

State of California
AIR RESOURCES BOARD

Executive Order VR-103-C

Franklin Fueling Systems, Inc
EBW Phase I Vapor Recovery System

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 May 25, 2006, 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 and 41954, test procedures for determining the compliance of Phase I vapor recovery systems with emission standards;

WHEREAS, Franklin Fueling Systems, Inc. (FFS) has applied for certification of the Phase I Vapor Recovery System (EBW System);

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 conforms to all of the applicable requirements set forth in the Certification Procedure;

WHEREAS, FFS requested and was granted certification of the EBW Phase I Vapor Recovery System pursuant to the Certification Procedure on September 26, 2003 by Executive Order VR-103-A, and last modified on May 17, 2006.

WHEREAS, this Executive Order is modified to reflect the changes to the Pressure Vacuum Vent Valve cracking pressure specification, as well as remove references to ball floats and extractors;

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, William V. Loscutoff, Chief of the Monitoring and Laboratory Division, find that the EBW Phase I Vapor Recovery System conforms with all 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 pursuant to the test procedure **TP-201.1, *Volumetric Efficiency for Phase I Systems***;

NOW THEREFORE, IT IS HEREBY ORDERED that the EBW 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 applicable to the EBW System as installed in a gasoline dispensing facility (GDF). Exhibit 3 contains the manufacturing specifications.

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 FFS shall provide a warranty for the vapor recovery system and components to the initial purchaser and each subsequent purchaser within the warranty period. The manufacturer of components not manufactured by FFS shall provide a warranty for each of their components certified herein. This 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. FFS may specify that the warranty is contingent upon the use of trained installers. Copies of the warranty for the system and components shall be made available to the gasoline dispensing facility owner/operator.

IT IS FURTHER ORDERED that the certified EBW System shall be installed and maintained in accordance with the **ARB Approved Installation, Operation and Maintenance Manual for the EBW Phase I Vapor Recovery System** as certified by Executive Order VR-103-C. A copy of this Executive Order and manual shall be maintained at each GDF where a certified EBW 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 and model number.

IT IS FURTHER ORDERED that any alteration in the equipment parts, design, installation or operation of the system 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 delegate.

IT IS FURTHER ORDERED that the following requirements are made a condition of certification. The owner or operator of the EBW System shall conduct, and pass, the following tests no later than 60 days after startup and at least once every 3 years after startup testing, using the latest adopted version of the following test procedures: TP-201.3, **Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities (March 17, 1999)**, and TP-201.1B, **Static Torque of Rotatable Phase I Adaptors (October 8, 2003)**; and depending upon the system configuration, either TP-201.1D, **Pressure Integrity of Drop Tube Overfill Prevention Devices (October 8, 2003)**; or TP-201.1C, **Pressure Integrity 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. Alternative test procedures may be used if determined by the Executive Officer, in writing, to yield comparable results. Testing the

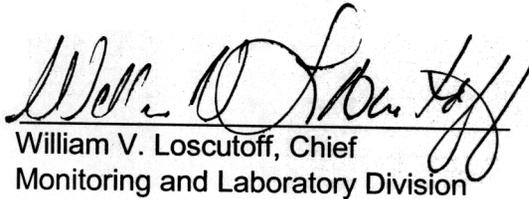
pressure/vacuum (P/V) vent valve will be at the option of the local districts. If P/V valve testing is required by the district, the test shall be conducted in accordance with TP-201.1E, **Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)** and Exhibit 2.

IT IS FURTHER ORDERED that the EBW System shall be compatible with gasoline in common use in California at the time of certification. Any modifications to comply with future California gasoline requirements shall be approved in writing by the Executive Officer or Executive Officer delegate.

IT IS FURTHER ORDERED that the certification of the EBW Phase I vapor recovery system is valid through September 30, 2008 to provide more time for the Executive Officer or Executive Officer delegate to gather and evaluate information.

IT IS FURTHER ORDERED that Executive Order VR-103-B issued on May 17, 2006 is hereby superseded by this Executive Order. EBW Phase I Vapor Recovery Systems certified under Executive Order VR-103-A to B may remain in use at existing installations. This Executive Order shall apply to new installations or major modification of the Phase I system of existing gasoline dispensing facilities.

Executed at Sacramento, California, this 28th day of September 2007.


William V. Loscutoff, Chief
Monitoring and Laboratory Division

Attachments:

- Exhibit 1 EBW Phase I Vapor Recovery System Equipment List
- Exhibit 2 Installation, Maintenance and Compliance Specifications
- Exhibit 3 Manufacturing Performance Standards and Specification

Executive Order VR-103-C EBW Phase I Vapor Recovery System

Exhibit 1
EBW Phase I Vapor Recovery System Equipment List

<u>Equipment</u>	<u>Manufacturer/Model Number</u>
Pressure/Vacuum Vent Valve	Husky Model 4885, 2-Inch Threaded
Spill Containers and Covers	EBW 7XX-49Y-0Z XX indicates spill bucket gallon size: 05 = 5 Gallon 15 = 15 Gallon 25 = 25 Gallon Y indicates level and base material: 0 = grade level with cast iron base 1 = grade level with composite base 2 = below grade level with cast iron base 3 = below grade level with composite base 4 = below grade level with cast iron base 15 gallon stainless container only 5 = below grade level with composite base 15 gallon stainless container only Z indicates lid type and drain valve: 1 = raintite lid, drain valve 2 = raintite lid, no drain valve 3 = watertite lid, drain valve 4 = watertite lid, no drain valve
Replacement Drain Valve Kit	EBW 705-337-19
Drain Valve Security Blank Kit	EBW 90089
Dust Caps	EBW 777-201-01 (product) EBW 304-301-0X (vapor) X indicates presence of security chain: 1 = no chain 2 = with chain
Product Adaptor	Phil-Tite SWF-100-B
Vapor Adaptor	Phil-Tite SWV-101-B

Drop Tube¹	EBW	782-204 (various lengths)
Drop Tube Overfill Prevention Device ¹	EBW	708-45X-01 X indicates presence of and length of drop tube and may be 0,1,2 or 3.
Drain Valve Isolation Kit	EBW	708-255-01
Drop Tube Isolation Test Kit	EBW	90079
Tank Bottom Protector¹	EBW	785-400-01
Tank Gauge Port Adaptor and Cap	EBW	90037 (Kit)
	EBW	90038 (Kit)
Spill Containment EVR Upgrade Kits¹	EBW	90087 (product)
	EBW	90088 (vapor)

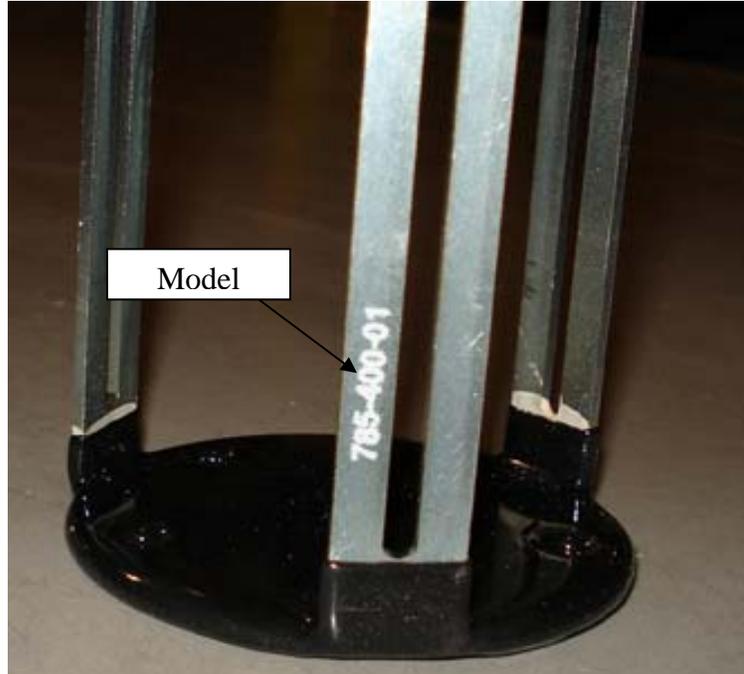
Table 1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Tank Gauge Port Components	EBW	90037 or 90038 (In Tank Probe Cap and Adaptor Kits)
Drop Tube ¹	EBW	782-204 (various lengths)
Drain Valve Isolation Kit	EBW	708-255-01
Drain Valve Security Blank Kit	EBW	90089
Drop Tube Isolation Test Kit	EBW	90079
Spill Containment EVR Upgrade Kits ²	EBW	90087 (product) 90088 (vapor)
Replacement Drain Valve Kit	EBW	705-337-19

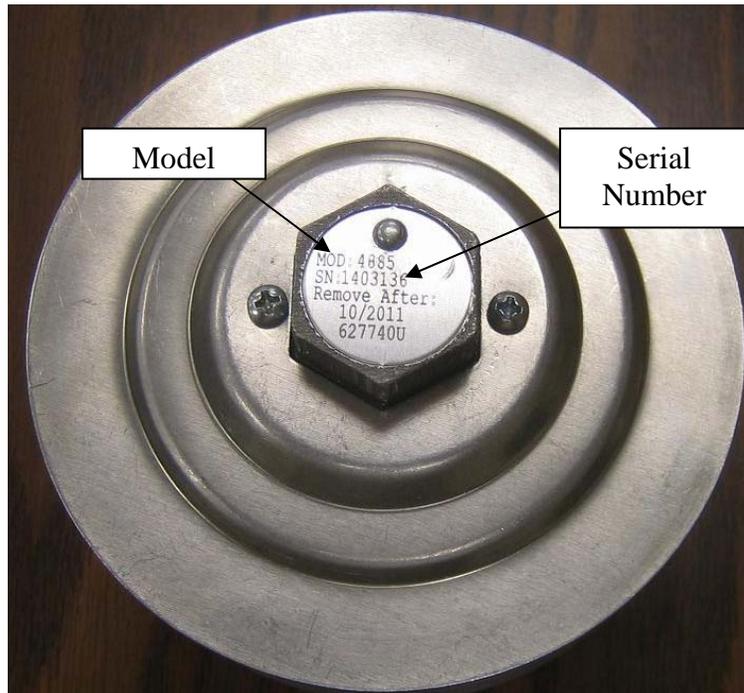
¹ If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.

² Only EBW spill containment buckets manufactured after 1997 are suitable for upgrade. Kits represent only those EBW components that are needed to perform upgrade. Additional components may be required.

Exhibit 1 (continued)
Component Identification and Location

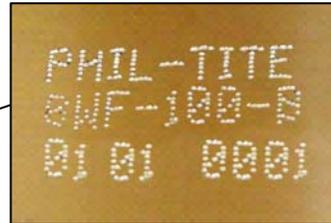


Tank Bottom Protector EBW 785-400-01



Husky 4885 P/V Vent Valve
(Husky Name on Bottom Flange)

Exhibit 1 (continued)
Component Identification and Location

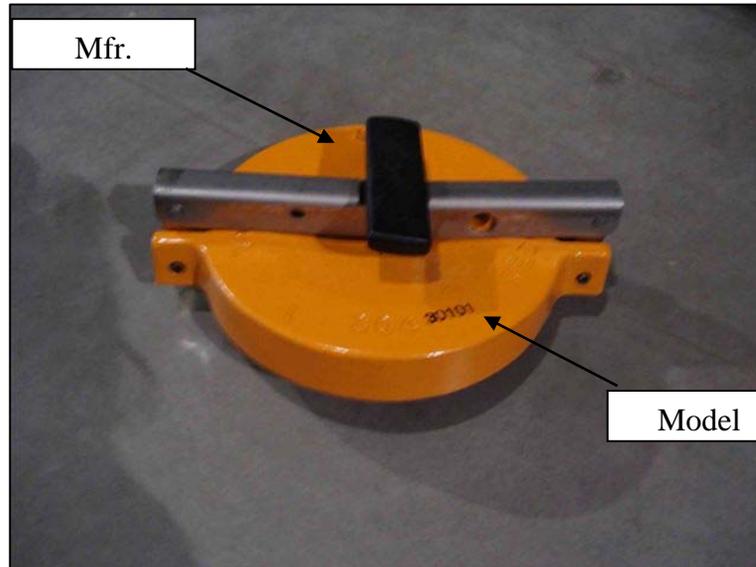


**Phil-Tite Model SWF-100-B
Product Adaptor**

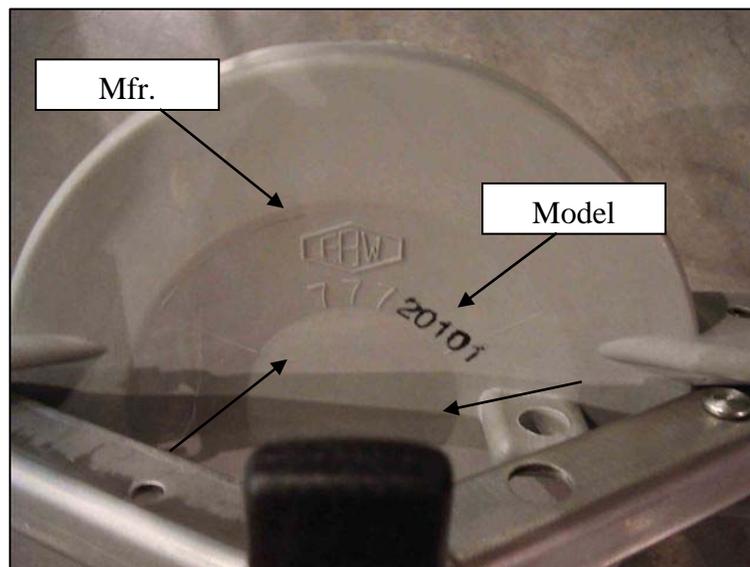


**Phil-Tite Model SWV-101-B
Vapor Adaptor**

Exhibit 1 (continued)
Component Identification and Location



EBW 304-301-XX Vapor Dust Cap



EBW 777-201-01 Product Dust Cap

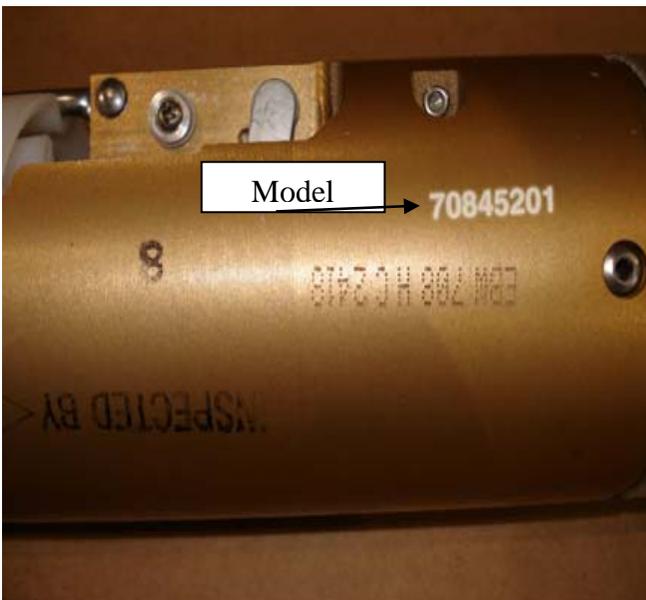
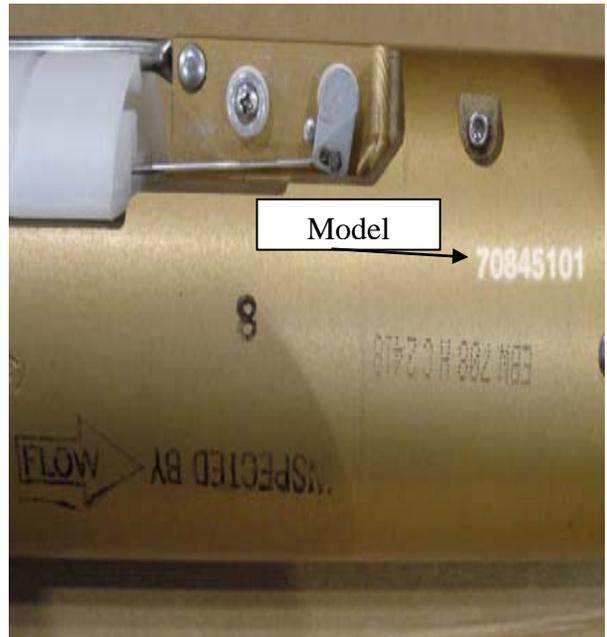
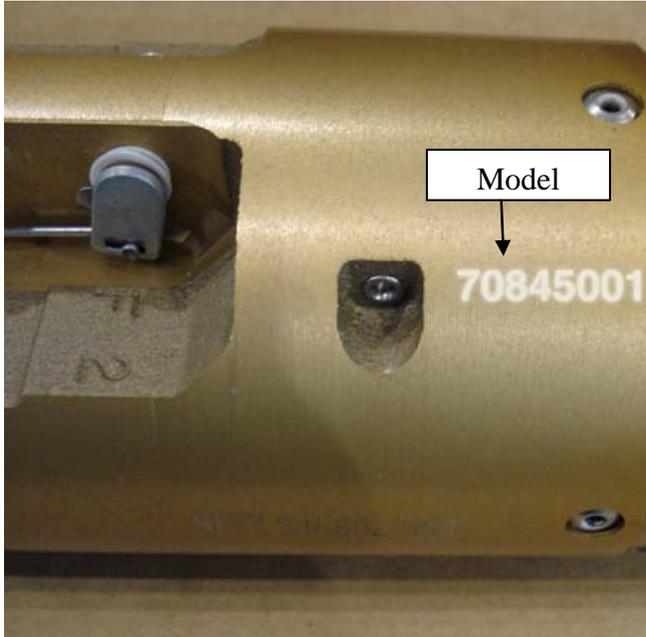
Exhibit 1 (continued)
Component Identification and Location



Spill Container EBW 7XX-49Y-0Z

**Exhibit 1 (continued)
Component Identification and Location**

**Drop Tube Overfill Prevention Device EBW 708-45X-01
(Examples of four sizes)**



Executive Order VR-103-C EBW Phase I Vapor Recovery System

Exhibit 2 Installation, Maintenance and Compliance Specifications

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

General Specifications

1. Typical installations of the EBW System are shown in Figures 2A and 2B.
2. The EBW System shall be installed, operated and maintained in accordance with the latest amended version of the **ARB Approved Installation, Operation and Maintenance Manual for the EBW Phase I Vapor Recovery System**.
3. Any repair or replacement of system equipment shall be done in accordance with the latest amended version of the **ARB Approved Installation, Operation and Maintenance Manual for the EBW Phase I Vapor Recovery System**.
4. The EBW System shall comply with the applicable performance standards and performance specifications in CP-201.
5. 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 EBW Certified Technicians.

Pressure/Vacuum Vent Valves For Storage Tank Vent Pipes¹

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 H₂O positive pressure and 0.21 CFH at 4.00 inches of H₂O negative pressure as determined by TP-201.1E, **Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)**. NOTE: If the positive pressure leak rate is exceeded, a second positive pressure leak test shall be conducted per TP-201.1E (excluding alternate TP-201.1E (CERT)) to determine compliance with the leak rate specification. This second positive leak rate test shall be run only after completing the sequence of tests specified by sections 7.2 through 7.5 of TP-201.1E.
 - b. The positive pressure setting is 2.5 to 6 inches of H₂O and the negative pressure setting is -6.0 to -10 inches of H₂O 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 Order VR-103-A is rescinded.

3. 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 2C. 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 vent pipes may be connected, or more than one P/V valve may be installed on the manifold.
4. Each P/V valve shall have permanently affixed to it a yellow or gold-colored label with black lettering stating the positive and negative cracking pressures.

Positive pressure setting: 2.5 to 6 inches H₂O
Negative pressure setting: -6.0 to -10 inches H₂O
Positive leak rate: 0.05 CFH at 2.0 inches H₂O
Negative leak rate: 0.21 CFH at -4.0 inches H₂O

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 the latest adopted version of 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

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

Spill Container Drain Valve

1. 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 H₂O. Compliance with this requirement shall be demonstrated in accordance with either TP-201.1D, ***Pressure Integrity of Drop Tube Overfill Prevention Devices (October 8, 2003)***; or TP-201.1C, ***Pressure Integrity of Drop Tube/Drain Valve Assembly (October 8, 2003)***. These test procedures call for an inflatable plumber's bladder. For the EBW System, replace the bladder referenced in the test procedure with the EBW Drop Tube Isolation Test Kit, Part Number 90079.

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 exceeds 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 H₂O when tested as in accordance with TP-201.1D, ***Pressure Integrity of Drop Tube Overfill Prevention Devices (October 8, 2003)***. This test procedure calls for an inflatable plumber's bladder. For the EBW System, replace the bladder referenced in the test procedure with the EBW Drop Tube Isolation Test Kit, Part Number 90079.

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 twenty (20) inches. An example of an offset is shown in Figure 2D.
2. The vapor recovery riser shall be offset using commercially available, four (4) inch diameter steel pipe fittings.

Tank Gauge Port Components

1. The tank gauge adaptor and cap are paired.

Connections and Fittings

1. All connections and fittings not specifically certified with an allowable leak rate shall not leak. The absence of vapor leaks may be verified by 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

1. Each GDF operator/owner shall keep records of maintenance performed at the facility. Such record shall be maintained on site 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 and name of individual conducting maintenance or test. An example of a Phase I Maintenance Record is shown in Figure 2E.

**Table 2-1
Gasoline Dispensing Facility Compliance 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
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 inches H ₂ O
Spill Container Drain Valve	TP-201.1C Or TP-201.1D	≤0.17 CFH at 2.00 inches H ₂ O
P/V Valve ¹	TP-201.1E ²	Positive pressure setting: 2.5 to 6.0 inches H ₂ O Negative Pressure setting: -6.0 to -10 inches H ₂ O Positive Leak rate: 0.05 CFH at 2.0 inches H ₂ O Negative Leak rate: 0.21 CFH at -4.0 inches H ₂ O
Gasoline Dispensing Facility	TP-201.3	As specified in TP-201.3 and/or CP-201
All connections and fittings certified without an allowable leak rate	Leak Detection Solution or bagging	No leaks

**Table 2-2
Maintenance Intervals for System Components³**

Manufacturer	Equipment	Maintenance Interval
Husky	Pressure/Vacuum Vent Valve	Annual
EBW	Tank Gauge Components	Annual
EBW	Dust Caps (All Models)	Annual
EBW	Drop Tube	Annual
Phil-Tite	Rotatable Phase I Adaptors	Annual
EBW	Spill Containers	Annual
EBW	Drop Tube Overfill Prevention Valve	Annual

¹ Compliance determination is at the option of the district.

² For additional instructions on conducting this test, see item 2a of Exhibit 2, Pressure/Vacuum Vent Valves for Storage Tank Test Pipes.

³ 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 EBW System

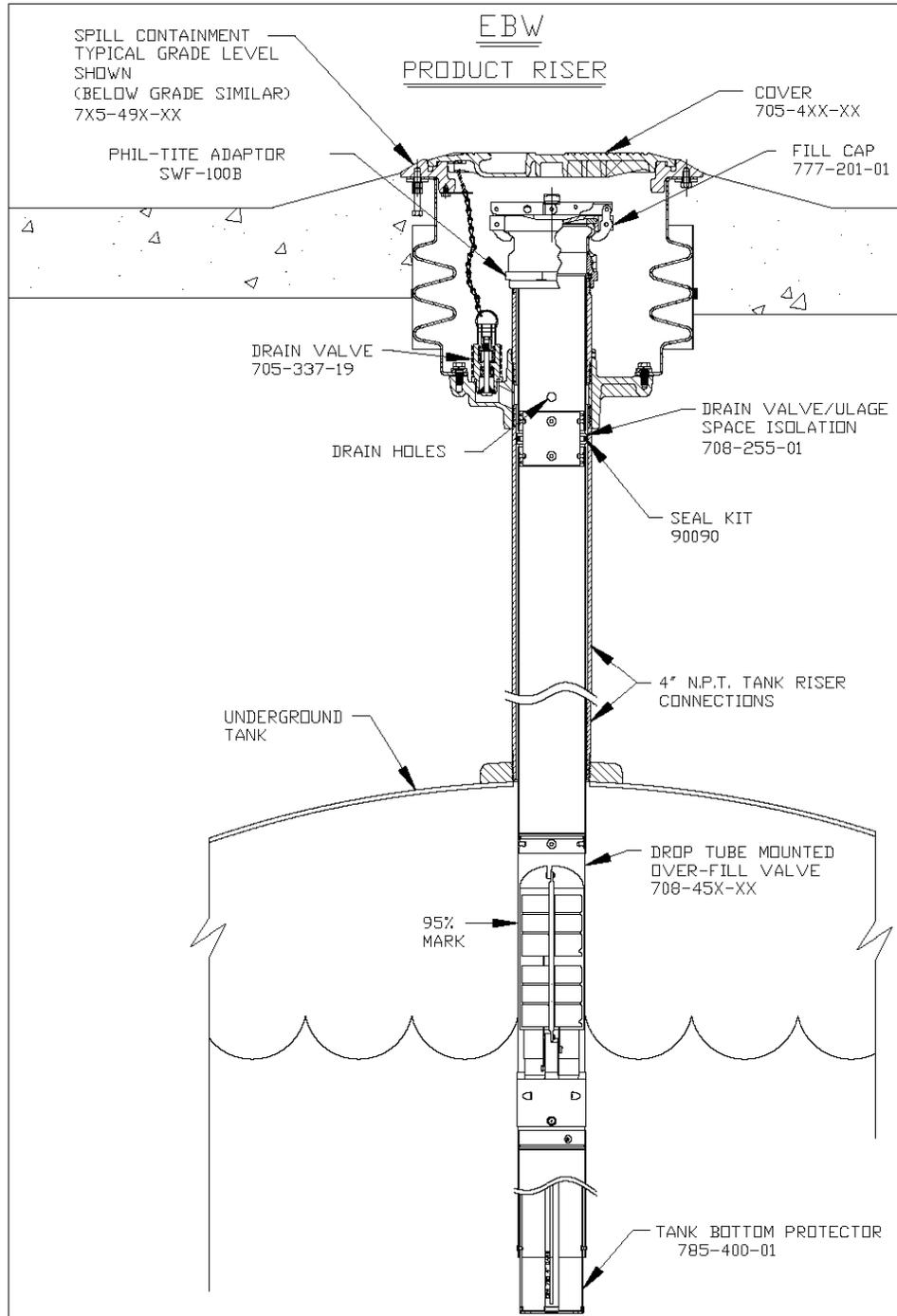


Figure 2B

**Typical Vapor Recovery Installation Using EBW System
(Extractor and Ball Float are optional)**

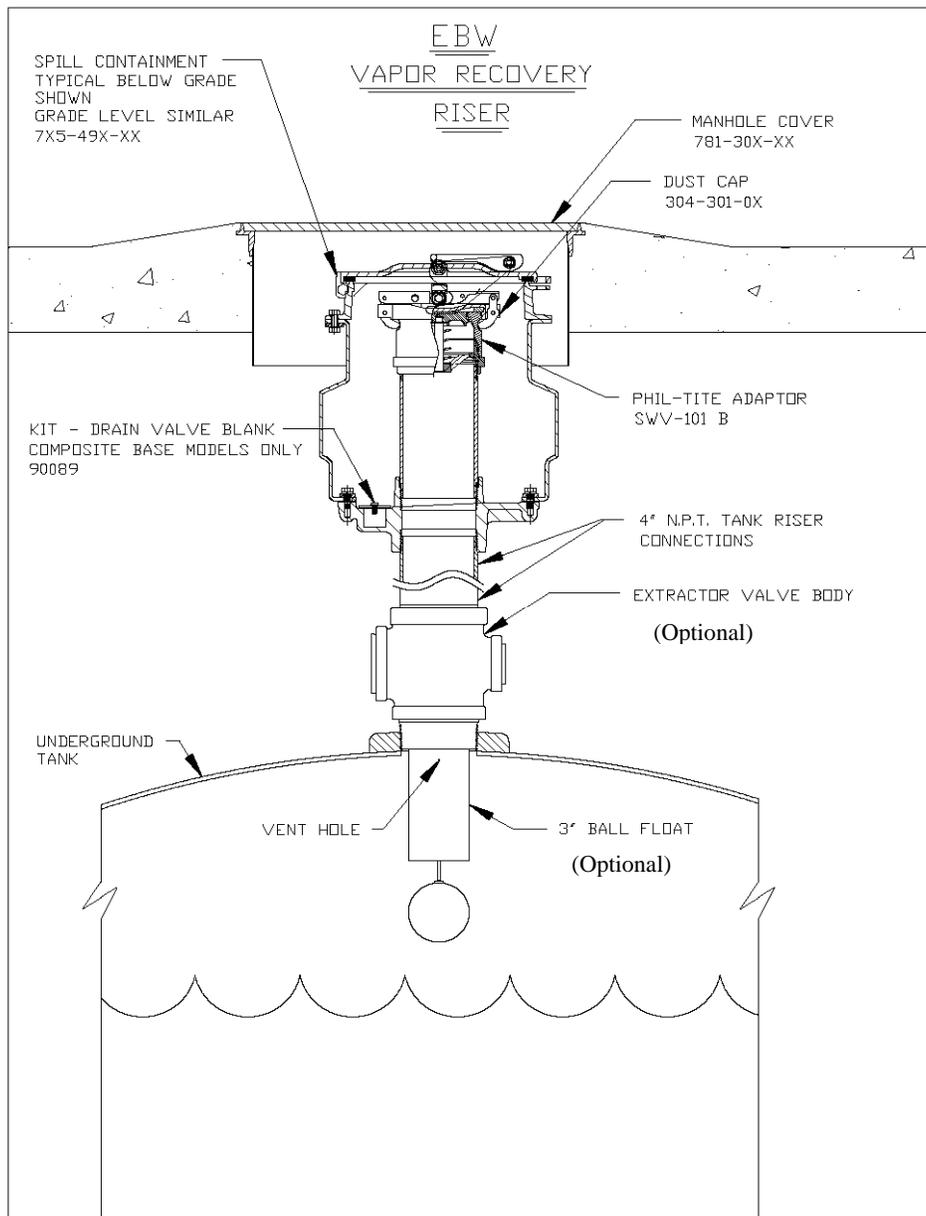
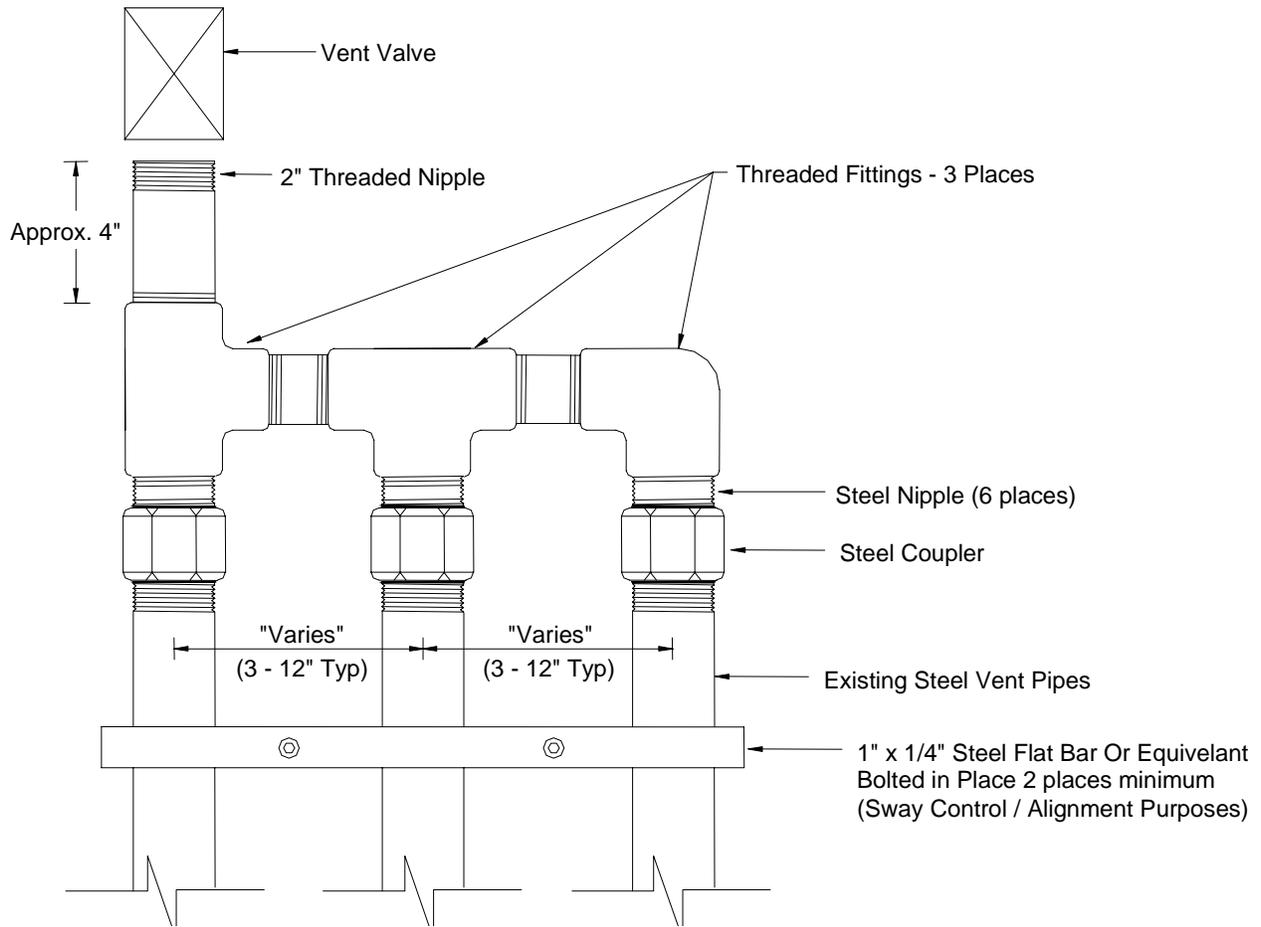
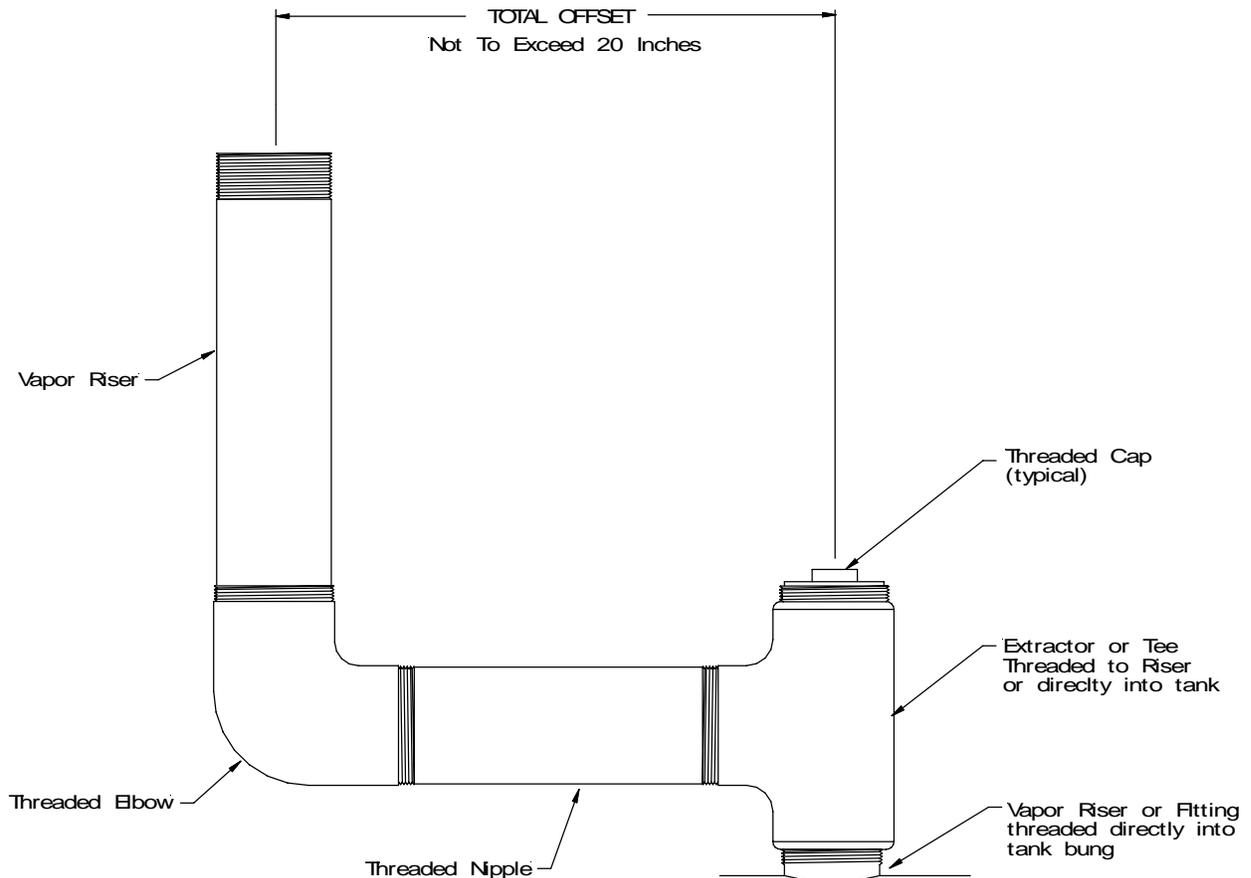


Figure 2C
Typical Vent Pipe Manifold



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 2D
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.

Executive Order VR-103-C EBW Phase I Vapor Recovery System

Exhibit 3 Manufacturing Performance Standards and Specifications

The EBW 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. Unless specified in Exhibit 2 or in the **ARB Approved Installation, Operation and Maintenance Manual For the EBW Phase I Vapor Recovery System**, the requirements of this section apply only 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 to, and meet the specification listed in Table 3-1 and 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.
2. Each P/V valve shall have permanently affixed to it a yellow or gold label with black lettering listing the positive and negative pressure settings specified in Table 3-1. The lettering of 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 meet the specification listed in Table 3-1 and shall have affixed to it a card or label stating the performance specification listed in Table 3-1 and a statement that the adaptor was tested to, and met, these specifications.

Spill Container and Drain Valves

1. Each Spill Container Drain Valve shall be performance tested at the factory to and met, the specifications listed in Table 3-1 and shall have affixed to it 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.

Drop Tube Overfill Prevention Device

1. Each Drop Tube Overfill Prevention Device 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 stating the performance specifications listed in Table 3-1 and a statement that the device was tested to, and met, such performance specifications.

**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 lb-inch average static torque
Rotatable Phase I Adaptors	Micrometer	Cam and Groove Specifications (CP-201)
Spill Container Drain Valve	TP-201.1C or TP-201.1D	≤0.17 CFH at 2.00 inches H ₂ O
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 inches H ₂ O
Pressure/Vacuum Vent Valve	TP-201.1E	Positive Pressure: 2.5 to 6 inches H ₂ O Negative Pressure: -6 to -10 inches H ₂ O Leak rate: ≤ 0.05 CFH at +2.0 inches H ₂ O ≤ 0.21 CFH at -4.0 inches H ₂ O