



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

July 31, 2009

Certified Mail

Return Receipt Requested: 7008 0150 0001 8479 0358

Mr. Clark Braddock  
Tank Tech, Inc.  
P.O. Box 17  
Blodgett, MO 63824

Subject: Approval of the UL Listed Phoenix Hybrid System and Phoenix Epoxy System, UL file number MH46218, File No. EQ-729 Amendment

Dear Mr. Braddock:

This Order amends the previous Equipment Approval EQ-729 issued on March 17, 2009, (original Order) that approved the produced by Tank Tech, Inc. This amended Order adds the following;

- a) The following condition f is added to the of the original Order stating that the systems installed after March 17, 2009, shall be tightness tested in accordance with Exhibit A of this Oder; and
- b) The conditions of original Order remain in effect.

Please be advised that the above referenced DEP 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 If the above rule standards are modified in the future, this order may be modified or rescinded for future upgrades and installations.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, 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:

- A. If you choose to accept the Department's decision regarding the Order, 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.
- B. If you choose to challenge the decision, you may do the following:
  - 1. File a request for an extension of time to file a petition for hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order. This 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 or negotiate an agreement to mediate; or
  - 2. File a petition for administrative hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order.
  - 3. In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation under Section 120.573, F.S., and must negotiate an agreement to mediate 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) by the Agency Clerk 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. 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.

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) by the Agency Clerk 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 120.569(2), 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, if any, the site owner's name and address, if different from the petitioner, the DEP facility number, and the name and address of the facility;
- b) A statement of when and how the 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 disputed issues of material fact, or a statement that there are no disputed facts;
- e) A concise 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, signed by all parties, must be received by the Agency 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, (also the DEP facility number, the name and address of the facility if applicable);
- (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 Department 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.

#### Judicial Review

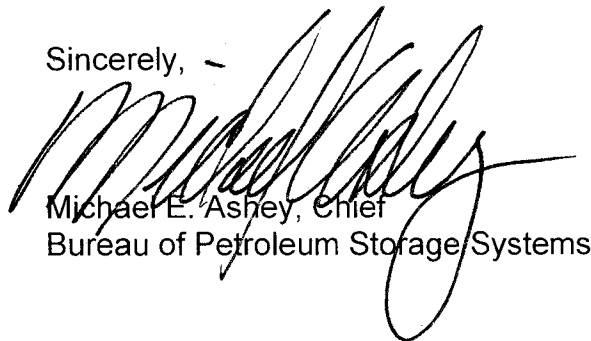
Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, 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).

Mr. Clark Braddock  
July 31, 2009  
Page 5

Questions

Any questions regarding the Department's review of your equipment approval should be directed to Farid Moghadam at (850)245-8848. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850)245-2242. Contact with any of the above does not constitute a petition for administrative hearing (or time extension) or agreement to mediate.

Sincerely, ~



Michael E. Ashley, Chief  
Bureau of Petroleum Storage Systems

MEA/fgm

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

Cheryl Stafford  
Clerk  
(or Deputy Clerk)

7/31/09  
Date

EQ-729 Amendment Summary  
Tank Tech, Inc.

Description of EQ-729 Amendment

This is an amendment to Final Order EQ-403 that was issued on March 17, 2009. The purpose of this amendment Order is to add a new condition to the original order so that the existing upgraded tanks will be tightness tested in a safe manner in accordance with the attached document marked as exhibit A to this amendment. This material was evaluated by Ken Wilcox Associates, Inc. that meets the Department definition of Nationally Recognized Laboratories in Rule 62-761.200, F.A.C.

Statute/Rule Analysis

The UL Listed Phoenix Hybrid System and Phoenix Epoxy System, UL file number MH46218 is in compliance with Rule 62-761.500, F.A.C., requirements since the product meets the minimum requirements for secondary containment of underground storage tanks.

Effects/Risks

The Department approval is justified in accordance with Rule 62-761.850(2), F.A.C. The UL Listed Phoenix Hybrid System and Phoenix Epoxy System, UL file number MH46218 is equivalent to previous approvals that the Department has granted to other companies. There are no risks or adverse effects for approving this product.

## **Tank Testing Protocol For Tank Tech, Incorporated Installed Containment Systems**

This Tank Tightness Testing Protocol is for testing tanks that have been upgraded with the Phoenix Hybrid UL Containment System (PHS) or any other Tank Tech, Incorporated (TTI) installed containment system. Though the TTI containment system provides for a new primary containment, allowing the existing tank to act as a secondary containment, the new primary containment is not structurally equivalent to an independent tank; therefore adjustments have been made to traditional tank testing protocols. This protocol was developed using the Fiberglass Tank and Pipe institute Field Test Protocol as a model.

**Test Time:** The procedures require a vacuum to be drawn on the tank interstitial space and held for a period of time. The vacuum is expected to decay over time, however, there is a time period that has been established by laboratory tightness testing to recognize an acceptable change in the vacuum level and this will vary based on the tank size, the type and amount of fluid in the tank and the backfill conditions. The test procedures require an initial vacuum of 10" Hg during the initial hold time and a maximum vacuum loss of 2" Hg. If the vacuum loss exceeds 2" Hg during the hold time, the test is repeated.

When the primary tank space is not under vacuum, the overall external forces on the tank are no different from those that the tank would normally experience in high water table condition. Therefore, all interstitial testing of the interstitial space will be done at a vacuum of 10"hg. Tanks subjected to high water tables have a pressure exerted on it dependant on the depth of water that the tank is in. The tanks are designed to withstand this pressure, however if a high vacuum is placed on the inside of the tank the differential pressure that the tank is subjected to can be as much as double the normal acceptable differential pressure. Therefore, the use of a high vacuum on the inner tank should not be used when there is a high water table. Though the interstitial space of a PHS tank is tested at 10" Hg vacuum the actual differential forces exerted on the tank is equivalent to that of the water alone on the tank provided that the inside of the tank is maintained at or near atmospheric pressure. Industry standard has been to test interstitial spaces at 10"Hg. The interstice will be tested at the 10"Hg. Since the tank may be put at risk at high differential pressures the maximum vacuum that should be placed on the primary tank during any test should be 1" Hg.

Since PHS treatment is done on tanks that have a 20,000 capacity or less a 1 hour hold time is adequate. This procedure was not developed for tanks that are larger than 20,000 gallons capacity. If a leak is present and the leak is a non-volatile fluid like water or diesel fuel, the given testing times still apply. Note that it is always necessary to confirm after each vacuum test that no liquid has accumulated in the interstitial space. If the leak is air or a volatile fluid like gasoline, the leak will be evident based on the vacuum test results.

## **WARNING**

Be sure to follow all federal, state, local rules and OSHA safety procedures.

### **Test Procedure**

1. Obtain owner verification that the primary tank is currently sound and has not leaked in the past.
2. Confirm that there is no liquid in the interstitial space using tank monitoring sensor.
3. Use a venturi-eductor type air mover only. Do not use an electric or gasoline vacuum pump. Use of a vacuum pump could result in a safety hazard if flammable liquids are present.
4. If a leak of volatile fluid like gasoline is present, the exhaust from the venturi may contain flammable vapors.
5. Do not apply a vacuum to the primary tank.

### **Equipment Required**

TTI Test Assembly consisting of the following as shown in Attachment 1.

1. A vacuum gauge with a range of 0-30" Hg with increments of 0.2" Hg or smaller.
2. A small air driven venturi capable of pulling 15" Hg when operated with compressed air.
3. A valve and an air hose.
4. A vacuum regulator or automatic shut-off valve that will shut off at 12" Hg

### **Pretest Procedure**

#### **Pretest Inspection:**

1. Inspect the monitor pipe. Using a flashlight for visual inspection or a tank stick with absorbent firmly attached to the bottom determine if there is liquid in the bottom of the monitoring pipe. If there is liquid in it determine if it is water or fuel. If it is fuel try to determine if the fuel came from an overfill condition or some other source. If no cause is found for the presence of fuel in the monitoring pipe, then a leak in the primary tank should be anticipated. If the liquid is water determine if it could be from a leak associated with the monitoring system. If no cause is found for the presence of water in the monitoring tube, then a leak in the secondary should be anticipated. Remove all liquid from the monitoring pipe and dispose of it properly. Once the monitoring pipe is completely dry, proceed with the Interstitial Test. The tests will not be valid unless the bottom of the monitoring pipe is completely dry.
2. If you are unable to determine if the annular space is free of vapors and liquid, proceed

### **Mid Test Procedure**

1. Connect the vacuum gauge, valve and vacuum venturi to an annular space fitting. The valve should be between the compressor and the fitting. The gauge should be between the valve and the fitting so it will read when the valve is closed. It is highly recommended to use an automatic vacuum shut-off valve and set it at 12" Hg.
2. Ensure all connections are airtight.
3. Start the vacuum venturi and open the valve.
4. When the vacuum level reaches 12" Hg, close the valve and stop the vacuum venturi (do not exceed 120% of the desired vacuum).
5. Wait until the vacuum level stabilizes at or above 10" Hg. Increase to 12" Hg again if necessary by repeating steps 3 and 4. Hold for 5 minutes or longer at 10" Hg, with a vacuum decrease of less than 0.5" Hg. If a stable vacuum cannot be maintained, a leak is indicated and the test should be terminated.
6. Record the vacuum level and the time.
7. Hold the initial vacuum for the period 1 hour
8. If the vacuum level is 8" Hg or higher at the end of the hold time, and the annular space is dry, the tank has passed this test.
9. If the tank vacuum level is below 8" Hg after the specified time, go back and repeat, starting at step 2.
10. If the tank fails to hold 8" Hg or if there is water in the interstice after three attempts, call the tank manufacturer.
11. The presence of water or fuel in an annular space that was dry at the beginning of the test will confirm that that a leak is present.

### **Precision Test Of The Complete Tank**

1. The precision test is performed when the tank contains liquid.
2. The interstice and the ullage area are placed under a vacuum. The value of the vacuum for the interstice is the same as was used in the Mid Test. The ullage is placed under 1" Hg vacuum.

3. The interstice shall be placed under vacuum prior to placing the ullage under vacuum..
4. The test shall be conducted as follows:
  - a. The tank shall remain out of service from when the MID TEST was performed.
  - b. The tank shall receive a fuel drop of at least 40% of the tank capacity and be allowed to settle for a period of fifteen (15) minutes.
  - c. The fuel level shall be established by using the measuring dip stick and then determining the length from the top of the testing riser to the top of the fuel.
  - d. The PHS shall receive 10"Hg vacuum prior to applying any negative pressure to the ullage.
  - e. The vacuum in the interstice shall be given time to stabilize.
  - f. Once the PHS interstice has stabilized the ullage shall be placed under a 1.0 "Hg vacuum.
  - g. The vacuum shall remain on the PHS and the ullage for a period not less than one (1) hour, the test period may be extended at the testers discretion.
  - h. The test start time and negative pressure shall be recorded and become part of the test report to certify the tank.
  - i. If the gauges remain constant with no loss of vacuum for the test period the tank shall be deemed to be tight and return to service.
  - j. The test stop time and vacuum gauge reading shall be recorded and become part of the test report to certify the tank.
  - k. The vacuum shall be released from the ullage first.
  - l. The vacuum on the interstice shall be released after the ullage.
4. All tank testing companies and personnel shall be required to be approved, trained, and certified by TTI.
5. Only certified personnel shall test the PHS or other upgraded systems installed by Tank Tech, Inc.
6. TTI shall be notified immediately upon any failure of a PHS tank or any other tank lining system installed by TTI.
7. A written report of the test procedure, negative pressures, test time, test date, and the person conducting the test shall be completed for each tank tested.

## **Exhibit A**

The written report shall be transmitted to TTI within 48 hours of the completion of the test.

### **IMPORTANT NOTICE**

I. This field test protocol addresses the testing of the annular space in installed lined tanks with dry annular space as part of underground storage tank (UST) system. Federal, State and local laws and regulations governing the testing of such installations and UST systems should be reviewed. Trained personnel should perform the types of work covered by the field test protocol.

II. When the field test protocol is complete; one copy of the results should be retained in the tester's files, and one copy in the owner/operator's file.

III. This protocol does not undertake to meet the duties of underground storage tank system owners/operators, employers, manufacturers, or suppliers to warn and properly train and equip their employees, and others exposed or in contact with fiberglass tanks and materials, concerning their obligations under Federal, State or local laws or regulations, as well as health and safety risks and precautions.

IV. Information concerning safety and health risks and proper precautions with respect to particular materials and conditions should be obtained from the manufacturer or supplier of the material, or the applicable material safety data sheet.

EVERY EFFORT HAS BEEN MADE TO ASSURE THE ACCURACY AND RELIABILITY OF THE INFORMATION IT CONTAINS. HOWEVER, NO REPRESENTATION, WARRANTY, OR GUARANTEE IS MADE IN CONNECTION WITH THIS FIELD TEST PROTOCOL AND HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY OR RESPONSIBILITY FOR LOSS OR DAMAGE, INCLUDING PERSONAL INJURY OR PROPERTY OR OTHER DAMAGES OF WHATEVER NATURE, RESULTING FROM ITS USE OR FOR THE VIOLATION OF ANY FEDERAL, STATE, OR LOCAL LAW OR REGULATION WITH WHICH THIS CHECKLIST MAY CONFLICT.

Aaron M. Newman P.E.  
DCV Consultants, Inc.  
July 15, 2009  
707-479-4594

**Exhibit A**