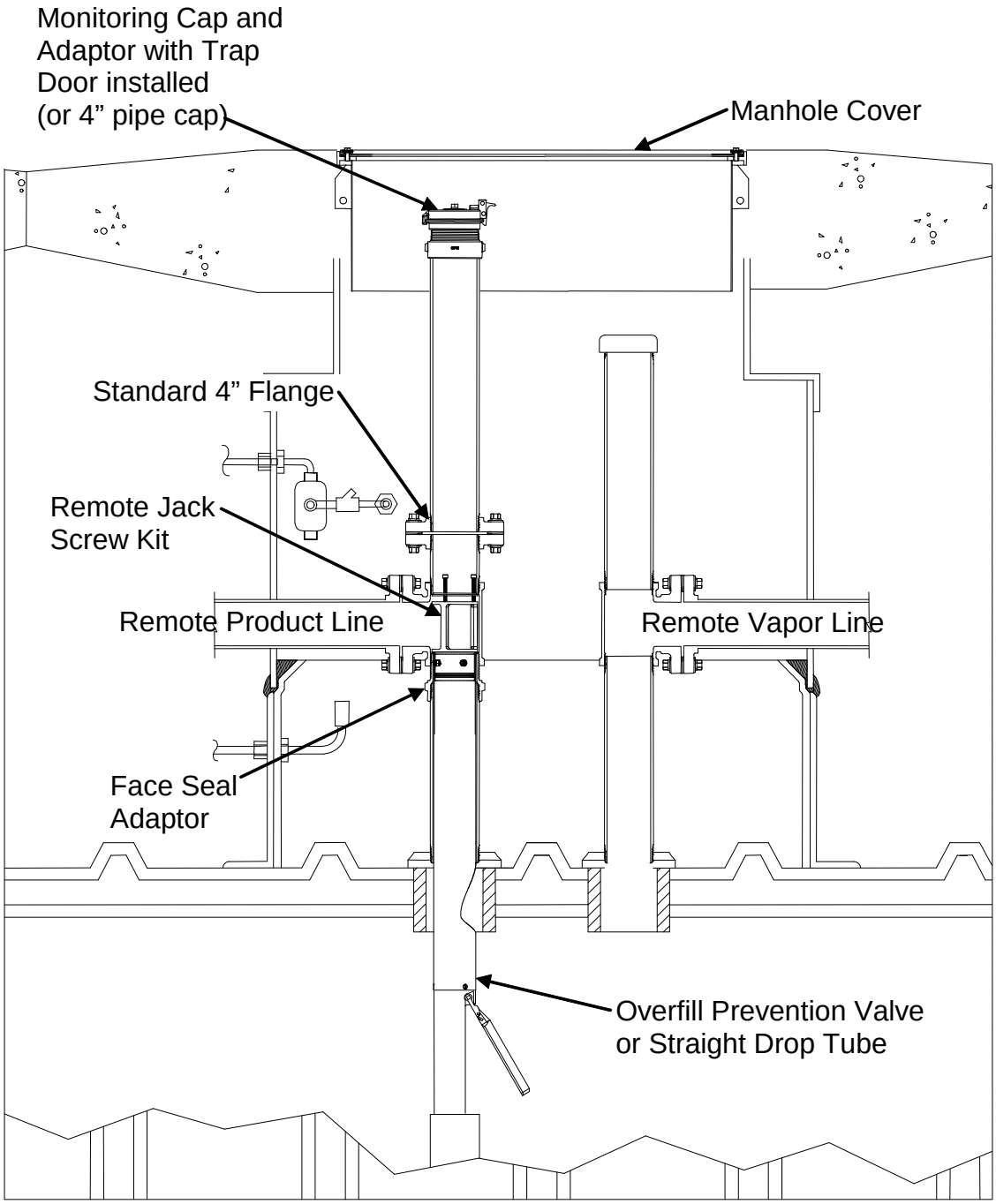


Figure 2F

Typical Remote Additive Fill Configuration

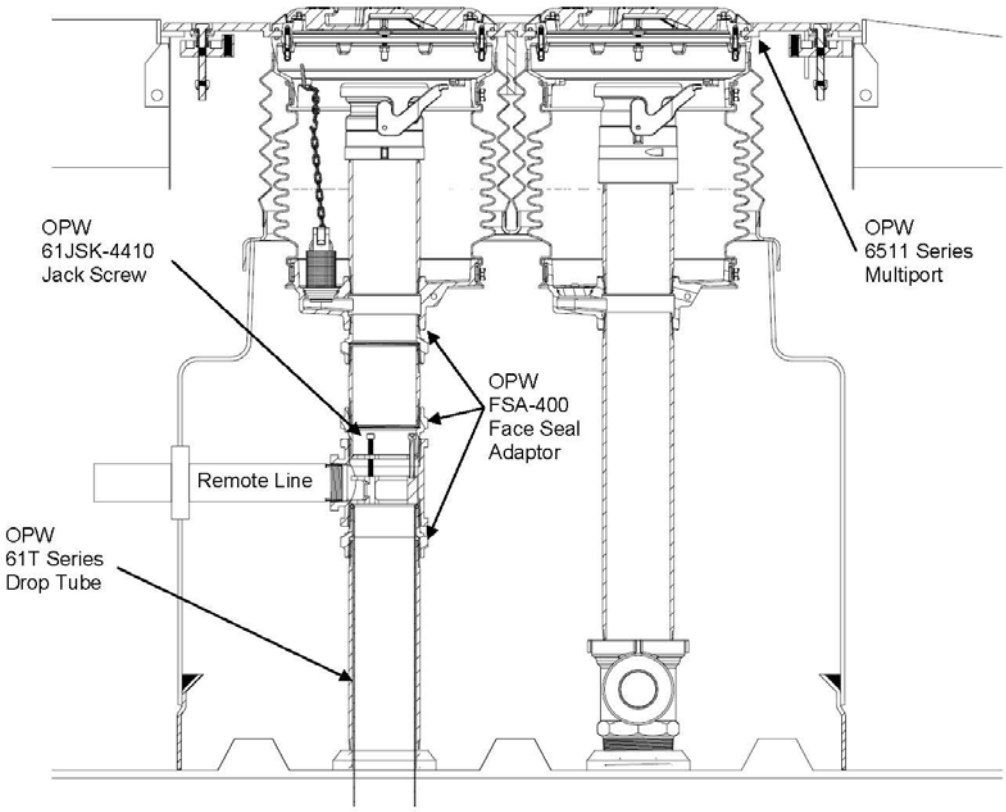
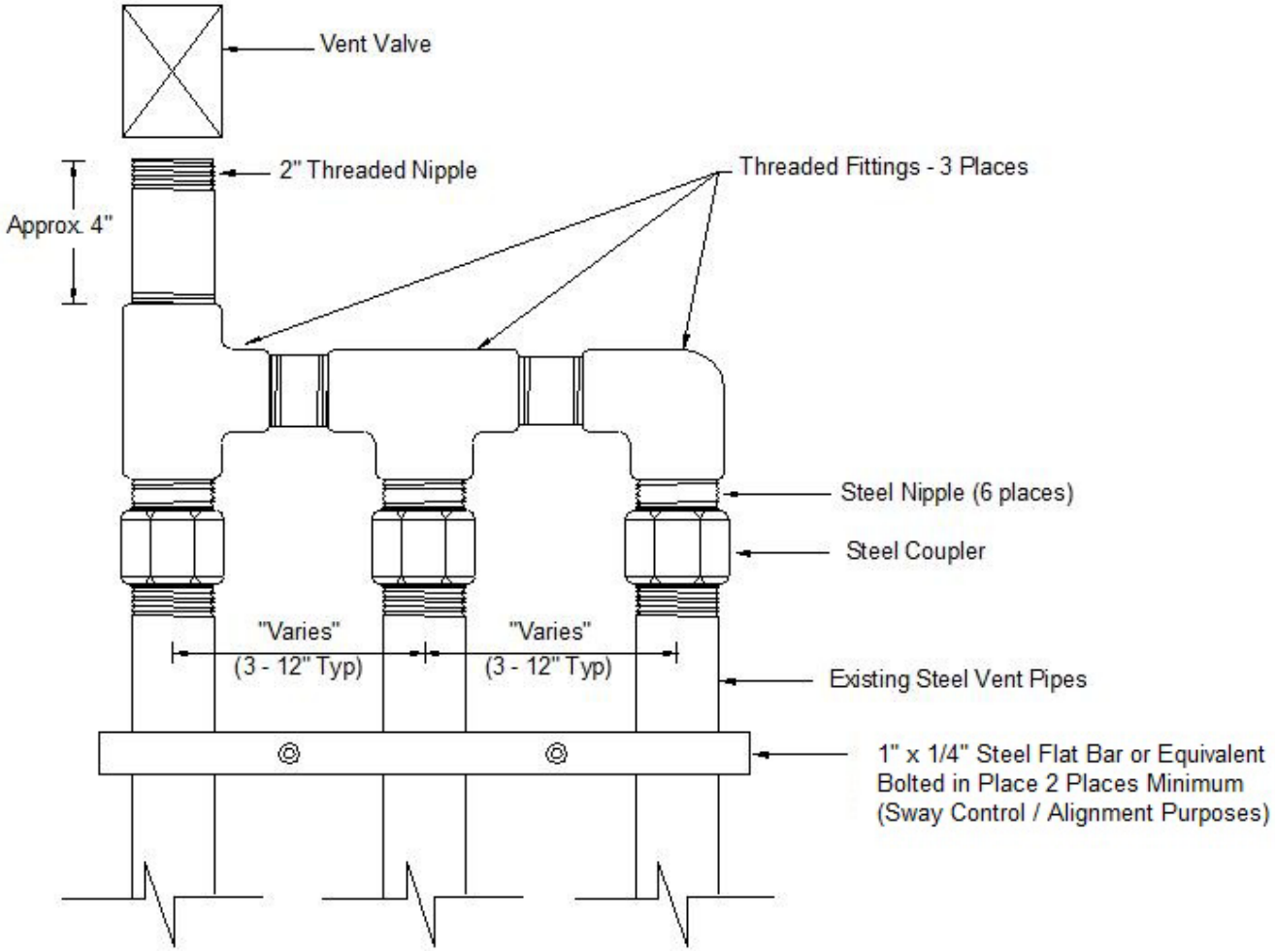


Figure 2G

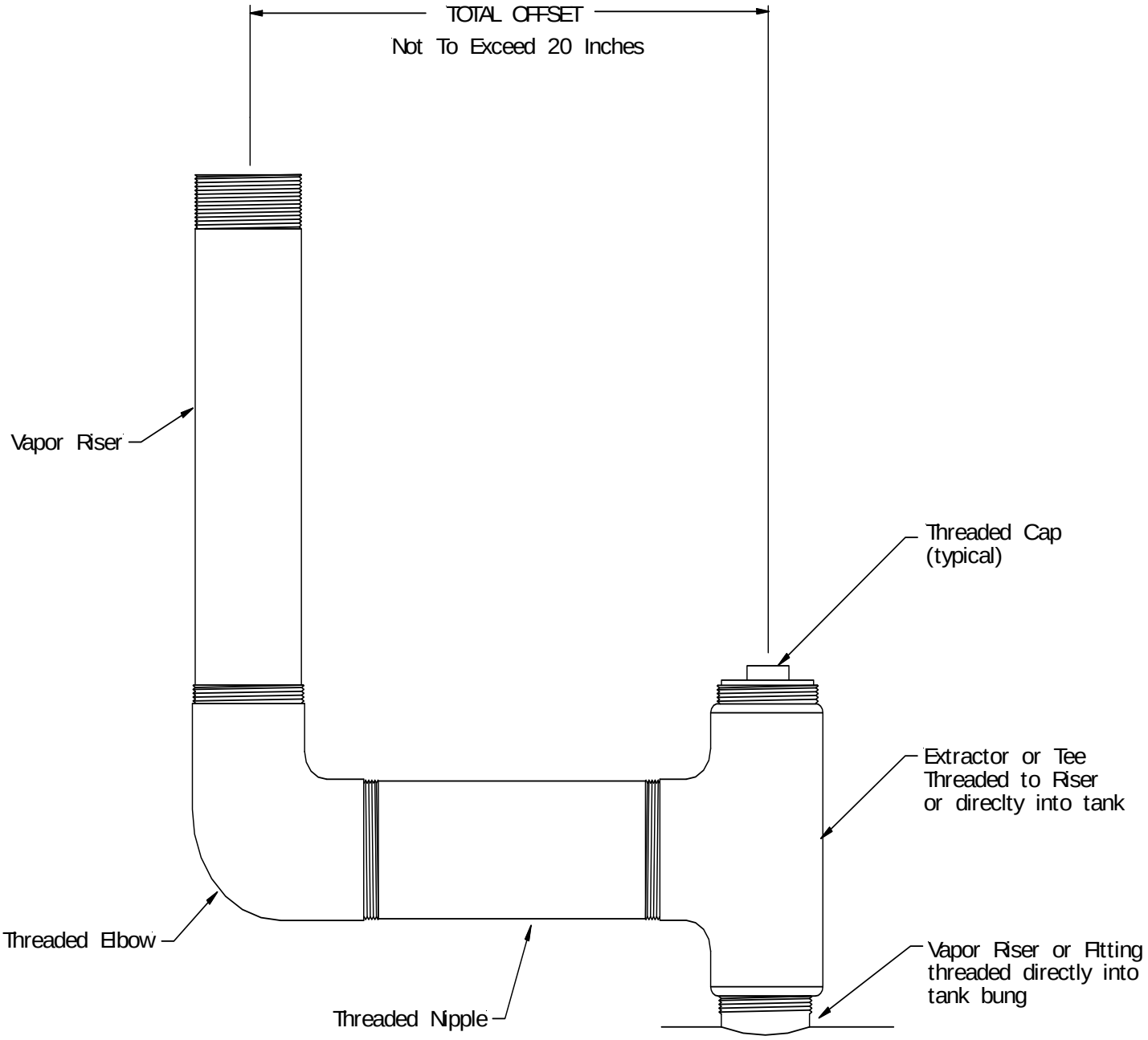
Typical Vent Pipe Manifold



Note: This shows only one typical configuration; other manifold configurations may be used. For example, a tee may be located in a different position, or fewer pipes may be connected, or more than one P/V valve may be installed on the manifold.

Figure 2H

Typical Vapor Recovery Riser Offset



Note: This figure represents one instance where a vapor recovery riser has been offset in order to construct a two-point Phase I vapor recovery system. The above figure illustrates an offset using a 90-degree elbow. However, in some instances, elbows less than 90 degrees may be used. All fittings and pipe nipples shall be 4-inch diameter similar to those of the spill container and rotatable Phase I adaptors in order to reduce back pressure during a gasoline delivery.

Figure 2I

Example of a GDF Phase I Maintenance Record

Date of Maintenance/ Test/Inspection /Failure	Repair Date To Correct Test Failure	Maintenance/Test/Inspection Performed and Outcome	Affiliation	Name and Certified Technician Number of Individual Conducting Maintenance or Test	Telephone Number

Exhibit 3
Manufacturing Performance Standards and Specifications

The OPW system and all components shall be manufactured in compliance with the performance standards and specifications in CP-201, as well as the requirements specified in this Executive Order. All components shall be manufactured as certified; no change to the equipment, parts, design, materials, or manufacturing process shall be made unless approved in writing by the Executive Officer or Executive Officer Delegate. Unless specified in Exhibit 2 or in the ARB-Approved Installation, Operation and Maintenance Manual for the OPW Phase I Vapor Recovery System, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a GDF.

Pressure/Vacuum Vent Valves for Storage Tank Vent Pipes

1. Each pressure/vacuum vent valve (P/V valve) shall be tested at the factory for cracking pressure and leak rate at each specified pressure setting when tested in accordance with **TP-201.1E, *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves*** *(October 8, 2003)*.

2. Each P/V valve shall be shipped with a card or label stating the performance specifications listed in table 3-1, and a statement that the valve was tested to, and met, these specifications.

3. Each P/V valve shall have permanently affixed to it a yellow, gold, or white label with black lettering listing the positive and negative pressure settings and leak rate standards listed in Table 3-1. The lettering of the positive and negative pressure settings and leak rate standards on the label shall have a minimum font size of 20.

Rotatable Product and Vapor Recovery Adaptors

1. The rotatable product and vapor recovery adaptors shall not leak.

2. The product adaptor cam and groove shall be manufactured in accordance with the cam and groove specifications shown in Figure 3A of CP-201.

3. The vapor recovery adaptor cam and groove shall be manufactured in accordance with the cam and groove specifications shown in Figure 3B of CP-201.

4. Each product and vapor recovery adaptor shall be tested at the factory to, and met, the specifications listed in Table 3-1 and shall have affixed to it a card or label listing these performance specifications and a statement that the adaptor was tested to, and met, such specifications.

Spill Container and Drain Valves

Each Spill Container Drain Valve shall be tested at the factory to, and met, the specification listed in Table 3-1 and shall have affixed to it a card or label listing the performance specification and a statement that the valve was tested to, and met, such performance specification.

Drop Tube Overfill Prevention Device

Each Drop Tube Overfill Prevention Device shall be tested at the factory to, and met, the specification listed in Table 3-1 and shall have affixed to it a card or label listing the performance specification and a statement that the device was tested to, and met, such performance specification.

Table 3-1
Manufacturing Component Standards and Specifications

Component	Test Method	Standard or Specification
Rotatable Phase I Adaptors	TP-201.1B	Minimum, 360-degree rotation Maximum, 108 pound-inch average static torque
Rotatable Phase I Adaptors	Micrometer	Cam and Groove Specifications (CP-201)
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
Spill Container Drain Valve	TP-201.1C or TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
Pressure/Vacuum Vent Valve	TP-201.1E	Positive Pressure: 2.5 to 6.0 inches H_2O Negative Pressure: 6.0 to 10.0 inches H_2O Leak rate: ≤ 0.05 CFH at +2.0 inches H_2O Leak rate: ≤ 0.21 CFH at -4.0 inches H_2O

EXHIBIT 4

Manufacturer Warranties

This exhibit includes the manufacturer warranties for all components listed in Exhibit 1, including replacement parts and subparts. The manufacturer warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

Franklin Fueling Systems Warranty Statement and Tag

Franklin Fueling Systems (FFS) Enhanced Vapor Recovery (EVR) products are offered for sale under the brand names of Healy, INCON, Phil-Tite, EBW, and Franklin Fueling Systems (collectively referred to as "FFS EVR products"). FFS EVR products are fully tested at the time of manufacture to meet the applicable performance standards and specifications to which it was certified by the California Air Resource Board (CARB) for the duration of the warranty period, as indicated in the related CARB Executive Order (EO). Performance standards and specifications are listed in Exhibit 2 (System/Compliance Specifications) and Exhibit 3 (Manufacturing Performance Standards) in the related CARB EO.

FFS warrants that FFS EVR products installed in California will conform to the warranty terms and conditions required by the California Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities (CP-201) with respect to (a) transferability of warranties for FFS EVR products, (b) design changes to FFS EVR products, (c) performance specifications of the FFS EVR products, and (d) duration of the warranty period of FFS EVR products.

FFS EVR products are warranted to the initial purchaser, and any subsequent purchaser within the warranty period, for workmanship, performance, and materials when properly installed, used and maintained in accordance with the CARB Approved Installation, Operation, and Maintenance Manuals by certified technicians or an owner/operator as defined in the related CARB EO and to generally accepted industry standards.

FFS reserves the right to make changes in the design or to make additions or improvements with respect to FFS EVR products without incurring any obligation to modify or install same on previously manufactured products, upon written approval from CARB.

FFS reserves the right to change or cancel all or any part of this limited warranty, upon written approval from CARB. Any such change or cancellation will be effective for products sold by FFS after the date of such change or cancellation. No agents, distributors, dealers, or employees of FFS are authorized to make modifications to this warranty or to make additional warranties with respect to any FFS EVR products. Accordingly, any statements made by individuals, whether oral or written, shall not constitute a warranty of FFS and shall not be relied upon.

FFS warrants the workmanship and materials of FFS EVR products to be free of defects, at the time of sale by FFS, for a period of one year (12 months) from the date of installation. When warranty for FFS EVR products cannot be verified to date of installation, claims will be honored for a period of fifteen (15) months from the date of purchase. When warranty for FFS EVR product cannot be verified to date of installation or date of purchase, claims will be honored for a period of eighteen (18) months from date of manufacture by FFS (for location of date of manufacture on components, see related CARB EO Exhibit 1 – Equipment List). In all cases, installation date or purchase date will require providing formal documentation to FFS as evidence of applicable warranty coverage or date of manufacture will be used to determine

duration of warranty period. Formal documentation may include, but is not limited to, FFS authorized service company and distributor work orders, startup/installation documentation, maintenance logs, and/or sales receipts.

FFS shall not be liable for any loss or damage whatsoever, including, without limitation, loss in profits, loss in sales, loss of fuel or other products, loss of use of equipment, facilities or service, costs of environmental remediation, diminution in property value, or any other special, incidental or consequential damages of any type or nature, and all such losses or damages are hereby disclaimed and excluded from this limited warranty.

Use of non-FFS replacement parts, the unauthorized addition of non-FFS items to FFS EVR products, and the unauthorized alteration of FFS EVR products will void warranty. FFS shall, as to each defect, be relieved of all obligations and liabilities under a components warranty if the FFS EVR products have been operated with any accessory, equipment, or a part not specifically approved by FFS and not manufactured by FFS to FFS design and specifications.

FFS EVR product warranty shall not apply to any products which have been mishandled, incorrectly installed or applied, altered in any way, which has been repaired by any party other than qualified technicians, or when such failure is due to misuse or conditions of use (such as, but not limited to, blown fuses, sheared breakaway screws, corrosion damage, negligence, accidents, or normal wear of plastic/rubber parts including scuff guards and seals). FFS EVR product warranty shall not apply to acts of terrorism, acts of war, or acts of God (such as, but not limited to, fire, flood, earthquake, or explosion). Unless otherwise expressly provided in a specific FFS written warranty, FFS does not provide coverage for labor or shipping charges, shall not be liable for any costs or charges attributable to any product testing, maintenance, installation, repair or removal, or any tools, supplies, or equipment need to install, repair, or remove any FFS EVR product.

Other than those FFS EVR products specifically designated for fuel concentrations of 85% ethanol with 15% gasoline (E85), FFS EVR product warranty shall not cover any components that have been in contact with fuel concentrations greater than 15% ethanol or 15% methanol by volume (up to E15/M15).

Claims for FFS EVR product warranty must be submitted in writing promptly after discovery of a defect with a Returned Goods Authorization (RGA) Number from FFS. FFS will honor warranty claims processed through FFS authorized service companies and distributors only. FFS will honor warranty claims submitted no more than thirty (30) days after the end of the applicable warranty period. Product returned for warranty inspection must be shipped freight prepaid to FFS's facilities, with the RGA Number indicated on the returned product, to the following address for inspection:

INCON branded products:	All other FFS EVR Products:
Franklin Fueling Systems, Inc.	Franklin Fueling Systems, Inc.
ATTN: Warranty Department	ATTN: Warranty Department
34 Spring Hill Road	3760 Marsh Road
Saco, ME 04072 USA	Madison, WI 53718 USA

Franklin Fueling Systems, upon inspection and after determination of a warranty defect, will at its option, repair or replace defective parts returned to FFS's facility or where the product is in use. Repaired or replaced parts will be returned freight prepaid by FFS.

A copy of this limited warranty is to be retained with the equipment, on-site with the facility owner/operator.

Component Model Number : _____
Component Date of Manufacturer : _____
Component Install Date : _____
Facility Name : _____
Facility Address : _____
Installer Name : _____
Installer Signature : _____

Morrison Bros. Co. Warranty Statement and Tag

WARRANTY— All Morrison products are thoroughly tested before shipment and meet all applicable performance standards and specifications of related ARB executive orders and vapor recovery procedures of CP-206 (Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks) or CP-201 (Certification Procedure for Vapor Recovery Systems at Dispensing Facilities). This warranty shall include the ongoing compliance with all applicable performance standards and specifications for the duration of the warranty. Only material found to be defective in manufacture will be repaired or replaced. Claims must be made within one year from the date of installation, and Morrison Bros. Co. will not allow claims for labor or consequential damage resulting from purchase, installation or misapplication of the product. This warranty will include the initial purchaser and any subsequent purchasers of the initial equipment within the warranty period. This warranty registration must remain with the equipment and be provided to the end user. If a warranty claim needs to be pursued, a copy of this information and the invoice of these products to the purchaser must be supplied to Morrison for verification.

Installation Date: _____
Name Of Installer/Contractor _____
Installation Company: Name _____
Address _____
City _____ State _____ Zip _____
Business At Installation Site: Name _____
Address _____
City _____ State _____ Zip _____
Morrison Product(s) I.D Numbers With Date Of Manufacture _____
_____
_____
_____
_____

Date of manufacture can be found on the product identification label applied to the finished product. This warranty registration must remain with the equipment and be provided to the end user. If a warranty claim needs to be pursued, a copy of this information and the invoice of these products to the purchaser must be supplied to Morrison for verification.

OPW STANDARD PRODUCT WARRANTY TAG

Notice: FlexWorks by OPW, Inc., VAPORSAVER™ and all other OPW products must be used in compliance with all applicable federal, state, provincial and local laws, rules and regulations. Product selection is the sole responsibility of the customer and/or its agents and must be based on physical specifications and limitations, compatibility with the environment and material to be handled. All illustrations and specifications in this literature are based on the latest production information available at the time of publication. Prices, materials and specifications are subject to change at any time, and models may be discontinued at any time, in either case, without notice or obligation.

OPW warrants solely to its customer (the initial purchaser and any subsequent purchasers within the warranty period) that the following products sold by OPW will be free from defects in materials and workmanship under normal use and conditions for the periods indicated:

PRODUCT	WARRANTY PERIOD
FlexWorks Primary Pipe	10 years from date of manufacture
All Products and replacement parts installed in the State of California Certified to California CP-201 and/or CP-206 Standards*	1 year from-date of installation (proof of purchase from certified contractors/technicians required) OPW warrants ongoing compliance with the standards and specifications for the duration of the warranty period required by the State of California; this limited warranty is under the condition the equipment was installed and maintained by trained and certified contractors/technicians unless noted in Installation Manual
All other Products and replacement parts	1 year from date of manufacture**
*Products certified to California CP-201 and/or CP-206 Standards have been factory tested and met all applicable performance standards and specifications and will have an OPW registration card enclosed/attached to the product	

OPW's exclusive obligation under this limited warranty is, at its option, to repair, replace or issue credit (in an amount not to exceed the list price for the product) for future orders for any product that may prove defective within the applicable warranty period. (Parts repaired or replaced under warranty are subject to prorated warranty coverage for remainder of the original warranty period). Complete and proper warranty claim documentation and proof of purchase required. All warranty claims must be made in writing and delivered during the applicable warranty period to OPW at OPW 9393 Princeton-Glendale Road Hamilton, Ohio, USA 45011, Attention: Customer Service Manager. No products may be returned to OPW without its prior written authority.

This limited warranty shall not apply to any FlexWorks or VAPORSAVER™ product unless it is installed by an OPW attested installer and all required site and warranty registration forms are completed and received by OPW within 60 days of installation. This limited warranty also shall not apply to any FlexWorks, VAPORSAVER™ or other OPW product: unless all piping connections are installed with a nationally-recognized or state-approved leak detection device in each tank and dispenser sump (which are not for storage and from which all discharge hydrocarbons must be removed, and the systems completely cleaned, within 24 hours); unless testable sumps utilize FlexWorks pipe and access fittings; unless a sump inspection log or an EPA recommended/required checklist is maintained and the results are furnished to OPW upon request; and unless OPW is notified within 24 hours of any known or suspected product failure and is provided with unrestricted access to the product and the site. This limited warranty also shall not apply to any product which has been altered in any way, which has been repaired by anyone other than a service representative authorized by OPW, or when failure or defect is due to: improper installation or maintenance (including, without limitation, failure to follow FlexWorks

Quick Reference Manual Installation Guide and all product warning labels); abuse or misuse; violation of health or safety requirements; use of another manufacturer's, or otherwise unauthorized, substances or components; soil or other surface or subsurface conditions; or fire, flood, storm, lightning, earthquake, accident or any other conditions, events or circumstances beyond OPW's control.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL OTHER WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED.

OPW shall have no other liability whatsoever, whether based on breach of contract, negligence, gross negligence, strict liability or any other claim, including, without limitation, for special, incidental, consequential or exemplary damages or for the cost of labor, freight, excavation, clean-up, downtime, removal, reinstallation, loss of profit, or any other cost or charges. No person or entity is authorized to assume on behalf of OPW any liability beyond this limited warranty. This limited warranty is not assignable.

** Date of manufacture on this product is located (*location will be specific to each component)*

OPW
A DOVER COMPANY

North America Toll Free - TELEPHONE: (800) 422-2525 - Fax: (800) 421-3297 - Email: domesticsales@opw-fc.com

9393 Princeton-Glendale Road
Hamilton, Ohio 45011

International – TELEPHONE: (513) 870-3315 or (513) 870-3261 - Fax: (513) 870-3157 - Email: intlsales@opw-fc.com
www.opwglobal.com

Comp X TANK Commander Warranty Statement and Tag

Seller warrants to the initial and subsequent purchasers, for a period of one year from date of installation, that the Products sold hereunder will, at the time of delivery: (a) comply with the ARB CP-201 standards and specifications for the duration of the warranty period for such Products in effect at the time of shipment or such other specifications as are expressly agreed upon by Seller and Buyer in writing; (b) be adequately contained, packaged, and labeled; and (c) conform to any promises and affirmations of fact made on the container and label. In the event that any such Products fail to conform to the foregoing warranty, Seller will, at its option, repair or replace such nonconforming Products, or credit Buyer for an amount not to exceed the original sales price of such Products. Shipping costs incurred in returning such nonconforming Products to Seller shall be borne by Seller, but Seller shall in no event be liable for any inspection, handling, or packaging costs incurred by Buyer in connection with such Products. Buyer's negligence, misuse, improper installation, or unauthorized repair or alteration, shall void this warranty. The TANK Commander Warranty tag is located on the inside cover of the product.

Warranty Tag

TANK Commander TC-1
1 year warranty from date of installation
Date of manufacture _ _/_ _/_ _ _ _
The CompX TANK Commander product was factory tested and meets the standards and specifications to which it was certified by the California Air Resources Board (CARB) as indicated in the related CARB Phase I EVR Executive Orders.

Husky Corporation Warranty Statement and Tag

VAPOR PRODUCTS – Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured product which proves upon examination by Husky, to be defective in material and/or workmanship for a period of one (1) year of installation or fifteen (15) months from the manufacture date of shipment by Husky, whichever occurs first. The warranty period on repaired or replacement vapor recovery products is only for the remainder of the warranty period of the defective product.

EVR PRODUCTS – With respect to EVR products installed in California, for a period of one (1) year from the date of installation, Husky warrants that the product will be free from defects in materials and workmanship (if the installation date is in question or indeterminable, Husky will warrant the product for 12 months from sale by Husky). Husky confirms that the warranty is transferable to a subsequent purchaser within the warranty period. However, the warranty does not follow the product from its initial installation location to succeeding locations. Husky confirms these products are warranted to meet the performance standards and specifications to which it was certified by CARB for the duration of the warranty. EVR products must be installed per CARB Executive Order and must follow the Husky Installation Instructions or the warranty is void. The warranty tag included with the EVR product must be provided to the end user at installation. A completed warranty tag and installation documentation is required to be returned with the product to be eligible for warranty consideration.

CONVENTIONAL PRODUCTS – Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured product which proves upon examination by Husky, to be defective in material and/or workmanship for a period of one (1) year from the manufacture date of shipment by Husky.

Buyer must return the products to Husky, transportation charges prepaid. This Warranty excludes the replaceable bellows, bellows spring assembly, spout assembly and scuff guard, unless (i) damage is obvious when the product is removed from shipping carton and (ii) the defective product is returned to Husky prior to use. This warranty does not apply to equipment or parts which have been installed improperly, damaged by misuse, improper operation or maintenance, or which are altered or repaired in any way.

The warranty provisions contained herein apply only to original purchasers who use the equipment for commercial or industrial purposes. There are no other warranties of merchantability, fitness for a particular purpose, or otherwise, and any other such warranties are hereby specifically disclaimed.

Husky assumes no liability for labor charges or other costs incurred by Buyer incidental to the service, adjustment, repair, return, removal or replacement of products. Husky assumes no liability for any incidental, consequential, or other damages under any warranty, express or implied, and all such liability is hereby expressly excluded.

Husky reserves the right to change or improve the design of any Husky fuel dispensing equipment without assuming any obligations to modify any fuel dispensing equipment previously manufactured.

WARRANTY TAG

Husky Corporation
2325 Husky Way
Pacific, Mo 63069
(800) 325-3558

Station Name: _____

Store #: _____ Date: _____

City: _____ State: _____

Service Contractor: _____

Service Tech: _____

Distributor: _____

No warranty accepted without warranty tag filled out completely and attached to product.

Husky
General Fueling Products:

Model #: _____

Serial #: _____

Installation Date: _____

Manufacturer Lot #: _____

Work order # (if applicable): _____

RGA #: _____

Form #009179-6 03/2013

FRONT VIEW

FOR REFERENCE ONLY

Reason for Return (check all applicable):

- ☐ Leaking Fuel Around Spout
- ☐ Leaking Fuel In Trigger Area
- ☐ Keeps Shutting Off
- ☐ Will Not Shut Off
- ☐ Failed Pressure Decay Test
- ☐ Leaking Fuel at Hose Inlet
- ☐ Mechanical Malfunction
- ☐ Dispenses Fuel Without Pulling Lever

Notes / Comments: _____

EVR products installed in California are warranted for 1 year from the date of installation. Manufacturing data can be found on the product data tag attached to the product. Husky confirms the product was tested at the factory and met all applicable performance standards in CP-201 including Pressure Setting: 2.5-6.0 in W.C., Vacuum Setting: 6.0 - 10.0 in W.C. and Leak Rate: 0.05 CFH @ +2.0 in W.C. and 0.21 CFH @ -4.0 in W.C.
Please provide installation documention such as a purchase order, an invoice or a receipt at time of claim.

BACK VIEW

Veeder-Root Warranty Statement and Tag

This warranty applies only when the product is installed in accordance with Veeder-Root's specifications. This warranty will not apply to any product which has been subjected to misuse, negligence, accidents, systems that are misapplied or are not installed per Veeder-Root specifications, modified or repaired by unauthorized persons, or damage related to acts of God. Veeder-Root is not liable for incidental, consequential, or indirect damages or loss, including, without limitation, personal injury, death, property damage, environmental damages, cost of labor, clean-up, downtime, installation and removal, product damages, loss of product, or loss of revenue or profits. This warranty applies to the initial purchaser and any subsequent purchaser for the duration of the warranty period. **THE WARRANTY CONTAINED HEREIN IS EXCLUSIVE AND THERE ARE NO OTHER EXPRESS, IMPLIED, OR STATUTORY WARRANTIES. WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

CAP AND RING ADAPTOR

We warrant that this product shall be free from defects in material and workmanship and is compliant with all applicable performance standards and specifications for which it has been certified, for a period of one (1) year from the date of installation. During the warranty period, we or our representative will repair or replace the product, if determined by us to be defective, at the location where the product is in use and at no charge to the purchaser.

Warranty Card Language

EQUIPMENT WARRANTY

Veeder-Root warrants that this product shall be free from defects in material and workmanship and is compliant with all applicable performance standards and specifications for which it has been certified, for a period of one (1) year from date of installation.

Date of manufacture:

This component was tested at the time of manufacture and meets all the applicable performance standards and specification to which it was certified: EO VR-101 and EO VR-102.

For detailed warranty terms see EO VR101 or EO VR-102 warranty exhibits on the ARB Web site at *http://www.arb.ca.gov/vapor/eo-evrphaseI.htm*