Wisconsin
Department of Commerce

Approval # 990012-U (Revised)

Safety & Buildings Division
201 West Washington Avenue
P.O. Box 2658
Madison, WI 53707

Wisconsin
Material Approval

Material: LineTite Pipeline Leak Detection System

Manufacturer: Petro Vend, Inc.
6900 Sante Fe Drive
Hodgkins, IL 60525-9909

SCOPE OF EVALUATION

The LineTite Pipeline Leak Detection System with Models LT2 and 2001J Line Leak Sensors manufactured by Petro Vend, Inc., has been evaluated for use as a leak detection system in conformance with sections **Comm 10.615 (1) and (2)** of the current edition of the Wisconsin Administrative Flammable and Combustible Liquids Code.

DESCRIPTION AND USE

The basic LineTite System consists of a control panel that can be interfaced with up to four remote sensors installed in separate product lines. The remote sensor contains a flow sensor that measures volumetric fuel flow in the line. A keypad on the front of the control panel is used to program the unit.

The LineTite System also has provisions for one or two Expansion Modules that can be used with the LineTite Control Panel. The Expansion Modules can be used to add up to eight remote sensors, for a maximum of twelve remote sensors.

The LineTite System also has provisions for liquid sensor inputs, and can be used with Petro Vend Liquid Sensors.

The LT2 remote sensor series consists of Models 2000A, 2000B, and 2000C.

For hourly monitoring, the LT2 sensors use a preset threshold of 2 gallons per hour to declare a leak, and the 2001J remote sensor uses a threshold of 2.5 gallons per hour. For annual tightness testing, the LT2 threshold is 0.062 gallons per hour, and the 2001J threshold is 0.05 gallons per hour.

This equipment may be used when trapped vapor is present in the lines.

The LineTite System can be used to test lines that contain gasoline, diesel, aviation fuel, methanol, ethanol and gasoline-alcohol blends. The manufacturer should be contacted for other hydrocarbon applications.

The 2001J sensor can be used to test single or double-wall lines that contain gasoline, diesel, aviation fuel, and fuel oil #4. The 2001J sensor is typically used on 2-inch lines.

This equipment can be used on pipelines pressurized to a maximum pressure of 50 PSI.

If a leak is declared, the system will print a message on the monitor, trigger an alarm and shut down the dispensing system.

There is no required waiting period between a product delivery and starting the test.

TESTS AND RESULTS

Ken Wilcox Associates tested the LineTite System and all models of remote sensors in accordance with the EPA protocol, with the exception of the number of tests performed for bulk and flexible pipelines. The results of the testing on bulk and flexible pipelines meet the performance requirements of the EPA. All of the testing resulted in a probability of detection for both a 3-gallon and 0.1-gallon per hour leak of 100 percent. The testing protocol did not address safety issues.

LIMITATIONS OF APPROVAL

The LineTite System is approved as an annual line tightness test as specified in **s. Comm 10.615 (2)** and as an hourly line leak detector as specified in **s. Comm 10.615 (1)**.

The LineTite System is approved for use on rigid and flexible pipeline systems. The LT2 sensors are approved on piping having a section modulus of at least 1,280 PSI, and the 2001J sensor is approved on piping having a section modulus of at least 4,485 PSI.

The maximum bulk line volume to which the LT2 sensors can be applied is 341 gallons, which is equivalent to an 800-foot length (twice the tested length) of 3-inch line. The maximum flexible line volume is 50 gallons, which is equivalent to a 540-foot length of 2-inch line.

The maximum rigid line volume to which the Model 2001J sensor can be applied is 172 gallons, which is equivalent to a 400-foot length (twice the tested length) of 3 ¼-inch line. The maximum flexible line volume is 39.5 gallons (twice the volume of that tested), which is equivalent to 415 feet of 1 ½-inch line.

The operating instructions and test procedures specified by Petro Vend, Inc. shall be used to conduct all tests. No deviations from the specified testing protocol are allowed.

For hourly monitoring, the test time is approximately 1 to 6 minutes.

For annual tightness testing with the LT2 sensors, the test time is approximately 1.5 to 6 hours. For annual tightness testing with the 2001J sensor, the minimum test time is 2.16 hours. Mechanical line leak detectors shall be removed from the line.

This approval will be valid through December 31, 2004, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified herein.

Reviewed by: _____

Approval Date: February 2, 1999

Revision Date: _____ By:_____

Sam Rockweiler, P.E.
Code Consultant
Program Development Bureau