

Proposed Amendments to the Connecticut Remediation Standard Regulations

Kick-off Meeting
July 9, 2019



DISCLAIMER: This presentation will not become part of the regulation-making record. The materials contained in this presentation are for informational purposes only. If the information presented herein is in conflict with the formal proposed amendments to the RSRs on the eRegulations website, the eRegulations version shall take precedence.



RSRs - Background

- ▶ CGS §22a-133k directed DEEP to develop standards for the remediation of contaminated sites that:
 - Fully protect health, public welfare and the environment
 - Give preference to permanent remedies
 - Are less stringent for industrial land use
- ▶ The Remediation Standard Regulations (RSRs)
 - §22a-133k-1 to 133k-3, inclusive of the RCSA - 1996, 2013
- ▶ Environmental Use Restrictions (EURs)
 - RSCA §22a-133q-1 (ELURs) - 1996, 2013
 - CGS §22a-133o (NAULs) - 2013



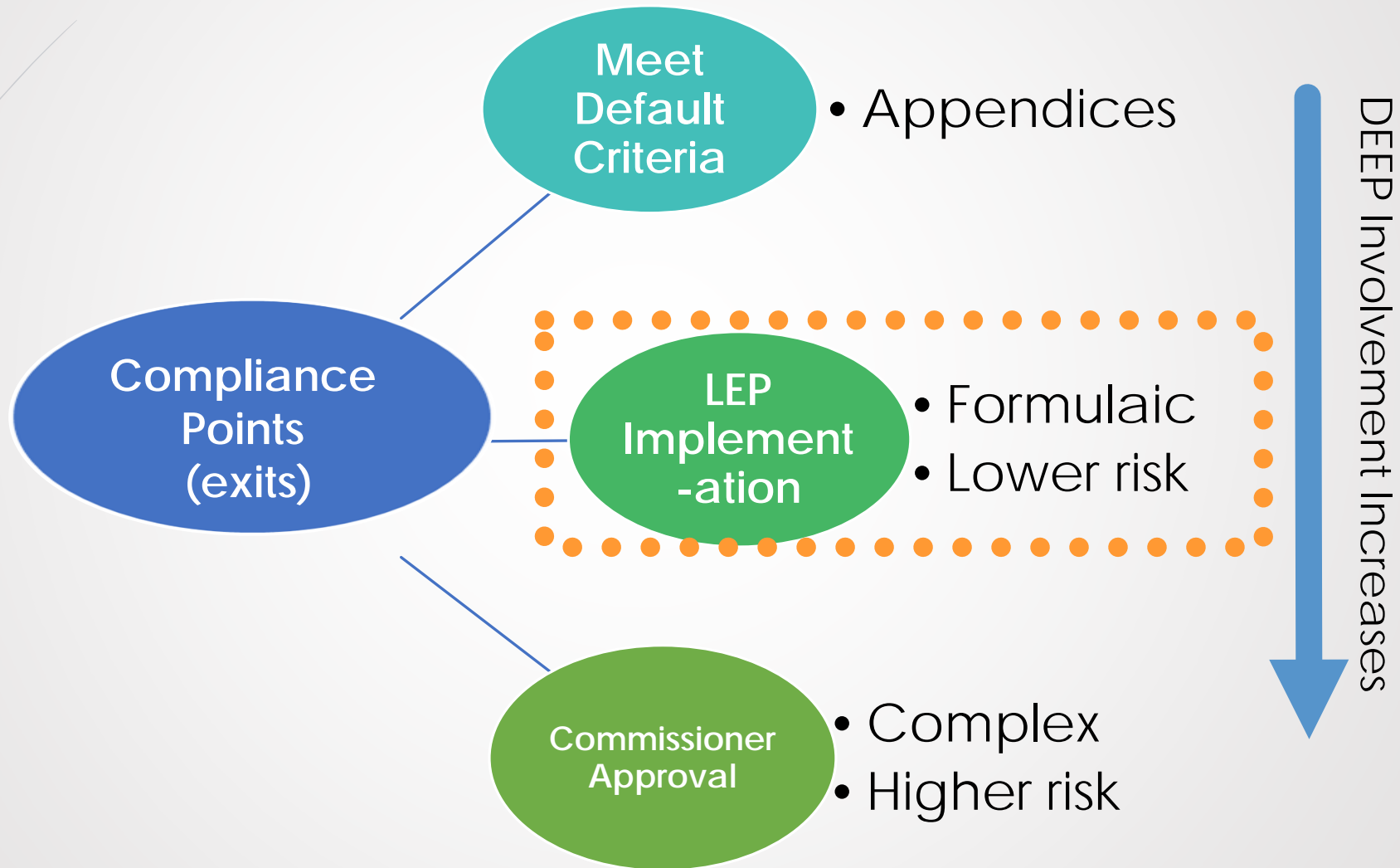
RSRs - Applicability

- ▶ RSRs allow for:
 - Site cleanups to proceed with a defined remedial goal
 - Sites to address cleanup goals without direct DEEP oversight – CT Licensed Environmental Professional (LEP) Program (CGS §22a-133v)

- ▶ RSRs apply to:
 - Remediation of polluted soil and groundwater
 - Clean up of release areas
 - Remedial actions required by regulation, statute or order of the Commissioner



RSRs – Compliance Structure



Why RSR Revision Now?

- ▶ Key part of the overall DEEP “Transformation” process
 - Unify and streamline the State’s remediation programs
- ▶ Property Transfer sites have an 8 year deadline to finish or substantially complete cleanup
 - First deadline: October 2017
- ▶ Great public interest and expectation

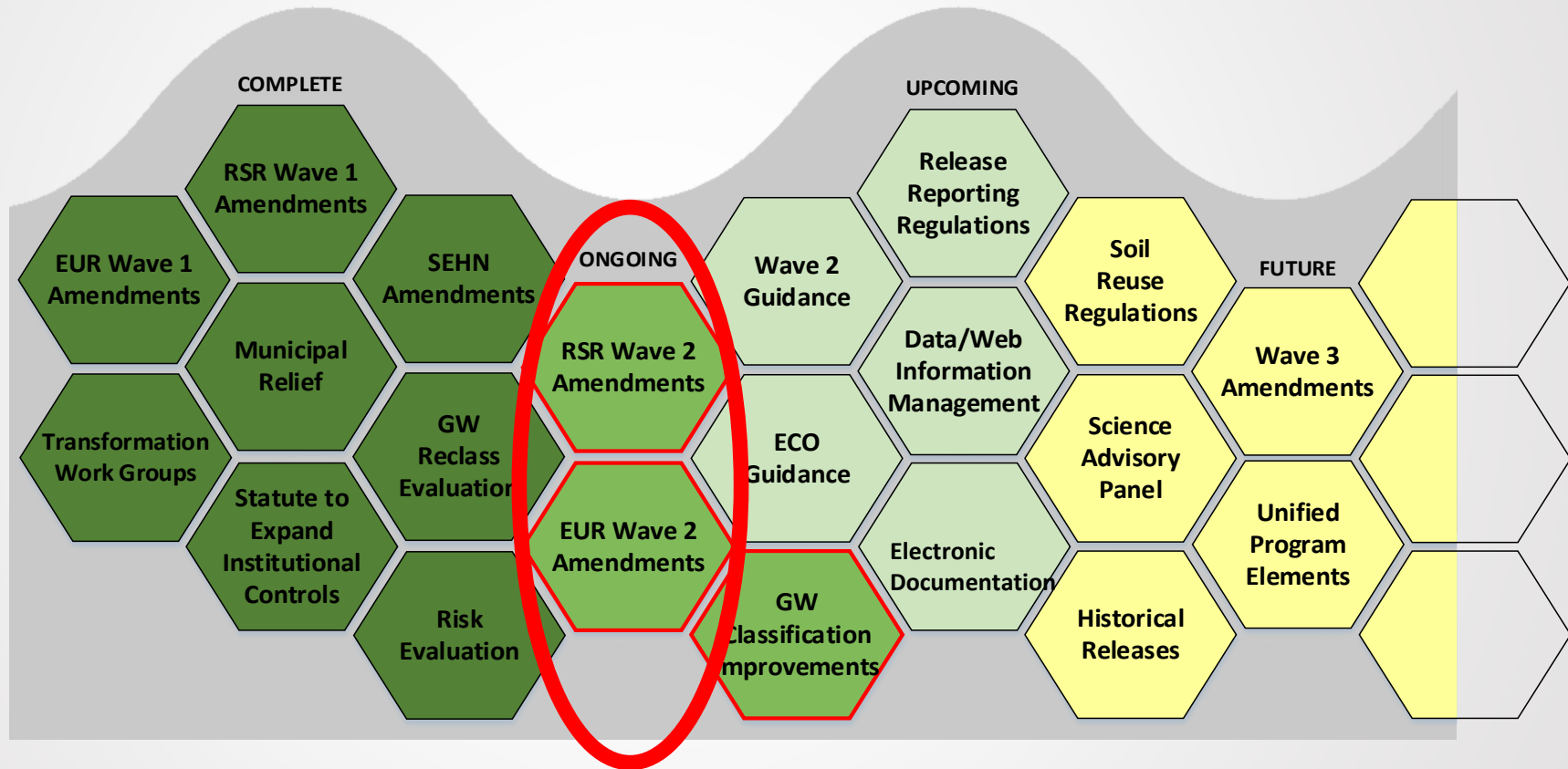


Kevin Neary



Why RSR Revision Now?

Transformation is Progressing



Big Picture – Goals for Revisions



Since 2012 CT Brownfield Program has:

- Invested **206 million** in grants and loans
- Funded **234 projects**
- Remediated **3,062 acres**

- **Greater certainty**
 - Clearer requirement details help build certainty for planning and redevelopment
- **Enhance economic growth**
 - Lower remedial cost while maintaining protection
 - Increase brownfield redevelopment



Big Picture – Goals for Revisions

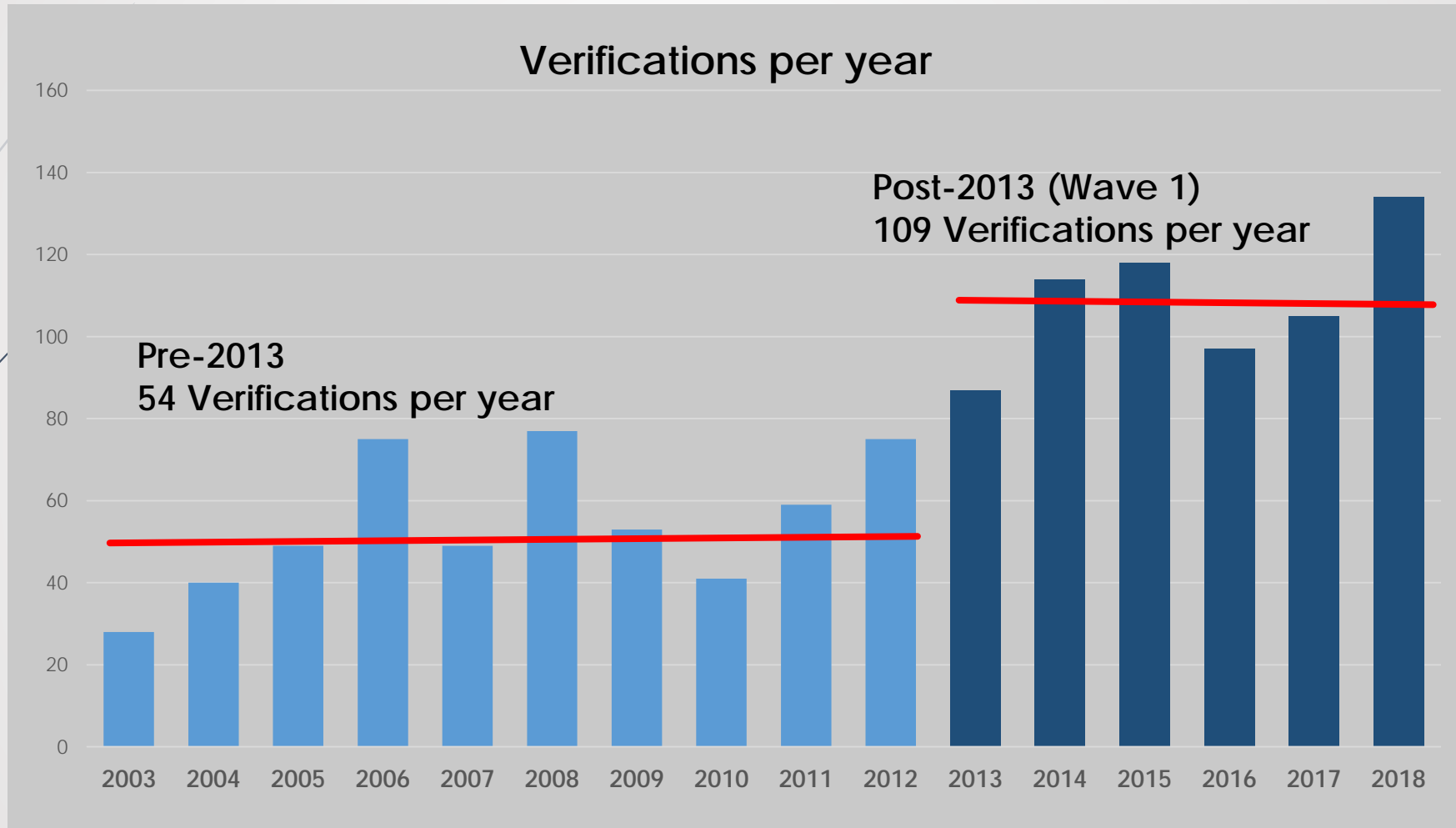
- ▶ Promote faster cleanups
 - ▶ Increased compliance exits
 - ▶ Allow for more release-specific remedies
- ▶ Optimize resources
 - ▶ Less DEEP involvement on lower-risk scenarios
 - ▶ New LEP-implemented options
 - ▶ Conduct appropriate remediation for site conditions
- ▶ Continue to protect public health and the environment



Wave 2 Added or Modified Provisions	Flexibility	Certainty	Cost Savings	Faster Cleanups	Clarity
Alternative PMC	X		X	X	
Alternative SWPC	X		X	X	
Alternative GWPC	X		X	X	
Public Notice		X			X
Financial Assurance	X	X	X		X
Environmental Use Restrictions	X	X	X	X	
Residential Definition		X	X		
Analytical Data		X			X
PCBs		X			X
NAPL	X	X	X	X	
Reuse of Polluted Soil		X			X
Reuse of Pesticide Impacted Soil			X		
Public Roadway Variance	X	X	X		
Vapor Migration		X			X
Upgradient Groundwater Plume	X	X	X		X
Technical Impracticability	X	X	X		X
Conditional Exemptions					
Polluted Material		X	X	X	X
Widespread Polluted Fill	X		X		X
Pesticides		X	X	X	
LEP-Implemented					
Notice Activity Use Limitation	X		X	X	
Engineered Controls	X		X	X	
Widespread Polluted Fill	X		X	X	



Benefits of Wave 1 Amendments





Public Process

Transparency – 8 years of Outreach

- 7** **WORKGROUPS** - regulated community and other constituent groups assisted DEEP in crafting the revision ideas
- 11** **DISCUSSION PAPERS** - posted online for public feedback
- 2** **ITERATIONS OF DETAILED CONCEPTUAL LANGUAGE** - posted online for public feedback (April and August 2016)
- 2** **PUBLIC INFORMATION SESSIONS** - April 2016 concept draft discussed in Hartford and Derby
- 13** **REMEDIATION ROUNDTABLES** – presented and discussed proposed RSR revision concepts
- 4** **CONSTITUENT GROUPS** – 2015 and 2016 presentations on proposed RSR changes to stakeholder organizations with direct connections to the small business community (CBIA, CEF, EPOC, CBA)
- 4** **STATE AGENCIES** - briefed during drafting (DECD, DPH, DOT, AG)



RSR Revision Timeline

Substantial Public Outreach:
Public Discussion Documents
Stakeholder Organizations
State Agencies
Remediation Roundtable
Website / Technical Training

2010
Transformation
Begins:
DEEP +
Stakeholder
Workgroups

2013
Wave 1 RSR
Revisions Adopted
(7 major concepts)

2016

Worked to:
strengthen language, finalize
concepts, increase consistency
between sections, eliminate
duplication, and organize

2019
Wave 2 RSR Revisions
(25 major concepts)

2020
Wave 2 RSR
adoption



eRegulations System

- ▶ Official Proposed RSR amendments
- ▶ Notice of intent
- ▶ Fiscal Note
- ▶ Regulatory Flexibility Analysis
- ▶ Table of Contents

[eRegulations System](#)



On-line Materials

- ▶ Additional information on the RSR webpage to assist in your review:

www.ct.gov/deep/rsr

- ▶ [Red-Line](#)/[\[Blue-Line\]](#) version of Proposed Revised Remediation Standard Regulations
- ▶ Summary Document
 - ▶ Companion to [Red-Line](#)/[\[Blue-Line\]](#)
 - ▶ Outlines modifications, new provisions, and reorganization
- ▶ Schedule and locations of Remediation Outreach Events
 - ▶ Link to Remediation Division Presentations



Public Comment Period

- ▶ Public comment period runs for 90 days from July 8th to 5:00 pm, October 7th, 2019
- ▶ Comments may be provided:
 - ▶ Written:
 - ▶ Submitted through the [eRegulations System](#)
 - ▶ Mailed to the attention of Brian Thompson at DEEP, Bureau of Water Protection and Land Reuse, Remediation Division, 2nd Floor, 79 Elm Street, Hartford, Connecticut 06106-5127
 - ▶ Emailed to DEEP.Cleanup.Transform@ct.gov
 - ▶ Verbal:
 - ▶ Public Hearing on September 25, 2019 at 1:00 p.m. at DEEP, 5th Floor, Gina McCarthy Auditorium, 79 Elm Street, Hartford, CT



Schedule of Formal Regs Process



Public Notice of Intent to Secretary of State, beginning the formal public comment period: **July 8, 2019**

➤ Public Hearing: **September 25, 2019**

➤ Close of public comment period: **5:00 pm, October 7, 2019**

➤ Hearing Officer's Report

➤ DEEP notification to all interested parties of availability of final wording

➤ Final proposed regulations to Attorney General for Legal Sufficiency approval

➤ Final proposed regulations to Office of Fiscal Analysis and Environment Committee

➤ Legislative Regulation Review Committee (LRRRC) holds meeting on regulatory amendments per CGS section 4-170

➤ After approval of LRRRC, regulations filed with Secretary of State per CGS section 4-172 (regulations become final upon filing)

➤ Publication of regulations on the Connecticut eRegulations System



3 Question & Answer Sessions

- ▶ **July 30, 2019** from 9:30 a.m. to 11:30 a.m. (ZOOM)

Gina McCarthy Auditorium, 5th Floor, Department of Energy and Environmental Protections
79 Elm Street, Hartford, CT

- ▶ **August 6, 2019** from 1:30 p.m. to 3:30 p.m.

Kellogg Environmental Center
500 Hawthorne Avenue, Derby, CT

- ▶ **September 11, 2019** from 5:00 p.m. to 7:00 p.m.

Sheraton Hartford South Hotel
100 Capital Boulevard, Rocky Hill, CT

camille.fontanella@ct.gov



Questions or Comments?

Please Speak into Microphone

State Your Name and Affiliation

www.ct.gov/deep/rsr





Definitions and Other Section 1 Concepts



Definitions – New

- Application of Pesticides
- Conceptual Site Model
- Diminishing State Groundwater Plume
- Maximum Extent Prudent
- Water Quality Criteria
- Monitored Natural Attenuation
- Polluted Material



Definitions – Modified

- ▶ Background Concentration
 - ▶ Combines background for soil and groundwater into one definition
 - ▶ Allows flexibility for substances that are naturally occurring or minimally affected by human influences
- ▶ Residential Activity
 - ▶ Removed hospitals (for DEC only)
 - ▶ Specifies that the only part of colleges/universities that are considered residential are dormitories. Other areas could be considered industrial/commercial with an EUR



Public Notice

- ▶ Combines all public notice requirements previously in various locations within the RSRs:
- ▶ Set duration of public notice period to 30 days
- ▶ Changes public hearing to Commissioner's discretion for public meeting
- ▶ Adds new requirement for supplemental notice if additional remediation to be conducted or if conducted much later than original notice



Financial Assurance



- Details financial assurance requirements for engineered controls and technical impracticability variances
- Simplifies calculating financial assurance
- More financial predictability
- Exempted if total surety is less than \$10,000



Other Section 1 Enhancements

- ▶ Added EUR subsection [22a-133k-1(e)]
 - ▶ Identifies when a NAUL can be used and when an EUR needs to be in effect
- ▶ Expanded subsection on forms prescribed by the Commissioner to consolidate generic information pertaining to all submittals [22a-133k-1(g)]
- ▶ Added Laboratory Analytical Detection subsection and removed separate soil and groundwater matrix interference subsections [22a-133k-1(h)]
- ▶ Included transition language for changes to Volatilization [22a-133k-1(i)]
 - ▶ Similar to 2013 transition from lead
 - ▶ Regarding criteria and 30 feet





Soil Concepts Section 2

Pesticides - Conditional Exemptions

- ▶ Language exempts compliance with DEC, provided:
 - ▶ Soil was polluted through the “application of pesticides”;
 - ▶ Human exposure to pesticide-impacted soil is prevented; and
 - ▶ Protective measures based on land use (residential or industrial/commercial) are implemented.
- ▶ Language exempts compliance with the groundwater criteria, provided:
 - ▶ Pesticides present as a result of “application of pesticides”;
 - ▶ Soil complies with section 22a-133k-2;
 - ▶ On-site receptors protected;
 - ▶ Notice put on land record of pesticide exceedance in groundwater; and
 - ▶ Notice submitted to DEEP and local health.
- ▶ If the pesticides in soil and groundwater comply with DEC and groundwater exemptions, would be exempt from PMC compliance.



Alternative PMC Calculation (New)

- ▶ Ability for LEP to calculate a release-specific alternative PMC based on site-specific conditions.
- ▶ Alternative PMC is computed based on the lowest of applicable criteria (rather than being based on GWPC or 10x GWPC).
- ▶ Alternative can only be calculated for criteria already established in Appendix C of the RSRs:
 - ▶ Calculation uses substance-specific parameters which are limited to those substances which are already in the RSRs.



Reuse of Polluted Soil

- **Modified since 2016 conceptual language**
- **Three reuse types:**
 - On-site (LEP-implemented)
 - On-site or Off-site Adjacent Property (Commissioner Approval)
 - EUR needed for DEC/PMC exemption
 - Added flexibility for large releases or adjacent properties with similar releases
 - Off-site (Commissioner Approval)
- **Placement still:**
 - Can't be placed below the water table
 - Can't be placed in an area subject to erosion
 - Can't be placed to be inconsistent with anti-degradation policy



Reuse of Pesticide-Impacted Soil (New)

- ▶ New exemption for polluted soil containing pesticides:
 - ▶ Eliminates removal of high-quality agricultural top soil off-site
 - ▶ Allows reuse of pesticide-impacted top soil on agricultural land
 - ▶ Requires Commissioner approval
- ▶ The soil must comply with the DEC or PMC for all other contaminants, as reflected in the polluted soil reuse provision.



Engineered Controls

- ▶ Added language laying out the process
- ▶ Clarifies that cost of fully remediating must be considered when deciding to use an Engineered Control
- ▶ Timeframes are established for clarity on timing of events:
 - ▶ Final Engineered Control Completion Statement due 120 days following construction complete
 - ▶ Financial Assurance due 120 days following construction complete
 - ▶ Submit complete EUR application due 180 days from construction complete



Engineered Controls cont'd

- ▶ LEP Certification of an Engineered Control Variance (**New**)
 - ▶ Allows LEP to implement EC for various types of DEC soil exceedances
- ▶ Commissioner Approval of Engineered Control Variance
 - ▶ If VOCs exceed PMC, the EC is designed, constructed and maintained to comply with applicable volatilization criteria
 - ▶ Added use of immobilization as an EC to prevent migration of NAPL
- ▶ Language revised to describe the measures that are necessary to ensure that the EC remains effective



Widespread Polluted Fill

- ▶ Clarifies that a release into WSPF is not exempt from compliance with the RSRs
- ▶ ELUR required to prevent relocation of widespread polluted fill to another property where the variance would no longer be applicable
- ▶ LEP Certification for Widespread Polluted Fill Variance (New)
 - ▶ Allows LEP to approve a WSPF variance if the fill is located in a coastal area, in a GB groundwater classification area, and extends over 10 acres
- ▶ Commissioner Approval of a Widespread Polluted Fill Variance:
 - ▶ Modified - expands the potential use of the WSPF variance outside coastal areas



Public Roadways Variance (New)

- ▶ The Commissioner may approve a variance from DEC or PMC under an existing “public roadway” (new definition) without the need to record an EUR, where:
 - ▶ The removal of the soil under the road is not feasible nor prudent; and
 - ▶ The soil does not pose a public health concern.



Non-Aqueous Phase Liquids

- ▶ Distinction between LNAPL and DNAPL eliminated for clarity
- ▶ A variance from the requirement to remove all NAPL is available:
 - ▶ Compliance with the applicable groundwater criteria is still necessary
 - ▶ An ELUR (preventing exposure/disturbance of the NAPL) is needed



EURs Revisions (to be proposed under RCSA section 22a-133q)

- ▶ EURs are required when pollution remains on a parcel above default cleanup criteria
- ▶ EURs are designed to:
 - ▶ Restrict further use of a parcel
 - ▶ Impose certain affirmative obligations upon owner

EUR Types

- ▶ ELUR – Environmental Land Use Restriction (Commissioner Approval)
 - ▶ Conveys an interest in the parcel to the state
 - ▶ Used on “higher risk” parcels
- ▶ NAUL – Notice of Activity and Use Limitation (LEP-Implemented)
 - ▶ New tool only available for certain restrictions specified in statute
 - ▶ Binds future owners to maintain restriction



EURs Revisions (to be proposed under RCSA section 22a-133q)

➤ Goals

- Permit the use of NAULs
- Provide greater detail on:
 - Implementation process
 - Completion of surveys
- Allow for minor disturbances without Commissioner approval
- Impose certain fees for ELUR
- Require annual inspections by owner

➤ Benefits

- More efficient applications
- Greater long-term certainty of restriction
- Cost savings with LEP-Implemented NAULs



A high-speed photograph of a water droplet falling into a pool of water, creating concentric ripples. The water is tinted with vibrant colors like blue, green, and purple. The text 'Groundwater Concepts Section 3' is centered over the image in a white, sans-serif font. On the left side of the slide, there are decorative elements: a blue arrow pointing right and several thin, curved lines.

Groundwater Concepts Section 3

Alt. SWPC – Discharge Dilution

- ▶ Inland watercourse option (LEP-Implemented):
 - ▶ Modified calculation - 7Q10 was replaced with Q99 for a groundwater plume discharging to an inland watercourse
- ▶ Tidal option (**New**)(LEP-Implemented):
 - ▶ Added calculation for a groundwater plume discharging to tidally influenced water body
- ▶ For both options, a maximum allowable alternative SWPC has been established:
 - ▶ Cap on the multiplier that can be applied to the Water Quality Criteria
 - ▶ Based on the distance from the compliance point to the nearest downgradient surface water body



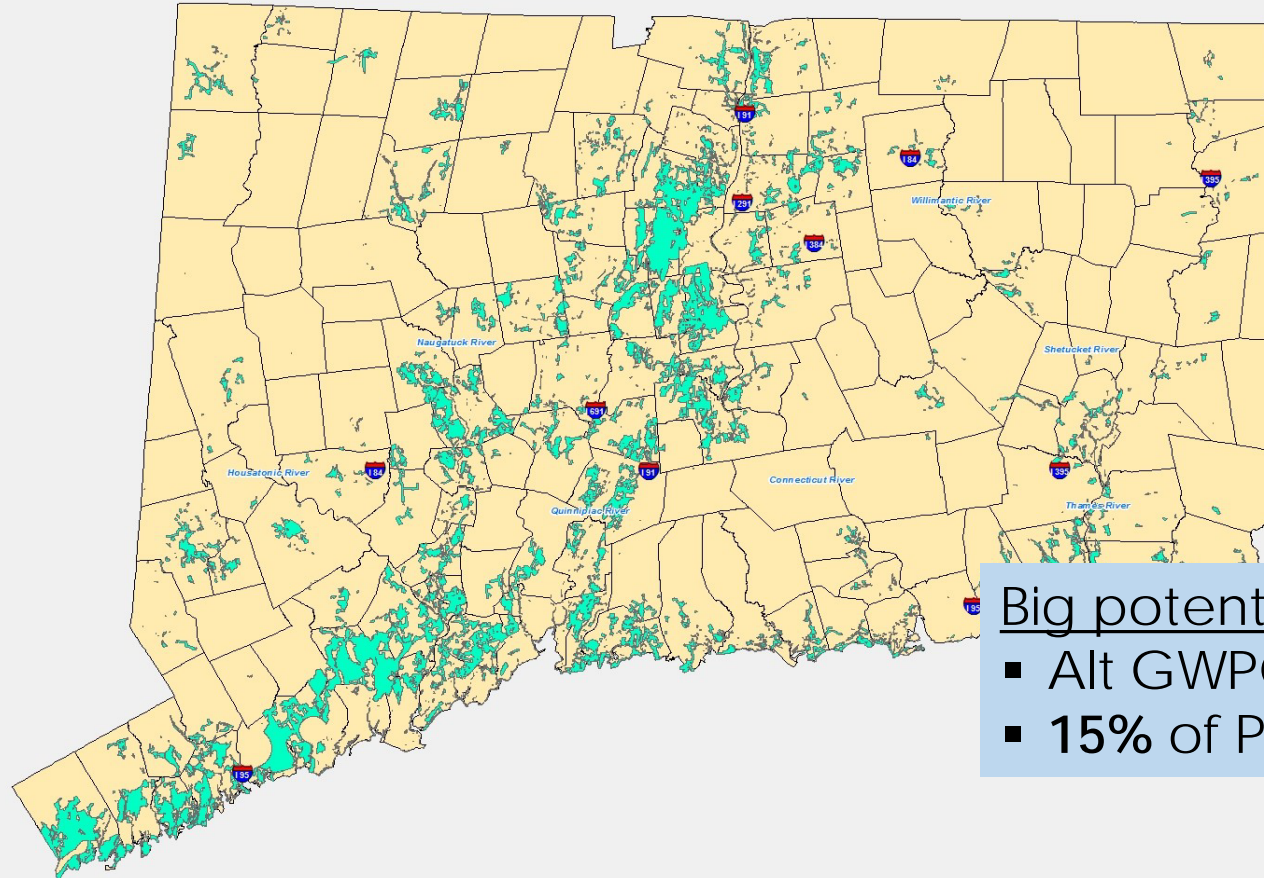
Alt. SWPC – Aquifer Dilution (New)

- ▶ LEP-implemented calculation to account for aquifer dilution prior to discharge point:
- ▶ Surface water discharge must be 500 ft. or greater from the groundwater plume compliance point
- ▶ Groundwater data must show significant on-site dilution within 50 ft. of the release area
- ▶ Multiplier applies to the SWPC or Water Quality Criteria, whichever is applicable.



Alternative GWPC (New)

- ▶ Provides more flexibility in achieving groundwater compliance in areas with no current or future drinking water use
- ▶ Decreases time and monitoring cost associated with achieving groundwater compliance



Big potential impact

- Alt GWPC Area covers **8%** of CT
- **15%** of Property Transfer sites



Alternative GWPC (New) cont'd

- ▶ LEP-implemented option:
 - ▶ For a groundwater plume that exceeds GWPC, meets certain site-specific conditions, and is located in the mapped Alternative GWPC area (Appendix I)
- ▶ Commissioner Approval option:
 - ▶ If public water is demonstrated to be available and all other requirements have been met, or
 - ▶ If it can be demonstrated that the aquifer is not a sustainable aquifer and all other requirements have been met



Volatilization Criteria Changes

- ▶ Revised the depth for groundwater compliance with the volatilization criteria from 15ft to 30ft for VOCs, other than “volatile petroleum substances” (new definition)
- ▶ 15-feet depth still applies to “volatile petroleum substances”
- ▶ Clean groundwater lens provision allows compliance if the uppermost portion of the water column meets applicable criteria (**New**)
- ▶ Added EUR requirement to ensure the vapor mitigation system will not be turned off
- ▶ Clarified language that for a building within 30 ft from a groundwater plume that exceeds criteria, the vapor intrusion pathway into the building must be evaluated



Volatilization Criteria Changes cont'd

- ▶ Indoor air monitoring compliance option - an ELUR requirement was added
- ▶ Updated groundwater volatilization criteria for chlorinated VOCs and soil vapor criteria for all substances to reflect changes to the fate and transport and toxicology of these substances, as presented in the 2003 proposed volatilization criteria
- ▶ Transition language to exempt new volatilization criteria and 30 ft applicability, if:
 - ▶ RAP submitted before regulations are adopted; and
 - ▶ Remediation is completed within 2 years of effective date of regulation adoption



Technical Impracticability Variance

- ▶ Added language laying out the process:
 - ▶ Listed information to be submitted for a TI request
- ▶ After Commissioner has determined that TI request is appropriate, details additional information that may be required prior to approval
 - ▶ i.e., financial assurance and EUR



Upgradient Source of Contamination (NEW)

- Added upgradient policy into the regulations, while clarifying the requirements for use of this provision:
- All onsite exposure pathways must be eliminated to protect human health (vapor and drinking)
- If there is a co-mingled plume of the same substance:
 - The portion of that plume emanating from the subject property must be remediated
 - All downgradient exposure pathways must be eliminated



Questions or Comments?

Please Speak into Microphone

State Your Name and Affiliation

www.ct.gov/deep/rsr

