

REMEDIATION ROUNDTABLE

August 13, 2013





AGENDA

Various Updates



- Presentations with Q&A:
 - Comprehensive
 Evaluation and Transformation
 - Transformation RSR Amendments (Wave 2)
 - 2013 RSR Amendments (Wave 1)
 - ELURs



- Phenanthrene SWPC
 - 0.077 ug/L is calculated incorrectly in 1996 RSRs
 - 0.3 ug/L = correctly calculated 1996 SWPC
 - Now accepting requests to use 2008 criterion
 (23 ug/L) as a SITE-SPECIFIC ALTERNATIVE CRITERIA
 - Not self-implementing
 - Send request and Transmittal Form to Craig
 Bobrowiecki questions? 860-424-3798

This site-specific alternative is allowable without calculation for phenanthrene SWPC only.



- Remediation Website
 - In-site Chemical Oxidation General Permit to be posted for public comment in August
 - Public info session:
 September 11, 2013 3:00pm Phoenix
 - New Verification Form III coming soon
 - Petroleum Hydrocarbons page



- Remediation Website
 - ELUR pages coming this week
 - Amended ELUR regulations
 - Transition Period instructions
 - New ELUR application
 - RSR Fact Sheet updated
 - New RSR Wave 2 details available for public feedback – <u>Discussion Documents</u>



RSR AMENDMENTS: Wave 1

Now posted on the Remediation Standards Regulations webpage

and on the

Secretary of State's website

Will be posted August 20, 2013 on the

CT Law Journal website



Questions / Comments

Please state your name and speak loudly.

Submit comments to DEEP.remediationroundtable@ct.gov

www.ct.gov/deep/remediationroundtable



Comprehensive Evaluation and Transformation:

Where We Are & Where We Are Heading

GRAHAM STEVENS
OFFICE DIRECTOR
CONSTITUENT AFFAIRS AND LAND MANAGEMENT /
STATE BROWNFIELDS COORDINATOR





Transformation of Cleanup Programs: Mission

- Higher risks: increase focus and faster response
- Lower risks: faster, leaner, lower-cost tools
- Increased certainty for all
- Assist cities and towns in facilitating reuse of Brownfields



Cleanup Transformation Roadmap

Completed

2013

Municipal Liability Relief (effective July 2013)

Cleanup Standards Wave 1 (effective 6/27/13)

New Authority: Expanded Institutional Controls (October 2013) Risk Assessment Evaluation (Starting August 2013)

Public Discussion on Regulatory Reform:

- Wave 2 Cleanup Standards (includes Institutional Controls)
- Spill Reporting
- Soil Reuse



Cleanup Transformation Roadmap

2014

2014

2015

DEEP
Recommendations –
Risk Assessment
Evaluation

Regulation Reform:

- Wave 2 Cleanup
 Standards (includes
 Institutional Controls)
 - Spill Reporting
 - Soil Reuse

Statewide Groundwater Class Evaluation

Early Exit Cleanup Credential Program Property Transfer Act Sunset

New Significant Hazard Phase-in

Unified Program Implementer



Public Act 13-308

- §§1-27 reorganize DECD grant, loan and related Brownfield statutes
- §28 sets forth DEEP risk assessment evaluation
- §29 DEEP to include shorter audit timeframes in unified program regs adopted after July 2014
- §30 creates new Municipal Liability Protection
- §§31-32 amend existing Significant Environmental Hazard Notification statute
- §§33-36 create new Deed Notice tool (in existing ELUR statute)

Questions / Comments

Please state your name and speak loudly.

Submit comments to DEEP.Cleanup.Transform@ct.gov

www.ct.gov/deep/remediationroundtable



Transformation RSR Amendments Wave 2

JAN CZECZOTKA
ASSISTANT DIRECTOR
REMEDIATION DIVISION



- Public "Notice of Intent to Amend Regulations and hold a Public Hearing" – Completed 08/21/12
- 2. DEEP informational meetings Completed 9/20/12 and 9/26/12
- 3. Public Hearing *Completed 10/25/12*
- 4. Hearing Officer's Report Completed 3/11/13
- 5. Final proposed regulations and associated documents to Commissioner *Completed 3/11/13*



Wave 1

- DEEP notifies all interested parties of availability of final wording Completed 3/11/13
- 7. DEEP submits final regulations to Attorney General for "Legal Sufficiency" approval *Completed 3/12/13*
- 8. DEEP submits final regulations to Office of Fiscal Analysis and Comm. of Cognizance (Environment Committee) *Completed 4/2/13*Since last Roundtable...
- 9. LRRC holds meeting on regulation amendments per CGS 4-170 Completed 5/28/13 Regulations rejected without prejudice

Wave 1

- 10. Regulations resubmitted Completed June 4, 2013
- 11. Regulations approved Completed June 25, 2013
- 12. Regulations filed with Secretary of State Office per CGS 4-172 (Regulations final upon Filing)
 Completed June 27, 2013
- 13. Publication of Regulations in the CT Law Journal Will be August 20, 2013



CLEANUP TRANSFORMATION ROADMAP

Completed

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Expanded
Institutional Controls
(October 2013)

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- Wave 2 Cleanup Standards (includes Institutional Controls)
- Spill Reporting
- Soil Reuse



- Goal of RSR amendments is to support the Transformation into forming ONE unified program
 - Remediation compliance from start to finish
 - Early Exits
 - Self-implementing options
 - Site-specific approaches
 - Institutional Controls
 - Tiered Exits A, B, C



CLEANUP TRANSFORMATION ROADMAP

Completed

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New Authority:
Expanded
Institutional
Controls
(October 2013)

Risk Assessment Evaluation

(Starting August 2013)

Public Discussion on Regulatory Reform:

- Wave 2 CleanupStandards (includesInstitutional Controls)
- Spill Reporting
- Soil Reuse



Wave 2

- Wave 2 amendments
 - No proposed change to criteria until evaluation
 - Designed to be flexible with any new criteria and until such criteria are in place
- Public Act 13-308 requires an evaluation of risk assessment and risk management be completed by October 2014
- Wave 2 amendment process will continue in parallel with the risk evaluation process



Wave 2

Discussion Documents

EARLY Develop framework for Early Exits

AIT

EXITS

Developing Map of GA Areas Where an Alternative GWPC is Potentially Eligible for Use

GWPC

Working with DPH on Alternative GWPC



Create list of all current and new EUR types to categorize them into specific institutional controls

ICs

 Consult with DPH on any risk concerns with Institutional Controls



Discussion Documents

PMC

- Evaluating fate and transport process of current PMC calculations
- Developing potential self-implementing options

DEFAULT CRITERIA

- Develop Recreational Criteria (Active and Passive) for DEC and VolC
- Create self-implementing option for volatilization in large building types (warehouse, hangar, etc.)

APPLIC-ABILITY Discussion of how the RSRs apply to Reportable Releases

SEDI-MENT Developing a new section of the RSRs considering Transformation Workgroup's suggestions



Discussion Documents

ENGINEERED CONTROLS

- Developing self-implementing DEC options
- Soliciting ideas for self-implementing PMC options

MNA

 Developing concept for self-implementing MNA compliance point



- •Purpose:
 - Allow more flexibility
 - Incorporate Activity and Use Limitation option
 - Identify types of ECs that are self-implementing
 - Identify LEP EC implementation requirements



- Current applicability requires Commissioner approval
 - Authorized disposal
 - Not technically feasible
 - Cost/benefit of removal
 - Removal creates unacceptable risk (DPH consult)



Wave 2

- Applicability
 - Will need to revise to allow for self-implementation
- Activity and Use Limitation
 - Public Act 13-308 granted statutory authority to make regs, effective October 2013
 - Regs will:
 - Identify the process for using AULs
 - Types of conditions
 - Who can record



MULTI-LEVEL EXIT CLASSES

E

C1/C2

- Soil Cleanup Complete
- GroundwaterRemedyOperational
- Long-term
 Maintenance

B1/B2

- Soil Cleanup Complete
- GroundwaterCleanup Complete
- > Land-Use Controls
- Long-term
 Maintenance

A

- Soil Cleanup
 Complete
- ➢ Groundwater Cleanup Complete
- > Unrestricted Reuse

INCREASING LEVEL OF CLEANUP

Wave 2

Engineered Controls

- Identify types of self-implementing ECs
 - -DEC ECs
 - Requirements for paved and non-paved surfaces
 - -Looking for feedback regarding PMC ECs
- •LEP self-implementation will require:
 - -Part 1 & 2
 - -Final Completion Statement
 - -Financial Assurance
 - –LEP stamp and signature



- Results:
 - Faster EC implementation process
 - DEEP can focus on higher risk scenarios
 - Provides quicker exits
 - Further clarifies process and achieves more risk reduction



Monitored Natural Attenuation for Groundwater Purpose:

- To establish the requirements of groundwater
 MNA as a remedial option to achieve a Class C Exit
- Proposed provision would be a self-implementing option
- Acceptable duration for a MNA program up to 20 years



MULTI-LEVEL EXIT CLASSES

MNA

C1/C2

- Soil Cleanup
 Complete
- GroundwaterRemedyOperational
- Long-term
 Maintenance

B1/B2

- Soil Cleanup Complete
- GroundwaterCleanup Complete
- > Land-Use Controls
- Long-term
 Maintenance

A

- Soil Cleanup
 Complete
- GroundwaterCleanup Complete
- > Unrestricted Reuse

INCREASING LEVEL OF CLEANUP

Wave 2

Monitored Natural Attenuation for Groundwater

Evaluation:

- 1. Long-term GW remedy is MNA to achieve the groundwater remediation standards
- Estimated duration of MNA is known
- 3. On-going well monitoring and maintenance required

AND

4. No current or near future exposure pathway to drinking water or volatilization receptors within the timeframe modeled for MNA

MNA General Pre-Requisites:

- Source contaminant must be removed or controlled
- Soil remediation completed (DEC, PMC)
- No migrating or mobile LNAPL present
- MNA not applicable to DNAPL
- MNA not applicable at SW discharge point above 10 times the acute toxicity level (WQS)
- No one currently exposed to the groundwater that exceeds GWPC or Volatilization Criteria



Wave 2

MNA Site-Specific Evaluation Requirements:

- Robust Conceptual Site Model
- Evaluate receptors & off-site issues for the MNA duration
- Identify degradable COCs for the MNA duration
- Delineate plume size and migration pattern as a function of time
- Discuss how the contaminant will attenuate through plume history, geochemical indicators, and computer modeling



MNA Site-Specific Evaluation Requirements:

- Explain risks associated with contaminants and natural attenuation processes
- Assess toxicity of breakdown products
- Generate a long-term groundwater monitoring plan
- Ensure any plume discharge to surface water does and will not negatively impact aquatic life for the MNA duration



RSR AMENDMENT PACKAGE Wave 2

MNA Decision Points for Applicability:

- Plume spatial area above criteria must be shrinking in size
- Plume concentration above criteria must not be migrating
- Natural attenuation must be sustainable
- MNA maximum duration cannot exceed 20 years



RSR AMENDMENT PACKAGE Wave 2

MNA Minimum Monitoring Requirements:

- Quarterly for the first 2 years
- Semi-annually for following 3 years
- Annually thereafter
- Unless an alternative is approved by the Commissioner
- Plume must be registered for the MNA duration



RSR AMENDMENT PACKAGE

Wave 2

Schedule for release of Discussion Drafts:

Week of August 12

Alt GWPC, EC, MNA

Week of August 26



Week of September 16

Site-specific PMC, Default Recreational Criteria, Applicability





RSR AMENDMENT PACKAGE Wave 2

Feedback opportunities prior to formal Public Hearing Draft:

- E-Mailbox coming soon
- Information Sessions TBA

Draft Discussion Documents –Alt GWPC, MNA, EC



Questions / Comments

Please state your name and speak loudly.

www.ct.gov/deep/remediationroundtable



RSR Amendments

Effective June 27, 2013 (Wave 1)

CARL GRUSZCZAK
ENVIRONMENTAL ANALYST 2
REMEDIATION DIVISION

KEVIN NEARY
ENVIRONMENTAL ANALYST 3
REMEDIATION DIVISION



Adoption

- Changes took effect immediately following filing with the Secretary of State
- Includes changes to all three sections of RSRs:
 - Definitions/Applicability (22a-133k-1)
 - -Soil (22a-133k-2)
 - Groundwater (22a-133k-3)

Redline Copy (showing changes) available



Purpose of RSR Changes

- Based on "Lessons Learned" since inception of the RSRs:
 - Clarify/re-organize sections of the RSRs
 - Provide new options
 - Remove seldom used options
 - Remove "no value" provisions
- This is not a comprehensive list of the changes



Change to Inaccessible Soil

- Polluted Fill added to Inaccessible Soil definition:
 - Polluted only by SVOCs or Petroleum Hydrocarbons that are normal constituents of asphalt;
 - Polluted by metals in concentrations not in excess of 2x the applicable DEC; or
 - Any combination of the two conditions
- Means that 2' of clean fill not needed below the asphalt when the above criteria are met



22a-133k-1(32)(C)

Incidental Sources - Soil Criteria

- Applies to both DEC and PMC
- Soil Criteria do not apply to metals, petroleum hydrocarbons and SVOCs in soil, if
 - Pollution is due to normal operation of motor vehicles (which cannot include refueling, repair, or maintenance of motor vehicles); or
 - Normal paving and maintenance of bituminous concrete, providing that such pavement has been maintained for its intended purpose



22a-133k-2(b)(4)&(c)(5)

Incidental Sources – GW Criteria

- Groundwater criteria do not apply to:
 - Metals, petroleum hydrocarbons and SVOCs, if
 - Pollution is due to normal operation of motor vehicles (which cannot include refueling, repair, or maintenance of motor vehicles);
 - Normal paving and maintenance of bituminous concrete, providing that such pavement has been maintained for its intended purpose
 - Trihalomethanes released from public water supply systems

22a-133k-3(f)



PMC Exception (GW Infiltration)

- GA PMC and GB PMC do not apply to substances, not including VOCs, if
 - –(Self-Implementing) 80% of release area has been subject to infiltration for five years, or
 - –(Commissioner's Approval) release area has been subject to sufficient infiltration, <u>and</u>



22a-133k-2(c)(4)(C)

PMC Exception (GW Infiltration)

GA Areas

- Groundwater sampled for four consecutive quarters:
 - Groundwater must meet GWPC and SWPC
 - Sample locations must be representative of release
 - Areal extent of plume must not be increasing over time, except for seasonal variations



22a-133k-2(c)(4)(C)

PMC Exception (GW Infiltration)

GB Areas

- Groundwater sampled for four consecutive quarters:
 - Groundwater must meet SWPC
 - Groundwater must meet GWPC in aquifer protection or other area used as drinking water source
 - Sample locations must be representative of release
 - Areal extent of plume must not be increasing over time, except for seasonal variations

22a-133k-2(c)(4)(C)



Applying Groundwater Criteria

- Groundwater monitoring shall be conducted for:
 - Any groundwater plume
 - Any release area remediated
- Application of criteria occurs after characterization of soil and groundwater
- Compliance monitoring does not apply if remediation solely to address DEC exceedances



22a-133k-3(g)

Applying Groundwater Criteria

- Monitoring shall determine:
 - Effectiveness of any soil and groundwater remediation
 - Effectiveness to render soil environmentally isolated
 - Whether groundwater in GA meets background or GWPC as applicable
 - Whether groundwater meets SWPC and VolC
 - Whether groundwater in GB interferes with any existing use



22a-133k-3(g)(1)(A) - (F)

When to Conduct Compliance Monitoring

Compliance monitoring occurs after:

- Characterization complete sample locations represent extent and degree of plume
- All remedial actions have been completed
- Aquifer is no longer affected by withdrawal or injection due to remediation
- Geochemical changes due to remedial actions have stabilized



22a-133k-3(g)(2)(A)(i)

Compliance Monitoring

After groundwater reached applicable compliance criteria:

- Compliance monitoring shall be a minimum of four sampling events on a quarterly basis within two years
 - Not necessarily consecutive, but representative of seasonal variation
- Commissioner may approve an alternative method of demonstrating compliance
- Post-remedial groundwater monitoring removed
- However, groundwater monitoring still needs to determine the effectiveness...22a-133k-3(g)(1)



22a-133k-3(g)(2)(A)(ii) - (iii)

Monitoring Comparison

Old

Groundwater monitoring must determine effectiveness of remediation

Compliance Monitoring:

GA and GB: 1 year, 4 quarterly samples

Post-Remedial Monitoring

GA: 1 - 3 years depending on applicable criteria

GB: 1 year

New

Groundwater monitoring must determine effectiveness of remediation

Compliance with an applicable criteria shall be collected after: Characterization and Stabilization

Compliance Monitoring:

GA and GB: 4 sample events within 2 years to show seasonal variability



Other Additions

- Use of Form Prescribed 22a-133k-1(f)
 - Applies to any Variance, Approval or Notice
- Remediation of Soils Polluted with Lead (Transition Period) 22a-133k-1(g)
 - Can remediate to 500 mg/kg if Remediation initiated or RAP has been completed
- Engineered Controls for DEC 22a-133k-2(f)(2)
- 95% UCL for SWPC 22a-133k-3(g)(2)(C)(i)



Removed Items

- Petroleum Compounds are no longer exempted from using SPLP/TCLP PMC
- In GB Areas, if GW is first encountered in bedrock,
 GA PMC no longer applies
- 95% UCL No single result can exceed 2x restriction removed
- 95% UCL restriction when excavation was the remedial method removed
- 95% UCL no longer applicable for VolC



Questions / Comments

Please state your name and speak loudly.

Submit questions to DEEP.RemediationRoundtable@ct.gov

www.ct.gov/deep/remediationroundtable



2013 Environmental Land Use Restriction Amendments and Future Deed Notices

PETER HILL
SUPERVISING ENVIRONMENTAL ANALYST
REMEDIATION DIVISION



Overview of Presentation

- Transition to new Declaration and ELUR Application Forms
- Wave 1 Changes to ELUR Regulations
- PA 13-308 Notice of Activity and Use Limitations (aka Deed Notices)
- Wave 2 Amendments Preliminary Concepts for Institutional Controls



ELUR Applications Received Prior to June 27, 2013:

 DEEP will accept previous versions of the Declaration and Decision Documents and ELUR application information



New ELUR Applications Submitted after June 27, 2013:

1. DEEP will accept previous ELUR application information until **December 31, 2013** and will convert the previous versions of the Declaration and Decision Documents to the versions that will be made available as part of the new Application

OR



New ELUR Applications (continued):

2. If the Declaration and Decision Documents are not already completed by the applicant, submit the previous ELUR application information with the interim Declaration and Decision Documents templates available for use now - ELUR webpage

OR

3. Submit the new Application, which will be available for use when posted on the ELUR webpage.



Universal change-over to the new ELUR Application is January 1, 2014.

Beginning on January 1, 2014, all new ELUR applications must be in the form of the new Application or a Notice of Administrative Deficiency will be issued.



Wave 1 Improvements to ELUR Regulations

Developed by the ELUR LEAN Team to streamline ELUR preparation and processing.

Key Improvements:

- Only ONE DECLARATION DOCUMENT (can be used for either the Commissioner's or LEP's Approval)
- Declaration Document revised to refer directly to the Decision Document which describes the "Purposes and Restrictions" of the ELUR



NO LONGER NEED TO DESCRIBE TWICE



ELUR Application Form

The ELUR LEAN Team:

Patrick Bowe, Robert Bell, Jan Czeczotka, Jeff Wilcox, Camille Fontanella, Tony Bobowicz, Jing Chen, Melisa Chan, Bill Hogan, Bill Heiple, Jack Looney, Franca DeRosa, Michelle Bedson, Mark Lewis, Baffour Kyei, Kevin Neary and me

Final draft currently being tested by:

ELUR LEAN Team, John Hankins, Bob Kovach, Anne Peters, Greg Sharp, Sue Peterson, Sarah Kowalczyk, Chris McCormack, Franca DeRosa, George Watson, Beth Barton, Doug Pelham, Naomi Lynch, Ann Catino, Ed Hill, Bud Harvey and EPOC



ELUR Application Form

Benefits of the new ELUR application form:

- Application will consolidate the Declaration Document, the Decision Document and all supporting information IN ONE FORM
- Application can be completed in Microsoft Word® and submitted electronically to the DEEP ELUR E-mailbox NO MORE EXTRA PAPER



ELUR Application Form

Benefits of the new ELUR application form (cont.):

- ELUR and A-2 Survey checklists NOT REQUIRED
- Copies of all land records NOT REQUIRED (only copies for those interests which a waiver from a subordination agreement is requested)
- Instructions include guidance NO SEPARATE GUIDANCE DOCUMENT



New Terms:

Environmental Use Restriction (**EUR**) which includes both:

Environmental
Land Use
Restriction (ELUR)

Notice of Activity and Use Limitation (NAUL)



Connecticut Department of Energy and Environmental Protection

- Authorizes development of Regulations for Notice of Activity and Use Limitations (NAULs)
 - Notice
 - Filed on public land records
 - Enforceable
- Allows for use of NAULs only if there is no conflict with existing interests
- Notice Provisions for Holders of Interests



Advantages

Provisions for self-implementing NAULs

Waivers and Subordinations Not Required

Quicker and easier to implement



Connecticut Department of Energy and Environmental Protection

Situations Where NAULs May Be Used:

- Industrial/Commercial DEC, GW VolC, Soil Vapor VolC
- Inaccessible Soil (<10X DEC)
- DEC Engineered Control (<10X DEC)
- Environmentally Isolated Soil (<10X DEC & PMC, or if
- ≥10X DEC & PMC volume is ≤ 10 cubic yards
- Other circumstances, as may be allowed for in Regulations



Institutional Control Wave 2 Amendments

- Goals of Regulations:
 - Consistency with Transformation Goals simple, protective, flexible, efficient, transparent
 - Support RSR Exits as needed
 - Less risk less checks and balances
 - More risk more checks and balances
- Provide additional self-implementing options for use of ELURs and NAULs for lower risk situations
- Ensure long term protectiveness of ELURs and NAULs



Institutional Control Wave 2 Amendments

Institutional Controls - new types of restrictions under consideration include:

- Self-implementing, limited exposure of inaccessible soil with LEP oversight and soil management plan
- Diminishing state groundwater plume which does not cross property line
- Exemption from volatilization criteria for sub-grade parking garage with natural or active venting
- Recreational restriction for recreational DEC



Institutional Control Wave 2 Amendments

- Creation of regulations for all types of EURs which include:
 - Form and content
 - Fees
 - Financial Surety
 - Monitoring and reporting
 - Filing procedures
 - Temporary and Permanent Releases in part or in whole



Questions / Comments

Please state your name and speak loudly.

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

Web: www.ct.gov/deep/remediationroundtable



Next meeting: November 12, 2013

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

Submit comments to Camille Fontanella at DEEP.remediationroundtable@ct.gov

