Department of Energy and Environmental Protection
Remediation Division
Roundtable
Q&A Newsletter

Vol. 4 ~ August 31, 2011

Presented below are the Department's responses to verbal comments presented at the Remediation Roundtable held on June 14, 2011 and selected written comments received by the Remediation Roundtable Committee during December 2010 through July 2011. The comments may have been edited for clarification purposes.

SELECTED VERBAL COMMENTS FROM THE JUNE 14, 2011 ROUNDTABLE:

Additional Polluting Substances and Alternative Criteria Lean Event

Comment:

What is the backlog on processing the Additional Polluting Substance (APS) requests?

Response:

There are roughly about 45 requests for APS pending approval. The timeframe for completion is dependent upon the nature of the requests. Feel free to contact Traci Iott in the Planning & Standards Division and/or Craig Bobrowiecki in the Remediation Division for the status of your request. A staff member from Remediation has been temporarily re-assigned to Planning & Standards to dedicate additional resources for resolution of pending requests.

Comment:

If an applicant already has criteria approved and the criteria changes, does the applicant have to meet the new standard?

Response:

No, a Party may continue to use any APS or Alternative Criteria for which it has already received written approval from the Department.

Comment:

When the recommended APS criteria are posted on the website, should applicants submit their requests for approval as soon as possible in case the criteria change again?

Response:

If the criteria will make a difference in the proposed remediation or the applicant otherwise wants certainty, then yes, the applicant would probably want to submit the request as soon as possible.

Comment:

Was the Ecological Risk Assessment review/approval process evaluated as part of this LEAN event?

Response:

No, it was not.

ETPH and EPH/VPH

Comment:

Which is the Department looking for in terms of the EPA Method 8270 analysis: a full 8270 scan or acid/base/ PAH?

Response:

Please see the responses to written comments received on June 21 and 23, 2011 below.

Comment:

Since the ETPH method loses many of the lighter gasoline compounds, is it still appropriate to use for gasoline?

Response:

Please see the responses to written comments received on June 21 and 23, 2011 below.

Comment:

Is the Department developing SWPC for ETPH and EPH/VPH?

Response:

Yes, the Department, together with the DPH, is developing SWPC for these methods. The criteria for use as APS or alternative site-specific criteria will be included on the new approval request forms.

Use of 2003 Draft Volatilization Criteria

Comment:

Are applicants required to use the 2003 draft Volatilization Criteria?

Response:

No, the 1996 criteria are the only criteria required by law, unless the applicant is otherwise ordered by the Commissioner. An applicant may request to use the 2003 draft criteria, either in its entirety as alternative site-specific criteria or as individual APS criteria where there were no criteria listed in the 1996 RSRs.

Use of 2005 List of Draft APS Criteria

Comment:

Will there be a form available for an interim submittal if the applicant is close to verification, (i.e., only have groundwater monitoring left) but won't be quite ready by September 2011?

Response:

There is no form for the transition period, but the Department recommends the use of the Request for Approval or Notice Transmittal Form for the purpose of requesting APS to expedite your request. Details regarding the eligibility of a particular site for use of criteria during the transition period have been posted on the website.

2011 Legislation – Public Act No. 11-141

Comment:

Is the amendment to the Property Transfer Act regarding cleaning up releases that occurred prior to a Phase II investigation applicable to all sites or just new sites?

Response:

Based on the language, it appears that the amendment applies to all Form III verifications submitted after the amendment's effective date of July 1, 2011.

Comment:

Will the GW classification process be similar to the way it was done in the past?

Response:

Yes. There are some minor procedural changes to the notice requirements under the new law, including how often the newspaper notice of the public hearing must appear (once instead of twice) and that the applicant must cover the cost of the notice to the newspaper. These changes are being incorporated into the guidance document for applications to lower the groundwater quality classifications. Once the guidance document is revised, it will be re-posted on the Department's web site. (The current shortcut to the web page is www.ct.gov/dep/wqsc, but it will be changing to www.ct.gov/deep/wqsc in the next few months.) Questions on groundwater reclassification can be directed to Corinne Fitting at corinne.fitting@ct.gov or (860)-424-3020.

Comment

Does the Transfer Act apply if there is a transfer from a bankruptcy court process to a non-profit entity?

Response:

No, PA 11-141 exempted this transfer.

Comment:

Does this legislation add another deliverable - a Phase II Investigation report?

Response:

This legislation puts significance on the completion of a Phase II, and the Department is evaluating how to officially document the completion of Phase II investigations. For example, the Department may revise the Completion of Investigation form and/or the Verification forms to capture this information.

Targeted Brownfield Remedy

Comment:

The Targeted Brownfield Remedy requires the investigation and remediation of off-site groundwater pollution. How does this relate to the new Brownfield Remediation and Revitalization Program (Section 17 of Public Act 11-141)?

Response:

The two are separate and distinct and do not relate to each other. The Targeted Brownfield Remedy (TBR) is not law; it is an approach that is applicable for any brownfield. It is a tool to investigate and remediate a site that fits with the existing RSRs and SCGD. The investigation of

the site can be downsized to support the remedial approach, instead of a full characterization process. The migration of releases off-site still needs to be addressed.

The new Brownfield Remediation and Revitalization Program stipulates, among other details, that, for certain eligible properties and owners, only the pollution within the boundaries of the site must be investigated and remediated.

Comment:

Is the TBR tool only for use at brownfield sites?

Response:

Yes, this tool is available for brownfields where redevelopment plans and designs are known, such that the investigation and remediation can be targeted to the redevelopment. This tool would not be able to be used in GA areas, areas within an aquifer protection area, or areas where there are drinking water receptors. Detailed information about the eligibility of sites for the Targeted Brownfield Remedy is on the website.

Comment:

When can the TBR start being used?

Response:

The fact sheet, transmittal form, and checklist are currently posted for public review and comment (from July 26, 2011 to August 26, 2011) on the website. The Department is willing to use the Targeted Brownfield Remedy now if the eligibility requirements are met. Supplemental guidance to the Site Characterization Guidance Document is being considered for a Targeted Brownfield Remedy Investigation.

Comment:

When referring to the enforcement action provision, would a property that is subject to follow a particular statute, such as the corrective actions under the UST Regulations, be precluded from the program?

Response:

No. However, if a responsible party is subject to an enforcement action to clean up the site, then they would be precluded from this approach.

Visioning Session for DEEP's Comprehensive Evaluation and Transformation of CT's Remediation Programs

Comment:

How many public meetings do you anticipate to hold?

Response:

A set number of meetings has not been established. However, it is anticipated that there will be a mix of large meetings and smaller work group meetings. Specific details will be posted on the Comprehensive Evaluation and Transformation website as we move forward.

Comment:

Is the deliverable a report to the legislature, or is it proposed legislation?

Response:

The deliverable is both a report and proposed legislation to the Governor, the Environmental Committee, and the Commerce Committee.

Comment:

Is the goal of the Comprehensive Evaluation to make things faster, simpler and cheaper?

Response:

The goal is to clarify what Connecticut wants to accomplish and have the best laws/programs designed to achieve it. Fast, simple, cost effective, and protective of human health and the environment are absolutely part of that evaluation.

SELECTED WRITTEN COMMENTS

Comment - December 3, 2010:

At what time does a verification apply and to which releases at a site?

Response:

With the changes to the Property Transfer Act in PA 11-141, which went into effect in July 2011, the releases that need to be verified are those present at the time of a complete Phase II or on the date of a Form III filing (whichever is later). The verification will be required to document the appropriate milestone.

Comment - June 15, 2011:

Is the Targeted Brownfield Remedy also applicable to sites where no transfer is pending or where the development of the property would remain the same or the future development is unknown?

Response:

Generally, the TBR approach is relevant to sites where the redevelopment design is known. That way, the investigation and remedy selection can be targeted to such a design.

Comment – June 23, 2011:

During the last Roundtable meeting the new guidance memo "Sampling and Analytical Methods for Underground Storage Tank Closure" was discussed. I had a couple of questions to clarify certain aspects of the guidance and you requested that I submit them in writing. They are:

The guidance states for heating or diesel fuel that testing should be done for semi-volatile organic compounds (SVOCs). It was stated in the guidance presentation that semi-volatile organics should be analyzed by EPA Method 8270 and also testing should be performed for Poly-Nuclear Aromatic Hydrocarbons (PAHs) SVOCs. As the PAHs analytes are a subset of the full 8270 analytes list, these statements brought to mind the need for clarification. Many in the environmental community now only analyze for the PAH SVOCs, not the full 8270 SVOC analytes list when characterizing fuel oil or diesel releases. This seems appropriate in that the SVOC PAHs analyte list covers all of RSRs SVOCs criteria except the ethers, phthalates, phenols, hexachloroethane, and hexachlorobernzene all of which are not likely to be found in heating or diesel fuel. Also, the 8270 PAHs analyte list covers the Massachusetts EPH recommended target analytes of acenaphthene, naphthalene, 2-methylnaphthalene, and phenanthrene. Therefore, in the guidance when it is stated that SVOCs should be analyzed for fuel oil and diesel releases do you mean the 8270 PAHs or the 8270 full analyte list, or something else?

Response:

The reportable compounds for EPA Method 8270 are referred to as semi-volatile organic compounds (SVOCs). The reportable compounds from the EPA Method 8270 analysis include Polynuclear Aromatic Hydrocarbons (PAHs), which are a subset of the SVOC compound list.

When designing the analytical plan, the environmental professional should consider the substances which may be present based on the site history and select the appropriate analytical methods to detect and characterize a release. Therefore, in some circumstances it may be appropriate for the environmental professional to analyze a subset of the reportable compounds for EPA Method 8270 (i.e., PAHs). For releases of light petroleum solvents, #2 fuel oil and diesel, #3 through #6 fuel oils, kerosene, lubricating oils, hydraulic oils, and jet fuels it may be

appropriate, based on the site conceptual modeling process, to analyze groundwater only for PAHs, with the exception of releases of waste oil or other unknown petroleum substances, for which analysis of the full EPA 8270 target compound list is suggested.

The following DEEP webpages have been revised to reflect this response:

- *RSRs page, "Petroleum Hydrocarbons"*
- *Quality Assurance and Quality Control Guidance*
- *Analytical Methods Used to Characterize Petroleum Releases*

Comment – June 23, 2011 (continued from above):

Another question is whether it is recommended that groundwater also be sampled for SVOCs, if so, is it just the well with the highest contamination? Also it might be pointed out in the guidance that if you analyze groundwater using the standard 8270 method the detection limits will be higher than the Groundwater Protection Criteria for many PAHs and that the method will have to be modified to lower the detection limits.

Response:

The question of analyzing groundwater for SVOCs to investigate a release of petroleum products is complex, and release area-specific, with consideration of issues including type and nature of release, hydrogeologic conditions, groundwater classification, proximity to release area, proximity to surface water bodies, and purpose of sample collection (e.g., UST closure, characterization, or verification). The following information is intended to help the environmental professional conduct a thorough analysis of this issue as part of the site conceptual modeling process:

1) *With respect to analysis using the EPA 8270 Method, it may be appropriate, based on the site conceptual modeling process, to analyze groundwater only for PAHs, with the exception of releases of waste oil or other unknown petroleum substances, for which analysis of the full EPA 8270 target compound list is suggested.*

2) *One reason analysis of groundwater for PAHs may be necessary is because the Ground Water Protection Criterion for ETPH of 0.1 mg/l, which is well above the RSR criteria for several PAH compounds, such as benzo(a)pyrene at 0.2 µg/l (for other constituents, the GWPC criteria are even lower, and the Surface Water Protection Criteria for PAHs is similar or even lower). Several PAHs could be present at concentrations above the RSR criteria, yet the result reported for ETPH could be "ND".*

The question as to whether PAH compounds would dissolve into groundwater at reportable concentrations and the ETPH concentration would be below a reportable concentration or RSR criterion would depend on any number of variables. These could include (but are not limited to) the type of petroleum product released, age of the release, the nature of the soil matrix (adsorptive capacity for the various constituents), redox conditions in the aquifer, the solubility

and degradability of the individual compounds, and the presence of other substances released at the same location or in the general vicinity (which might affect solubility of various constituents).

3) *Considerations in deciding which groundwater samples, and how many samples, should be analyzed for PAHs include:*
    - *Type and nature of release;*
    - *Distance of the monitoring wells from potential source;*
    - *Reported concentrations of ETPH (or EPH) – keeping in mind there may not be a strong correlation between ETPH results and SVOC results (ie. low concentrations of ETPH and concentrations of SVOCs greater than applicable regulatory criteria);*
    - *Presence of separate-phase product;*
    - *Groundwater classification;*
    - *Proximity to surface water;*
    - *Proximity to water supply wells or other receptors;*
    - *Use of the information - whether samples are for closure of a UST, characterization of a release, remediation monitoring, groundwater monitoring, or verification of a site or release; and*
    - *Other site-specific or release area-specific factors.*

4) *For the standard EPA 8270 method, the reporting limits may well be higher than the Groundwater Protection Criteria for some substances. Therefore, the environmental professional should communicate to the laboratory the data quality objectives for samples prior to their submittal for analysis. In cases where low reporting limits are needed (such as, when the reporting limits need to meet GA criteria), the laboratory can attempt to achieve such reporting limits through a technique known as Selective Ion Monitoring (SIM).*

Comment – June 23, 2011 (continued from above):

Another question I have is why sampling for SVOC PAHs is not required for waste oil, given that waste oil has the heavier hydrocarbons and is often in a hot, low-oxygen environment that may lead to the creation of PAHs.

Response:

Because waste oil can contain a wide variety of substances, it is suggested that the environmental professional subject samples to a comprehensive suite of analytical methods as determined by the conceptual site modeling process. EPA Method 8270 reports SVOCs. PAHs are a subset of the full EPA Method 8270 target list of compounds. The Analytical Methods Used to Characterize Petroleum Releases webpage suggests that the full EPA Method 8270 target list be analyzed and reported.

Comment – June 21, 2011:

On June 1, 2011, DEEP published an update to the Remediation Division's "Extractable Total Petroleum Hydrocarbons Analysis" webpage. This webpage includes the recommendation to use the Extractable Total Petroleum Hydrocarbons Analysis ("ETPH") as one of the analytical methods to characterize releases of gasoline and other volatile solvents.

Should the ETPH analytical method be used to characterize releases of gasoline and light petroleum solvents (for example, Naphtha, Stoddard Solvent, Mineral Spirits, Paint Thinner)?

Would the use of the ETPH Method to characterize a release of gasoline and light petroleum solvents result in highly inaccurate and exaggerated ETPH concentrations?

Response:

Gasoline is a complex mixture of petroleum hydrocarbons, a small percentage of which would be in the ETPH (C9-C36) range. We concur that the ETPH method would be a poor analytical method to characterize a gasoline spill; however, it is not agreed that the method would result in highly inaccurate and exaggerated ETPH concentrations. For a gasoline release, the method would accurately quantify the C9 thru C36 petroleum hydrocarbons that remain after extraction; however, the overall result would not be completely representative of the release. The lower molecular weight hydrocarbons, which are the dominant fraction in gasoline, are lost during the extraction and therefore, are not quantified by the method and would not be reported in the results. Thus, the result would be biased low for gasoline. Some light petroleum products, such as mineral spirits or petroleum naphtha, are likely to contain significant quantities of the C9-C12 carbon compounds, and could be analyzed by the ETPH method. A summary of suggested analytical methods used to characterize petroleum releases is provided on the webpage.

The following DEEP webpages have been revised to reflect this response:

- *RSRs page, "Petroleum Hydrocarbons"*
- *Sampling and Analytical Methods for Underground Storage Tank Closure*
- *Analytical Methods Used to Characterize Petroleum Releases*