



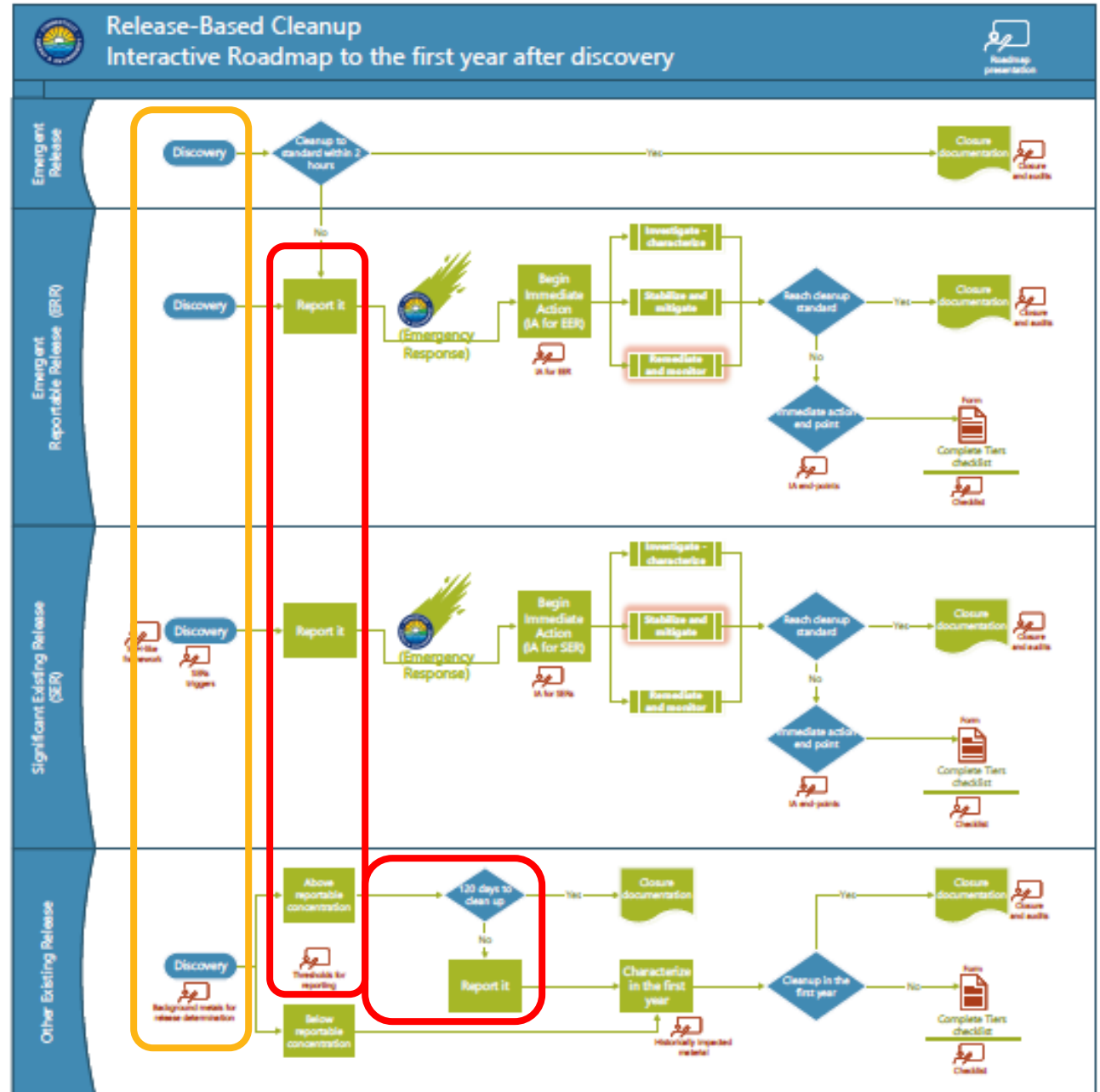
# RELEASE-BASED CLEANUP REGULATIONS WORKSHOP 2 – DISCOVERY AND REPORTING

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# RELEASE-BASED CLEANUP ROADMAP TO THE FIRST YEAR

22a-134tt-2 – Discovery of Releases

22a-134tt-3 – Reporting Newly Discovered Existing Releases



# PRESENTATION OVERVIEW

- Important terminology
- Discovery of releases
- Reporting newly discovered existing releases
- Scenarios: PFAS and road salt, lab results discovery, observed NAPL discovery, multiple line of evidence, discovery by another person, discovery of an SER, discovery of an ERR, naturally occurring metals, discovery of incidental releases, ...

# GENERAL STATUTES

## §22a-134ss(a)

Any person who creates or maintains a release to the land and waters of the state on or after the date when regulations are first adopted pursuant to section 22a-134tt shall, upon discovery of such release:

- (1) report the release, if such a report is required by the regulations adopted pursuant to section 22a-134tt, and
- (2) remediate any release to the standards identified in regulations adopted pursuant to section 22a-134tt....



# KEY TERMS – DISCOVERY AND REPORTING

Discovery of a release occurs when:

- It is an **existing release**, and a **person** who is **creating** or **maintaining** the release obtains **knowledge**, or
- It is an **emergent reportable release** reported pursuant to the Release Reporting Regulations (Section 22a-450)

A **report** is a notification to the Department pursuant to:

- Section 22a-134tt-3, or
- The Release Reporting Regulations

## KEY TERMS – RELEASE, LAND AND WATERS

**Release** means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into or onto the land and waters of the state, not authorized under this title, of oil or petroleum or chemical liquids or solids, liquid or gaseous products or hazardous waste as defined in section 22a-448. “Release” does not include automotive exhaust or the application of fertilizer or pesticides consistent with their labeling

**Land and waters of the state** means all waters, as defined in section 22a-423, and any land surface, including improved or unimproved surfaces, soils or subsurface strata

# KEY TERMS - PERSON

A **Person** is not just an individual. It also includes:

- Partnership, association, firm, limited liability company, corporation or other entity
- Federal government, the state or any instrumentality or subdivision of the state, including any municipality
- Any responsible corporate officer

Two types of persons subject to the requirements of the RBCRs:

- **Creator**
- **Maintainer** - Person who, regardless of fault for the creation a release owns a parcel of land on or under which such release, or a portion of such release, is located (or in limited circumstances, has possession of the land)

## KEY TERMS - KNOWLEDGE

*A person who created or is maintaining a release has knowledge of an existing release if such person becomes aware of:*

- Lab results indicating the presence of substances above the laboratory reporting limit
- Observable NAPL
- **Multiple lines of evidence** indicating that there is a release to the land and waters of the state (taking into account **knowledge, experience or training**)

*Any person has discovered a Significant Existing Release*

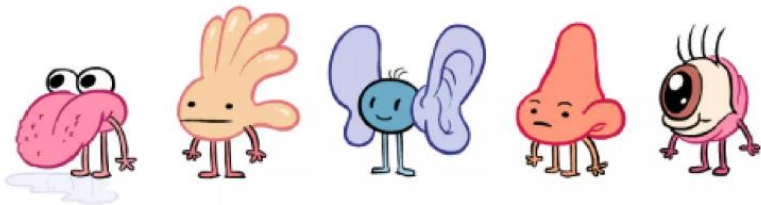
*An Emergent Reportable Release has been reported*



# KEY TERMS - MULTIPLE LINES OF EVIDENCE



- Information about the use of an area
- Field screening results
- Staining
- Organoleptic evidence
- Indoor air sample results
- Presence of non-native materials



# "KNOWLEDGE EXPERIENCE AND TRAINING"

Would a release have been discovered by:

"a reasonable person, with similar **knowledge, experience or training**, exercising a reasonable degree of care that a reasonable person would exercise in the same or similar circumstances"

# KEY TERMS – SERs AND ERRs

A **Significant Existing Release (SER)** is a release creating one or more impacts to human health or the environment identified in section 22a-134tt-5(f) of the RBCRs and relating to:

- Impact or threat to a drinking water well
- Shallow soil exposure risk
- Volatilization risk
- Threat to a surface water

An **Emergent Reportable Release (ERR)** is discovered by an observed change that is required to be reported under CGS 22a-450

A stylized, colorful landscape illustration. The top right corner features a bright yellow sun. Below it is a green hill with a dark blue outline. The bottom portion of the image is a light blue area representing water, also with a dark blue wavy outline. The text "Discovery (22a-134tt-2)" is centered on the green hill.

**Discovery (22a-134tt-2)**

# DISCOVERY OF EXISTING RELEASES

Discovery is the point at which a person who created or is maintaining an existing release becomes aware of the release.

It is also the starting point for the timeline to meet subsequent regulatory obligations:

- Reporting
- Characterization
- Immediate actions
- Tiering
- Closure



# FILING CABINET EXEMPTION

A release shall not be deemed discovered if the only evidence of such release is data available or generated before the date when regulations are first adopted . . .

Releases must be remediated if they are found during the investigation of a piece of property, not an investigation of **filing cabinets**.



# DISCOVERY DURING DUE DILIGENCE

If the buyer, or the buyer's representative identifies a release, that release may not be discovered

Discovery depends on:

- Whether the release is an SER
- Whether the creator or maintainer of the release obtains knowledge because of the buyer's investigation
- Whether the buyer later becomes the owner of the parcel on which the release has been identified

# DISCOVERY BY OTHER PERSONS

Sometimes, characterization of a release may indicate that the creator/maintainer of such release is another person.



If the person conducting the characterization provides such information (including laboratory analytical results) to the person who would be the creator/maintainer, the recipient is presumed to have knowledge of the release.



Such presumption may be rebutted through investigation and characterization.



RCSA 22a-134tt-2(b)



# CARVEOUTS FROM DISCOVERY

## ➤ **Regulated Underground Storage Tanks:**

- Releases from USTs are not regulated under the RBCRs

## ➤ **Naturally occurring metals:**

- Certain metals found in soil samples are considered “natural occurring” and not evidence of a release

## ➤ **Incidental releases:**

- The presence of certain substances in certain situations are considered “incidental” and not evidence of a release

## ➤ **Public Roadways:**

- Persons responsible for the maintenance of public roadways are not considered to be maintaining releases in certain circumstances

# EMERGENT REPORTABLE RELEASES EXEMPT FROM DISCOVERY

The following types of releases required to be reported pursuant to CGS 22a-450 are **not** considered releases to the land and waters of the state and are **not** subject to the RBCRs:

- ✓ Release to air
- ✓ Release to a secondary containment system within a structure
- ✓ Release outside a structure to a secondary containment system that does not contact soil
  - E.g., an above ground storage tank used for secondary containment
- ✓ Release inside a structure that does not contact soil and is removed within 2 hours of discovery

RCSA 22a-134tt-2(e)(2)

# NATURALLY OCCURRING METALS – EXEMPT

The presence of metals at naturally occurring concentrations is not considered a release. The RBCRs include 5 methods for demonstrating that a metal concentration is naturally occurring:

- 1
  - Default statewide low value
  - If a detection is below the default low value, it is naturally occurring
- 2
  - Minimum of 3 samples
  - Highest detection below a default statewide high value is naturally occurring
- 3
  - Minimum of 5 samples
  - Highest detection below the Res DEC is naturally occurring
- 4
  - Requires DEEP approval
  - Minimum of 7 samples; naturally occurring concentrations are above the Res DEC
- 5
  - Requires DEEP approval
  - Any approach other than Options 1 – 4

RCSA 22a-134tt-2(f)

# NATURALLY OCCURRING METALS – METHODS 1 & 2

1

If a metal concentration in soil is less than the Low Value, it is naturally occurring.

2

For metals expected to naturally occur at concentrations above the Low Value but below the High Value:

- Compile a data set of at least 3 samples collected from an area not impacted by a release.
- Ensure the 3 samples include no outliers.
- If all 3 results are less than the High Value, those concentration represent the range of naturally occurring metals.

Inorganic Substance	Low Value (mg/kg)	High Value (mg/kg)
Arsenic	3	6
Barium	385	756
Cadmium	ND < 0.1	0.3
Chromium	31	60
Copper	17	45
Lead	18	27
Mercury	0.03	0.1
Nickel	13	36
Selenium	ND < 0.2	0.8
Silver	ND < 0.1	ND < 0.1
Zinc	44	104

Notes:

mg/kg = milligrams per kilogram

ND = non-detect at the specified reporting limit

# NATURALLY OCCURRING METALS – METHOD 3

3

For metals expected to naturally occur at concentrations above the High Value but below the Res DEC:

- Compile a data set of at least 5 samples collected from an area not impacted by a release.
- Ensure the 5 samples include no outliers.
- If all 5 results are less than the Res DEC, those concentration represent the range of naturally occurring metals.

Inorganic Substance	High Value (mg/kg)	CT Res DEC (mg/kg)
Arsenic	6	10
Barium	756	4700
Cadmium	0.3	34
Chromium	60	100 (Cr <sup>6</sup> )
Copper	45	2500
Lead	27	400
Mercury	0.1	20
Nickel	36	1400
Selenium	0.8	340
Silver	ND < 0.1	340
Zinc	104	20000

Notes:

mg/kg = milligrams per kilogram

ND = non-detect at the specified reporting limit

Cr<sup>6</sup> = criteria for hexavalent chromium

# NATURALLY OCCURRING METALS – METHODS 4 & 5

4

For metals expected to naturally occur at concentrations above the Res DEC:

- Compile a data set of at least 7 samples collected from an area not impacted by a release.
- Ensure the 7 samples include no outliers.
- If any result is greater than the Res DEC, DEEP approval is required to establish the reported results as the range of naturally occurring metals concentrations.

5

For any other approach, obtain DEEP approval

Inorganic Substance	CT Res DEC (mg/kg)
Arsenic	10
Barium	4700
Cadmium	34
Chromium	100 (Cr <sup>6</sup> )
Copper	2500
Lead	400
Mercury	20
Nickel	1400
Selenium	340
Silver	340
Zinc	20000

Notes:

mg/kg = milligrams per kilogram

ND = non-detect at the specified reporting limit

Cr<sup>6</sup> = criteria for hexavalent chromium

# INCIDENTAL RELEASES - EXEMPT

The following releases are exempt from the RBCRs:

- Trihalomethanes (naturally occurring from discharges from a public water supply system)
- Combustion of wood or charcoal used for a recreational purpose

# INCIDENTAL RELEASES – LIMITED INVESTIGATION

SVOCs<sup>1</sup> ≤ 50% of the residential criteria and petroleum hydrocarbons<sup>2</sup> ≤ 25% of the residential criteria, when:

(A)

- 1) The source is known,
- 2) 2 additional samples demonstrate that the concentrations are decreasing away from the source, and
- 3) Multiple lines of evidence indicate that the samples collected were taken at the place of the substance's highest concentration

-or-

<sup>1</sup> SVOCs in this instance does not include PCBs

<sup>2</sup> Petroleum hydrocarbons in this instance does not include any volatile organic substance



# INCIDENTAL RELEASES – LIMITED INVESTIGATION

(B)

SVOCs<sup>1</sup> ≤ 50% of the residential criteria and petroleum hydrocarbons<sup>2</sup> ≤ 25% of the residential criteria, when:

- 1) 3 additional samples at specific depths and locations identify substances at less than or equal to 50% and 25%, respectively

<sup>1</sup> SVOCs in this instance does not include PCBs

<sup>2</sup> Petroleum hydrocarbons in this instance does not include any volatile organic substance

# INCIDENTAL PUBLIC ROADWAY RELEASES

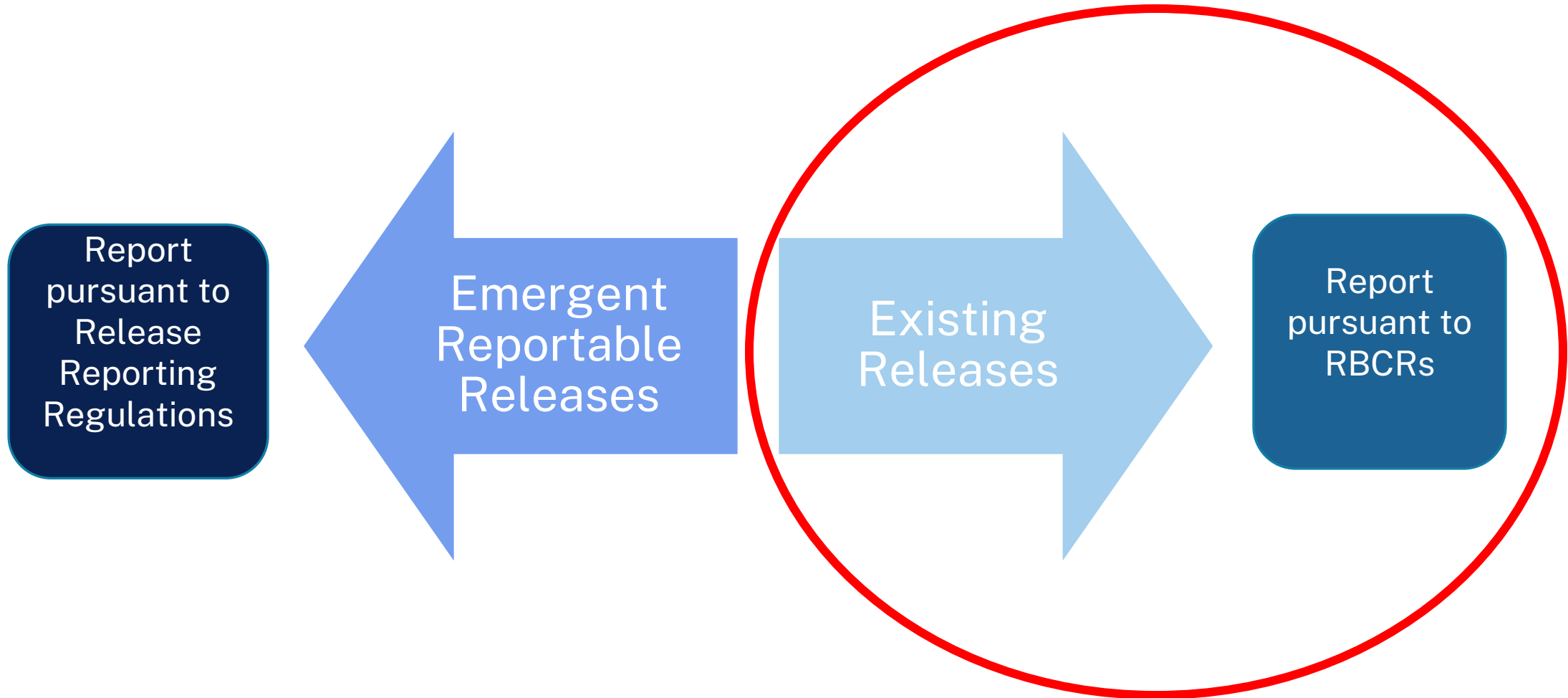
Persons responsible for the maintenance of public roadways will NOT be considered maintainers of incidental public roadway releases on, under, or within a right of way containing a public roadway, if:

- Excavated soil impacted by such a release is reused or properly disposed of in accordance with the RBCRs
- And, if the release is of chloride-based, inorganic salt that has impacted a drinking water supply, a safe drinking water supply is provided to those affected

The background features a stylized landscape with a yellow sun in the top right, green hills in the middle, and light blue water at the bottom. All elements are separated by thick, dark blue outlines.

# Reporting (22a-134tt-3)

# REPORTING REQUIREMENTS



# REPORTING TIMELINES FOR EXISTING RELEASES

## Within 72 hours of discovery

- All SERs
- Unless impacting supply well (within 24 hours)

## Within 120 days of discovery

- **Not a Significant Existing Release**
- Substance in soil or groundwater at a concentration  $\geq 2$  times the applicable cleanup standards
- For oil or petroleum – volume is  $\geq 2$  cubic yards
- NAPL measured thickness  $\geq 1/8$  inch
- **Release** not remediated to applicable cleanup standards within 120 days

## Within 365 days

- Pollution exists at  $< 2$  times cleanup standards
- **Release** not remediated to applicable cleanup standards within 365 days

# CONTENTS OF THE REPORT – EXISTING RELEASES

- ✓ Time and date of discovery
- ✓ Longitude and latitude
- ✓ Street address of parcel where the release is located
- ✓ Contact information of the person providing the report AND the creator/maintainer and the parcel owner, if applicable
- ✓ Relationship of the person reporting to the creator/maintainer
- ✓ Contact information of the LEP or PEP who has knowledge of the release



RCSA 22a-134tt-3(b)(1)(A)

# CONTENTS OF THE REPORT (CONTINUED)



- ✓ A brief description of the current use of the parcel
- ✓ Sensitive receptors (known or suspected) within 500 ft of the release
- ✓ Substance(s) released and quantity/concentration, if known
- ✓ A description of the nature and extent of the release including media impacted
- ✓ Laboratory results identifying each substance > numeric cleanup standard or cleanup standard calculated pursuant to the RBCRs

RCSA 22a-134tt-3(b)(1)(A)

# CONTENTS OF REPORTING FOR SERs

If you don't have all the information at the time reporting is required, then :

- ❖ Report what you know AND
- ❖ Not later than 7 days after submitting the incomplete report, submit a complete report

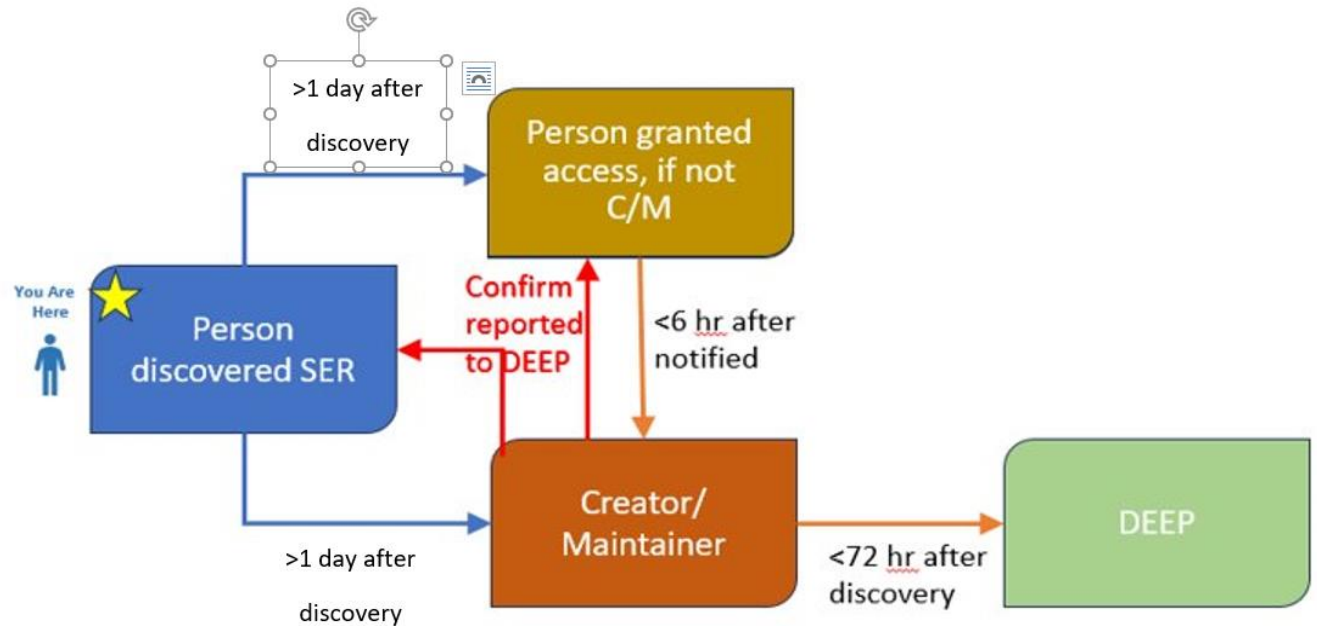


RCSA 22a-134tt-3(b)(1)(B)



# REPORTS OF SERs WHEN THE DISCOVERER IS NEITHER THE CREATOR NOR THE MAINTAINER

- Report still required within 72 hours of initial discovery (24 hours if impacted water supply wells)
- SERs notification to the creator/maintainer is within 1 day after discovery (6 hours if drinking water supply well)



# REPORTS OF SERs WHEN THE DISCOVERER IS NEITHER THE CREATOR NOR THE MAINTAINER CONTINUED

If the person who discovers of an SER does not receive confirmation that the creator/maintainer has submitted the report to DEEP, the person who discovered the SER shall notify DEEP that:

- ✓ An SER was discovered
- ✓ Time, date, location of discovery
- ✓ Nature of the discovered release
- ✓ That the creator/maintainer was timely notified
- ✓ The name and contact of the creator/maintainer

## EXCEPTIONS

- Attorneys only responsible for notifying clients of the requirement to report
- Individuals operating under CGS 22a-133dd of the CT General Statutes are not required to take any action under this provision

RCSA 22a-134tt-3(c)(5)

# REPORTS OF EXISTING RELEASES DISCOVERED ON TRANSFER ACT SITES

- Reports are required for releases discovered on parcels being investigated and remediated under the Transfer Act
  
- If a Verification has not yet been submitted and the release does not require immediate action, then report under RBCRs and specify:
  - Release will be remediated under the RBCRs; OR
  - Release will be remediated under PTP, Verification to be submitted by the PTP deadline, and an extension will not be granted

RCSA 22a-134tt-3(d)



# Scenarios

# DISCOVERY - PFAS AND ROAD SALT

- ❖ Public water supply owner detects PFAS in the water supply well.
- ❖ Property owner detects PFAS in groundwater or soil at a widget factory.
- ❖ Homeowner calls and states that their well is impacted by salt. They have data to demonstrate the impact.

# DISCOVERY – LABORATORY ANALYTICAL RESULTS



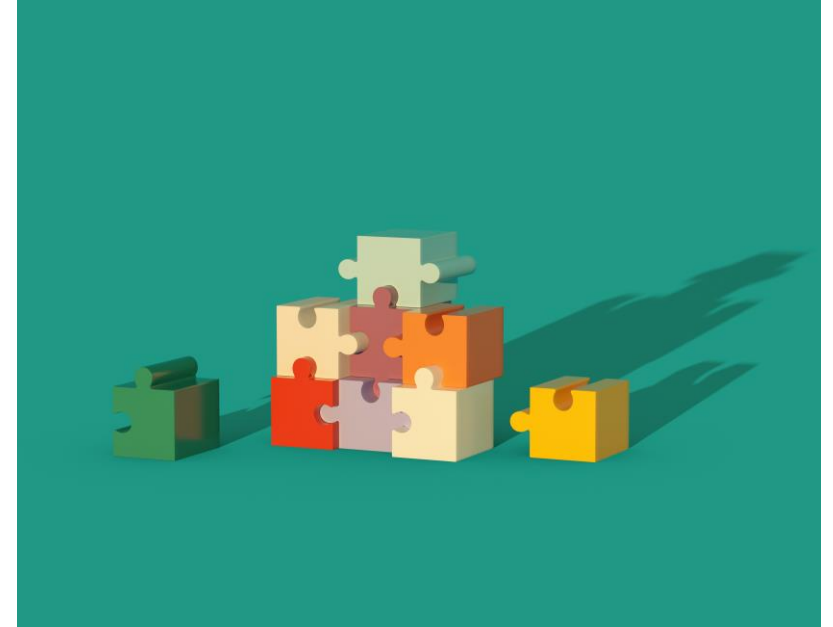
A property owner hires an LEP to investigate their property. The LEP completes 1 soil boring in the area of a degreaser after the degreaser was removed and stained concrete floor was observed below the degreaser. Soil samples were collected below the concrete floor and at a depth of 10 feet below ground surface. VOCs were detected at concentrations exceeding 2x applicable RBCRs criteria in the shallow sample. Metals were detected at concentrations indicating natural occurrence.

## DISCOVERY – LABORATORY ANALYTICAL RESULTS

- ❖ An environmental professional is reviewing a historical report (2018) and finds laboratory results that indicate a release occurred. The release/site is not in a cleanup program.
- ❖ There is no visual evidence of a spill, but a new groundwater sample contains VOCs. The source has not been identified.
- ❖ A stockpile excavated for redevelopment is sampled by an environmental professional for reuse or disposal purposes and exhibits contamination.
- ❖ Remediation initiated prior to the RBCRs is complete and groundwater monitoring is being performed. Monitoring following the effective date of the RBCRs detects COCs, and the site is not in a formal cleanup program.

## DISCOVERY – MULTIPLE LINES OF EVIDENCE

- ❖ Property owner hires an LEP and becomes aware of field screening results indicating presence of VOCs, observes distressed vegetation in same location, observes odor, and obtains documentation (anecdotal reports, aerials) indicating that a former gas station was located at the parcel.





# DISCOVERY & REPORTING – SIGNIFICANT EXISTING RELEASE

A prospective purchaser hired an environmental consultant to conduct an investigation and an SER was discovered at a site during an investigation (Lab report shows a substance exceeds the SER threshold for direct exposure):

- ❖ Who shall report the SER?
- ❖ What is the timeframe for reporting the SER?

# REPORTING – REMEDIATION COMPLETE

Do you have to report?

- ❖ A release discovered at 3x cleanup standards that is cleaned up in 110 days
- ❖ A release discovered at 2x cleanup standards that is cleaned up in 6 months
- ❖ A release discovered at 1.5x the cleanup standard that is cleaned up in 15 months
- ❖ A sample leading to discovery of a release is below the cleanup standards. Characterization is completed in 18 months, no exceedances of the standards are identified, and no remediation is required.



# UPGRADIENT OR OFF-SITE SOURCE - DISCOVERY & REPORTING

- ❖ A property owner's LEP discovers pollution from an off-site source migrating onto their property.
  - The source of the pollution is a *known* to be from industrial operations across the street.
  - The source is *unknown*.

## Additional Considerations:

- Are detections  $\geq 2x$  the cleanup standard?
- Is it a significant existing release?
  - Is a drinking water well impacted?

A stylized landscape illustration. At the top right, a yellow sun is partially visible. Below it, a large green hill with a dark blue outline dominates the middle. To the left, a smaller, lighter green hill is partially visible. At the bottom, a blue area represents water, also outlined in dark blue. The text "Thank you!" is centered on the green hill.

**Thank you!**