

BP
mailed
10/10/08
due before
Sept 1st

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

SEP 19 2008

Mr. Allan Busch
Product Manager
Franklin Fueling Systems
3760 Marsh Road
Madison, WI 53718

APPROVAL LETTER 2008-3

Dear Mr. Busch:

This letter is to inform you and Franklin Fueling Systems, of the Missouri Department of Natural Resources' Air Pollution Control Program's approval of the Franklin Fueling Systems (FFS) - PhilTite Enhanced Vapor Recovery (EVR) Stage I vapor recovery (VR) system for use in all Missouri Stage I VR required gasoline dispensing facilities (GDF). The California Air Resources Board (CARB) has begun the EVR certification of all new VR systems to meet these more stringent standards.

All standards, conditions, maintenance, and testing requirements, referenced in the CARB E.O. VR-101 certification for this system will also be held as a condition of this MOPETP approval. Further, FFS must continue to manufacturer and inspect the swivel rotatable adaptors as agreed to, implementing the thread gage checks and confirmations as appropriate to ensure quality control.

FFS, after receiving CARB EVR certification E.O. VR-101- (now up to K), applied requesting MOPETP testing and approval of FFS PhilTite EVR Stage I VR system to this program. The subsequent MOPETP testing was conducted at the Mobil Oil station # 616, located at 203 Mid-Rivers Drive, St. Peters MO 63376. All Stage II VR components at this test site were previously CARB certified and MOPETP approved. The official testing began on October 30, 2007, and was completed on May 15, 2008. During this official testing period the test site was under continuous monitoring of system pressure, temperature, fuel drops, maintenance, as well as atmospheric pressure and temperature. This continuous data along with the required system and component testing at the beginning and ending of the official testing period, were used to evaluate the system.

Older Stage I systems were prone to reoccurring leaks due to innate problems of design such as vapor and fuel port adaptors coming unscrewed during the final stages of a tanker delivery of product to the UST. This issue has been greatly improved by the swivel adaptor design. Other similar issues have been addressed as well in the new FFS PhilTite EVR Stage I system. With the new CARB EVR certification the standards for emission reduction have been enhanced as well. Pressure vacuum valves, and drop tubes with overfill prevention valves have to meet more stringent standards to achieve CARB and MOPETP approval. These much needed improvements will go a long way to reducing the emissions of GDFs.

Tests performed during the Franklin Fueling PhilTite EVR Stage I MO/PETP.

Test	Date
Continuous Monitoring (MOTP-01) - System	August 31, 2007 through May 22, 2008
Bench Testing (MOTP-02) – PV Valves	August 26, 2007
	November 29, 2007
	December 13, 2007
	February 13, 2008
	April 16 -17, 2007
	May 15, 2007
Static Pressure (Leak Decay) Testing (MOTP-03) – System	October 30, 2007 (Official Start)
	November 29, 2007
	December 9, 2007
	February 13, 2008
	March 12, 2008
	May 15, 2008 (Official End)
Dynamic Pressure (Back Pressure) Testing (MOTP-04) – System	October 30, 2007
	May 15, 2008
Stage I Efficiency Test (MOTP-06) – Stage I Components	April 16, 2008
	May 15, 2008
Torque Test (MOTP-10) – Swivel Adaptors	October 18, 2007
	February 13, 2008
	April 16, 2008
	May 15, 2008
Drop Tube/Drain Valve Leak Test (MOTP-11) – Stage I Product delivery components	October 18, 2008
	October 30, 2008
	April 16, 2008

The continuous monitoring data was helpful in determining periods of leaking and their causes, allowing the testing to continue while problems were solved. The system presented for approval passed initial and final testing as indicated in the table above.

Stage I Efficiency Test: MOTP-06

The Stage I Efficiency of the system must be $\geq 98\%$ relative to the uncontrolled emissions under conditions similar to those during the testing.

Mr. Allan Busch
Page Three

The Stage I Efficiency Test (MOTP-06) was initially performed on April 16, 2008, and failed due to the delivery tanker not having proper ullages in all compartments. Also, the EBW PV valves were in place for this test these valves failed the final bench testing and had to be replaced with already MOPETP approved Husky 4885 valves to complete the testing. The test was repeated on May 15, 2008, after the PV valves were replaced by the Husky 4885s to be approved with the system and with the tanker having the appropriate ullage in each compartment for the test. The test was passed with 99.97% efficiency using MOTP-06 calculations and 99.99% efficiency using MOTP-01 calculations.

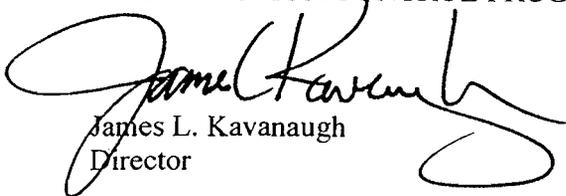
All FFS PhilTite Stage I EVR systems and components must be installed, tested, and maintained as directed in the CARB E.O. VR-101-K, (or most recent applicable executive order), and as directed in the applicable Installation and Maintenance Manuals provide by the manufacturers. This includes the component "replace by" dates which may be attached to the component.

In attachments shown in **Appendix A, B, and C**, the various components, which comprise an FFS PhilTite EVR Stage I VR system are listed. Installation, maintenance, and testing requirements must meet manufacturer's recommendations and all MOPETP approved CARB EVR certification conditions. (See **Appendix D and CARB E.O.**)

Thank you for your cooperation in this matter. If you should have any questions about this approval, please contact Mr. Bud Pratt at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, or by telephone at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



James L. Kavanaugh
Director

JLK:bpm

Attachments: Appendix A, B, C, D

c: All Stage I & II contacts

APPENDIX A

The Missouri Department of Natural Resources' Air Pollution Control Program approves the equipment listed in the table below (Appendices A, B, C, D), subject to the terms and conditions of the Balance system approval listed on the MOPETP Approval APCP-0002-001-99.

List of Components to be MOPETP Approved (except Spill Containment components listed in Appendix B and Appendix C)

Catalog Item #	Description	CARB VR-101-I Exhibit 1 Cross Reference	Comments (note item is required unless otherwise stated)
Phil-Tite 85001	Spill container lid	Phil-Tite 85001	Not required with Manway configuration
Phil-Tite PP-1005-TB	Debris bucket without pump for fill	Phil-Tite PP-1005-TB	
Phil-Tite PP-1005-TBP	Debris bucket with pump for vapor	Phil-Tite PP-1005-TBP	Not Required
Phil-Tite SWF-100-B	Product swivel adaptor	Phil-Tite SWF-100-B	
Phil-Tite SWV-101-B	Vapor swivel adaptor	Phil-Tite SWV-101-B	
Phil-Tite M/F 4x4	Riser adaptor	Phil-Tite M/F 4x4	
Phil-Tite M-1600	Riser support bracket	Phil-Tite M-1600	Use with manway configurations as needed
Phil-Tite M-6050	Riser offset	Phil-Tite M-6050	If installed only this model is allowed.
Phil-Tite TBP-3516	Tank bottom protector	Phil-Tite TBP-3516	If installed only this model is allowed.
EBW 777-201-01	Product dust cap	EBW 777-201-01	In Missouri, any dust cap that is in good condition and fits the adaptor may be used
EBW 304-301-XX	Vapor dust cap where XX=01 is no chain and XX=02 is with chain	EBW 304-301-XX	In Missouri, any dust cap that is in good condition and fits the adaptor may be used
EBW 708-49X-1Y	Drop tube with overflow protection devices, X =1 is 5 foot length upper drop tube section, X=2 is 10 foot length upper drop tube section; Y=1 is 8 foot length bottom thread-on section drop tube and Y=2 is 10 foot length bottom thread-on section drop tube	EBW 708-49X-1Y	
EBW 90037	Tank gauge port components (in tank probe cap and adaptor kit)	EBW 90037	
Husky 4885	Pressure/vacuum vent valve	Husky 4885	

APPENDIX B

List of FFS PhilTite Direct Bury Spill Containment Options to be MOPETP Approved

Spill Containment (note all items require the installation tool T-7043 and item M/F 4x4 for installation)			
Catalog Item #	Description	CARB VR-101-I Exhibit 1 Cross Reference	Spill Container Reference
500-CS-YYY-XXX	Fill, 5 gallon, 14" access opening with corrugated gravel shield and stainless steel liner, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1S	85000-1 with drain valve
500-F2-YYY-XXX	Fill, 5 gallon, 18" access opening and fiberglass gravel shield and stainless steel sleeve, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1GS	85000-1 with drain valve
500-FS-YYY-XXX	Fill, 5 gallon, 14" access opening with fiberglass gravel shield and stainless steel sleeve, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1GS	85000-1 with drain valve
500-S2-YYY-XXX	Fill, 5 gallon, 24" access opening with fiberglass secondary containment, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1GS	85000-1 with drain valve
501-CS-YYY-XXX	Vapor, 5 gallon, 14" access opening with corrugated gravel shield and stainless steel liner, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85001-1S	85000-1 without drain valve
501-F2-YYY-XXX	Vapor, 5 gallon, 18" access opening and fiberglass gravel shield and stainless steel sleeve, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85001-1GS	85000-1 without drain valve
501-FS-YYY-XXX	Vapor, 5 gallon, 14" access opening with fiberglass gravel shield and stainless steel sleeve, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85001-1GS	85000-1 without drain valve
501-S2-YYY-XXX	Vapor, 5 gallon, 24" access opening with fiberglass secondary containment, XXX is color of lid, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85001-1GS	85000-1 without drain valve
85100-1	Fill, 5 gallon spill container for replacement	85100-1-F	85000-1 with drain valve
85101-1	Vapor, 5 gallon spill container for replacement	85101-1-NV	85000-1 without drain valve

APPENDIX C

Multi-port Manway Spill Containment Options to be MOEPTP Approved to be used with the components listed in Appendix A to make a Stage I EVR system

Multi-port Manways			
Catalog Item #	Description	CARB VR-101-I Exhibit I Cross Reference	Spill Container Reference
M36-1C-1-0-YYY	Multi-port manway, 36" access opening, 1 field replaceable fill spill container with one 13" access opening, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1	85000-1 with drain valve
M36-2C-0-1-YYY	Multi-port, 36" access opening, one fill spill container with drain valve, one vapor spill container without drain valve, and with one 8" access opening, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-1C-1-0-YYY	Multi-port, 42" access opening, 1 fill spill container with 13" access opening, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1	85000-1 with drain valve
M42-2C-0-1-YYY	Multi-port, 36" access opening, one fill spill container with drain valve, one vapor spill container without drain valve, and with one 8" access opening, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-2C-0-1-POR	Multi-port, 36" access opening, one fill spill container with drain valve, one vapor spill container without drain valve, and with one 8" access opening, with no snow plow ring with orange and red cover.	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-2C-0-1-POW	Multi-port, 36" access opening, one fill spill container with drain valve, one vapor spill container without drain valve, and with one 8" access opening, with no snow plow ring and orange and white cover	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-4C-0-1-YYY	Multi-port, 42" access opening, two fill spill containers with drain valve, two vapor spill containers without drain valve, and with one 6" access opening, YYY is SPR (with snow plow ring) or NPR (no snow plow ring)	(2) 85000-1/(2) 85001-1	85000-1 (2) with drain valve, (2) without drain valve
Multi-port EVR Stage I Packages			
M36-EVR-3	Contains: M36-2C-01-NPR, 1 SWF-100-B, 1 SWV-101-B, 1 PP-100S-TBP, 1 M-1600, 3 M/F 4x4, 1 TBP3516	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M36-EVR-3-SPR	Contains: M36-2C-01-SPR, 1 SWF-100-B, 1 PP-100S-TBP, 1 M/F 4x4, 1 TBP3516	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-EVR-1-YYY	Contains: M42-1C-01-YYY, 1 SWF-100-B, 1 SWV-101-B, 1 PP-100S-TBP, 1 M-1600, 3 M/F 4x4, 1 TBP3516	85000-1	85000-1 with drain valve
M42-EVR-2-YYY	Contains: M42-2C-01-YYY, 1 SWF-100-B, 1 SWV-101-B, 1 PP-100S-TB, 1 PP-100S-TBP, 1 M-1600, 3 M/F 4x4, 1 TBP3516	85000-1/85001-1	85000-1 (1) with drain valve, (1) without drain valve
M42-EVR-4	Contains: M42-4C-01-NPR, 2 SWF-100-B, 2 SWV-101-B, 2 PP-100S-TBP, 4 M-1600, 5 M/F 4x4, 0 TBP3516	(2) 85000-1/(2) 85001-1	85000-1 (2) with drain valve, (2) without drain valve

APPENDIX D

Requirements for Installation, Maintenance, and Testing

The following requirements must be performed for any and all Franklin Fueling PhilTite Stage I EVR Systems installed in the state of Missouri.

1. The system must be installed as a system containing all required components as listed in section 5.
2. The system must be installed in accordance with this approval, the most recent CARB certification (VR101-I or most recent), and the manufacturer's installation and maintenance manual and must be subject to all conditions listed in VR101-I or the most recent CARB certification.
3. Franklin Fueling must provide a training course for all installation contractors and MDNR inspectors.
4. The warranty information must be completed by the installation contractor confirming that the installation has been performed as stated in the installation and maintenance manual. The warranty information must be provided to:
 - a. The MDNR personnel responsible for the construction and operation permit, to be maintained with the operation permit.
 - b. The facility at which the installation was made.
 - c. Franklin Fueling
 - d. Copy kept by the installation contractor
5. The following tests must be performed and criteria passed no more than 60 days after the start of operation or completion of installation, and at a minimum of 3 years:
 - a. MOTP-02-PL-RF – Permit Level bench testing of the PV valves
 - b. MOTP-03-PL-RF – Leak Decay Test
 - c. MOTP-10-PL-RF – Torque Test for Rotatable Adaptors
 - d. MOTP-11-PL-RF and/or MOTP-12-PL or RF – Leak Rate of Drop Tube/Overfill Device or Drop Tube/Drain Valve Assembly
6. Typical installations for Missouri are shown in VR101-K Figures 2B, 2C, 2D and 2E. Figures 2A and 2F are not allowed.
7. Vent pipes may be manifolded as in VR101-K Figure 2G.
8. Regular maintenance must be performed as stated in CARB VR101-I Table 2-2 and as required by the Manufacturer's Maintenance Manual. The facility must maintain records of maintenance and testing on site (date of test or maintenance, activity performed including component make, model, and serial number as appropriate, repair date if test failure, name of individual conducting maintenance or test, telephone number).

This is not meant to be a complete listing of all Installation, Maintenance, and Testing requirements. To see a complete listing reference the manufacturer's Installation, Maintenance manuals and CARB E.O. VR101-K (or later).