



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

November 3, 1999

Certified Mail Return Receipt Requested: Z 333 615 948

Mr. Terry Warren
Industrial Heater
Post Office Box 73
Ellendale, Tennessee 38029

RE: File No. EQ-399, DEP Approval of the Sensorcomm TLD 5000 pursuant to Rule 62-761.850, Florida Administrative Code (F.A.C.)

Dear Mr. Warren:

The Bureau of Petroleum Storage Systems has concluded its review of the Equipment Approval request dated September 8, 14, 15, and October 4, 1999, that were submitted for the above referenced equipment.

Based on the information provided by Industrial Heater, the Department finds that the applicant's Sensorcomm TLD 5000 will provide environmental protection substantially equivalent to that provided by compliance with the requirements established in Rule 62-761.640(2)(d)5., F.A.C.

Pursuant to Rule 62-761.850, F.A.C., the request for the use of the above referenced product is approved as a release detection method for field-erected tank bottoms in the State of Florida provided that:

- (a) The Sensorcomm TLD 5000 system may be used on tanks containing gasoline analytical group products as defined in Rule 62-770.200(14), F.A.C., with background soil vapor concentrations less than 25,000 PPM. The Sensorcomm TLD 5000 system sensor placement may be used on tanks containing kerosene analytical group products as defined in Rule 62-770.200(18), F.A.C., in accordance with the "Calculation for Alarm Time for SENSORCOM Leak Detection System" dated October 4, 1999, prepared by Ken Wilcox Associates, Inc., and attached to this order as Exhibit A;

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

- (b) Tanks using the Sensorcomm TLD 5000 system shall have been constructed in accordance with API 650 tank foundation requirements;
- (c) Sensor cables associated with the Sensorcomm TLD 5000 system shall not be submersed in water or groundwater for more than seven consecutive days;
- (d) The Sensorcomm TLD 5000 system shall not be used in sites with free product;
- (e) The Sensorcomm TLD 5000 system shall not be used at sites where the groundwater is 18 inches or less from the ground surface. The determination of the groundwater level shall be performed adjacent to the tanks before sensor installation and;
- (f) The Sensorcomm TLD 5000 system shall be used for those sites that meet the Department's "Guidelines for Site Suitability Determination for External Monitoring" dated April 1998 in accordance Rule 62-761.640(2)(b), F.A.C. Additionally, monitoring must be performed in accordance with Rule 62-761.640, F.A.C. The Release Detection Response Level ("RDRL") shall be determined as specified in the Department's "Guidelines for Vapor Monitoring" dated April 1998. If the RDRL can not be determined as specified in the "Guidelines for Vapor Monitoring" dated April 1998, the Sensorcomm TLD 5000 system shall not be used as a method of release detection at the site. The documentation shall reflect all the above conditions for each site.

The Department's previous approval of EQ-382, dated August 17, 1999, is hereby revoked.

Please be advised that the above rules are subject to change. If the above rule standards are modified in the future, this order may be modified or rescinded for future upgrades and installations. Additionally, if the product(s) shows a consistent pattern of failure(s), and therefore does not provide substantially equivalent environmental protection, the Department may rescind this order.

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. Persons who have filed

such a petition may seek to mediate the dispute, and choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing and pursuing mediation are set forth below. Persons affected by this Order have the following options:

If you choose to accept the above decision by the Department about equipment approval you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

If you choose to challenge the decision, you may do one of the following:

1. file a petition for administrative hearing with the Department's Office of General Counsel within 21 days of receipt of this Order;
2. file a request for an extension of time to file a petition for hearing with the Department's Office of General Counsel within 21 days of receipt of this Order; such a request should be made if you wish to meet with the Department in an attempt to resolve any disputes without first filing a petition for hearing.

In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation under section 120.573, F.S. within 10 days after the deadline for filing a petition.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from the applicant, shall mail a copy of the request to the applicant at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, MS 35,

Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from the applicant, shall mail a copy of the petition to the applicant, at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under sections 120.569 and 120.57, F.S.

Pursuant to Subsection 120.54(5)(b)4., F.S., and rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

- a) The name, address, and telephone number of each petitioner, the name, address, and telephone number of the petitioner's representative;
- b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- d) A statement of the material facts disputed by the petitioner, or a statement that there are no disputed facts;
- e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- f) A statement of the specific rules or statutes the petitioner contends requires reversal or modification of the Department's action or proposed action; and
- g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

How to Pursue Mediation

In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation. The election may be accomplished by filing with the Department a mediation agreement with all parties to the proceeding (i.e., the applicant, the Department, and any person who has filed a timely and sufficient petition for hearing). The agreement must contain all the information required by rule 28-106.404, F.A.C. The agreement must be received by the clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000 within 10 days after the deadline for filing a petition, as set forth above. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. Pursuant to rule 28-106.404, F.A.C., an agreement to mediate must include the following:

- (i) The name, address, and telephone number of the persons who may attend the mediation;
- (ii) The name, address, and telephone number of the mediator agreed to by the parties;
- (iii) How the costs and fees associated with the mediation will be allocated (the Bureau of Petroleum Storage Systems will not pay any of the costs of mediation)
- (iv) The agreement of the parties regarding the confidentiality of discussions and documents introduced during mediation to the extent authorized by law;
- (v) The date, time, and place of the first mediation session;
- (vi) The name of the party's representative who shall have authority to settle or recommend settlement; and
- (vii) The signature of the parties.

As provided in section 120.573, F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by sections 120.569 and 120.57, F.S., for holding an administrative hearing and issuing a final order. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons seeking to protect their substantial interests that would be affected by such a modified final decision must file their petitions within 21 days of receipt of this notice, or they shall be deemed to have waived their right to a proceeding under sections 120.569 and 120.57, F.S. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under sections 120.569 and 120.57, F.S., are resumed.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or mediation settlement, or an order responding to supplemental information provided pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under section 120.68, F.S., by filing a notice

Mr. Terry Warren
Page Six

of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Department's review of your equipment approval should be directed to Farid Moghadam at (850) 488-3935. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 488-9314. Contact with any of the above does not constitute a petition for administrative hearing (or time extension) or agreement to mediate.

Sincerely,



John M. Ruddell, Director
Division of Waste Management

JMR/fm

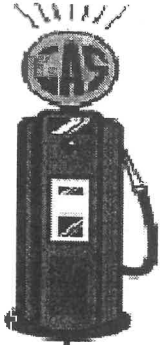
FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

 11/3/99
Clerk Date

Attachment:

Exhibit A: Calculation for Alarm Time for SENSORCOM Leak Detection System, dated October 4, 1999, prepared by Ken Wilcox Associates, Inc.



Calculations for Alarm Time for SENSORCOMM Leak Detection System

Final Report

Prepared for:
Industrial Heater

RECEIVED
STANDARD AND
REGULATION
99 OCT -7 PM 2:11

Exhibit A

October 4, 1999



Ken Wilcox Associates, Inc.
1125 Valley Ridge Drive, Grain Valley, MO 64029, USA
Voice (816) 443-2494, Fax (816) 443-2495
E-mail info@kwaleak.com, Web <http://www.kwaleak.com>

Calculation of Alarm Time for SENSORCOMM Leak Detection System

Final Report

Prepared for:

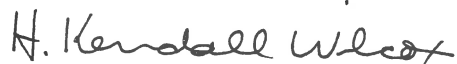
Industrial Heater

2941 Kate Bond, Suite 101
Bartlett, Tennessee 38133

October 4, 1999

Preface

These calculations were conducted by Ken Wilcox Associates, Inc. for Industrial Heater. Questions should be addressed to Mr. Terry Warren, at (901) 382-4761.

A handwritten signature in cursive script that reads "H. Kendall Wilcox".

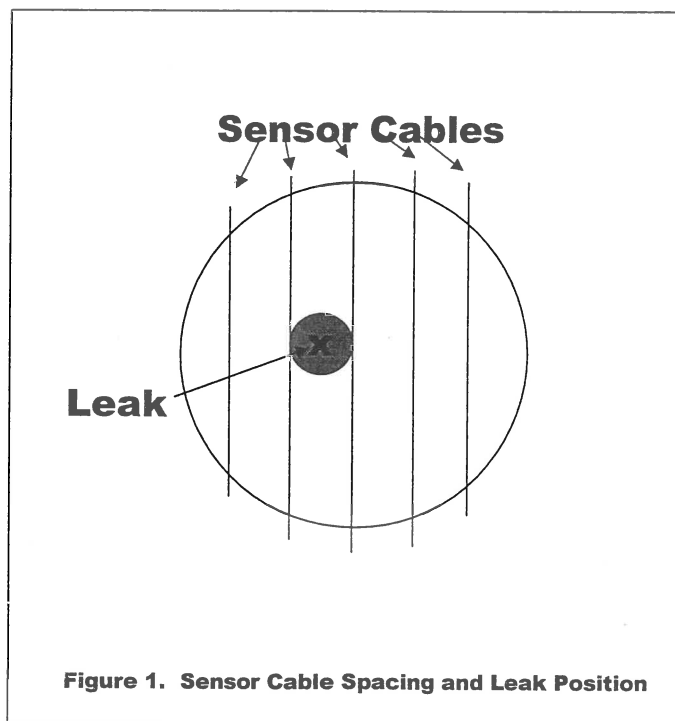
H. Kendall Wilcox, President
October 4, 1999

Calculations for Alarm Time for SENSORCOMM Leak Detection System

This document presents calculations to support the alarm time for the Industrial Heater SENSORCOMM system when used to monitor for diesel fuel leaks below a flat bottom, aboveground tank. The calculations apply to any hydrocarbon that has been shown to alarm when it comes in direct contact with a Raychem cable.

Two primary types of processes have been considered when calculating the time to alarm: The volume of free product necessary to spread from the leak location to the nearest sensor; and the permeation of product into the fill material below the tank.

Calculations have been presented with the spacing of the Raychem cable at 20 ft and 30 ft as shown in Figure 1. The worst-case condition is for a leak to develop exactly in the middle of the spacing as shown. In this case the product will need to migrate the maximum distance before reaching the nearest sensor. This distance will be 10 ft if 20 ft spacing is used or 15 ft if 30 ft spacing is used.



For purposes of this presentation, the volume required to form a circular puddle of fuel with a diameter of either 10 ft or 15 ft and a depth of 0.25 inches has been calculated. The actual volume of fluid could be less if the product spreads out with a depth of less than 0.25 inches. The results of these calculations have

been shown in Table 1 for 20 ft spacing and in Table 2 for 30 ft spacing. Available pore space has been considered to be 40%.

Table 1. Product Volume for Diesel Release for 20 ft Spacing.

Process	Permeation Rate (cm/sec)			
	1.00E-05	1.00E-06	1.00E-07	1.00E-08
Free Liquid (40% pore space)	19.5	19.5	19.5	19.5
Permeation Into Clay (10 days)	6.63	0.663	0.066	0.007
Total Gallons	26.1	20.2	19.6	19.5
Days to Alarm (0.2 gal/hr)	5.4	4.2	4.1	4.1

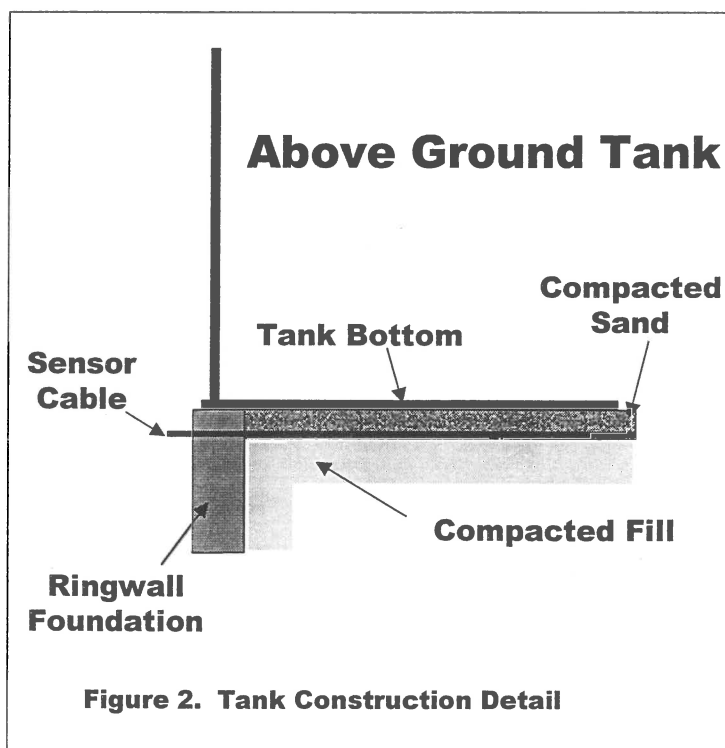
The API construction standard is 1.00E-07 cm/sec

Table 2. Product Volume for Diesel Release for 30 ft Spacing.

Process	Permeation Rate (cm/sec)			
	1.00E-05	1.00E-06	1.00E-07	1.00E-08
Free Liquid (60% pore space)	43.9	43.9	43.9	43.9
Permeation Into Clay (30 days)	89.50	8.950	0.895	0.089
Total Gallons	133.4	52.8	44.7	43.9
Days to Alarm (0.2 gal/hr)	27.8	11.0	9.3	9.2

The API construction standard is 1.00E-07 cm/sec

The second consideration was the volume of fuel that would permeate into the fill material below the tank bottom as shown in Figure 2.



API 650 specifies that the compacted fill below the tank must have a permeation rate less than 1×10^{-7} cm/sec. Calculations were conducted for several permeation rates ranging from 1×10^{-5} to 1×10^{-8} cm/sec. The results of these calculations have also been included in Table 1 for 20 ft spacing and Table 2 for 30 ft spacing. The available pore space for compacted clay was assumed to be 2%. The time of exposure to the fill was set at 10 days for the 20 ft spacing and 30 days for the 30 ft spacing.

The time to alarm was then obtained from the total calculated volume assuming a leak rate of 0.2 gal/hr. If the fill has been properly compacted, the time to alarm for either spacing is well below the 30-day time limit imposed by the regulations for monthly monitoring. Even if the fill is not properly compacted by a factor of 100, the time to alarm is still less than the regulatory limitation.

The conclusion reached is that the SENSORCOMM leak detection system will detect leaks of 0.2 gal/hr within one month if the tank foundation has been properly constructed. The assumptions used for the calculations seem conservative so that the actual performance could be much better than predicted.

Correspondence Briefs

October 01, 1999

1. Although you can find *someplace*, *anyplace*, and *everyplace* in the dictionary, *somewhere*, *everywhere*, *anywhere* are better terms to use.
2. Please note what *RESPOND* means on the correspondence control items, as it has proven not to communicate what is intended. Respond means to prepare a response on on the behalf of whomever the letter was addressing, whether it be DBS, DS, KG, or JB.
3. When corrections are made on a draft letter for the Governor, please be sure the corrections are on the disk as well as the hard copy. (This is especially directed to the Divisions and Bureaus).
4. *Practical English & the Command of Words:
Empty or inflated phrases like *in regard/relation to*, *on the grounds that*, *due to the fact that*, *by means of*, *in connection with*, *on consideration of*, *for the specified reason that*, *in accordance with*, *with the view to* are qualifiers that links that say little. Many of us, however, do fall back on them to make our writings sound "official". Delete them unless they serve a precise function in your sentence.

A Personal Side Not to All:

The updated Correspondence Control Manual should be completed this month. All of you have been very patient and I am appreciative.

JP/era

*From English Language Institute of America