

An abstract background featuring a mix of blue, green, and brown brushstrokes, creating a textured, painterly effect. The colors are layered and blended, with the blue at the top, green in the middle, and brown at the bottom.

# Remediation Roundtable

October 25, 2022

# Remediation Roundtable Agenda

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## Announcements- 2023 Dates

### Updates:

- Release-Based Clean Up Program Regulation Development Updates

### Roundtable Tips

- Remediation Forms and Document Submittals
- Financial Assurance
- Finding Documents on the DEEP Public Portal

### Updates:

- PFAS Action Plan



# Announcements

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## Dates for 2023

- March 21st
- June 20th
- October 24th



# LEP Board Member Recruitment

The State of Connecticut is seeking to recruit diverse qualified candidates for the vacant State Board of Examiners of Environmental Professionals (aka the LEP board) positions.

**We have three available volunteer board positions currently**, as per Sec. 22a-133v(b) of the Conn. Gen. Stat. and your help in finding candidates is appreciated:

- 1. A licensed environmental professional** who is also a professional engineer;
- 2. an active member of an organization that promotes protection of the environment;** and
- 3. an active member of an organization that promotes business.**

Please reach out to those who may be interested in serving on this board and let them know about this opportunity. The application is on the DAS Jobs site under boards, councils and commissions. [Job Opening: State of Connecticut Boards, Councils and Commissions Members - Department of Administrative Services \(jobapscloud.com\)](#)

If anyone does apply please contact Liz McAuliffe [Elizabeth.mcauliffe@ct.gov](mailto:Elizabeth.mcauliffe@ct.gov) to answer any questions they may have and so she can track their application as it come in through DAS. Please let Liz know if you need any additional information.

# Update: Working Group on Release-Based Cleanup Regulations

October 25, 2022

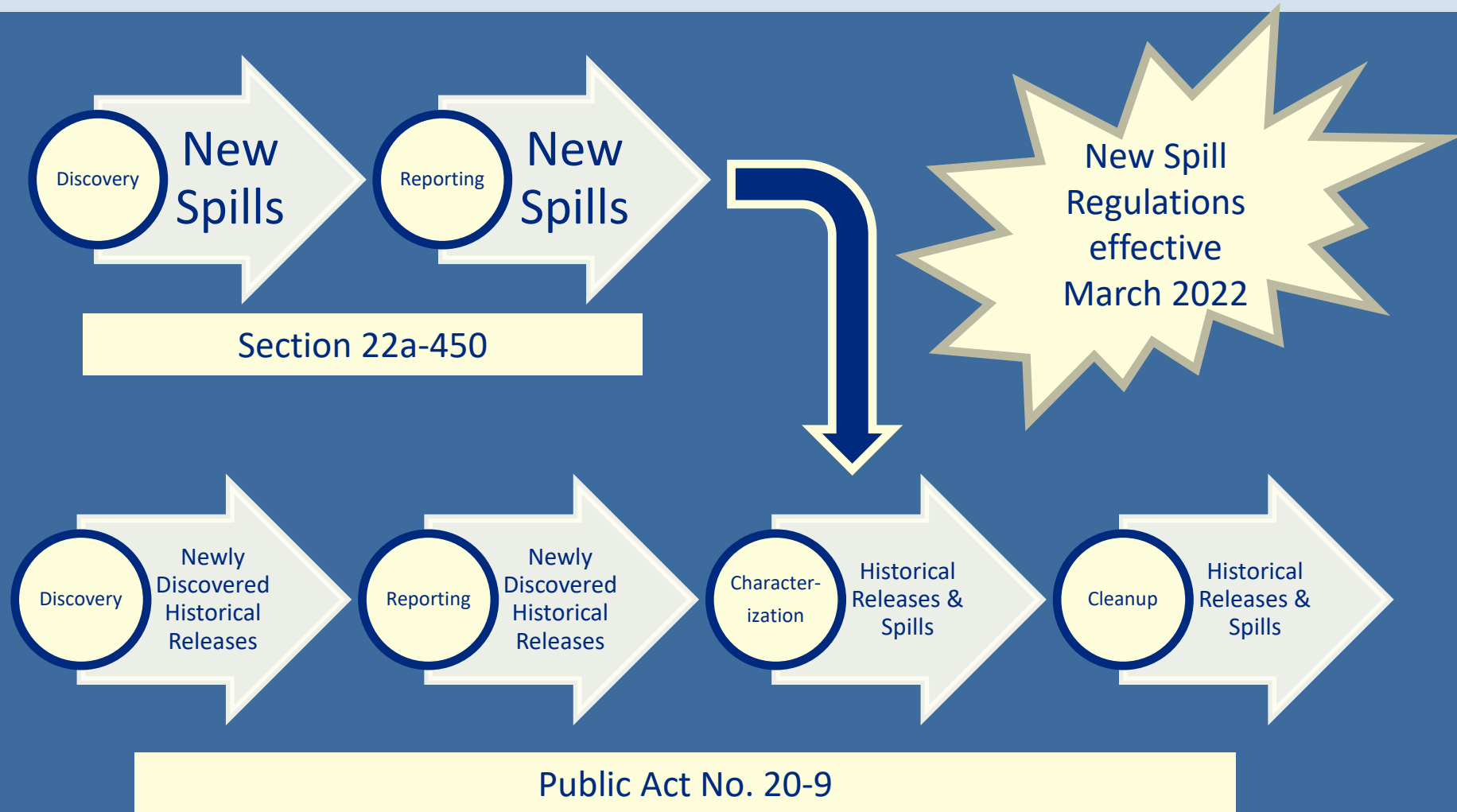
Graham Stevens Bureau Chief

Water Protection and Land Reuse

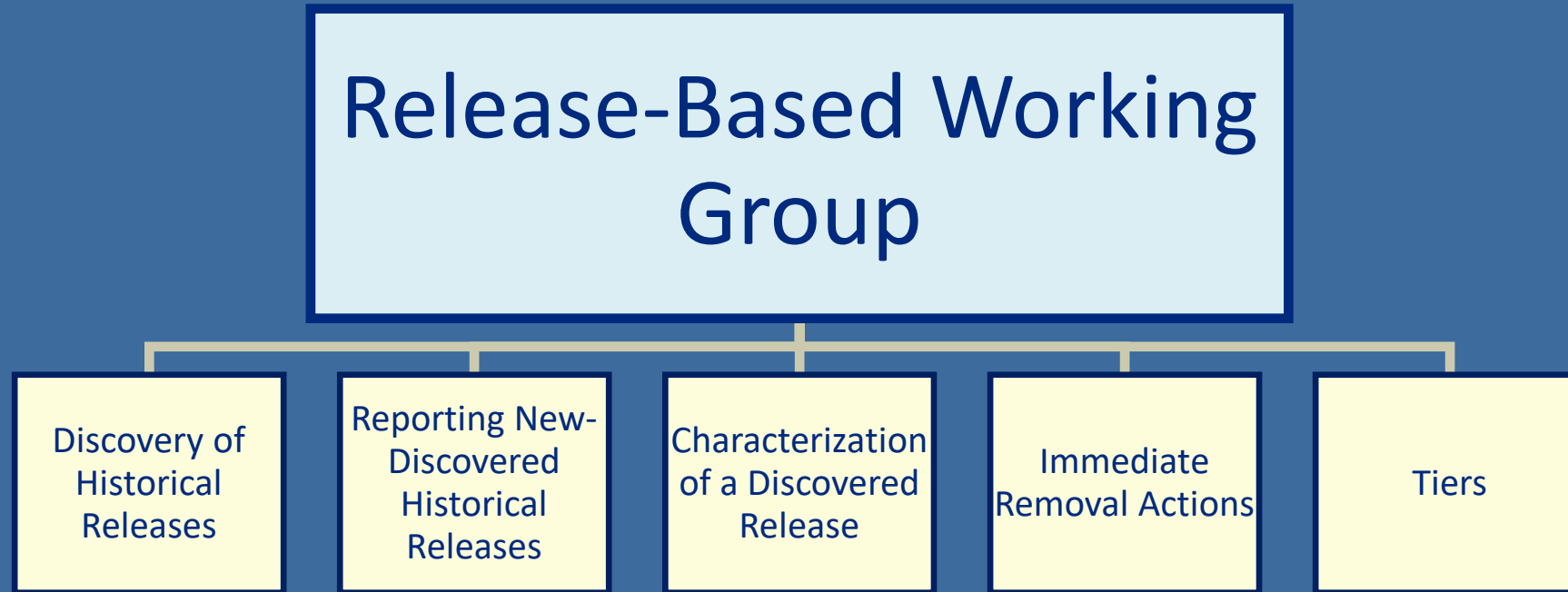


Connecticut Department of Energy and Environmental Protection

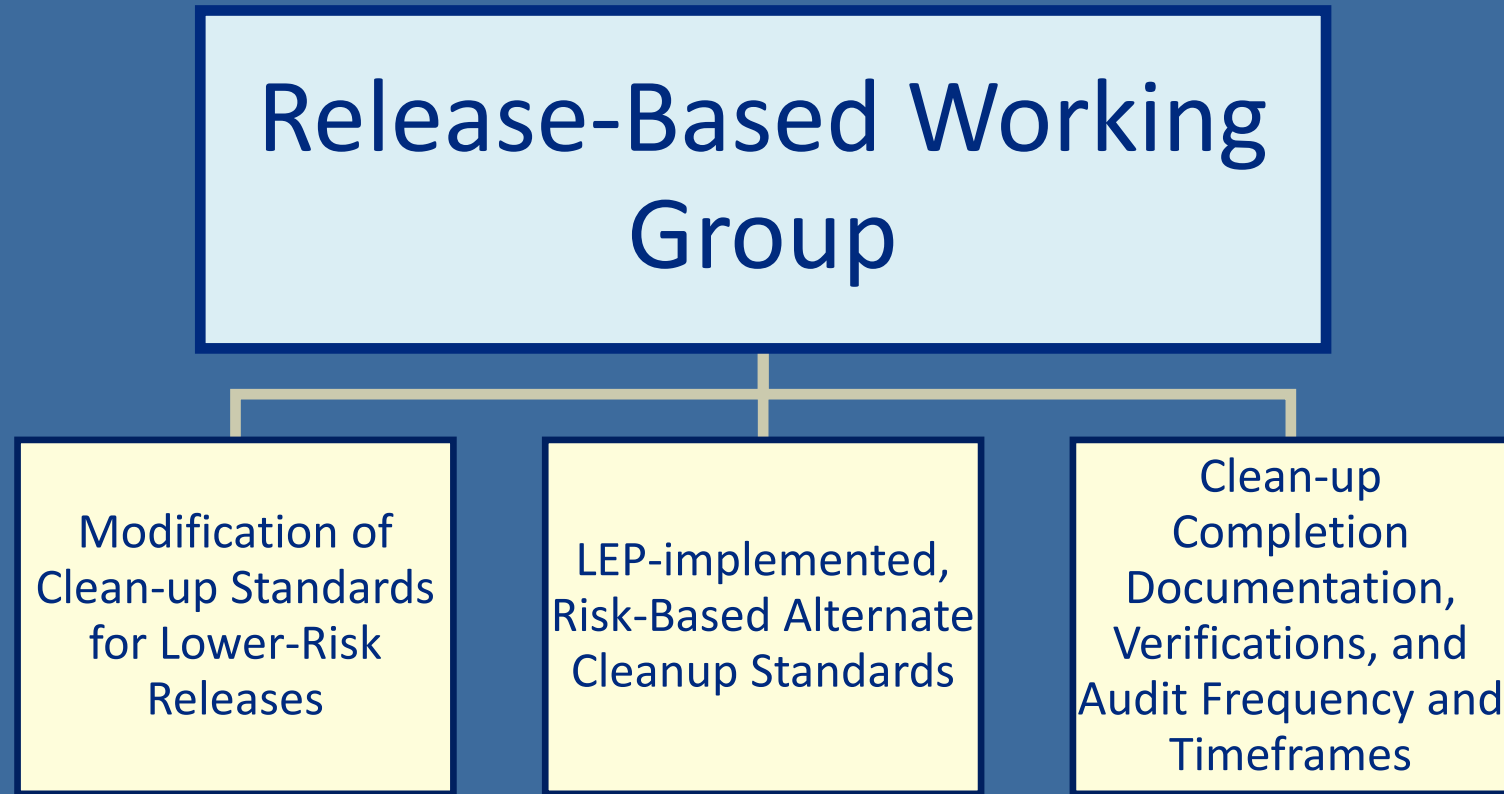
# Section 22a-450 vs Public Act 20-9



# First Phase Subcommittees



# Second Phase Subcommittees





# Basic Verification Process from WG Basic

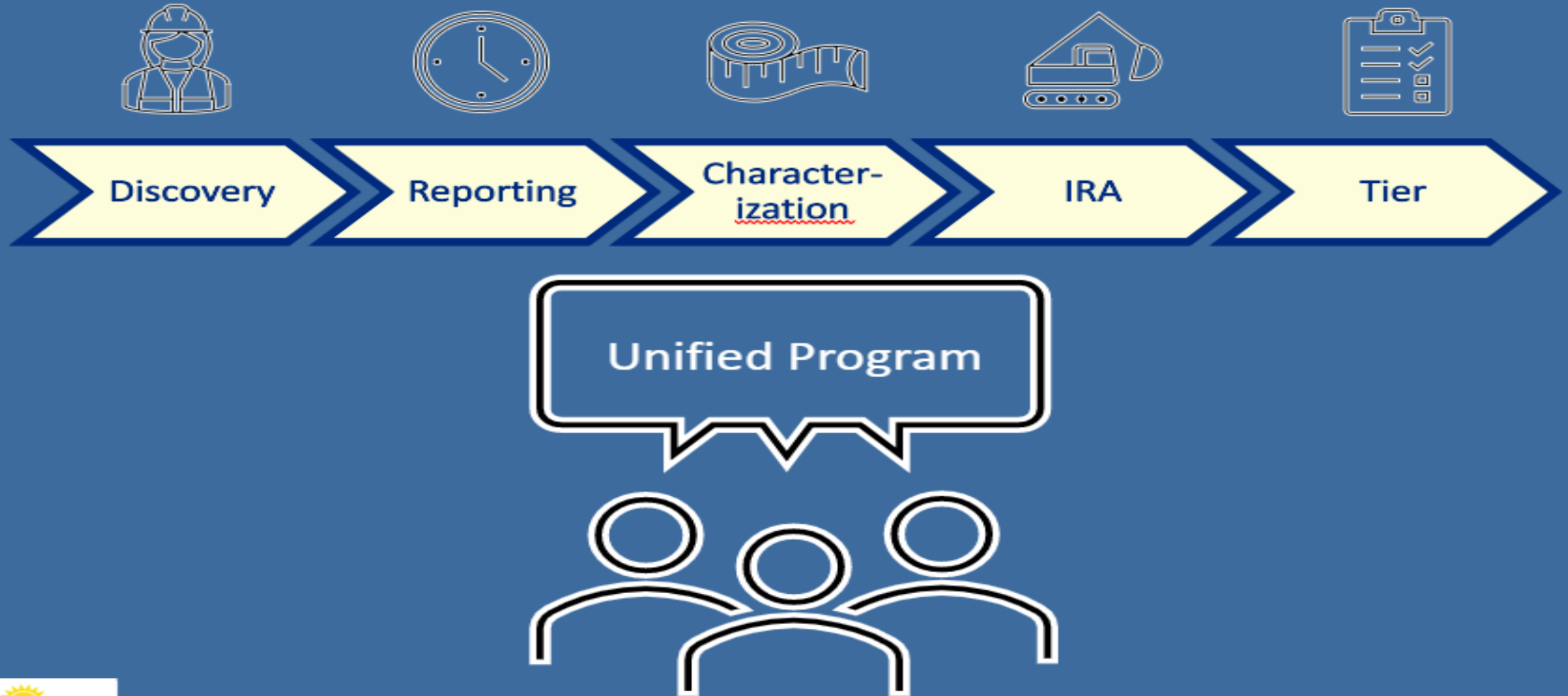
Figure 1

## Basic Release Based Decision Tree

06-23-2022



# Release Based Program (RBP) Concepts



# Third Phase Subcommittees



# Subcommittee Charges

- Cumulative Risk and Risk-Based Alternative Approaches
  - Determine which components of cumulative risk assessment can be implemented without increasing the human health risk on sites that have been remediated
- Role and Qualifications of Non-LEP Environmental Professionals
  - Identify qualifications, qualification process, and scope of authority for such professionals



# Subcommittee Volunteers Needed!

- See your email for details – eAlert from webpage update and Remediation Roundtable Listserv
- Otherwise check out our webpage at:  
<https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/Comprehensive-Evaluation-and-Transformation/Release-Based-Clean-Up-Program-Regulation-Development>



# Working Group Process

- Last two subcommittees of 10 getting underway soon
- Meeting moving to Substantive Conversations
  - DEEP presenting on various topics, issues, regulatory challenges, or new approaches or discussing preliminary regulatory language
  - Time for discussion and Working Group member can provide written comments
  - Presentations, emails to Working Group and responses always posted!



# First Substantive Conversation: SEH

Releases reported by someone other than creator/maintainer

[SC 1,2]

Reporting timeframe based on level of risk (e.g., 2 hr., 72 hr.)

[SC 2]

Reporting criteria based on qualitative and quantitative standards

[SC 2]

Higher risk releases require more characterization in a shorter timeframe

[SC 3]

Mandated IRA for higher risk releases

[SC 4]

Mandated IRA complete but release not closed ->Tier classification

[SC 4]

Tier classification  
- based on level of risk  
- for releases not closed within 1 year of discovery

[SC 5]



Highest risk releases - DEEP oversight

[SC 5]



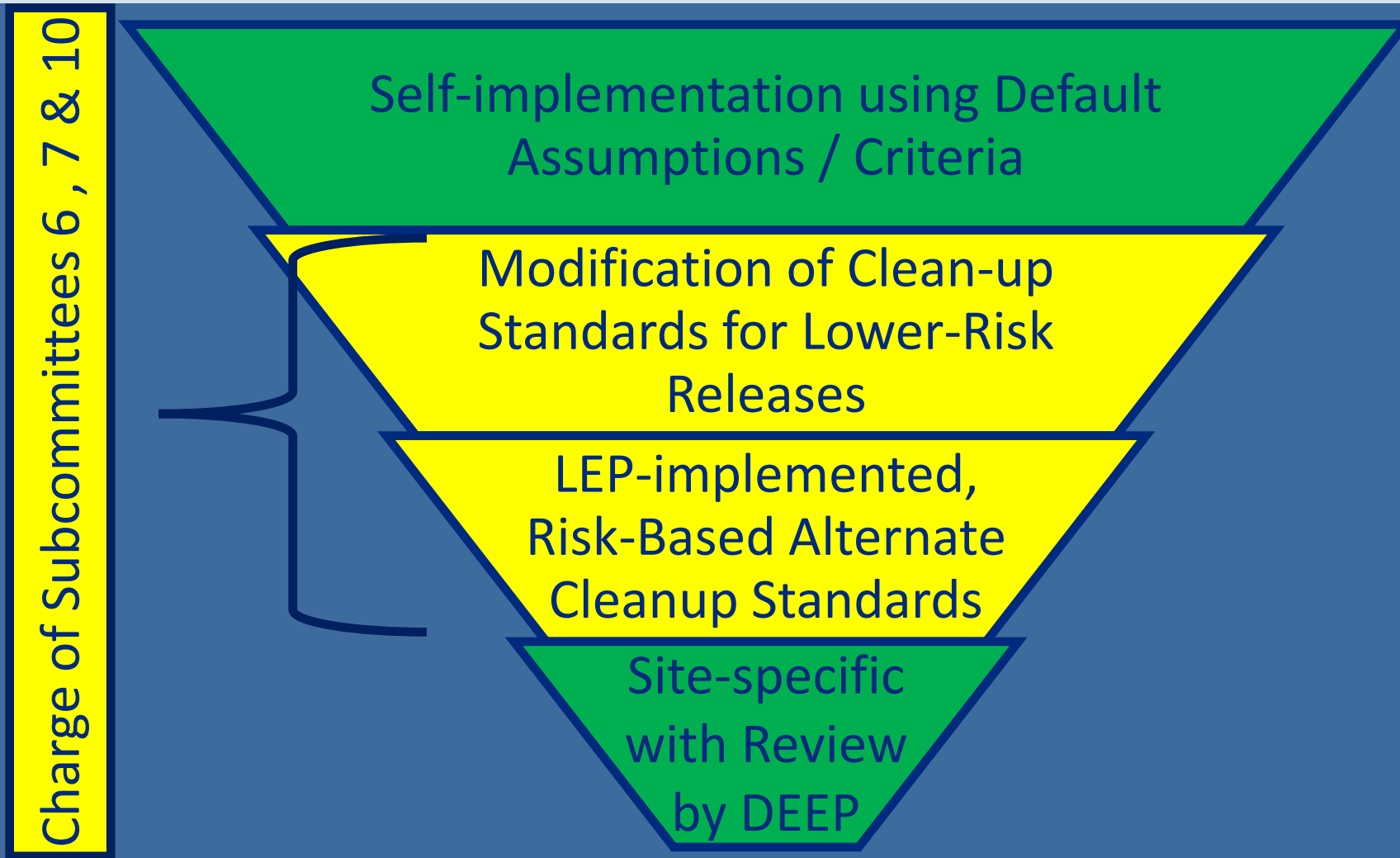
# Framework for Historical Releases

	SEH*	RBP
Notifier	Property owner notifies DEEP TEP required to notify owner	Property owner notifies DEEP Person who discovers required to notify owner**
Program requirements	Break exposure pathway (mitigate)	Clean up completed
Reporting times	Generally, 30 days in writing  <i>Some specific cases: verbal (immediately; 1 day) followed by written notification within 5 days; 90 days;</i>	2 hours, verbal, for Imminent Hazards  72 hours, verbal, for Acute Hazards
	<small>*high-level summary – for more details visit <a href="https://portal.ct.gov/DEEP/">https://portal.ct.gov/DEEP/</a></small>	<small>**future regs will specify a process for ensuring notifications</small>





# Cleanup Regulations – Start with RSRs





I'm happy to take your questions



Connecticut Department of Energy and Environmental Protection



# Webpage Updates and Remediation Roundtable Tip: Forms and Document Submittals

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Lynn Olson-Teodoro: Environmental Analyst  
Remediation Division

# Webpage Updates

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## Engineered Control Variances

- Part 1 Engineered Control Variance Application Form
- Part 2 Engineered Control Variance Application Form
- Public Notice Confirmation Form
- **NEW!** Final Engineered Control Completion Statement Form
- Revised Letter of Credit Template and Receipt of Check for Financial Assurance Template. Trust Agreement or Trust Fund Template and Certificate of Insurance Templates are being developed.

## **NEW!** Scanning Project Progress



# Webpage Updates

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## LEP Verification Forms

**NEW!** Form III Interim Verification for Business Only

**NEW!** Form III Interim Verification for Property

**NEW!** Voluntary Remediation (22a-133x) Verification - Interim

**Deadline** to use the old interim forms is **today**.

## Verification Form Instructions

**NEW!** Choosing an Environmental Consultant

RCRA Corrective Action, Closure, and Stewardship

**NEW!** Examples of Stewardship Permits Issued



# Webpage Updates

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## Brownfields in Connecticut

Connecticut Brownfields Inventory – Updated list

Municipal Brownfield Liability Relief Program Fact Sheet

BRRP Fee Payment Form

List of Contaminated or Potentially Contaminated Sites

Voluntary Remediation Program (clarifications on submittals)

Voluntary Remediation Program 133x Fact Sheet

Voluntary Remediation Program 133y Fact Sheet



# Webpage Updates

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Forms (submittal instructions & usability):

- [Completion of Investigation Transmittal Form](#)
- [Remedial Action Plan Transmittal Form](#)
- [COI and RAP Transmittal Instructions](#)
- [Property Transfer Fee Payment Form](#)
- [LEP Verification Forms](#)



# Roundtable Tip: Remediation Forms

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**Old way** – collected list of needed changes and eventually made many updates

**New way** – make changes as needed

**Deadlines** for using old forms apply only to forms updated to the 2021 RSR/EUR regulations

**Most subsequent changes are to make forms easier to use**

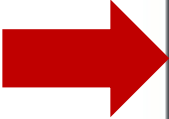




# Always download a new form


<https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/Remediation-Forms>

CT.gov Home / Department of Energy and Environmental Protection / Remediation Site Clean Up / Remediation Forms



- Remediation / Site Clean-Up Main Page >
- FAQs >
- General Information >
- Forms >**
- Guidance Documents >
- Permits >
- Site Characterization >
- Remediation Roundtable >
- Main Menu >

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by Keyword  

## Remediation Forms

### All Remediation Programs

**Electronic Document Transmittal Form**  - **must** be the cover page for all Remediation documents uploaded into the Connecticut Secure File Transfer (SFT) website (replaces the RSR Approval Request or Notice Transmittal Form).

- **Transmittal of Documents** - Instructions for submitting documents electronically.

### Remediation Standard Regulations

- **Engineered Control Variance Forms** (Transmittal, Application Parts 1 and 2, and Public Notice Verification)
- **Environmental Land Use Restrictions**
- **Notices of Activity and Use Limitation**
- **Request for Approval for Use of EPH/VPH/APH Analytical Methods and Associated Criteria as Additional Polluting Substances** 
- **Request Form for Approval of Criteria for Additional Polluting Substances and Certain Alternative Criteria** 



# Electronic Transmittal Form (ETF)

- The newer ETFs are machine read, allowing faster availability of documents in the portal.
- Forms dated before 9/20 **cannot** be machine-read, so will be delayed (date at bottom right).
- Latest update - PCB documents can now be submitted electronically.

**Please delete old ETF forms from your computer!**



## Arrange submittals as follows:

1. ETF (for computer filing)
2. Form, if applicable (for staff to log into the database)
3. Document, if applicable

Save as a PDF/A and upload to the Secure File Transfer (SFT) website (<https://sft.ct.gov>).

Please don't hide forms in appendices.



# Verification Forms

Do **not** reuse forms from another site – it will likely result in an Administrative Rejection due to undeleted information about the first site.

 Will bring you to instructions for that section of the verification form.

EUR Fact Sheets are required for all sites with EURs, regardless of when the EUR was filed [[RCSA 22a-133q-9\(a\)](#)]

Comment boxes on verification forms are for oddball situations (usually when Not Applicable is checked)



# Verification Forms

**Indentations have meaning** if you check *A NAUL was recorded*, then choose either *Commissioner Approval* or *LEP Approval*. If you check *LEP Approval*, then insert *Date NAUL signed by LEP*; if not, leave it blank.

**6b. Notice of Activity and Use Restriction (NAUL)**

A NAUL was recorded on the site

Commissioner Approval

Date Certificate of Title accepted by commissioner:

LEP Approval

Date NAUL documentation submitted to commissioner:

Date NAUL signed by LEP:



# Verification Forms

Please use links to skip to the next section that needs to be completed. Completing unneeded sections is confusing and could result in an Administrative Rejection.

## A. Soil Release Determination and Investigation

### 1. No Releases to Soil

- No releases to soil associated with business operations were identified. The relevant findings of all “no-release” determinations are presented in the verification report.

All potential releases to soil associated with business operations as of the applicable date of this verification have been investigated in accordance with prevailing standards and guidelines, including the SCGD (Phase II ESA) or other equal alternative approach, and there were no detected concentrations of a substance above naturally occurring conditions in soil.

- Since the applicable date of a previous verification (referenced in Part IV.A above), no releases to soil were identified.

[If #1 is checked, skip to Part VI, “Groundwater Remediation Standards,” below](#)



# Verification Forms

Arrange Verification submittals as follows:

1. ETF (for computer filing)
2. Form (information staff needs to log it in)
3. Appendices (so staff can confirm all needed documents are attached)
4. Report



# Verification Forms

Attach appendices **to the form** and in order so staff can efficiently determine the verification is complete.

Establishment Address, City/Town Rem #: Rem #

**Part VII: Appendices & Exhibits**

Check all that apply and attach appropriate documentation to this Verification Form:

- Appendix A – Public Notice Documentation
- Appendix B – Approvals and Notifications
- Appendix C – EUR Fact Sheet and Certificate of Title
- Exhibit 1 – Verification Report

Required with all submittals





# Questions or Comments?

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Please type your Questions into CHAT

If we need further clarification, we may take you  
off mute to speak

[www.ct.gov/deep/remediationroundtable](http://www.ct.gov/deep/remediationroundtable)

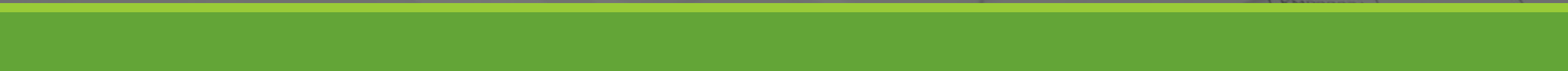
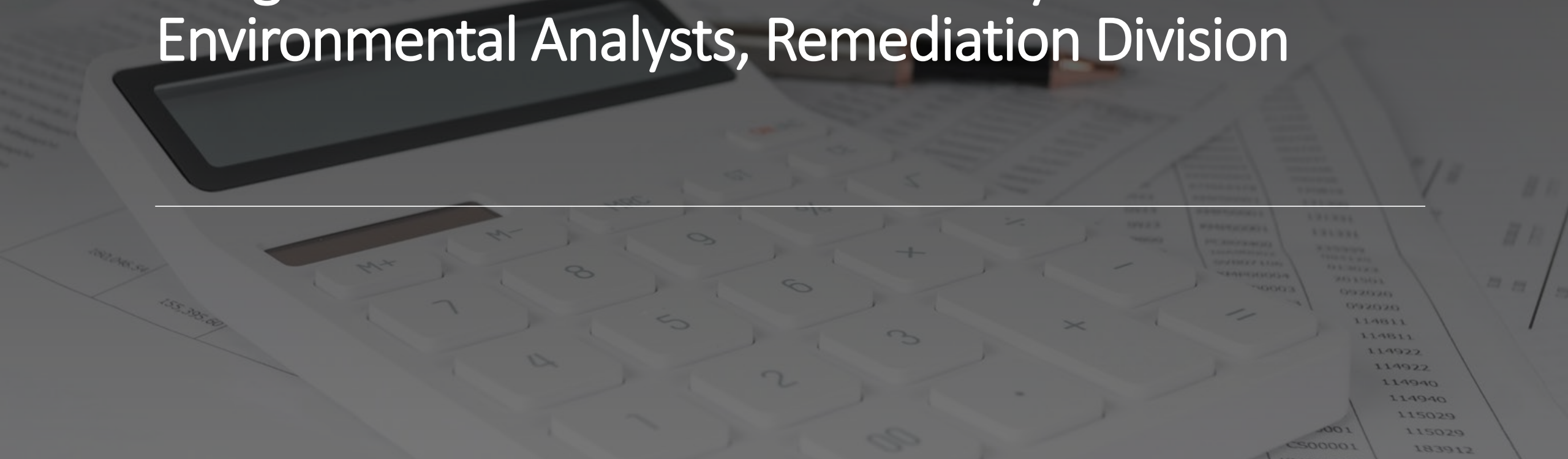


# Remediation Roundtable Tip: Financial Assurance

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Craig Bobrowiecki and Michael Senyk  
Environmental Analysts, Remediation Division

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# Financial Assurance

## Wave 2 Changes to Financial Assurance for ECVs and TIs 22a-133k-1(f)

- 20% of 30 years of O&M, GWM, etc. (no phasing in, no calculator)
- 1. Trust Agreement or Trust Fund (template in development)
- 2. Irrevocable Standby Letter of Credit
- 3. Cash Option
- 4. Certificate of Insurance (template in development)



# Financial Assurance

## Wave 2 Changes to Financial Assurance for ECVs and TIs

- Amount to be adjusted for inflation every 5 years
- Financial Assurance not required if entity responsible for remediation is a municipality or state/federal agency
- Financial Assurance not required if amount is less than \$10,000 (Commissioner may require as a condition of approving ECV or TI or for multiple ECs on a single property)



# Financial Assurance

- Templates are fillable-"Boilerplate" language is not to be changed, will be rejected if altered
- Financial Assurance instruments, including renewals, shall be submitted to the following:

Connecticut Department of Energy and Environmental Protection  
Bureau of Central Services  
Financial Management Division  
79 Elm Street  
Hartford, CT 06106-5127



# Questions or Comments?

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Please type your Questions into CHAT

If we need further clarification, we may take you off mute to speak

For Further Questions on Financial Assurance please contact Craig or Mike at [craig.bobrowiecki@ct.gov](mailto:craig.bobrowiecki@ct.gov) or [Micheal.Senyk@ct.gov](mailto:Micheal.Senyk@ct.gov)

[www.ct.gov/deep/remediationroundtable](http://www.ct.gov/deep/remediationroundtable)



# Remediation Division Scanning Project

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Roundtable Tip: Finding Remediation Documents on The Public Portal

Joanna Burnham: Environmental Analyst Remediation Division





# UPDATE!!!!!!

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Documents are starting to migrate into the Public Portal!

Testing is going well so as that is finished up documents will start to migrate over. Will not happen all at once but over the next few weeks documents will start to populate with what has been scanned so far.

Look to our [webpage](#) for updates on where we are in the process!







Connecticut

# Department of Energy and Environmental Protection



DEEP is continuing to carry out its mission and provide services while keeping both the public and our workforce safe during the COVID-19 pandemic. Click here for the latest updates on DEEP's response to COVID-19. [DEEP COVID-19 Response](#)

[CT.gov Home](#) / [Department of Energy and Environmental Protection](#) / [About Us](#) / [Online Services](#)

How Do I... >

Energy >

Environmental Quality >

Natural Resources >

Outdoor Recreation >

Public Utilities Regulatory Authority (PURA) >

Search Department of Energy and Environmental Protection



## DEEP Online Services

***DEEP is continuing to expand its online business offerings!***

Note: Many of our programs are now requesting electronic submittal of documents. Please verify directly with specific programs through [email](#) or through our program specific webpages concerning electronic submittal requirements.

### Documents & Data

- Use the *new* [DEEP Document Online Search Portal](#) to view currently available agency documents
- [Video - Online Search Portal Demonstration](#) (Recorded October 2019 - Remediation Roundtable Meeting)
- Search or browse public data provided by Connecticut State Agencies using the [CT Open Data Portal](#)
- Many datasets concerning the [environment and natural resources category](#) can be found within the [CT Open Data Portal](#). These datasets can be searched, sorted, and tabulated.







**The Details....** Rather than scanning each folder as one pdf file the red folders are broken down into 12 categories

Site Investigations

RAPs/RARs

Engineered Control/ELURs/ Variance Requests

Property Transfer Filings

Significant Environmental Hazard

Air Pre-inspection Questionnaire

Permits/Emergency Authorizations

Verification/ Audit/ Enforcement

Correspondence

Monitoring Reports

Miscellaneous

UST Clean Up App

**-Files are indexed with Address, Town, REM ID(s), and associated program(s)**

**\* Will not be able to capture individual dates of document**



The DEEP Document Online Search Portal includes a collection of documents electronically produced or digitally scanned by the Agency. The portal is searchable by a variety of fields.

**Note:** At the current time, there are a limited number of documents available through the Search Portal. Please review [More Information and FAQs](#) for a list of the currently available Agency program documents, field definitions, and updates.

For the best experience use Chrome or Firefox.

#### Refine Search Criteria

Agency Program ⓘ

Town ⓘ

Agency ID ⓘ

File Type

From Date

Entity Name ⓘ

Street Address

Document Type ⓘ

Subject(s) ⓘ

To Date

Reset

Submit

Refine Search Criteria

Display Per Page:

200

Result Columns

Export



Town	Entity Name	DEEP Program	Document Name	Subject(s)	Street Address	Agency ID	File Type	Date	
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>

Showing 1 to 3 of 3 entries

« Previous

1

Next »

### Refine Search Criteria

Agency Program ⓘ Please Select Agency Program ▾

Town ⓘ Ashford ▾

Agency ID ⓘ Agency ID

File Type Please Select File Type ▾

From Date mm/dd/yyyy

Entity Name ⓘ Entity Name

Street Address 33

Document Type ⓘ Please Select Document Type ▾

Subject(s) ⓘ Subject(s)

To Date mm/dd/yyyy

Reset

Submit

Refine Search Criteria

Display Per Page:

10

Result Columns

Export

Town	Entity Name	DEEP Program	Document Name	Subject(s)	Street Address	Agency ID	File Type	Date	
Ashford	Cumberland Farms #651	Emergency Response Unit	Emergency Incident Report		Route 44 and 33 Pompey Hollow Road	Case ID: 3-37	Written Text	Event Date: 3/30/2012	<a href="#">View</a>
Ashford		Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompei Hollow Rd	Case ID: 201402511	Written Text	Document Date: 5/27/2014 Event Date: 5/27/2014	<a href="#">View</a>
Ashford		Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompei Hollow Rd	Case ID: 201700802	Written Text	Document Date: 2/18/2017 Event Date: 2/18/2017	<a href="#">View</a>
Ashford		Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompey Rd	Case ID: 201401644	Written Text	Document Date: 4/15/2014 Event Date: 4/15/2014	<a href="#">View</a>

Ashford	Cumberland Farms	Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompey Hollow Road	Case ID: 200806258	Written Text	Document Date: 10/2/2008 Event Date: 10/2/2008	<a href="#">View</a>
Ashford	Same	Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompey Hollow Rd	Case ID: 9807473	Written Text	Document Date: 10/31/1998 Event Date: 10/31/1998	<a href="#">View</a>
Ashford		Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompey Hollow Rd	Case ID: 200608011	Written Text	Document Date: 12/20/2006 Event Date: 12/20/2006	<a href="#">View</a>
Ashford	Cumberland Farms	Emergency Response Unit	Emergency Incident Report	Gasoline	33 Pompey Hollow Road	Case ID: 201501596	Written Text	Date Received: 4/11/2015 Event Date: 4/11/2015	<a href="#">View</a>

Showing 1 to 10 of 96 entries

« Previous 1 2 3 4 5 Next »

Refine Search Criteria

Display Per Page:

200

Result Columns

Export

Town	Entity Name	DEEP Program	Document Name	Subject(s)	Street Address	Agency ID	File Type	Date	
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>
Ashford		Other Remediation Program,Potable Water,Significant Environmental Hazard	Monitoring Reports	DREM000005	33 Pompey Hollow Road (Route 44)	Ref ID: 5849,6602,13203	Written Text		<a href="#">View</a>
Ashford	Cumberland Farms, Inc.	LUST,UST,Emergency Response Unit	Tank Closure Assessment Report/UST Closure Report	UST Removal, Soil Data, Groundwater Data	33 Pompey Hollow Road	Case ID: 200805249 Alt ID: 3-37	Written Text	Date Received: 6/30/2017 Document Date:	<a href="#">View</a>



Copy and Paste this address into your email to CC clients or other DEEP Staff without having to download the document

Use the magnifying glass or ctrl + f to find words in the document. All files will be word searchable!

CT DEEP Document eSearch x DisplayPDF x

https://filings.deep.ct.gov/DEEPDocumentSearchPortal/Home/DisplayPDF?DocID=%7B108EFB83-0000-C61F-9191-4BFC5C4CD69E%7D

1 of 662

Page view | Read aloud

**ecs** WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

588 Silver Street, Agawam, MA 01001 tel 413.789.3530 fax 413.789.2776 www.ecsconsult.com

Mr. Bill Warzecha  
Supervising Environmental Analyst  
Bureau of Water Management/PERD  
Connecticut Department of  
Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

March 9, 2011  
Project No. 07-770392.07  
Document No. 40029

RE: Groundwater Remedial Action Progress Report for  
Cumberland Farms, Inc.  
Store No. 850651, Property No. V0910  
33 Pompey Hollow Road  
Ashford, Connecticut

WATER PROTECTION AND LAND REUSE  
MAR 11 2011  
REMEDIATION DIVISION

BUREAU WASTE MANAGEMENT  
SITE NAME Cumberland Farms  
ADDRESS 33 Pompey Hollow Road  
TOWN Ashford  
FILE TYPE Remediation

Dear Mr. Warzecha:

On behalf of Cumberland Farms, Inc. (CFI), Environmental Compliance Services, Inc. (ECS) has prepared this Groundwater Remedial Action Progress Report which includes a discussion of

# DEEP Programs List

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Agency Program ⓘ

Town ⓘ

Agency ID ⓘ

File Type

From Date

Please Select Agency Program ▾

Search

- Please Select Agency Program
- Agency Wide
- Air Field Enforcement
- Air Source Emissions Monitoring
- Air Technical Services
- Aquatics
- BETP
- Boating
- Brownfield Program
- Certificate of Permission

# Programs Specific to Remediation

- Coastal Area Management Act
- Diversion Registration
- Emergency Response Unit
- ENV. Adjudication
- Federal Superfund
- Fisheries and Game
- Flood Management
- Hazardous Waste
- Inland Wetlands
- Landfill Monitoring
- LUST
- Mobile Source Group
- Municipal Water Pollution Control

- NDDB
- Other Remediation Program
- PCB
- Potable Water
- Property Transfer
- PURA
- Radiation DTX
- Radiation RMI
- RCRA Corrective Action
- Section 401 Water Quality Certificate (Tidal)
- SERC
- Significant Environmental Hazard
- State Remediation Program
- Stormwater

- Structures, Dredging And Fill
- Structures, Dredging And Fill (401)
- Tidal Wetlands, Structures, Dredging And Fill
- Tidal Wetlands, Structures, Dredging and Fill (401)
- UST
- Voluntary Remediation
- Waste Transporter
- Water Diversion

This does not mean everything in remediation, this is specific to DEEP Lead remediation projects

# Questions or Comments?

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Please type your Questions into CHAT

If we need further clarification, we may take you  
off mute to speak

[www.ct.gov/deep/remediationroundtable](http://www.ct.gov/deep/remediationroundtable)



REMEDIATION ROUNDTABLE – 10/25/2022

# PFAS Action Plan Update

Speakers: Ray Frigon and Shannon Pociu, CT DEEP Remediation Division



# PFAS Agenda

- Recap - June 15, 2022, Drinking Water Updates from CT DPH and EPA
- Additional Polluting Substance Criteria
- Ambient Soil Evaluation
- Federal Funding for PFAS
- EPA Proposed Hazardous Substance Listing
- AFFF Take-Back Update & Municipal Fire Department Guidance
- Private Well Projects
- POTW Study
- Hockanum River Fish Consumption Advisory & Follow-up Sampling
- Biosolids



# CT's Updated Drinking Water Action Level for Per- and Polyfluoroalkyl Substances

## DEEP Remediation Roundtable

June 21, 2022

Cheryl Fields, Toxicologist, CT DPH  
Meg Harvey, Epidemiologist, CT DPH

# DPH's Action Levels for 4 Individual PFAS

	Critical Health Effect	CT Action Levels (ppt)
<b>PFOA</b>	Developmental Effects	<b>16</b>
<b>PFOS</b>	Immune Suppression	<b>10</b>
<b>PFNA</b>	Developmental Effects	<b>12</b>
<b>PFHxS</b>	Thyroid Effects	<b>49</b>

- Have been detected in nearly all humans and in the groundwater and drinking water in CT
- Are driven by the most sensitive health effect observed for each in animal studies
- Are technically feasible (they are detectable and treatable)
- Are within the range and same magnitude as other federal and state agencies with enforceable standards (MCLs) and recommended guidelines



- DPH's PFAS Frequently Asked Questions

# RSR Additional Polluting Substance Criteria

Applies to  $\Sigma$  PFOA, PFOS, PFNA, PFHxS & PFHpA

Remediation Standard	Criterion
Residential Direct Exposure Criterion	1.35 mg/kg
Industrial/Commercial Direct Exposure Criterion	41 mg/kg
GA Pollutant Mobility Criterion	1.4 $\mu$ g/kg
GB Pollutant Mobility Criterion	14 $\mu$ g/kg
Groundwater Protection Criterion (adopts DPH's Drinking Water Action Level for $\Sigma$ PFOA, PFOS, PFNA, PFHxS, PFHpA)	70 ng/L
Surface Water Protection Criterion	In Development

- ❖ Existing summed PFAS APS criteria will be updated to individual criteria for PFOA, PFOS, PFNA, and PFHxS using the new DPH DWALs and Reference Doses.
- ❖ Toxicity information for calculating APS criteria for additional PFAS will be requested from DPH for future inclusion on the APS Fast Track form.

[Requesting APS and Alternative Criteria \(ct.gov\)](https://www.ct.gov)

# Other Considerations

- Ambient Soil Evaluation



- Federal Funding for PFAS



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# EPA – PFOA & PFOS as Haz Substances?

- EPA proposing to designate PFOA and PFOS as hazardous substances under CERCLA:
  - Increase transparency of such releases
  - Hold polluters accountable
  - Require reporting of future PFOA and PFOS releases over 1 pound
  - Trigger DOT to list and regulate PFOA and PFOS as hazardous materials
- Implications? - EPA to exercise enforcement discretion
- Public comments received on or before **November 7, 2022**

# AFFF Take-Back Program Phases

Joint DEEP/DESPP effort supported by \$2M bond

- ✓ Phase 1 – Container Collection & Disposal for state/municipal AFFF concentrate
  - Launched in April 2021; Completed March 2022
  - **35,300 gal.+ collected from >250 fire departments**
  - **Cost of almost \$900,000** for pick up and safe disposal of AFFF in containers
- ✓ Phase 2 – Decontamination study and foam trailer cleaning: **Initiated Summer 2021**
- Phase 3 – Remove AFFF from onboard apparatus: **Pending**



# Demonstration Project Approach

- ❑ 2 vendors using 2 different cleaning solutions at separate locations
  - **AECOM** teaming with TRS and Hiller using **PerfluorAd**® system
  - **Arcadis** using V171 / Fluoro Fighter™

Drain AFFF

Gross Water Rinse

Cleaning Solution  
and Water Rinse  
(Repeat 3 times)

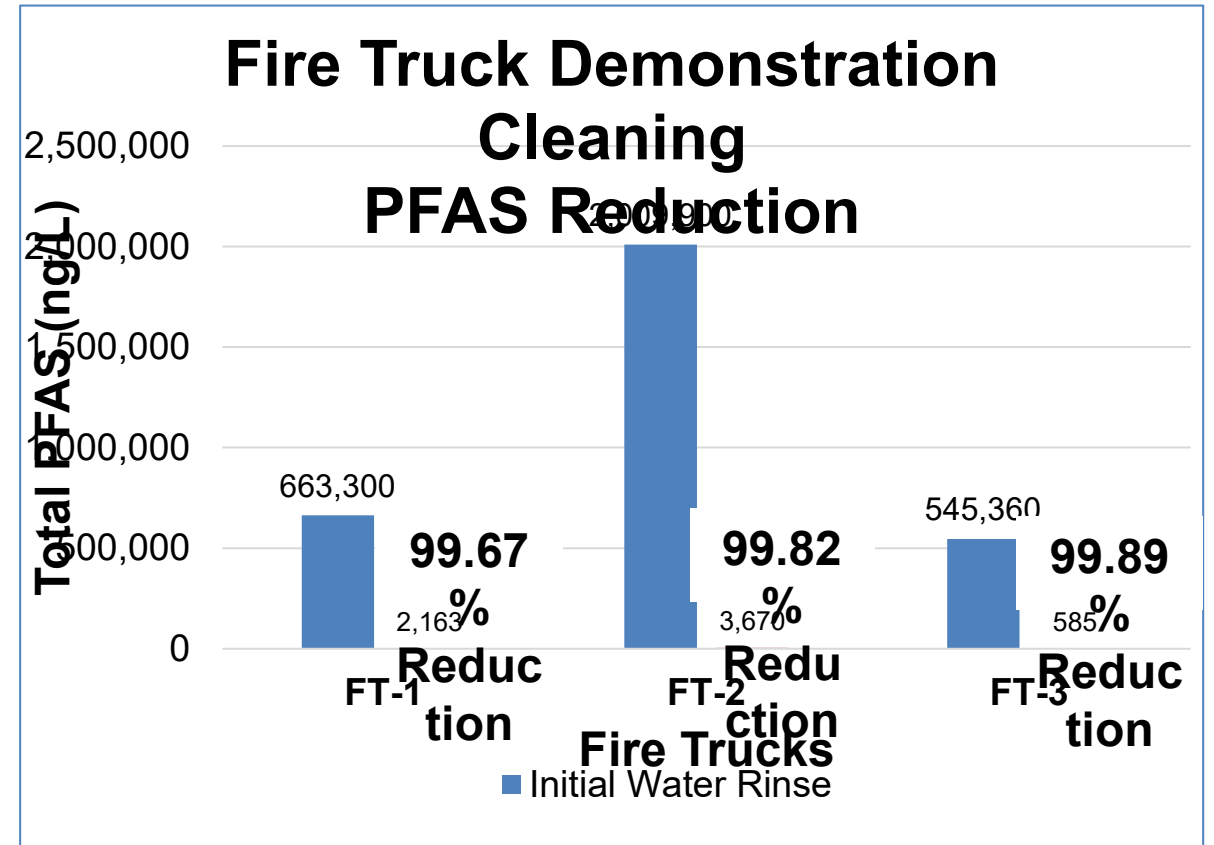
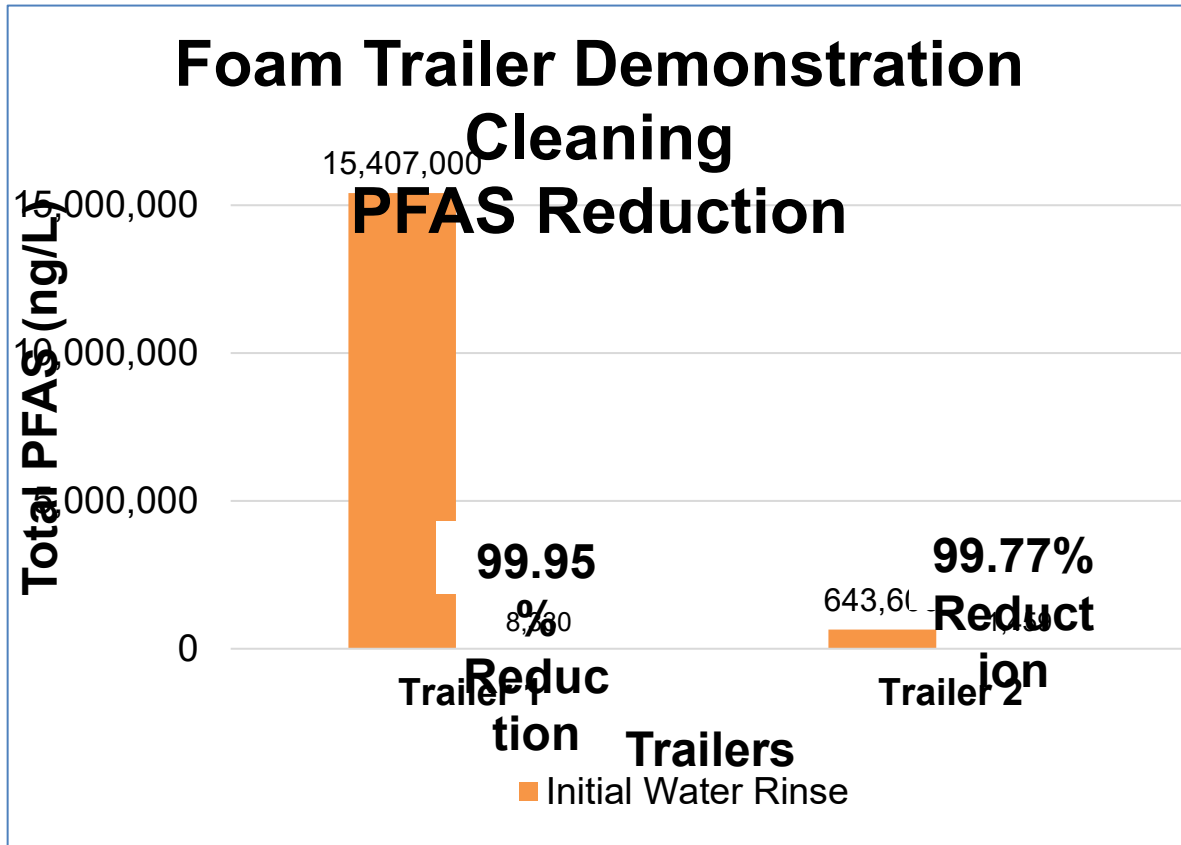
## Sampling After Each Step

Analysis at Eurofins Lancaster

- PFAS per EPA 537 modified with ID, DoD QSM 5.3 Table B-15, 24 compounds
- TOP Assay on most samples

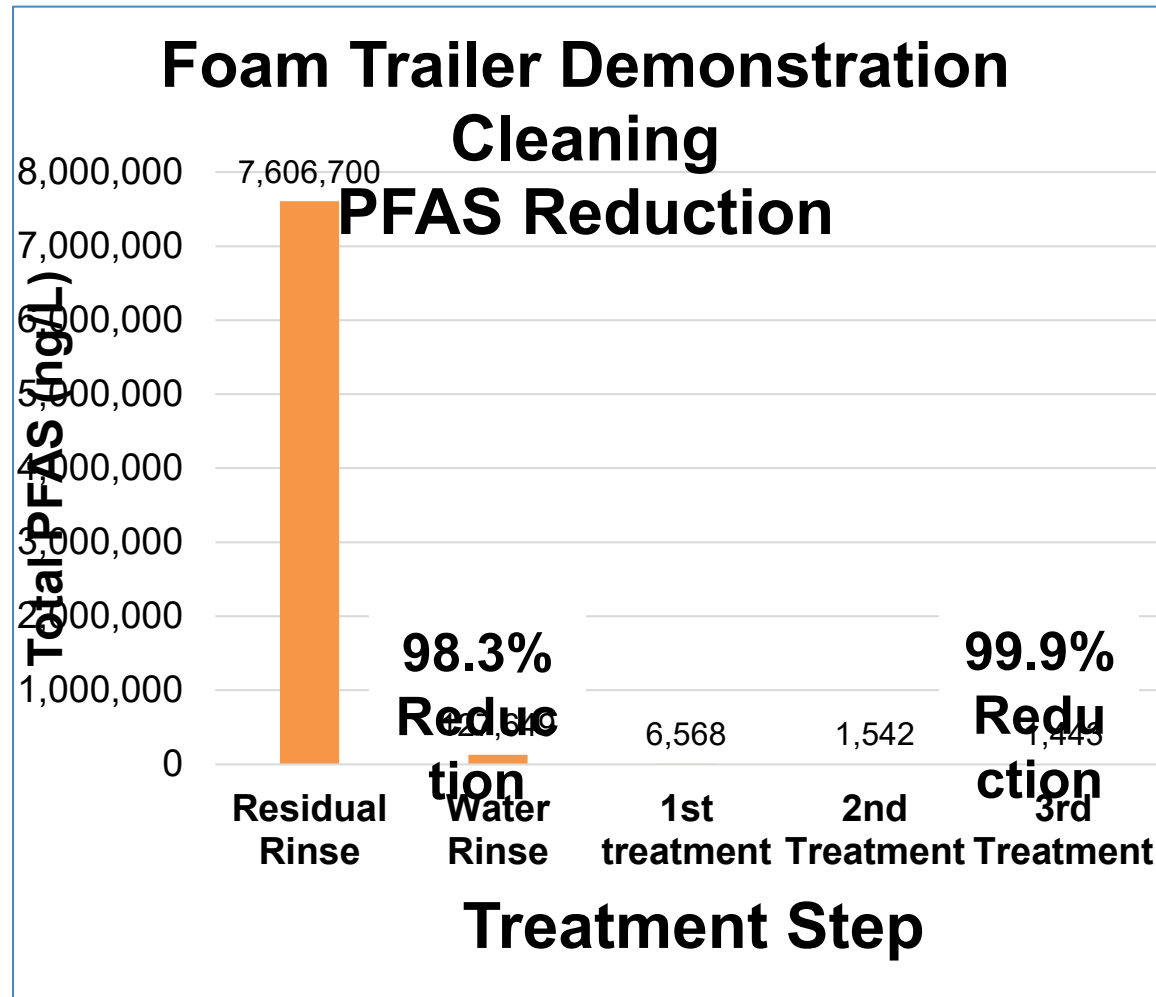


# AECOM/TRS/Hiller – Preliminary Results



Notes: 1. Results shown for reduction after 3 treatment applications with **PerfluorAd**® system  
 2. Total PFAS represents list of 24 PFAS compounds, EPA 537 modified with isotope dilution

# Arcadis – Preliminary Results



### Notes:

1. Results shown for reduction after 3 treatment applications with Fluoro Fighter™
2. Total PFAS represents list of 24 PFAS using EPA Method 537 modified with isotope dilution



# Key Take-Aways from Decon Demonstration

- ❑ **Proprietary cleaning agents were more effective** at reducing PFAS than plain water rinses (>99% vs. ~95% removal)
- ❑ However, **residual PFAS levels remain** following use of proprietary cleaning agents that will still cross-contaminate new Fluorine-Free Foam (F3)
- ❑ Significant Logistics and Cost



# Risk Reduction

**Transitioning to Fluorine-Free Foam and cleaning fire apparatus is collectively a significant environmental improvement over continued use of AFFF.**

- However, residual PFAS remaining in fire apparatus, even after rinsing, can cross-contaminate the new foam. Deployment of the new foam may still pose a potential environmental and/or human health risk.



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# May 2022 Guidance: Draining and Rinsing AFFF from Municipal Onboard Systems

## Recommendations for Municipal Fire Services

### [CFPC Website: Guidance Update](#)

1. If AFFF has not been drained from onboard systems, lock out or remove discharge levers from the pump panel to prevent accidental use.
2. Use new F3 directly from shipping containers with external eductors
3. Drain AFFF remaining in onboard systems for future collection & disposal by DEEP/DESPP.



# May 2022 Guidance: Draining and Rinsing AFFF from Municipal Onboard Systems

***If a fire department decides to reuse the onboard foam system,***

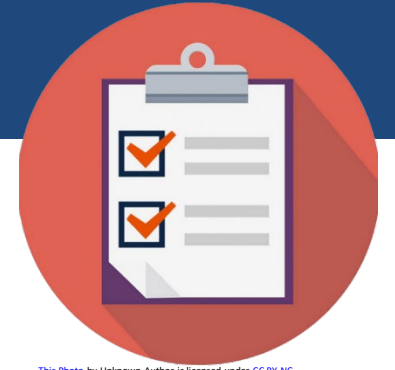
- 1. DEEP & DESPP strongly recommend performing triple-water rinse of the foam system and containing the wastewater.**

***\*DO NOT DISCHARGE THE WASTEWATER TO THE GROUND OR SEWER\****

- 2. The state may collect the PFAS wastewater for disposal (funding dependent).**
- 3. Fire departments can perform additional cleaning at their own expense.**
- 4. The new F3 product will become cross-contaminated with residual PFAS. *Deployment of F3 from onboard systems that previously contained AFFF will require reporting to DEEP Emergency Spill Response.***



# Next Steps in Take-Back Program



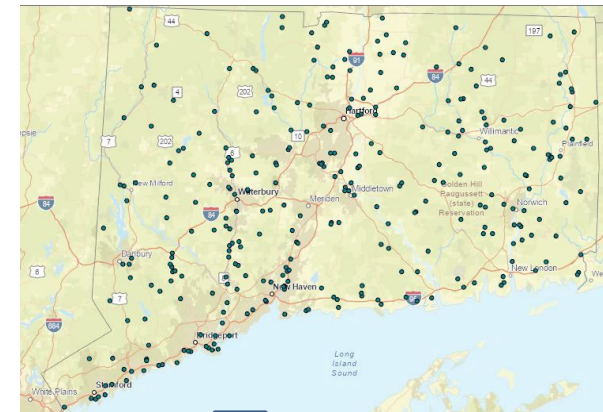
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- ✓ **Phase 2:** Complete cost-benefit analysis for the 5 remaining regional foam trailers (clean vs. replace) and implement selected alternative - *UNDERWAY*
- **Phase 3:** Collect and dispose of AFFF drained from municipal fire apparatus, as funding allows



# ONGOING PFAS PROJECTS – Potable Water Testing

- **Killingworth & East Hampton**
  - DEEP sampling private wells & providing bottled water or GAC treatment where concentrations exceed the action levels
  - Source investigation underway in Killingworth
- **Testing in additional communities forthcoming in 2022/23**
  - Locations TBD based on PFAS GIS project/ Vulnerability Study, prioritizing areas at high risk of PFAS pollution in EJ communities
  - Will utilize \$1.15M in bond funds received at 12/21/21 Bond Commission Meeting (PA 21-111)



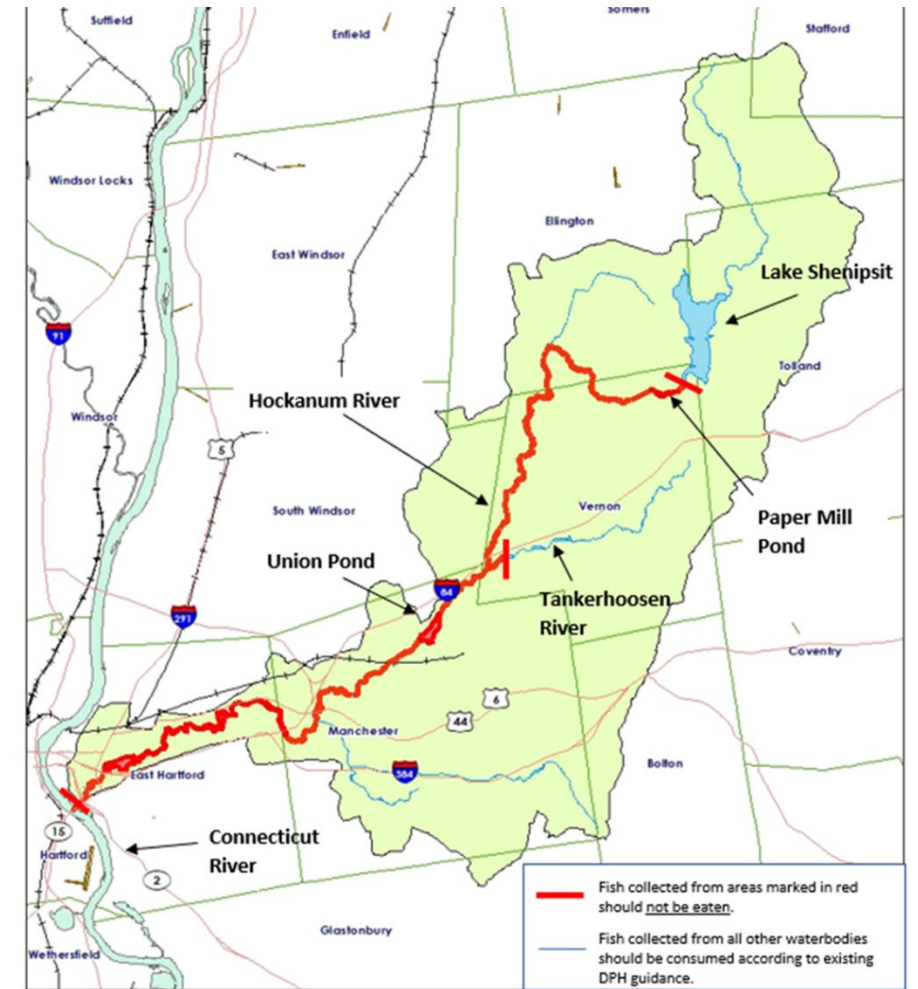
# ONGOING PFAS PROJECTS – POTW Testing

- Sampling 1/3 of POTWs (35)
  - Completed March 2022
- Media tested:
  - **Influent, effluent, sludge** at all 35 POTWs
  - **Scrubber water** at 4 POTWs with incinerators
  - **Surface water** and **fish tissue** samples from 10 receiving waters (summer only)
- Final report anticipated before end of 2022



# SURFACE WATER/FISH – Hockanum River

- Elevated PFOS concentrations in fish tissue identified during POTW sampling project in vicinity of Vernon WWTP
- Surface water not especially high
- 4/8/22 – DPH issued “Do Not Eat” fish consumption advisory for Hockanum River downstream of Lake Shenipsit
- DEEP performing follow-up surface water, sediment, and fish tissue sampling to refine stream reaches of concern and identify source area(s)



Fish Tissue Consumption Advisory Map:  
Hockanum River Watershed

0 1 2

4 Miles





# BIOSOLIDS

- **Department of Agriculture & CT Agricultural Experiment Station**
  - Evaluating PFAS content of some commercially available biosolids-based fertilizers manufactured and sold in CT
- **Joint DEEP/DoAg [PFAS Information for Agriculture](#), May 2022**
  - Recommends avoiding bulk land application of biosolids-based fertilizers containing PFAS greater than 1.4 ug/kg (ppb) for the Sum of 5 PFAS (PFOA, PFOS, PFNA, PFHxS, PFHpA).

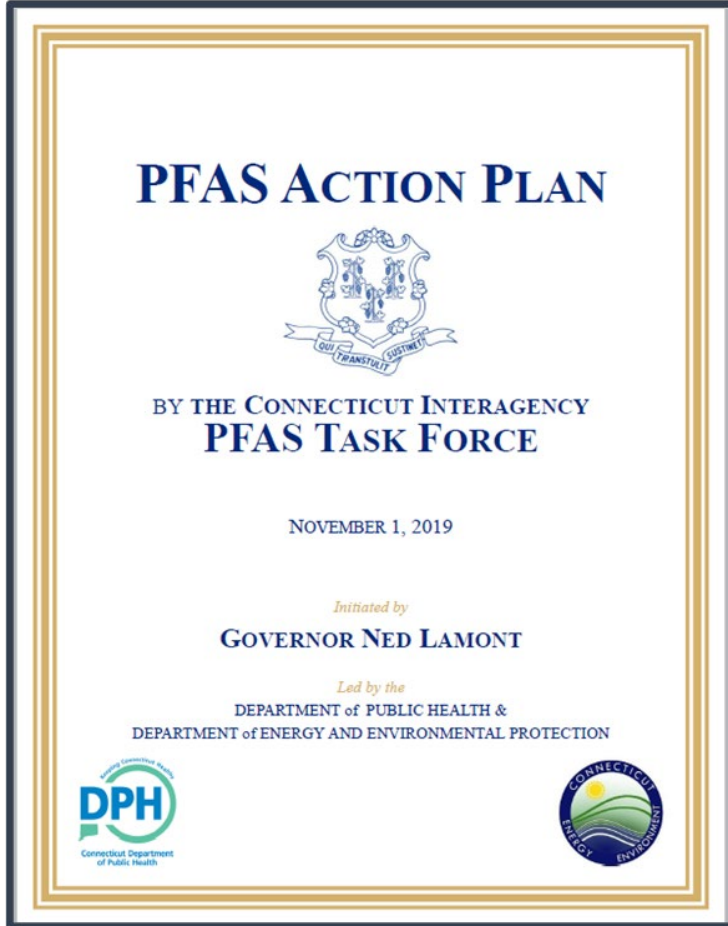
## PFAS in Biosolids Information for CT Agriculture

The Departments of Agriculture (DOAG) and Energy and Environmental Protection (DEEP) want to spread awareness about a family of chemicals called per- and polyfluoroalkyl substances, or PFAS, that can be found in fertilizers derived from biosolids. DOAG and DEEP recommend that **farmers do NOT apply processed biosolid fertilizer to agricultural fields without first requesting PFAS test results** from their suppliers. If the biosolid product contains a combined PFAS concentration of 1.4 micrograms per kilogram [ $\mu\text{g}/\text{kg}$ , or parts per billion (ppb)] or more for five specific PFAS chemicals\*, it is recommended that you do not apply that product in bulk to your fields.

Research has shown that plants growing in soil that is repeatedly amended with PFAS-contaminated biosolids can impact all parts of the plant – roots, shoots, and fruits. Consumption of crops containing PFAS has the potential to cause adverse health effects in people and livestock. Further, PFAS-contaminated biosolids can also pollute groundwater below the application site, causing a risk to the people and livestock that drink local groundwater. Note that in other states, PFAS has been found in milk from dairy cows that consumed PFAS-containing crops and drinking water.



# PFAS TASK FORCE UPDATE MEETING



- **Coming Soon...**
  - 3-Year Anniversary of CT's [PFAS Action Plan](#)
  - Comprehensive strategy for protecting Connecticut's citizens and the environment from PFAS.
  - 4 Strategic Focus Areas:
    - Protecting the Health of CT Citizens
    - Pollution Prevention
    - Remediation
    - Education, Outreach and Communication
- **More information to come!**

# NEXT STEPS FOR DEEP

- ✓ **UPDATE APS CRITERIA, ESTABLISH AMBIENT WATER QUALITY & SURFACE WATER PROTECTION CRITERIA**
- ✓ **COMPLETE STATE & MUNICIPAL AFFF TAKE-BACK PROGRAM**

- ✓ **FOCUSED PRIVATE WELL SAMPLING IN HIGH-RISK AREAS**
- ✓ **LANDFILL MONITORING**
- ✓ **SUPPLEMENTAL BID FOR PFAS LAB ANALYSIS**
  - To include additional matrices and methods

# QUESTIONS?

[DEEP PFAS Webpage](#)  
[PFAS Task Force Webpage](#)  
[CT PFAS Action Plan](#)

## Contact Information:

[Raymond.Frigon@ct.gov](mailto:Raymond.Frigon@ct.gov)  
[Shannon.Pociu@ct.gov](mailto:Shannon.Pociu@ct.gov)



# Remediation Roundtable

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E-mail: [DEEP.remediationroundtable@ct.gov](mailto:DEEP.remediationroundtable@ct.gov)

Web: [www.ct.gov/deep/remediationroundtable](http://www.ct.gov/deep/remediationroundtable)



An abstract background composed of various brushstrokes in shades of blue, green, and brown. The colors are layered and blended, creating a textured, painterly effect. The blue is most prominent at the top, transitioning into greens in the middle, and darker browns and oranges at the bottom.

# Remediation Roundtable

Next meeting March 21, 2023