STATE OF WISCONSIN
Department of Safety and
Professional Services

Approval # 20110008
(Renewal for 20080007)

Environmental & Regulatory Services Division
Bureau of Petroleum Products and Tanks
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

Wisconsin SPS 310
Material Approval

Equipment: Autolearn Line Leak Detector
(Incon TS-LS300 / EBW AS-LS300)

Manufacturer: Franklin Fueling Systems
34 Spring Hill Road
Saco, ME 04072

Expiration of Approval: December 31, 2014

SCOPE OF EVALUATION

The Franklin Fueling Systems Electronic Line Leak Detection Systems, marketed as the INCON TS-LS300 or the EBW AS-LS300, were evaluated as a means of automatic line leak detection and line tightness testing for both rigid and flexible piping in accordance with **s. SPS 310.510(4)**.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – SPS 310.

DESCRIPTION AND USE

The INCON TS-LS300 or the EBW AS-LS300 Auto-Learn Line Leak Detection systems may both be used on pipelines containing gasoline, diesel, ethanol, methanol, aviation fuel, fuel oil #4, waste oil and kerosene.

Both of the INCON TS-LS300 and the EBW AS-LS300 systems consist of a control box with encoded lights to indicate test conditions, a pressure transducer in the line and a microprocessor to evaluate the data from the transducer. The functional element is set above the pump operating pressure so that when the pump is shut off, the system will be able to detect a leak based on the pressure drop. Both systems have three leak detection modes - Hourly, Monthly, and Annual.

Hourly tests for 3 gal/h leaks are initiated after each dispense cycle or after 45 minutes of quiet time. The test consists of 3 consecutive tests, timed at 5-minute intervals. If one of the three tests pass, the line is determined to have no Gross leak. If there is a failure, the test will continue until three consecutive tests fail. Three failures will cause the alarm light to blink, the alarm horn to sound, and the pump to shut down. If there is dispensing from the line during the testing process, the testing will restart as soon as dispensing is complete. During dispensing inactivity the Gross (3 GPH) test will repeat every 45 minutes after passing tests, or until there has been no dispensing (line inactive) for 3 hours.

Monthly Monitoring for 0.20 gal/h leaks is automatically initiated each time the line has been inactive for 3 hours. This test will be performed every 5 minutes until a test has passed. If there are three consecutive failures, with no passes, the alarm light will flash, and the horn will sound, indicating that there is a precision leak in the system. This alarm indication will not shut down the pump.

The Annual Line Tightness Test for 0.10 gal/h leaks is initiated after the line has been inactive for 6 hours. This test will be performed every 5 minutes until a test has passed. If there are three consecutive failures, with no passes, the alarm light will flash, and the horn will sound, indicating that there is a precision leak in the system. This alarm indication will not shut down the pump.

TESTS AND RESULTS

Testing of the Franklin Fueling Systems Electronic Line Leak Detector for hourly, monthly, and annual pipeline tightness testing was conducted in accordance with either the EPA Pressurized Pipeline Leak Detection Systems protocol (rigid piping) or a modified version of same protocol adapted for flexible piping. When using leak declaration thresholds of 1.5 gph, 0.10 gph, and 0.05 gph, the probabilities of detection for a leak of 3.0, 0.20 and 0.10 gph, respectively, were certified to within the 95-5 ranges required by the EPA protocols.

LIMITATIONS / CONDITIONS OF APPROVAL

General

- All monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer instructions, and certified every 12 months for operability, proper operating condition, and proper calibration. Records of sampling, testing, or monitoring shall be maintained in accordance with **SPS 310.500(9)(c)**.

- The manufacturer shall submit for a revision to this Wisconsin Material Approval application if any of the functional performance capabilities of this equipment are revised. This would include, but not be limited to changes in software, hardware, or methodology.

- An annual test of the operation of the leak detector shall be conducted in accordance with the manufacturer requirements for testing to the recognized leak thresholds by inducing a physical line leak. The individual performing the test must be qualified by the equipment manufacturer.

- The system may be used with trapped vapor present in the line.

- **Mechanical line leak detectors cannot be installed in the same line as the electronic line leak detector.**

- Critical performance parameters for the **Electronic Line Leak Detector:**

Parameter	Value
Total maximum allowable volume of product in any **flexible** test pipeline	**39.5 gallons or less**
Total maximum allowable volume of product in any **rigid** test pipeline	**163 gallons or less**

Note: All other critical parameters, such as test line pressure; minimum test times; minimum wait times between product dispensing and start of test are pre-programmed into the software and are not accessible for viewing.

This approval will be valid through December 31, 2014, 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 in this document.

Effective Date: January 1, 2012

Reviewed by: Signature on file
Greg Bareta, P. E.
Engineering Consultant
Bureau of Petroleum Products and Tanks

Approved by: Signature on file Date: _____