

REMEDIATION ROUNDTABLE June 9, 2015





Connecticut Department of Energy and Environmental Protection

www.ct.gov/deep/remediationroundtable

Agenda

Updates

- Risk-Based Decision-Making and the Transformation Roadmap
- APS/Alternative Criteria Request Process
- Analytical Methods for Petroleum Hydrocarbons
- SEH Statutory Changes
- Something Completely Different



Website Updates

TCE Developmental Risk Guidance
 Urban Soil Discussion Document
 PREPARED Brownfields Municipal Workbook
 DEEP's Risk-Based Decision Making Report
 1996 RSR Criteria Derivation

Coming soon...

- Petroleum Analytical Methods Guidance Document
- Updated APS/Alternative webpage
- Updated SEH webpage



Connecticut Department of Energy and Environmental Protection

Announcements

- QA/QC Workgroup:
 - In response to May 2014 Roundtable survey
 - Planning DQA/DUE Training
 - Updates on RCPs
 - Improving communication between EP and labs (factsheet in the works)
- Revisions to ELUR Instructions and Guidance please send suggestions to <u>DEEP.ELUR@ct.gov</u>
- Wave 2 Public Discussion Document: Revisions to A-2 Survey Regulations coming July 2015





Connecticut Department of Energy and Environmental Protection

Announcements

ITRC - New Documents

Integrated DNAPL Site Characterization and Tools Selection (ISC-1) April 2015 Decision Making at Contaminated Sites: Issues and Options in Human Health Risk Assessment (RISK-3) Jan 2015

ITRC - Classroom Training and Online Training full schedule at

http://www.itrcweb.org/Documents/TeamResources OutreachMaterials/ITRC -2015-Classes-050715.pdf





Connecticut Department of Energy and Environmental Protection

- Who?
 - > 800+ people on listserv
 - 39 people took survey
- "Participating is a productive use of time" 85% YES
 ➢ RT Length & Presentation Length 85%
 ➢ Quarterly Frequency 75%





Connecticut Department of Energy and Environmental Protection

- "RT topics are useful and informative" 84% YES
- "PowerPoint Slides are useful" 94% YES
- "Q&A Newsletter is useful"
 94% YES



Connecticut Department of Energy and Environmental Protection



Audience Interaction

- Sufficient opportunity to ask questions 85% YES
- "Do you see the need for increased audience interaction?" 41% YES / 59% NO
- More Breakout Sessions?
 - Avg score = 2.3 (neutral)
 - 68% willing to participate
- Workgroup participation 71% YES





Connecticut Department of Energy and Environmental Protection

• Room for Improvement

- Provide clearer picture of transformation priorities and schedule
- ✓ Reading and answering anonymous questions
- ✓ Interactive dialog
- ✓ Email questions before the meeting
- ✓ Hand-held microphone





Connecticut Department of Energy and Environmental Protection

Questions / Comments

Please state your name and speak loudly.

www.ct.gov/deep/remediationroundtable



Risk-Based Decision-Making Report and the Transformation Roadmap

Robert Bell Remediation Division Assistant Director Jan Czeczotka Remediation Division Assistant Director



Risk-Based Decision-Making Recommendation Report

Final Report

April 15, 2015



Connecticut Department of Energy and Environmental Protection 79 Elm Street, Hartford, CT 06106-5127 www.ct.gov/deep Commissioner Robert Klee



Connecticut Department of Energy and Environmental Protection

ROB BELL

Risk Evaluation Process

- DEEP tasked with evaluation of risk-based decision-making for site cleanup
 - Use independent experts, broad national experience
 - CDM Smith selected, competitive process
- Scope developed by DEEP, DPH and stakeholder rep
- CDM Report August 29, 2014
- Public Comments October 1, 2014

DEEP Report – April 15, 2015

CDM's Themes – where CT is

- CT's cleanup standards (RSRs) are similar to surrounding states
- CT's risk assessment approach for polluted soil is generally valid, similar to EPA/many states
- CT's human health risk approaches are in top half of "best practices" of states CDM evaluated
- Opportunities for change

- 6 primary recommendations from CDM



Action Plan - highlights

Ecological Risk

- Develop guidance for 3-tiered eco risk assessment
- Include adapting approaches used in MA and BC
- Drafts available for public input in 2016



Action Plan - highlights

Update Numeric Criteria

- Convene Science Advisory Panel [2016]
 - Input and feedback on methodologies for deriving criteria
 - After recommendations from SAP, draft criteria proposals for RSR amendment process
- Post on web Additional Polluting Substance recommended numeric values [June 2015]
- Post on web info on derivation of 1996 RSR
 criteria [Completed April 2015]



Action Plan - highlights

Risk-based flexible risk management approaches

- RSR Wave 2 public hearing draft early 2016.
 Examples:
 - Alt GWPC formulas
 - Alt PMC self-implementing, site-specific
- Deed Notice regs public hearing draft 2016
- Groundwater Reclassification for some areas 2015/2016
- Other more narrowly focused actions



Cleanup Transformation

Transformation is ...



Connecticut Department of Energy and Environmental Protection





Connecticut Department of Energy and Environmental Protection





(amended 2013, effective July 2015)



Connecticut Department of Energy and Environmental Protection



Connecticut Department of Energy and Environmental Protection



Questions / Comments

Please state your name and speak loudly.

www.ct.gov/deep/remediationroundtable



Criteria Request and Approval Process

Craig Bobrowiecki Environmental Analyst II Remediation Division Traci lott Supervising Environmental Analyst Planning & Standards Division



Substances at Remediation Sites in CT



Connecticut Department of Energy and Environmental Protection

Remediation Goal Options Under RSRs





Connecticut Department of Energy and Environmental Protection

Risk Report: Update Criteria

- Per Risk Report recommendations, DEEP to have a process to review/revise RSR criteria
 - Establish Independent Science Advisory Board
 - DEEP, DPH and SAB work on methodology for criteria update
 - After SAB process, seek public input
 - Then proceed to a regulatory adoption process





Dependent on time needed to work with SAB



Connecticut Department of Energy and Environmental Protection

Risk Report Criteria Commitment

- Comprehensive Criteria review and update process to take time
- In interim, DEEP committed to improving on-going criteria activities



- Additional Polluting Substances (APS)
- Alternative Criteria



Connecticut Department of Energy and Environmental Protection

DEEP Additional Recommendation

Interim Tiered APS Process

- 1. Select from list of DEEP Recommended APS/Alt Criteria
- 2. Calculate APS/Alt criteria using RSR default assumptions
- 3. Calculate APS/Alt criteria using Site-specific assumptions or risk assessment



June 2015



Connecticut Department of Energy and Environmental Protection

Developing Interim Recommendations

- Working with DPH
- Updating toxicity values
- Using 1996 RSR / 2003 Volatilization Criteria equations
- Developing recommended values for approximately 100+ chemicals for all criteria types
- Values to be updated periodically as needed



Connecticut Department of Energy and Environmental Protection

Providing Updated Values

- Risk Report identified transparency as a component of best practices
- DEEP Concurs
 - Values to be published by end of June 2015
 - Technical Support Document will be provided
 - Informational meeting to be scheduled for July 2015

Petroleum Hydrocarbons Using the EPH/VPH/APH Analytical Methods and Criteria Development

TECHNICAL SUPPORT DOCUMENT

Connecticut Department of Energy and Environmental Protection Connecticut Department of Public Health July 2012



Connecticut Department of Energy and Environmental Protection

Options for Your Site Under RSRs



CRAIG BOBROWIECKI

Recommended Values = Quick Approval





Connecticut Department of Energy and Environmental Protection

CRAIG BOBROWIECKI

Transition to 2015 Recommendations

- Criteria requests which have been already approved are still VALID
- Requests for recommended criteria received by COB (4:30 PM) June 30, 2015 will be approved based on pre-6/30/15 recommendations
- Once published, use 2015 recommended values for future requests to expedite approvals
- OR....develop site-specific risk based or background based remediation criteria for review and approval per RSRs

In all cases, need site-specific request and written approval to be valid



Connecticut Department of Energy and Environmental Protection

CRAIG BOBROWIECKI

2015 Recommended Additional/Alternative Numbers

- Remember Transmittal Form
- Request form similar to petroleum hydrocarbon form in development for requesting these values
- Expedited review and approval (1-3 week turn around)

"I hereby request approval, in accordance with Sections 22a-133k-2(b)(4), 22a-133k-2(c)(5), 22a-133k-3(h), 22a-133k-3(b)(1), and/or 22a-133k-(c)(1) of the RC8A, to:

- use the Extractable Petroleum Hydrocarbons (EPH) Method, In accordance with the "State of Connecticut Department of Energy and Environmental Protection, Recommended Reasonable Confidence Protocols, Guality Assurance and Quality Control Requirements, Extractable Petroleum Hydrocarbons, by the Massachusetts DEP EPH Method" (May 2009); and/or
- use the Volatile Petroleum Hydrocarbons (VPH) Method, in accordance with the "State of Connecticut Department of Energy and Environmental Protection, Recommended Reasonable Confidence Protocols, Guality Assurance and Quality Control Requirements, Volatile Petroleum Hydrocarbons, by the Massachusetts DEP VPH Method' (May 2009); and/or
- use the Air Phase Petroleum Hydrocarbons (APH) Method, in accordance with the MADEP "Method For The Determination Of Air-Phase Petroleum Hydrocarbons (APH)", December 2008; together with
- the criteria listed in the table below for petroleum hydrocarbons in soil and/or groundwater as additional polluting substances at the site identified above."

Check the box indicating the criteria for which approval is requested. Belection of criteria must correspond to the groundwater classification of the site.

| | Residential Direct Exposure Criteria | Industrial / Commerolal Direct Exposure Criteria | GA Pollutant Mobility Criteria | GB Pollutant Mobility Criteria | | | |
|--------------------------------|---|---|--------------------------------------|--------------------------------------|--|--|--|
| Hydrocarbon Range | Criterion using EPH / VPH / APH methods (mg/kg) | | | | | | |
| Aliphatic Hydrocarbons C5-C8 | 5 00 | 1,000 | D 6 | 5 5 | | | |
| Aliphatic Hydrocarbons C9-C12 | 500 | 1,000 | 15 | 140 | | | |
| Aliphatic Hydrocarbons C9-C18 | 5 00 | 1,000 | 20 | 140 | | | |
| Aliphatic Hydrocarbons C19-C36 | 1,000 | 2,500 | 20 | 200 | | | |
| Aromatic Hydrocarbons C9-C10 | 500 | 1,000 | 5 | 20 | | | |
| Aromatic Hydrocarbons C11-C22 | 500 | 1,000 | 20 | I 30 | | | |

| Descellation | Onléante des D | latenteuro L | in the second second | Using CDU. | INDULT ADD | l Maihadalaalaa |
|--------------|----------------|--------------|----------------------|------------|-------------|-----------------|
| remediation | Uniteria for P | etroieum r | -varcearbons | USING EPH | / VED / AED | Methodologies |

| | Groundwater Protection Criteria | Surface Water Protection Criteria | Recidential Groundwater Volatilization Criteria | Industrial / Commercial Groundwater Volatilization Criteria | |
|--------------------------------|--|--|--|---|--|
| Hydrocarbon Range | Criterion using EPH / VPH / APH methods (ug/l) | | | | |
| Aliphatic Hydrocarbons C5-C8 | 280 | 250 | 100 | 215 | |
| Aliphatic Hydrocarbons C9-C12 | 700 | 770 | 100 | 160 | |
| Aliphatic Hydrocarbons C9-C18 | 700 | 770 | 100 | 155 | |
| Allphatic Hydrocarbons C19-C36 | 1,000 | 530 | | | |
| Aromatic Hydrocarbons C9-C10 | 100 | 250 | 450 | 3,300 | |
| Aromatic Hydrocarbons C11-C22 | 140 | 250 | 1,710 | 12,000 | |

Page 2 of 4



Connecticut Department of Energy and Environmental Protection

DEP-REM_EPH-VPH-APH

CRAIG BOBROWIECKI

Ren.8/8/12
Summary

- Existing approvals remain valid
- Choices:
 - Use recommended values to expedite approvals
 - Updated values June 2015
 - Use DEEP request form
 - Informational meeting July 2015
 - Develop site-specific criteria
 - Use background



Connecticut Department of Energy and Environmental Protection

CRAIG BOBROWIECKI

Questions / Comments

Please speak loudly so everyone can hear your question!

Craig Bobrowiecki 860-424-3798 Craig.bobrowiecki@ct.gov

APS questions contact: Traci lott 860-424-3082 t.gov traci.iott@ct.gov

or



www.ct.gov/deep/remediationroundtable

Guidance for Selection of Analytical Methods to Characterize Petroleum Releases

PAUL CLARK ENVIRONMENTAL ANALYST 3 SITE ASSESSMENT AND SUPPORT UNIT

Allison Forrest Environmental Analyst 2 Site Assessment and Support Unit



Development

- To assist in the selection of appropriate analytical methods for characterizing a petroleum release
- The QA/QC Workgroup is formed by a broad base of professionals:
 - LEPs
 - Laboratory personnel
 - DPH Laboratory Manager & Staff
 - o EPA
 - DEEP
 - CT Lab Advisory Committee



Connecticut Department of Energy and Environmental Protection

Purpose

- In 2008, 55% of over 8,000 releases in Connecticut were petroleum products
- Provides details on the individual methods and their analytes for petroleum products
 - Based on "Analytical Methods Used to Characterize Petroleum Releases" on the DEEP website



- http://www.ct.gov/deep/cwp/view.asp?a=2715&q=32 4956&deepNav_GID=1626
- "Sampling and Analytical Methods for Underground Storage Tank Closure"
 - <u>http://www.ct.gov/deep/cwp/view.asp?a=2692&q=322592&deepNav_GID=1652</u>



Connecticut Department of Energy and Environmental Protection

Table of Contents

- Introduction
- Suggested Analytical Methods for Evaluation of Petroleum Releases
- Analytical Methods
 - ETPH
 - EPH
 - VPH
 - APH
 - GC/MS Methods for VOCs (Methods 8260, 524.2 and 524.3)
 - SVOCs (Method 8270)
 - PCBs (Method 8082)
 - Metals
 - Vapor Methods
 - Additives
- Question and Answer



Connecticut Department of Energy and Environmental Protection

Carbon Ranges of Commonly Used Petroleum Products and Analytical Methods



Notes:

*Carbon ranges can vary

Reference for carbon ranges - Volume 1, Analysis of Petroleum Hydrocarbons in Environmental Media, Total Petroleum Hydrocarbon Criteria Working Group Series, pages 61-68, March 1998 Analytical carbon ranges from the Reasonable Confidence Protocol for each method



Connecticut Department of Energy and Environmental Protection

Carbon Ranges of Commonly Used Petroleum Products and Analytical Methods



Petroleum Products listed in Guidance

- Classified into 7 subgroups:
 - Gasoline
 - Light Petroleum Solvents
 - Jet Fuels and Kerosene
 - #2 Fuel Oil and Diesel
 - #3-#6 Fuel Oil, Lubricating Oils, and Hydraulic Oils
 - Waste Oil, Used Oils and Unknown Petroleum Substances
 - Transformer Oils, Mineral Oils, and Dielectric Fluids



Example: Suggested Analytical Methods for Gasoline

SOIL, SEDIMENT AND AQUEOUS MATRICES



"OR" – Results from alternative analytical approaches may not be comparable or interchangeable

Connecticut Department of Energy and Environmental Protection

Example: Suggested Analytical Methods for Gasoline AIR AND SOIL VAPOR





Connecticut Department of Energy and Environmental Protection

Example: Suggested Analytical Methods for #2 Fuel Oil and Diesel

SOIL, SEDIMENT AND AQUEOUS MATRICES

Analytical Methods for Release Characterization

ETPH, 8260, and 8270 PAH's

<u>OR</u>

EPH and VPH (carbon ranges and target compounds

for each method)



Connecticut Department of Energy and Environmental Protection

Public Comment

Draft for Public Comment anticipated in late June 2015





 Sign up for Remediation <u>e-alerts</u> to be notified



Connecticut Department of Energy and Environmental Protection

Questions / Comments

Please speak loudly so everyone can hear your question!

Draft Guidance Questions contact: Paul Clark 860.424.3345 / <u>Paul.clark@ct.gov</u>

www.ct.gov/deep/remediationroundtable



Significant Environmental Hazard Notification Program Updates

Kenneth Feathers Remediation Division Supervising Sanitary Engineer



Public Act 13-308

- Effective date July 1, 2015
- Definitions changed for some hazard conditions
- NEW self-implementation for initial response
- Formalizes concept of "controlled"
- Changes in recordkeeping and reporting



Connecticut Department of Energy and Environmental Protection

- Effects on Drinking Water Supply Wells
 - 22a-6u (b) and (c)
 - No change to threshold concentrations
 - 22a 6u (b) triggered by exceedances of GWPC
 - 22a 6u (c) triggered by any detection of chemicals
 - NEW: Notify for product in well [22a-6u(b)]



Connecticut Department of Energy and Environmental Protection

- Direct Exposure Risk [22a-6u(d)]
 - Industrial/Commercial use
 - No change (30x IDEC) except for certain locations*
 - *I/C within 300 feet of residential use
 - CHANGE to 15x IDEC METALS AND PCB ONLY
 - BUT 30x IDEC if covered by pavement or fenced
 - Residential
 - CHANGE to 15x RDEC



Connecticut Department of Energy and Environmental Protection

RECAP – Direct Exposure Threats

| Pollutant | Industrial/ Commercial | Industrial/Commercial But Residential use is within 300 feet | Residential |
|-----------------|---------------------------|--|-------------|
| Metals and PCBs | 30 x IDEC | 15 x IDEC 30 x IDEC if paved/fenced | 15 x RDEC |
| ТРН | exempted | exempted | exempted |
| Organics | 30 x IDEC | 30 x IDEC | 15 x RDEC |
| | Some substances excepted | | |



Connecticut Department of Energy and Environmental Protection

 Volatilization Risk [22a-6u(e)] - CHANGE to 10x criteria for use of property - CHANGE to within 15 feet of building even if horizontal proximity ADVISORY – DEEP and DPH have issued advisory guidance regarding short term developmental risks posed by TCE at groundwater concentrations below these **SEHN** triggers



Connecticut Department of Energy and Environmental Protection

- Surface water threat [22a-6u(f)]
 ADDED: Notification if product is in groundwater entering surface water
- Threat to supply wells [22a-6u(g)]

 CHANGE to require notification if supply well is 200 feet side-gradient or up-gradient of plume
 Still within 500 feet if down-gradient of plume



Connecticut Department of Energy and Environmental Protection

Self-Implemented Response

- Law provides for immediate implementation of typical response as formerly requested in acknowledgement letter
- Report of activity with proposal for further work to be done required at same time as notification of significant hazard
- Timing starts after owner becomes aware, typically 7 days after discovery by consultant



Connecticut Department of Energy and Environmental Protection

- Polluted Water Supply Well > GWPC [22a-6u(b)]
 Conduct well survey for 500 foot radius
 - Seek access and test wells on adjacent parcels
 - Only if well itself within 500 feet of polluted well
 - Include parcels separated only by roads
 - [DEEP recommends also retest supply well to confirm]

- Thirty (30) days to complete action/submit report

- Report must include future action proposals
- Due 3 weeks after written notification (day 30)



Connecticut Department of Energy and Environmental Protection

- Polluted Water Supply Well < GWPC [22a-6u(c)]
 - CHANGE Thirty (30) days for owner to notify DEEP
 - Retest supply well to confirm result
 - If retest is above GWPC follow 22a-6u(b)
 - Well survey within 500 feet
 - Seek access and test adjacent wells within 500 feet
 - Thirty (30) days to complete action/submit report
 - Report must include future action proposals
 - Submit with notification of hazard condition



- Threatened Water Supply Wells [22a-6u(g)]
 CHANGE Thirty (30) days for owner to notify DEEP
 - Conduct well survey for 500 foot radius
 - Seek access and test wells on adjacent parcels
 - Only if well within 500 feet of plume
 - Include parcels separated only by roads
 - [DEEP recommends also testing any on-site well]

- Thirty (30) days to complete action/submit report

- Report must include future action proposals
- Submit with notification of hazard condition



RECAP – Protection of Drinking Water Wells

| | Supply Well (b) | Supply Well (c) | Monitoring Well (g) |
|-----------------------|--|--|---|
| Trigger | > GWPC | Detected | > GWPC 500 feet to DG well 200 ft. other directions |
| Notify | 1 day verbal/ 7 written | 30 day | 30 day |
| Action (by day 30) | Well Survey 500 feet Test abutters | Retest Well If > GWPC further actions | Well Survey 500 feet Test abutters |
| Report | 30 days With recommended actions | With notification at 30 days With recommended actions | |



Connecticut Department of Energy and Environmental Protection

- Surface Soil Direct Exposure Risk [22a-6u(d)]
 - Exemption from 90 day Owner notification
 - Added: when in Lead Paint abatement prog. (Loc. H. Dept.)
 - NEW: Actions required within 90 days
 - Evaluate extent of hazard
 - Prevent exposure (interim control)
 - Ninety (90) days to submit SEHN and report
 - Report must include future action proposals
 - Submit with notification of hazard condition
 - Added voluntary report of removal/inaccessible



- Volatilization Pathway [22a-6u(e)]
 - Exemption from 30 day Owner notification
 - Changed to soil vapor less than 10x applicable criteria
 - Added Unoccupied building Notify when reoccupied
 - Added Chemical in regulated industrial/commercial use
 - Thirty (30) days to submit SEHN and proposed plan
 - Mitigate exposure or abate condition
 - Submit with notification of hazard condition



Connecticut Department of Energy and Environmental Protection

- Surface Water Pathway [22a-6u(f)]
 - Change in timing of notice by owner
 - One day verbal notice if product entering surface water
 - Written notice within 30 days
 - Product notification exempt if otherwise reported
 - Exempt if reported within preceding year (retained)
 - Thirty (30) days to submit SEHN and proposed plan
 - Monitor, mitigate or abate condition
 - Submit with notification of hazard condition



Connecticut Department of Energy and Environmental Protection

Mitigation

- NEW Definition and Concept of Mitigation
 - Interim measures that control/prevent exposure
 - GAC Filter
 - Fence or cover for soil

- Continued inspection, maintenance or monitoring

- Longer term action defined in 30-day reports
- Periodic re-validation of controlled status
- Care required until permanent abatement or until remediation is complete



Connecticut Department of Energy and Environmental Protection

DEEP Response

- DEEP acknowledges within 10 days
 May provide additional information
- Shall approve acceptable plan or report
 Could include long-term care provisions
 - Can disapprove if not acceptable
- If no plan or report, or document disapproved
 May prescribe action or issue action directive
- Shall certify acceptable permanent abatement



Connecticut Department of Energy and Environmental Protection

Public Engagement

• SEH Copies forwarded to: Local elected officials - NEW Local health officials (were CCd in practice) - CHANGE -- no other mandated copies List published on web site - NEW Abated sites not on published list NEW Mitigated sites not on published list Provided long-term care is conducted per plan



Connecticut Department of Energy and Environmental Protection

DEEP Outreach

- WEB Documents to be updated by July
 - Reference Tables and Form
 - FAQs
 - Guidance and instructions
- Web Report
 - Full Web report will be published June
 - Update in July to remove certified abated
 - Update to remove mitigated may be delayed



Connecticut Department of Energy and Environmental Protection

Questions / Comments

Please speak loudly so everyone can hear your question!

SEH Questions contact: Kenneth Feathers, Supervising Sanitary Engineer 860.424.3770 / <u>kenneth.feathers@ct.gov</u>

www.ct.gov/deep/remediationroundtable



Roundtable Large Group Discussion



Wave 2 Proposed RSRs



Roundtable Large Group Discussion

- Questionnaire on Potential Wave 2 Concepts
- Public Notice Handout



> We Need Your Input

Informal draft rollout of RSR language is next!



Connecticut Department of Energy and Environmental Protection

CAMILLE FONTANELLA
How We Use Audience Feedback

- Development of Concepts
 - Proposal for a Transformed Cleanup Program, February 2013
 - Visioning Session
 - Evaluation Workgroup Reports
 - Wave 1 and Wave 2 RSRs
 Workgroup Direction
 Discussion Documents
 Information Sessions
 Comment Response





Connecticut Department of Energy and Environmental Protection

CAMILLE FONTANELLA

Topic: 95% UCL for SWPC

- Should the RSRs allow the use of 95% UCL for SWPC when collecting 12 consecutive monthly samples from the monitoring well(s) at the point of discharge to surface water?
- Would this be a useful and protective provision?
- How could we make this a better provision?

[One would not be able to use the 95% UCL provision in combination with the Alternative SWPC calculation.]



2. Characterization

Since the Urban Soil determination is based primarily on the PMC exception for coal-ash, additional information and/or characterization would also be necessary to confirm there had not been other site-related releases which would have the potential to contribute similar constituents in a leachable form.

- What type of evaluation is currently conducted to document presence of coal ash at a site?
- What should level of characterization be to appropriately identify and define the presence of Urban Soil at a site?
- In areas where there are releases on similar COCs, how should one discern the Urban Soil from a release area?



3. Thresholds

The Discussion Document includes a table of maximum concentration thresholds as part of the characterization process for Urban Soils. There have been suggestions that thresholds be lowered to allows for statistical exceedances.

• Any suggestions for a workable approach?



4. Dredge Fill

One condition for meeting definition of Urban Soil is either no PMC exceedances or meets one of the exemptions for PMC.

- Any suggestions for self-implementing process to evaluate dredge fill to address leachability issues and COCs?
- Where fill is mixed with dredged material, what approaches do you use to determine the dredged fill might have leachable metals from industrial impacts?
- Other than the proximity of a source of contaminated sediment or requiring SPLP testing, what could be used to determine whether dredge fill is impaired and would represent a leaching risk?



5. Petroleum Hydrocarbons The Discussion Document's threshold table includes a value for ETPH.

 Since the hydrocarbons that would be expected in coal and asphalt would have a different hydrocarbon fingerprint than most petroleum releases, what alternative analytical methods would be appropriate for distinguishing between historic fill and subsequent short-chain petroleum releases?



Topic: Alternative PMC

6. Self-Implementing Site-Specific Alternative PMC

The self-implementing site-specific alternative PMC option would require collection of additional parameters not often collected as part of site characterization and a more detailed level of understanding of soil stratigraphy than is standard practice. Depending on the complexity of the soil stratigraphy, further soil sampling may be necessary to provide full resolution for all soil strata.

 Since these soil samples are not typically collected unless used for this express purpose, how would collecting this information affect the use of this proposed option? What could be changed to make it more functional without reducing the science that the proposed self-implementing site-specific PMC option is based on?



Notice of Activity and Use Limitation - Applicability



Grass

Notice of Activity and Use Limitation - Applicability



- Conc.<=10 X PMC & 10 X DEC
- Total Volume of soil beneath building <= 10 Yd³ for Conc.
 > 10 X PMC or/& 10 X DEC

Seasonal High Water Table

Not to Scale

Seasonal Low Water Table

Inaccessible Soil Conc.<= 10 X DEC Grass

2f1

4ft

Pavement

3. To prevent disturbance of

inaccessible soil with below

building/perm structure with

4. To prevent demo of a

below conditions

conditions

Notice of Activity and Use Limitation - Applicability



Topic: Notice AUL

7. The Statute allows the regulations to add additional purposes for a Notice AUL. Under what "other" conditions or settings would it be beneficial to allow a Notice AUL rather than requiring a full ELUR?



Topic: EUR

8. Are there any other EUR scenarios that you can think of that are not currently being proposed?



Topic: EUR

9. Reasonable Time Limits

Certain short-term temporary activities (i.e., for underground utility/construction) may be allowed within the area subject to the ELUR. These could be included in the list of the "permitted site activity and use" in the ELUR with LEP oversight and notification prior to the work and after the work has been completed. Since the authorization could not be open-ended, what would be a good way to impose reasonable time limits for the activity?

- The allowable duration of those activities (e.g., 15 days, 30 days, 90 days?);
- The frequency (once per year?); and/or
- The volume of the disturbance?



Topic: Alt SWPC Attenuation Factor

10. Alternative SWPC Options

- <u>Self-Implementing</u>: a simple distance calculation to allow the SWPC or Aquatic WQS to be multiplied based on the terminal end of the plume's distance to the surface water discharge point. For discussion purposes only: Greater than 1000 ft = 5 x multiplier
 Between 1000 ft to 500 ft = 2 x multiplier of SWPC Less than 500 ft = no multiplier
 - Is there an alternative option for a simple distance calculation?
- <u>Commissioner approval option</u>: providing site-specific information along with a detailed calculation.
 - > What should a Commissioner Approval option require?
 - Should it include modeling? What would be some useful models?
 - Would it be chemical-specific and based on retardation factors?
 - What site-specific information would be needed and how much should it be factored into the determination?



11. Site vs. Release Area

In addressing the public's right to know about remedial measures, how can we resolve the inconsistency between requiring public notice of remediation at a "site" when remediation usually occurs by "release area" under the RSRs?



12. Pollution Description

The public notice for an ELUR requires "a brief description of the nature of the pollution on the subject parcel."

- Should the RSRs have a similar requirement for all notices of remediation?
- What additional language should be added to the various notices to provide useful information to the public?



13. Activity-Specific Public Notice

Currently, public notice is applied by site and supplemented for ELURs, engineered controls, injection permits and RCRA closure.

 For what additional activities should the general public notice be supplemented by an additional activityspecific notice?



14. Comment Period

In most cases, the public notice requirements include a 45 day comment period.

- In what setting or for what milestones might this be reduced to a notice with no comment period?
- How is this handled in other states?



15. AUL Public Notice Comment Period

Is the 30 day public notice comment period presently used for ELURs appropriate for the more streamlined Activity and Use Limitations or should public notice requirements for Notice AULs be handled differently?



Topic: Long-Term Obligations

16. Some new provisions proposed in Wave 2 require long-term obligations, such as vapor mitigation systems and MNA.

• What are some recommended options for ensuring long-term operating, maintenance, and reporting?



Topic: Alternative GWPC

17. Public comments on the Discussion Document questioned why public water is required to be present between the Alternative GWPC plume and surface water discharge point. This requirement was proposed because, if no one controls the water between the terminal extent of the plume and surface water body, a drinking water well could be installed in an area where public water is not available and use groundwater that is above the GWPC.

 Any questions/comments regarding why this requirement is still necessary?



Topic: Alternative GWPC

18. In the cases where the owner of a site also owns all the land between the terminal extent of the plume and the discharge location, an ELUR to restrict groundwater use could be placed allowing the use of the Alternative GWPC.

• Would this be an acceptable exception to this requirement?



Remediation Roundtable



E-mail: <u>DEEP.remediationroundtable@ct.gov</u> Web: <u>www.ct.gov/deep/remediationroundtable</u>



Next meeting: September 8, 2015 (Day after Labor Day)

Schedule and agenda on website www.ct.gov/deep/remediationroundtable

Submit comments to the Roundtable Committee at DEEP.remediationroundtable@ct.gov

