# Remediation Roundtable October 20, 2020



# **Remediation Roundtable Agenda**

- Announcements
- Updates
  - 2020 Legislative Special Session
  - PFAS Action Plan Update
  - Records Management
- Roundtable Tips
  - How to Submit your Documents Electronically

### Presentations

- 20 by 20 Initiative Goal-4 (Reduce Time for Transfer Act Audits): Verification and Audit Processes
- Supporting Form IV Verifications: Pathway to Success

**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

Joanna Burnham



# **Staff Changes-New Staff**

### Emma Forbes- North West District

### Kevin Vandeveer- North West District





# **Staff Changes-New Staff**

# Abigail Davis-North Central District



### Meena Mortazavi-

**Coordination and Support** 





## Dates for 2021

# March 23rd

June 22nd

# October 5th



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# Web Updates

- Proposed Amendments to the RSR and EUR Regulations - updated link to Hearing Officer's reports
- Transmittal of Documents updated forms
- <u>LEP Verifications</u> updated forms
- PFAS Task Force updated information
- PFAS updated information
- RCRA Corrective Action Ecological Receptor Exposure Pathway Scoping Checklist - now a Word form

Current Projects - updated schedules and Raymark

**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

Joanna Burnham



# **Questions or Comments?**

# Please type your Questions into CHAT

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

### www.ct.gov/deep/remediationroundtable



# 2020 Special Session Legislative Update

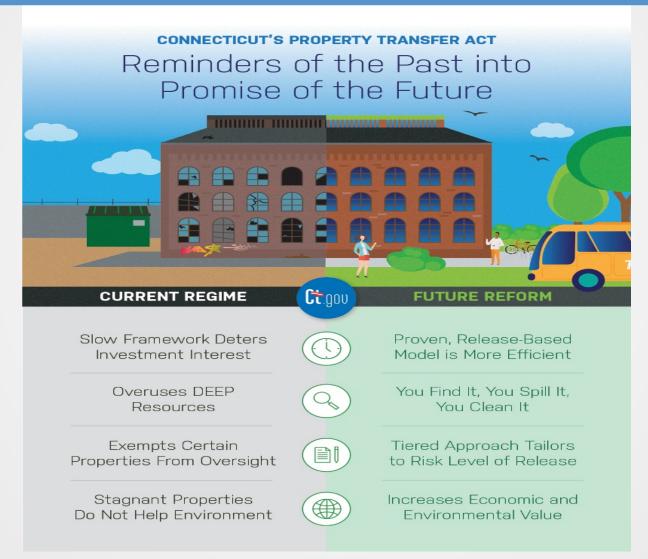
### **Graham J. Stevens**, Bureau Chief, Water Protection and Land Reuse



# Public Act No. 20-9

- Transfer Act changes Section 1 through 14
  - Release-based authorization Section 15 through 23
- Transfer Act changes go into effect immediately and include:
  - Adjusting the area requiring investigation and cleanup from the entire parcel to the environmental footprint of a business subject to the Act for parcels with multiple tenants
  - Limiting Transfer Act applicability to the specific units of an industrial condominiums that are Establishments, as opposed to all transfers of units from within the condominium
  - Increasing the threshold for Transfer Act applicability for the transfer of interest in a business from 40% to over 50%
- Release-based program only goes into effect once regulations are adopted

# Cleanup Transformation – It's back!



October 16, 2020



# Lamont signs bill aimed at redeveloping unused, contaminated properties

By Michelle Tuccitto Sullo

Hundreds of polluted properties around the state have sat idle because they have fallen under the controversial law commonly referred to as the "Transfer Act."

Now, new legislation aims to give these properties a better chance at redevelopment.

Gov. Ned Lamont recently approved revising the law and instituting a "release-based" hazardous material remediation program common in other states.

According to Lamont, the change will promote the revitalization of environmentally

contaminated, blighted parcels and put them back into good use, while helping municipal economies and ensuring environmental protection.

Hartford Business Journal



# Section 15 – Definitions

- "Land and Waters of the State" based on definition of "waters" in General Statutes §22a-423, and clarified to include releases to surfaces/soils.
- "Person" based on General Statutes § 22a-423 includes corporate entities and municipalities, as well as responsible corporate officers.
- "Release" includes both past and new releases to land and waters of the state
- "Remediation" includes investigation, characterization and cleanup



"No person shall create or maintain a release to the land and waters of the state in violation of any provision of sections 17 to 21, inclusive, of this act"

- "create" applies to new releases
- "maintain" applies to existing releases left unaddressed



## Section 17

- Requires releases to be reported and remediated upon "discovery"
  - Newly-<u>discovered</u>, historical releases not previouslyknown, historical releases
- Sets a unified standard for cleanup (in regulations to be adopted pursuant to this chapter)
- Provides that releases currently being addressed under the transfer act or a brownfields program remain within that program
- Requires DEEP to provide information about releases on an internet database



## **Section 18 - Enforcement**

### Allows for administrative orders

Provides for joint and severable liability if multiple persons create or maintain a release

Allows for cease and desist orders
Allows for administrative civil penalties



 Sets out scope of Commissioner's authority to adopt regulations concerning: 1) reporting, 2) remediation standards, 3) verifications and audits, 4) tiering of releases, and 5) fees

Provides significant guidance on each topic listed above to form "guardrails" for regulations



# **Stakeholder Working Group**

- Section 19 also creates a working group to assist in formulating the concepts and approaches that will be the basis for the program regulations
- Calls for Commissioners of DECD and DEEP to co-convene working group and lists several stakeholders to comprise group, including:
  - Chairpersons and ranking members of Environment and Commerce committees
  - Environmental transaction attorneys
  - Commercial real estate brokers
  - LEPs
  - Representatives from the Connecticut Manufacturers' Collaborative
  - Representatives of environmental advocacy groups
  - Representatives of the Environmental Professionals Organization of Connecticut

- Municipal representatives
- Representatives from the Brownfields Working Group
- Representatives of the Connecticut Conference of Municipalities and the Connecticut Council of Small Towns
- Representatives of the Council on Environmental Quality
- Any other interested members of the public designated by the commissioner

# Working Group & Stakeholder Outreach

- Formal Working Group will be meeting monthly until regulations are adopted
- DEEP will be hosting information on the Cleanup Transformation webpage:
  - <u>https://www.ct.gov/deep/remediation-transform</u>
  - Meeting minutes from formal working group, presentations, documents to review will all be on webpage
- Updates on process will be sent to the Roundtable Listserv and through e-alerts
- DEEP and DECD will be meeting in the next several days to discuss convening the formal working group, other stakeholder engagement opportunities, and governance for the release-based regulation adoption process



# Section 20 – Audits

- Requires DEEP to audit sufficient number of verifications to ensure a high standard of compliance (goals to be set in regulations adopted pursuant to Section 19)
- Requires at least 20% of highest-risk releases to be audited
- Requires annual report to governor and legislature about results of audits





# Sections 21 through 23 – Liability relief & Other

- Preserves existing covenants not to sue
- Creates new, release-specific, liability protection for those who did not create but properly report and cleanup a release
- Leaves intact existing liability relief elsewhere in statute, except for innocent landowner defense pursuant to General Statutes 22a-452d
- Commissioner's authority under other statutes preserved



# **Questions or Comments?**

# Please type your Questions into CHAT

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

### www.ct.gov/deep/remediationroundtable

#### REMEDIATION ROUNDTABLE - 10/20/2020

## **PFAS Action Plan Update**

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





# DEEP UPDATES

Projects with current in-house funding

- Underway: GIS updates to support future statewide sampling, evaluation of consumer products and packaging
- Coming soon: POTW influent/effluent testing





# DEEP UPDATES

Request for proposals

- PFAS sampling in drinking water and environmental media
- Issued in July to contractors eligible under DAS Contract Award No. 18PSX0153
- Proposals currently under review





# BOND FUNDING FOR AFFF TAKE-BACK

### \$2 million bond authorization

- Take-back program for municipal and State AFFF firefighting foam
- Private well testing, resources for residents with PFAScontaminated wells
- Introduced in Governor's proposed FY 2021 budget
- Authorized on July 21, 2020





# DEEP UPDATES

# **AFFF Take-Back Program**

Purpose – Remove and dispose of <u>all</u> AFFF stock from state and municipal fire services

- Underway: Laboratory testing of alternative fluorine-free foams/products and recommendations for replacement products
- Coming soon: **Pilot program** to remove AFFF and decontaminate 1 of 8 regional foam trailers
- Finalize program plan during fall 2020
- Implement take-back beginning in early 2021



Advisory Information for Aqueous Film Forming Foam (AFFF) Containing Per- and Polyfluorinated Alkyl Substances (PFAS) June 2019

Department of Energy and Environmental Protection Department of Emergency Services and Public Protection, Commission on Fire Prevention and Control

#### Background

Recent toxicological studies have indicated there is a health concern when people are exposed to Per- and Polyfluoroalkyl Substances (PFAS), of which there are over 4,000 PFAS chemical compounds in manufacture. PFAS are very stable and impart resistance from water, oil, grease, dirt, and heat to items on which they are applied. They have wide-ranging applications, such as in grease-resistant microwave popcorn bags and pizza boxes, waterproof clothing and boots, carpets that resist stains, and pipes and wires that resist corrosion. Additionally, they are excellent in resisting heat, which is why there are used in certain firefighting foams (Ross, R.).

Because of their stability, PFAS don't break down in the environment or in the human body, and that may cause health problems, such as low infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS). (Ross, R.) Two of the most studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), which are considered "long-chain" PFAS. As of 2015, neither PFOA nor PFOS are manufactured in the U.S., due to health and environmental concerns, according to the rules of the EPA's stewardship program for the substances, signed in 2006. However, other PFAS, including "short-chain," have been developed as replacements for PFOA and PFOS in manufacturing that are less well studied.

In May 2016, EPA issued a Lifetime Health Advisory for drinking water polluted with PFOA and PFOS, individually or together, of 70 parts per trillion (ppt) or nanograms per liter (ng/L), because of health effects. That's the equivalent of about 70 drops in an Olympic-sized swimming pool. Currently, EPA is evaluating if PFOA and PFOS should be formally regulated in public drinking water supplies nationwide and is beginning the process to list PFOA and PFOS as hazardous substances under Superfund law. Other states have already set enforceable drinking water standards or more restrictive advisories in advance of EPA, including those in New England, New York, and New Jersey. In Connecticut, the Department of Public Health established a Drinking Water Action Level of 70 ppt for the total of 5 PFAS chemicals – PFOA, PFOS, perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorohexane sulfonate (PFHxS). However, state toxicologists are continuing to evaluate new health studies and may include other PFAS in the Action Level or lower the target level in the future.

**PFAS and Firefighting Foam** 

Firefighting foam can be broken down into two main categories: Class A and Class B.

<u>Class A foams do not contain PFAS and are safe to use for their intended purpose</u>. They are covered under NFPA 1150 (Standard on Foam Chemicals for Fires in Class A Fuels). The intended purpose is to reduce the surface tension of the water to allow for more water to burning material surface contact, which allows for faster fire extinguishment. There are no restrictions on the use of Class A foams.

<u>Class B foams often contain PFAS</u>, in addition to many different natural and chemical precursors. These different types of foams can be divided into numerous tactical categories with respect to expansion rates (low, medium and high) and compatibility with different types of fuel (polar and non-polar flammable liquids). *Importantly, all Aqueous Film Forming Foam (AFFF) products contain PFAS* (ITRC 2018). So far as this guidance document is concerned, the focus is on PFAS-containing AFFF, Alcohol Resistant AFFF (AR-AFFF), and fluoroprotein foam; the foam's potential to be a hazard to







- Originally scheduled for March 2020
- Rescheduled for March 29-30, 2022
- Third day specifically for state regulators
- Keep an eye out for an **upcoming webinar series** pulling from the original conference agenda



# RECENT/ONGOING COLLABORATIONS

Yale

- DEEP presented at PFAS-themed Yale School of Public Health (YSPH) symposium in December 2019
- Discussing collaborations with Yale on future community engagement initiatives

### UCONN

- DEEP presented in PFAS-themed virtual workshop on October 7, 2020
- Ongoing discussions about research projects (e.g., local groundwater quality)

### **Clean Water Action**

- Panel discussion on September 29, 2020 between Attorney Rob Bilott, former NIEHS director Dr. Linda Birnbaum, YSPH Professor Vasilis Vasiliou, Ray Frigon (DEEP), Lori Mathieu (DPH), and Anne Hulick (Clean Water Action)
- Now available to watch online



## NEXT STEPS FOR DEEP

# AMBIENT & SURFACE WATER PROTECTION CRITERIA

Remediation Standard	APS Criterion*	
Residential Direct Exposure Criterion	1.35 mg/kg	
Industrial/Commercial Direct Exposure Criterion	41 mg/kg	
GA Pollutant Mobility Criterion	1.4 µg/kg	
GB Pollutant Mobility Criterion	14 µg/kg	
Groundwater Protection Criterion (Adopts DPH Drinking Water Action Level)	70 ng/L	
Surface Water Protection Criterion	In Development	
*Applies to ∑ PFOA, PFOS, PFHxS, PFNA, & PFHpA		

### SUPPLEMENTAL BID FOR PFAS ANALYSIS

- To include additional matrices

GUIDANCE ON ANALYSIS OF NON-DRINKING WATER MATRICES

- Sampling methods
- Analytical methods
- Analytes to be reported

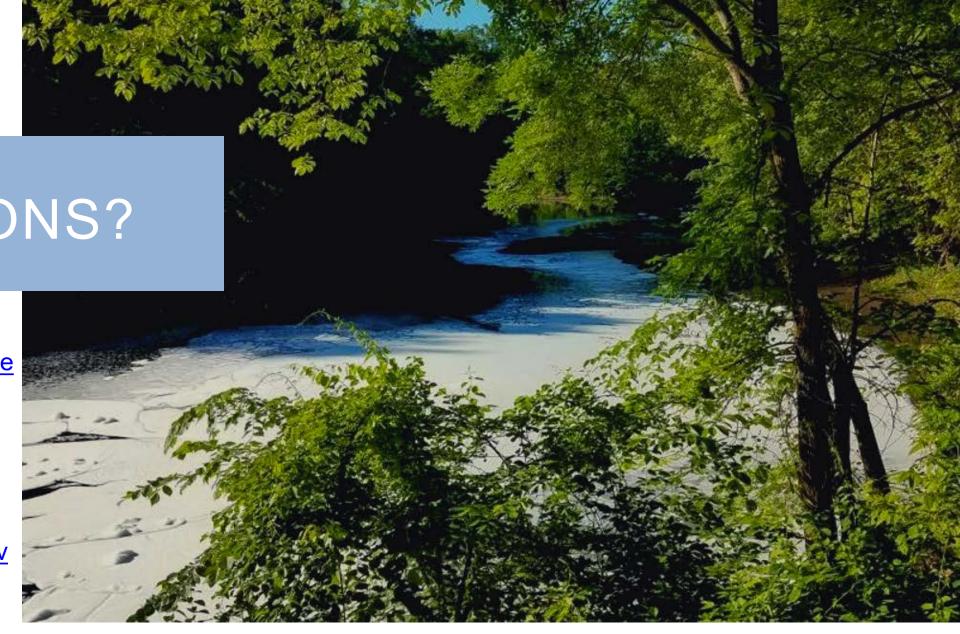
FUTURE TESTING OF SURFACE WATER & FISH



# QUESTIONS?

DEEP PFAS Webpage PFAS Task Force Webpage CT PFAS Action Plan

Contact Information: <u>Raymond.Frigon@ct.gov</u> <u>Shannon.Pociu@ct.gov</u> <u>Anna.Hagstrom@ct.gov</u>







# **Records Management Update**

### **Ray Frigon**, Assistant Director, Water Protection and Land Reuse



# How to access DEEP records

- Remember to check the Online Document Search Portal
  - Bulk Scanning of the Remediation Division Files is moving forward
- As always- FOIA Requests can be submitted
  - Please note that due to the coronavirus, FOIA compliance is being processed remotely and may result in longer than usual processing times



### How to access DEEP records

Requests for records may also be submitted by using the <u>File Request Form</u> and sent directly to

### DEEP.RecordsCenter@ct.gov



**Connecticut Department of Energy & Environmental Protection** Bureau of Central Services Office of Information Management

#### File Request Form

Requestor Name:	Date:
Company Name:	
Address:	
Phone Number:	

Facility/Co Name: Address: Town:	REM OCS PER	IND COR PRG	P5ORDSWHAZSOLUSTSIIPIQTCR	
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# **Questions or Comments?**

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### www.ct.gov/deep/remediationroundtable

# Remediation Roundtable Tips





### Lynn Olson-Teodoro

**Transmittal of Documents** 





#### Electronic Transmittal Form for DEEP Remediation and LUST Secure File Transfer (SFT)

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION REMEDIATION DIVISION LEAKING UNDERGROUND STORAGE TANK COORDINATION PROGRAM

www.ct.gov/deep

Zip Code:

This Electronic Transmittal Form must be completed and included as the cover sheet of your electronic document when uploading a document to the Connecticut SFT website. Requirements for Transmittals through the SFT website:

- · Only document types identified in the dropdown lists in Part III below may be submitted through the SFT website.
- Documents submitted through the SFT website must include all applicable figures, tables and laboratory data.
- Files must be formatted as PDF/A and use the appropriate naming convention:
  - For Remediation Filings: REM\_RemID\_DocumentType\_DateofDocument Example: REM\_1234\_MonitoringReport\_01-01-2001
  - For LUST Filings: LUST\_SiteAddress\_Town\_AbbreviationForDocumentType\_DateofDocument Example: LUST\_1MainStreet\_Hartford\_ESA\_01-01-2001 Note: For "AbbreviationForDocumentType" use appropriate abbreviation at Transmittal of Documents

Part I: Primary Recipient\*: Remediation or LUST (\* required)

For Remediation documents:	For LUST documents:
Primary Program*: Select a Program	UST Facility ID: (if applicable)
Rem ID*:	Spill Case Number: (if known)
Part II: Site Information Site Name*:	

Site Address\*: Citv/Town\*: State: CT

#### **Connecticut Department of Energy and Environmental Protection: Remediation Division**



 Best practice for all forms: Always download the most current form from the <u>DEEP Remediation</u> webpage.

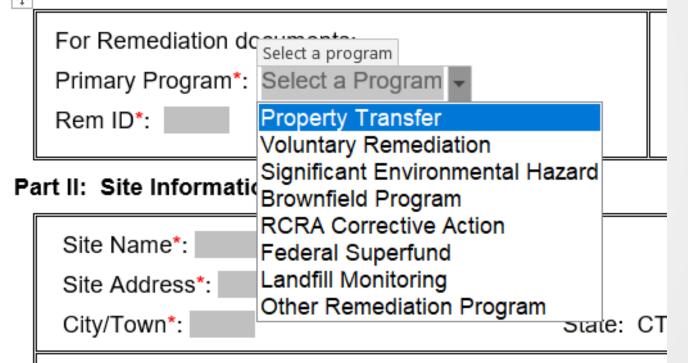
 Please delete all personal copies of the Electronic and Hardcopy Transmittal forms.



- Data can be pulled from the new form to upload the document into the public portal.
- It will not work with the older versions of form.
- The document will have to wait to be manually uploaded by staff to the public portal, delaying review.
- Documents may be rejected to be resubmitted with the new form.

Example: LUST\_1MainStreet\_Hartford\_ESA\_01-01-2001 Note: For "AbbreviationForDocumentType" use appropria

#### Part I: Primary Recipient\*: Remediation or LUST (\* required



Secondary Programs (complete as many as applicable for this do

Program: Select Secondary Program

**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

#### [Part III:] Document Information (document type required for appropriate

		Remediation Document Type		
	Remediation*:	Remediation Document Type -		
		Annual Report		1
	LUST* LUST	Audit Response Document	Ĥ	
	LOOT	Completion of Investigation Report		
	Date of Docun	Covenant Not to Sue		
	Date of Docur	ECO Checklist		on
l		Ecological Risk Assessment or Sediment Submittal		
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		Inspection Report		
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		Monitoring Report		
	E-mail*:	Notification Required by the RSRs		
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		Phase 2 Report		
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		Phase 3 Report		
DEEP-ETF		Phase 3 SOW		
		Public Notice		
		QAPP		
		Receptor Survey		
		Remedial Action Plan (RAP)		
		Remedial Action Report (RAR) Remedial Design Report		
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**Connecticut Department of Energy and Environmental Protection: Remediation Division** 



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## Reports

Please put large appendices, such as copies of lab data, last!

 Helps us check submittals for completeness more efficiently.

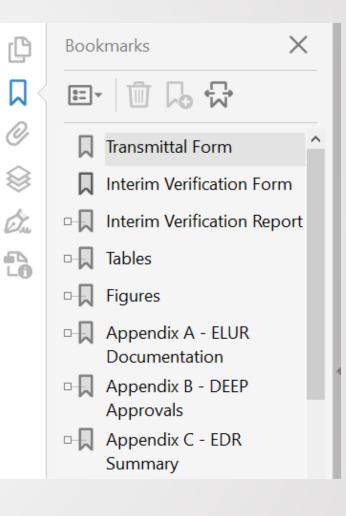
 Will help you when you review reports that have been submitted electronically.



To make navigation easier for anyone reviewing electronic reports, use Word headers to build a Table of Contents:

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They will automatically become bookmarks in Adobe Acrobat that can be used to navigate the report.



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# **Questions or Comments?**

## Please type your Questions into CHAT

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#### www.ct.gov/deep/remediationroundtable



# 20x20 Initiative Goal 4: Verification and Audit Processes

Claire Quinn Robert Robinson



## **20x20 Initiative: Verifications and Audits**

#### Verification Forms

Metrics
Administrative Rejections

#### Screening

- Metrics
- No Audit stamp

#### Audits

- Determinations
- Meetings
- Closure Process

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## 20x20 Initiative: Goal 4

#### GOAL 4 REDUCE TIME FOR TRANSFER ACT AUDITS



WHY Property owners need certainty that remediation is complete

STRATEGY Set internal deadlines for audit/no audit decision  $\bigcirc$ 

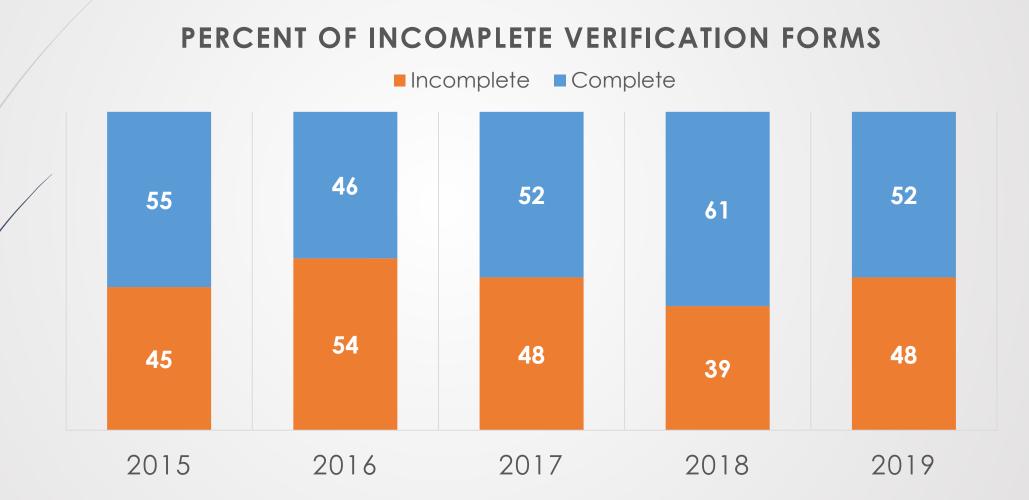
METRIC

**Decrease time** to audit/no audit decision

PREDICTABILITY

Connecticut Department of Energy and Environmental Protection: Remediation Division





**Connecticut Department of Energy and Environmental Protection: Remediation Division** 



#### What?

Starting March 5, all incomplete verification forms stamped "Rejected"

### Why?

To allow staff to spend more time reviewing verifications to reach an Audit/No Audit determination in a timely manner

#### How?

Stamped verification forms are emailed to the Certifying Party and the LEP with a checklist of identified deficiencies and a fact sheet



#### Based on same level of review as the Notice of Insufficiency

#### Includes same checklist of problems

#### Includes a fact sheet explaining the process

New verification form within 30 days

No new report unless changes are required

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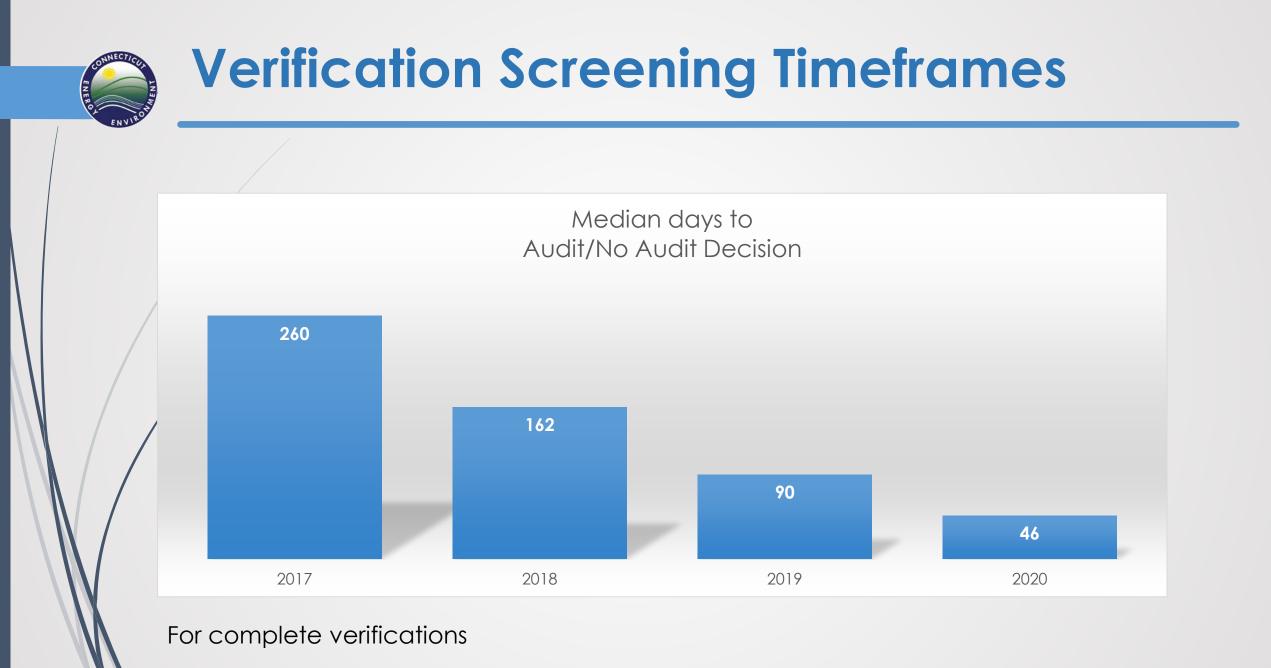
	Department of Energy & Environmental Protection Bureau of Water Protection and Land Reuse Remediation Division
F	FORM III VERIFICATION (PROPERTY)       MAR 0 5 2020         his verification must be signed by a Connecticut Licensed Environmental Professional and the ertifying Party.       REMEDIATION DIVISION         etain a copy for your records.       (DEEP use only)         vart I: Site Information       Ver#: Example
	Establishment now or formerly known as: Einstein Test Facility Establishment Address: 1 Atoll Drive City/Town: Bunker State: CT Zip Code: 06000 Described in the Tax Assessor's Office in the Town of: Bunker as lot 1, block 1 on map 1 Acreage of Establishment: 100

Emailed to LEP and **Certifying Party with:** 

- $\checkmark 1^{st}$  and last page of verification form
- $\checkmark$  Initialed by Assistant Director
- ✓ Checklist of issues



**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

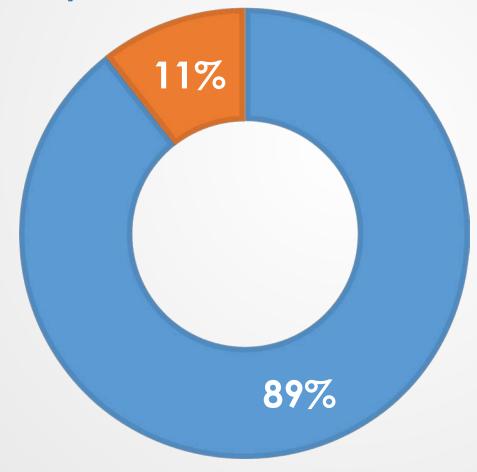


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## Audit/No Audit decisions

#### for verifications received and decided on July 1, 2019-June 30, 2020



# 90 days or lessOver 90 days

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## **Verification Screening Timeframes**

**Complete Verifications:** 

No Screen
 DEEP knowledge or fact-check screen
 Technical screen

New internal milestones to ensure expediency



## **Verification Screening: No Audits**



Department of Energy & Environmental Protection Bureau of Water Protection and Land Reuse Remediation Division

FORM III VERIFICATION (PROPERTY)

This verification must be signed by a Connecticut Licensed Environmental Professional and the Certifying Party. Retain a copy for your records.

Part I: Site Information

Establishment now or formerly known as: Einstein Test Facility Establishment Address: 1 Atoll Drive City/Town: Bunker State: CT Zip Code: 06000 Described in the Tax Assessor's Office in the Town of: Bunker as lot 1, block 1 on map 1 (DEEP use only) Ver#: OOOJ REMEDIATION DIVISION NO-AUDIT CD. 12/4/12

Acreage of Establishment: 100

Emailed to LEP and Certifying Party with:

✓ 1<sup>st</sup> and last page of verification form

✓ Initialed by audit program supervisor

 ✓ Effective date circled in red on 1<sup>st</sup> and last page Claire Quinn



The Commissioner's 20x20 Initiative has also influenced our process related to Audits

Timely notification of our intent to audit a particular verification

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Rob Robinson



## **Determination of Audit**

✓ There are inconsistencies w/documentation/presentation of info

✓ The 'fact check' is inconclusive

The Verification Report is a data dump, w/minimal discussion

✓ It appears documentation is insufficient, or

The relevant information is buried in minutia

We will issue a Notice of Audit (NOA)

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Rob Robinson



## **Notice of Audit**

Identifies:

The specific verification, setting, and purpose;

The effective date of the verification, as designated on the VF; and

The data gaps that appeared to be significant during the screening

#### The NOA is issued electronically to the LEP and CP



## **Audit Process**

Most audits require supplemental info of some level, and in most cases, this will be solicited in the NOA

- Technical review of verification will be completed, including the supplemental info requested in the NOA
- There will likely be dialog with LEP during audit process
- Based on this dialog, additional supplemental info may be requested by DEEP or offered by LEP



## **Audit Meeting**

General rule of thumb: a formal audit meeting will no longer be scheduled in the NOA

However, we may convene an audit meeting if:

That level of communication is deemed necessary, or

Legally Responsible Party requests meeting

Now, and in foreseeable future, any audit meeting will be through Zoom



## **Audit Closure**

#### >Audit Response Document

- Accepted
- Rejected
- Combined 50+ years of DEEP professional experience resourced on the final determination on the adequacy of a verification
  - Staff
  - Audit Program Coordinator
  - District Supervisor
  - Assistant Director

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Audited & Accepted

 Initial issues of concern have been addressed during the audit process



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## **Audit Closure**

- Audited and Rejected
  - Final CSM invalidated, non-compliance with RSR criteria +/or misapplication of RSR provisions, etc.

<u>Audit Report</u>: presents the setting for the verification, the audit process, and itemizes the outstanding issues and deficiencies

<u>Audit Findings</u>: is the cover letter for the report and details resultant legal obligations of Certifying Party



## **Audit Closure**

After the initial screening, if there is clear evidence that the verification is unacceptable:

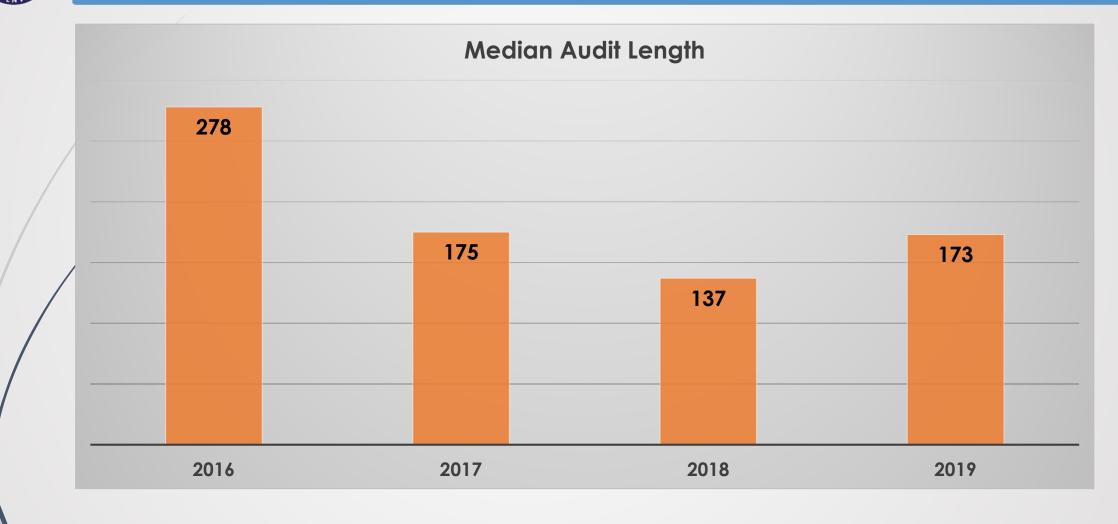
#### Rejection of Verification

	necticut Department of ERGY & VIRONMENTAL OTECTION							
79 Elm Street • I	Hartford, CT 06106-5127	www.ct.gov/deep	eep Affirmative Action/Equal Opportunity Empl					
	Bureau	u of Water Protection and Remediation Division						
	I	Rejection of Verifica	ation					
NAME	OF CP SIGNATORY		NAME OF LEP					
TITLE			License # ***					
	YING PARTY		COMPANY					
ADDRE	SS		ADDRESS					
RE:	Verification of Investigatio	on and Remediation	Ver #	***				
	ESTABLISHMENT ADDRESS		Rem #	****				
	TOWN		Nent #					

**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

#### Rob Robinson





**Connecticut Department of Energy and Environmental Protection: Remediation Division** 

Rob Robinson

## 20x20 Initiative: Summary

- Initiated leaner processes
  - Achieving quicker response to Verifications
  - Incorporated 3 new decision "Stamps"
  - Rejection [incomplete verifications]
  - No-Audit
  - Audited & Accepted
- We continue to evaluate processes to identify obstacles and opportunities for a more expeditious response



# **Questions or Comments?**

## Please type your Questions into CHAT

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

#### www.ct.gov/deep/remediationroundtable



# Supporting Form IV Verifications: A Pathway to Success

#### Laura Robbins Environmental Analyst





## **Eligibility: Supporting Form IV Verifications**

- You are eligible to file if, at the time of the transfer:
- **1. Site Investigation is complete** 
  - Fully developed Conceptual Site Model (CSM)
  - Release areas and extent of contamination are well understood
- 2. Remediation of soil and groundwater contamination is complete
  - Exception 1: Monitored Natural Attenuation (MNA)
  - Exception 2: Groundwater compliance monitoring may be ongoing
- 3. Site is in Compliance with RSRs
  - Exception 3: ELUR may be outstanding



**Site Investigation** 

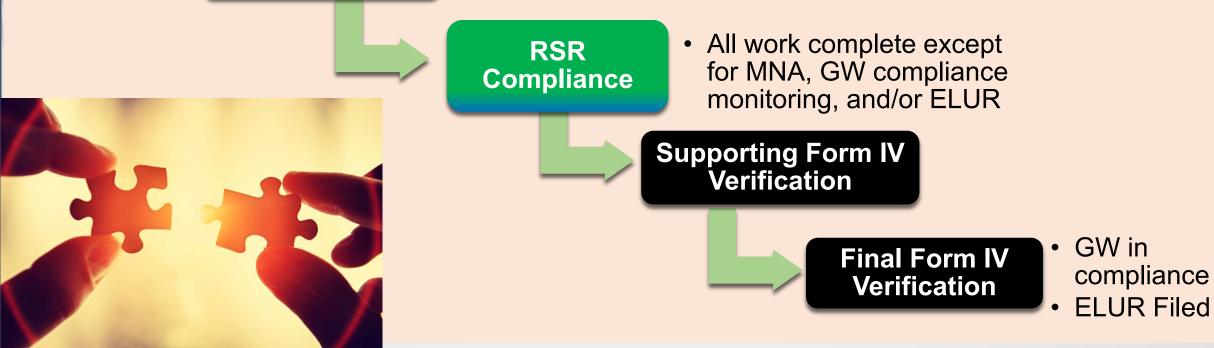
## **Verification Process**

Data/Sampling

## • All AOCs, COCs, and RAs known and characterized



- COI (Phase I, II, III), CSM, RAP, etc.
- Justification of approach



## **Assessment of Audits and Rejections**

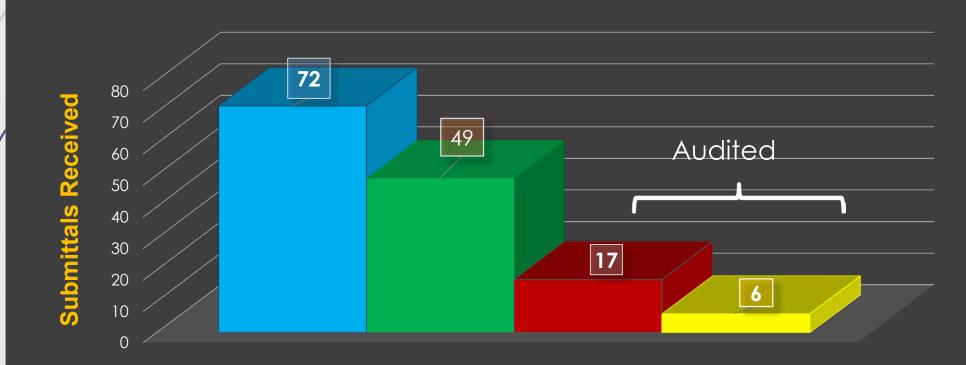
#### SUPPORTING FORM IV RESULTS (2006 – 2019)

Received

Accepted w/o Audit

Rejected

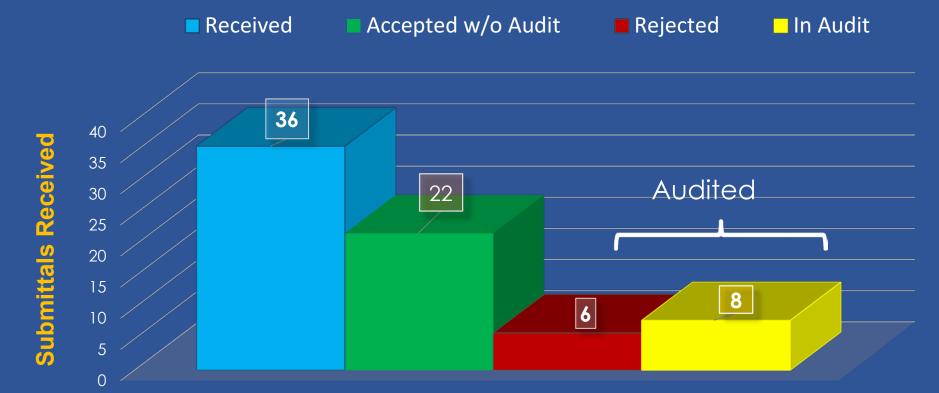
Accepted





## **Similar Trend for Interim Verifications**





#### CONNECTICIA R. CONNECTICIA R. CONNECTICIA ENVIRON

GAPS

DATA

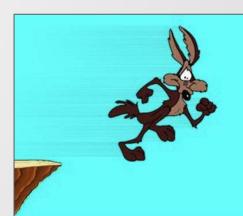
## **Results: Top 3 Reasons for Rejection**

- **1. SITE INVESTIGATION ISSUES** 
  - Sampling design doesn't reflect site history and/or COCs
  - Groundwater data doesn't demonstrate understanding of hydrology/plume
  - Lack of description/justification of why remedial strategies were chosen
- 2. INCOMPLETE DOCUMENTATION

Lack of COI (Phase I, II, III, CSM), Verification Report, Receptor Surveys, SLERA/BERA, Public Notices, etc.

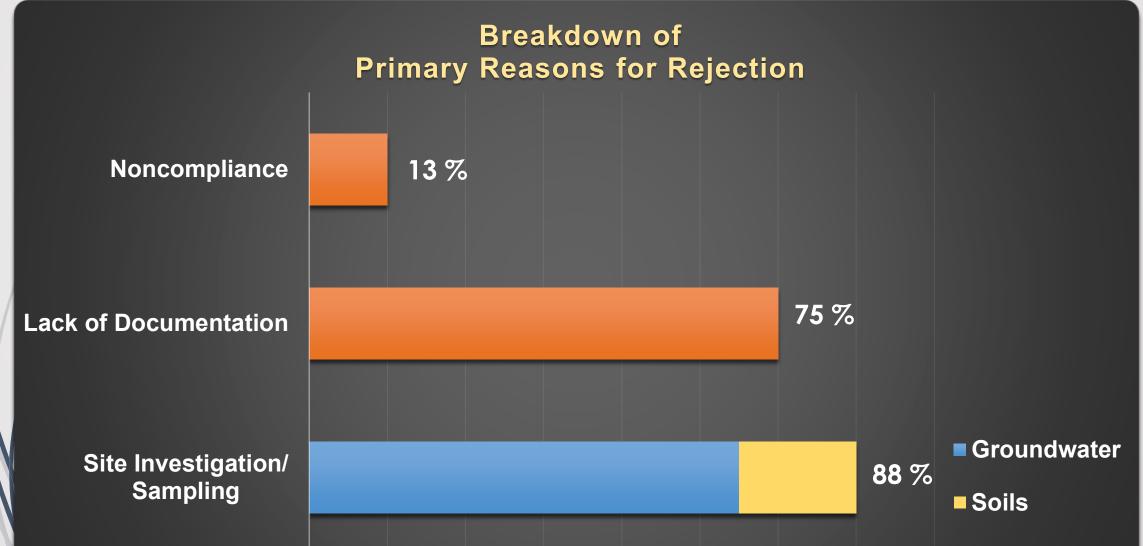
#### **3. NONCOMPLIANCE**

- Incomplete remediation/known COC exceedances remain
- Data gap AOCs may require remediation





## DATA GAP ANALYSIS: Detail





# **DATA GAP 1: Sampling Issues**

#### GENERAL

- > Sampling doesn't reflect site history > lack of AOC identification
- Known AOCs not tested hot all Release Areas identified
- > AOCs tested, but not for known COCs > lack of contaminant data

Improper sample locations/depths > lack of COC migration

pathway data

#### GROUNDWATER

- Sampling rationale not appropriate or justified
- Monitoring well network not representative of AOCs
- Plume extent and concentrations not understood
- Downgradient wells needed

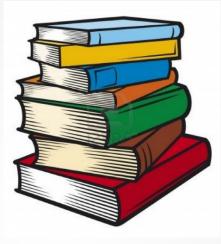
#### SOILS/SEDIMENTS

Investigation of impacts to ecological receptors (EcoRisk)



# **DATA GAP 2: Lack of Documentation**

WHAT DOCUMENTS ARE REQUIRED TO SUPPORT FORM IV VERIFICATION?



- Verification Report
- EcoRisk Assessment SLERA/BERA (if impacts to streams/wetlands)
- Receptor surveys
- Other examples:
   Approvals for variances, alternative criteria,
   Engineered Controls,
   ELUR documents
- Completion of Investigation (COI)
  - Phase I, II, and III if COCs present
  - SCGD Standard, not ASTM
- Conceptual Site Model (CSM)
- Remedial Action Plan (RAP)

# ENVIRON

## Summary of Results...

- Supporting Form IV Verification Audit Rate (~30 %)
- Of those Audited, High Rejection Rate (~70 %)
- Data Gaps a major obstacle (sampling, lack of documentation)
- RSR Compliance and soil data not as large a concern

## ... and Recommendations

Provide all documentation required to support verification
 Design sampling rationale to reflect site history, hydrology, etc.
 Remember to justify strategies/approaches with descriptions
 If documentation is not ready, do not submit Supporting Form IV
 Form III is fine!



# **Questions or Comments?**

## Please type your Questions into CHAT

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

#### www.ct.gov/deep/remediationroundtable

## **Remediation Roundtable**



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



# Remediation Roundtable Next meeting: March 23, 2021