

# **LEAKING HEATING OIL TANKS TECHNICAL WORKGROUP**

*A Report of Recommendations to  
the Virginia Department of Environmental Quality,  
James Golden, Director for Operations*

**Virginia Department of Environmental Quality**

**July 12, 2016**

## **I. Introduction**

This report presents the recommendations of the Heating Oil Technical Workgroup advising the Department of Environmental Quality on issues related to the investigation and characterization of discharges from heating oil tanks.

## **II. Background and Process**

A stakeholder workgroup was formed pursuant to item 363 of the 2015 Budget Bill (Chapter 665, 2015 Acts of Assembly). Item 363 required the formation of a stakeholder working group, the Leaking Heating Oil Tanks Cleanup Program Stakeholder Group, to advise DEQ regarding current guidance and policy governing the cleanup of petroleum releases.

The Stakeholder Group concluded their proceeding with the generation of a report to the Governor and the Chairman of the House Appropriations and Senate Finance Committees. The report contained a recommendation for DEQ to establish a Technical Work Group comprised of DEQ staff and consultants to collaborate on technical issues related to risk assessments associated with leaking heating oil tanks and improving communication between DEQ and consultants.

A Technical Workgroup was formed and met on December 10, 2015, March 16, 2016, and April 20, 2016. Workgroup membership is presented in Attachment A.

The objectives of the workgroup were:

- To make recommendations pertaining to the appropriate level of risk assessment at leaking heating oil tank sites;
- To make recommendations, as necessary, pertaining to the appropriate level of investigation and characterization of discharges from heating oil tanks;
- To assess the adequacy of communication between DEQ Case Managers and environmental consultants performing investigation and characterization of petroleum releases; and
- To make recommendations, as necessary, for the improvement of communications between DEQ Case Managers and consultants.

Consensus was tested with respect to each recommendation proposed by the group, with the level of interest defined as follows:

3 – Strongly Support

2 – Some reservations, but can live with it and will not oppose it

1 – Serious concerns make it impossible to support and may actively oppose it

Consensus would be achieved so long as all members *present* indicated a level of interest of “2” or “3”. No consensus would be reached if any one member expressed a level of interest of “1.”

### **III. Recommendations of the Technical Work Group**

#### **a) Communication issues between Consultants and DEQ**

Technical Work Group members identified communication issues between DEQ and consultants including:

- DEQ does not routinely share case decision rationales with consultants, thus consultants are not able to explain to clients why DEQ has assigned a particular risk category or closed a case.
- Electronic mail is an efficient means of communication between DEQ and consultants, but official letters from DEQ facilitate better communication with homeowners and not all consultants are receiving copies of the official DEQ case closure letters sent to homeowners.
- DEQ closure letters are not consistent in their message to homeowners. Some contain only the release date and case decision while others contain DEQ's technical rationale for case closure.
- Copies of signed DEQ case closure letters, if shared with consultants could eliminate the need to request those letters through a FOIA request when the closure letters are needed for real estate transactions. Sharing closure letters could be a benefit to DEQ, since DEQ has to process the FOIA requests.
- When a consultant is late submitting a report to DEQ, communication regarding the reason for lateness could be improved. DEQ is more concerned about getting the remediation done than writing the report. A phone call or email from the consultant explaining whether the field work has been done would be helpful.

#### **Consensus Item**

*DEQ should share the rationale for case closure with the consultant for all cases.*

Note: this consensus item is further modified by the consensus items that follow. As modified below, DEQ does not have to share closure rationale when DEQ agrees with a consultant recommendation to close a case

#### **b) Case Closure Documentation and Communication**

The group members discussed several possible methods and rationale for DEQ to share case closure information with consultants. The workgroup reached consensus on a recommended process for sharing case closure rationales.

#### **Consensus Items**

*If DEQ issues a No Further Action (NFA) case decision for a confirmed release, the agency should document the rationale and share it with the Responsible Party (RP) and consultant. If DEQ concurs with a consultant recommendation to close a Category 1, Category 2 or*

*Category 3 case, no case closure rationale is needed from DEQ.*

*In cases where DEQ disagrees with a consultant recommendation, DEQ should document its rationale and automatically share the rationale with the consultant (electronically).*

### **c) Petroleum Vapor Intrusion at Heating Oil Release Sites**

DEQ staff presented information and PowerPoint slides regarding petroleum vapor intrusion. The presentation contained the following:

- DEQ acknowledgement of a need for petroleum vapor intrusion guidance in program guidance.
- A review of nationally recognized vapor intrusion guidance documents:
  - *EPA OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion pathway from Subsurface Vapor Sources to Indoor Air,*
  - *EPA Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites,*
  - *Interstate Technology and Regulatory Council's (ITRC) Petroleum Vapor Intrusion*
- A discussion of vapor intrusion guidance from other states,
- A presentation of petroleum vapor modeling performed by DEQ using API's Biovapor model.

Following the presentation, the group discussed the data in the studies and modeling performed by DEQ staff. It was recognized that vapor intrusion research focused more on gasoline and the constituent benzene whereas heating oil is less volatile than gasoline and other constituents such as naphthalene may be more critical in heating oil releases.

The group noted differences between EPA's research and what DEQ has seen over the years. The workgroup also discussed how the agency's program manages heating oil releases now versus procedures that were used over 20 years ago.

The group discussed the various methods of assessing structures for vapor intrusion and for collecting vapor samples for the assessment of vapor intrusion risk. The group invited Randy Chapman of DEQ to address the workgroup. Mr. Chapman served on the ITRC workgroup that developed the ITRC PVI (Petroleum Vapor Intrusion) guidance document. Mr. Chapman provided some background on the development of the ITRC guidance.

The group discussed the possibility of using the ITRC guidance as a guide to create a Virginia-specific guidance on how to screen for risk of vapor intrusion, how to collect soil samples, the different types of samples and how to analyze them. The collected data could then be analyzed to see if DEQ is being too liberal or conservative in its approach to residential heating oil clean-ups.

### **Consensus Item**

*DEQ should develop a Virginia-specific petroleum vapor intrusion risk evaluation framework and guidelines for residential heating oil sites.*

### **d) Heating Oil Case Categorization**

The workgroup discussed appropriate approaches for categorizing residential heating oil release sites, appropriate scopes of work for assessing heating oil releases; and appropriate corrective actions at heating oil release sites.

The workgroup tested for consensus on several items but only reached consensus on two items which are presented below.

### **Consensus Items**

*Sites with a confirmed release and an on-site drinking water well cannot be treated a No Further Action (NFA) case, i.e. additional assessment is required. The sites should be categorized as Category 1, 2, or 3 cases<sup>1</sup>.*

*Sites with a confirmed release, no obvious receptor(s), and an initial sample  $\geq 13,000$  PPM Total Petroleum Hydrocarbons cannot be treated as an NFA. Additional assessment is required. The sites should be categorized as Category 1, 2, or 3.*

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<sup>1</sup> The Petroleum Program employs a system of categorization for heating oil discharge cases. General scopes of work apply to category 1 and 2 cases. Category 1 scopes of work involve sample collection and analysis to determine the severity and extent of contamination and removing the contents of a leaking heating oil tank. Data collected in a Cat 1 scope of work can be used to inform whether additional work is warranted. Category 2 scopes of work involve the excavation of grossly contaminated soils; the leaking heating oil tank is typically removed as soils are excavated, but the tank removal is not technically part of a Category 2 scope of work.

#### **IV. Recommendations**

The Technical Work Group recommends the consensus items listed above for consideration and approval by DEQ management.

If DEQ management supports the recommendations of the Workgroup, the Petroleum Program should involve stakeholders, as necessary, in the development and/or revision of heating oil guidance as the program incorporates the recommendations.

## **Attachment A**

### **Membership of the Leaking Heating Oil Tanks Technical Work Group**

**David B. Beahm**, President, Central Virginia Soil Consulting, Inc.

**John S. Pollard**, CPG, Pollard Environmental, LLC

**Garland “Garry” Moore**, Environmental Technology & Consulting, Inc.

**William “Billy” Willard**, Willard Environmental Group

**Todd Pitsenberger**, Case Manager, DEQ Valley Regional Office

**Alex Wardle**, Case Manager, DEQ Northern Regional Office

**Heather Evans**, Case Manager, DEQ Piedmont Regional Office

**Robert Howard**, Case Manager, DEQ Blue Ridge Regional Office

**James Barnett**, State Lead Program Manager, DEQ Office of Spill Response and Remediation