

PFAS Requirements in NPDES Permits: What POTWs Need to Know

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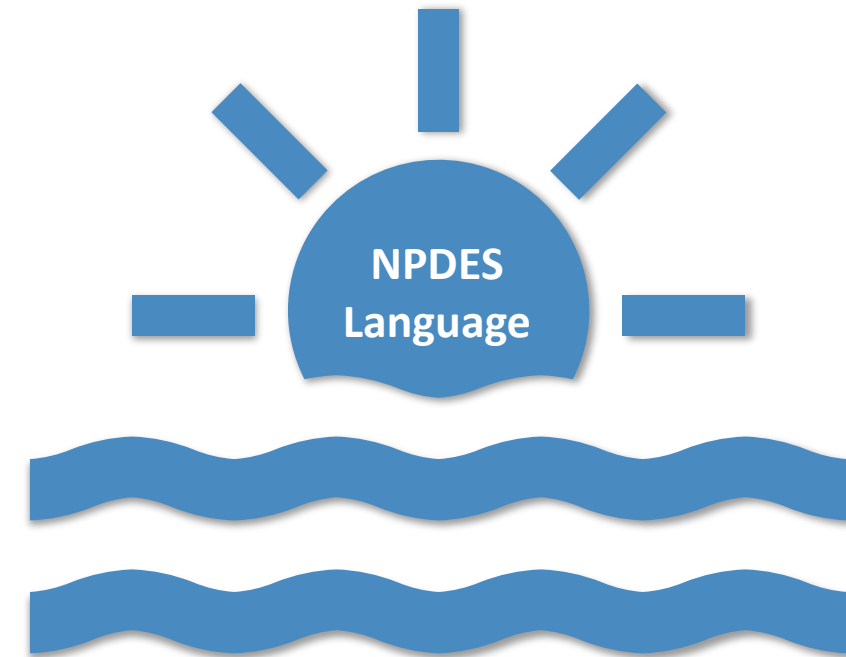


Overview

■ PFAS Requirements On The Horizon

- Sampling
- Inventories
- Reduction Programs

■ Tips and Tricks to Anticipate/Address Requirements

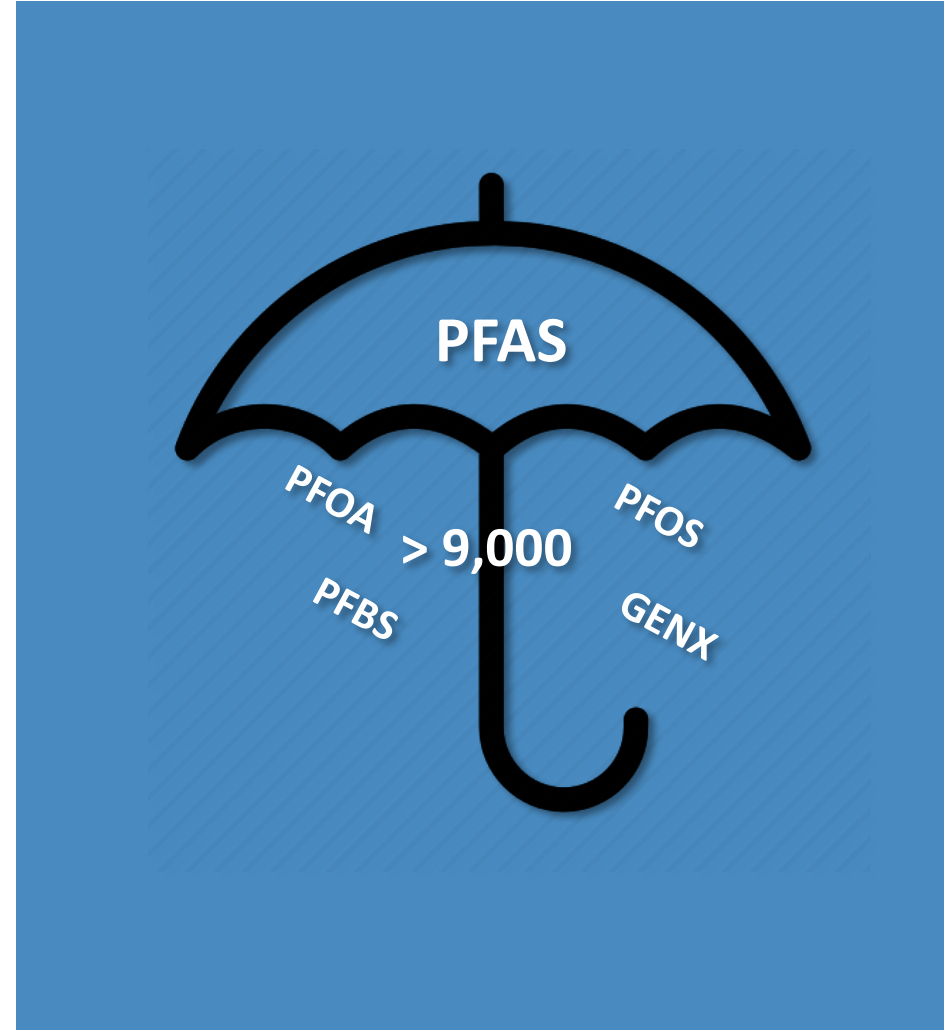


PFAS: The Forever Chemical

Stain & Grease Repellant

Water Resistant

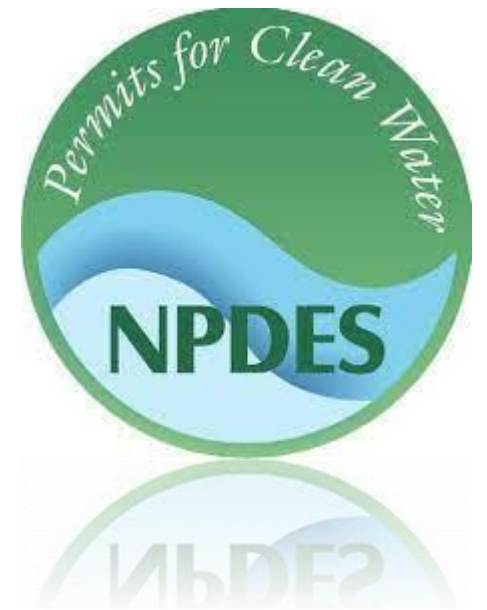
Durable & Heat Protectant



Background & Disclaimers

IL NPDES: Fall 2023 – 2 new draft PFAS Special Conditions (SC)

- Applies to ALL major POTWs (>1 MGD)
- No finalized language – subject to change
- **NPDES Permit renewal timeframe undetermined**



SC 1: PFAS Testing and Reporting

SC 1: IL NPDES POTW PFAS Monitoring

Sample Location	Frequency	Type	Reporting Units	Load Limit
Influent	Quarterly	Grab ²	ng/L ³	Monitor Only
Effluent ¹	Quarterly	Grab ²	ng/L ³	Monitor Only
Biosolids	Semi-Annually	Grab ²	ug/kg ⁴	Monitor Only

¹ Final treated effluent only. No excess flow outfalls required.

² **Manual** composite is also accepted

³ Daily Maximum Concentration

⁴ Daily Maximum Load

Tip: sample earlier in the period to anticipate uncertain lead times

All sampling must be reported on the subsequent **NetDMR submittal**
 After 2 years, a sampling reduction or elimination may be requested

SC 1: Required IL PFAS Sampling

■ 40 PFAS Compounds

○ Permit example:

Target Analyte Name	Abbreviation	CAS Number	STORET	Minimum Level of Detection	
Perfluoroalyl Sulfonic Acids				Aqueous (ng/L)	Solids (ng/g)
Perfluorooctanesulfonic Acid	PFOS	1763-23-1	52606	2.0	0.2

Influent and Effluent \$500-\$1000

Sludge \$500-\$800

Ask lab if cost includes field blanks and QC samples

SC 1: Sampling Method 1633

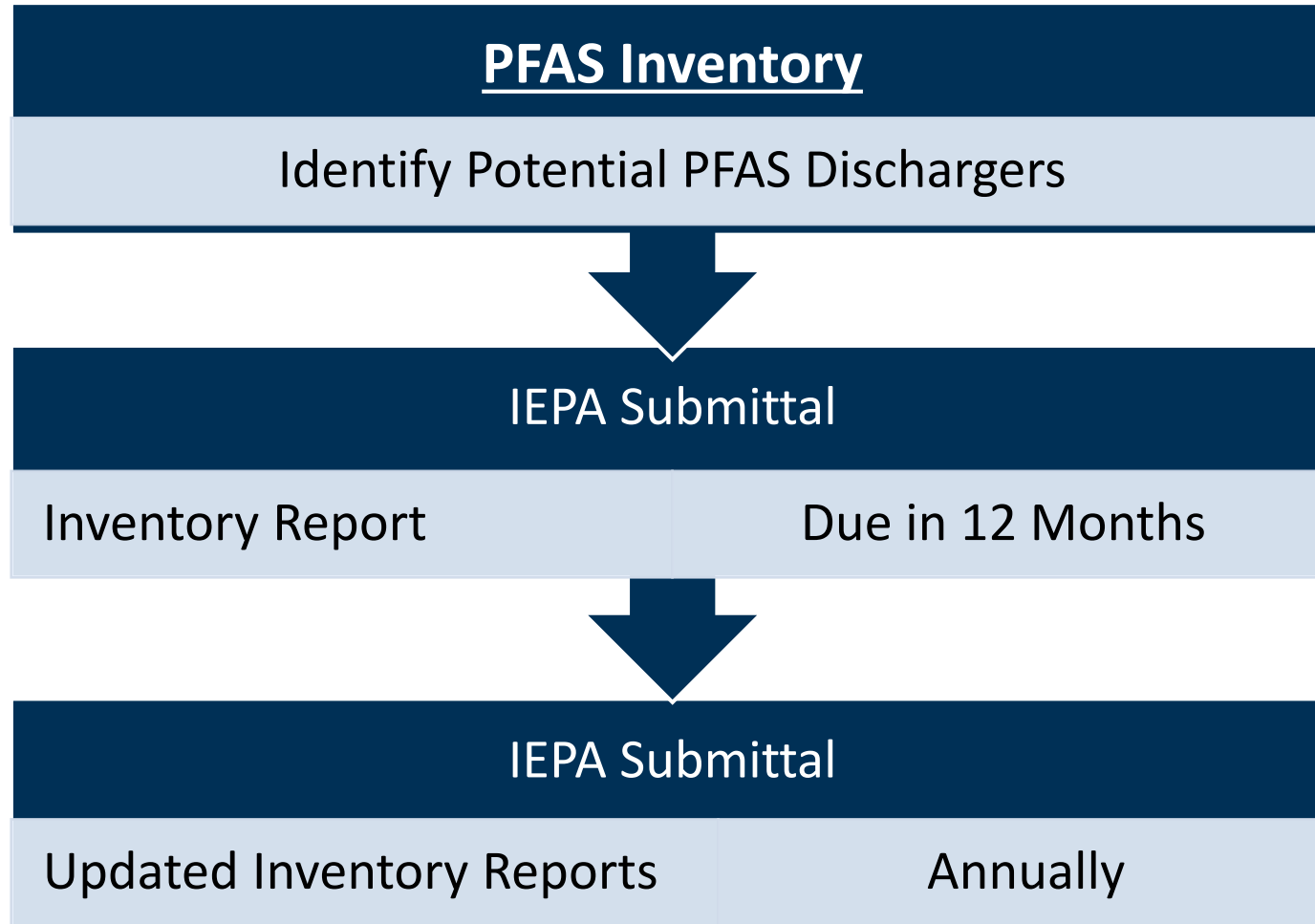
Published January 2024

Characteristic	1633
Matrix	Aqueous: waste, surface & ground waters Solids: biosolids, soil, sediment, tissue Landfill Leachate
Detection	40 Compounds
Identification?	✓
Quantification?	✓
Minimum Levels of Detection	Aqueous: 0.32 – 9.59 ng/L Solids: 0.05 – 0.87 ng/g

USEPA finalized, not yet 40 CFR 136 approved

SC 2: PFAS Reduction Initiative

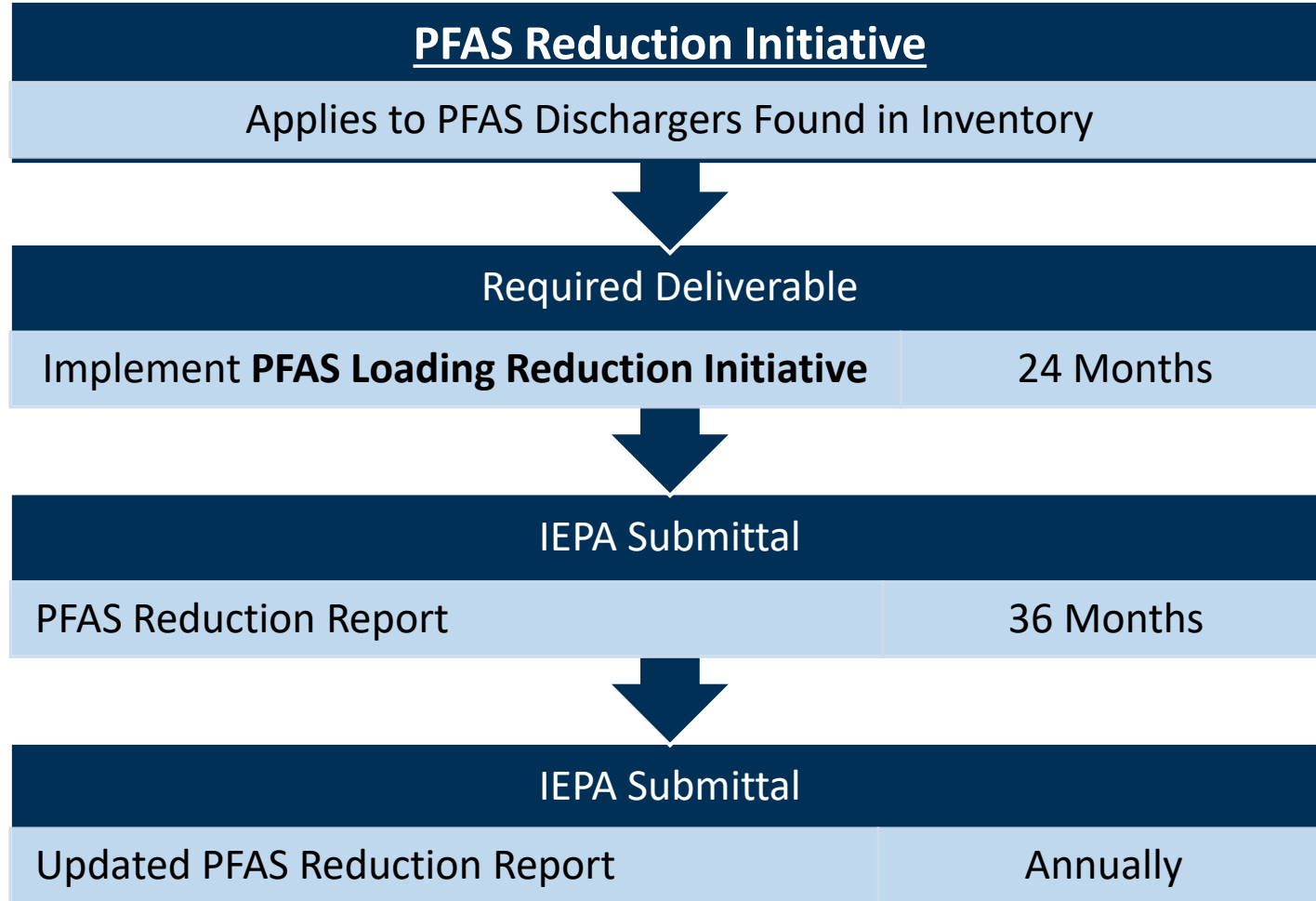
NPDES SC 2 Part 1: PFAS Inventory



Timelines are NOT negotiable

Budget for these requirements

NPDES SC 2 Part 2 : IL PFAS Reduction Program Timeframes



What is a PFAS Loading Reduction Initiative?
A Collection of individual PFAS loading reduction plans

Timelines are NOT negotiable
Budget for these requirements

SC 2 Part 1: PFAS Inventory – Who to Target?

1. Who to Include?

- Consider every IU
- Evaluate new IUs through occupancy/building permit applications
- NPDES Permit includes required SIC/NAICS list of Users to evaluate **based on manufacturing activity**

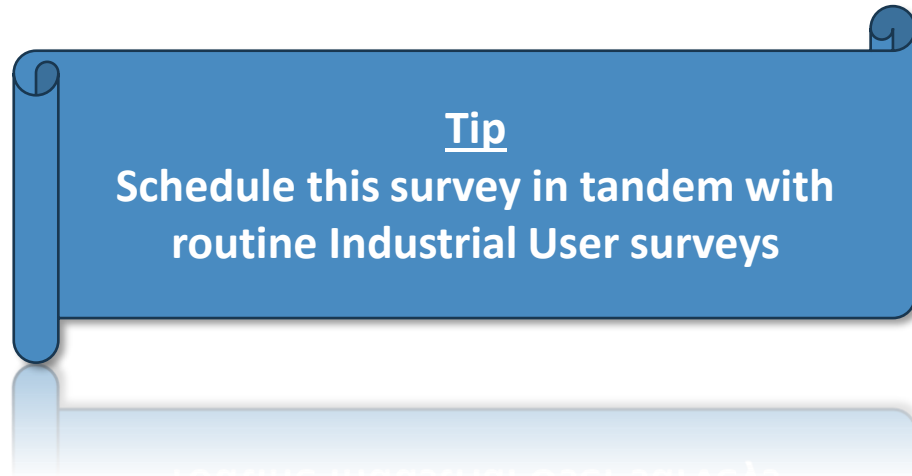
2. Potential Activities of Concern:

- Metal Finishing and Electroplating
- Textile Mills
- Chemical Manufacturing
- Landfills / Landfill Leachate
- Pulp, Paper, & Paperboard Manufacturing
- Coatings, Paint, & Varnish Manufacturing
- Automotive and Aerospace Manufacturing

(212230), 1041 (212221), 1094 (212291), 1311 (211120), 2221 (313210), 2262 (313310), 2273 (314110), 2295 (313320), 2297 (313230), 2299 (313110), 2385 (314999), 2392 (314999), 2394 (314910), 2621 (322121), 2656 (322219), 2671 (322220), 2672 (322220), 2673 (322220), 2752 (323111), 2796 (323120), 2813 (325120), 2819 (211130, 325130, 325180), 2821 (325211), 2822 (325212), 2824 (325220), 2841 (325611), 2842 (325612), 2843 (325613), 2844 (325611), 2851 (325510), 2869 (325110, 325193, 325199), 2899 (325199, 325510, 325998), 2911 (324110), 2992 (324191), 3011 (326211), 3081 (326113), 3082 (326121), 3083 (326130), 3089 (326121), 3111 (316110), 3231 (323215, 327310), 3471 (332813), 3479 (332812), 3497 (332999), 3577 (334418), 3589 (333318), 3629 (335999), 3643 (335931), 3651 (334310), 3663 (334220), 3671 (334412), 3674 (334413), 3679 (334419), 3841 (333249), 3861 (333316), 4581 (488119), 4953 (562211, 562212, 562213, 562219), 5169 (424690), 5719 (442291), 7217 (561740), 7641 (811420), 9711 (928110).

SC 2 Part 1: PFAS Inventory – Distributing Surveys

Delivery – Paper or electronic?



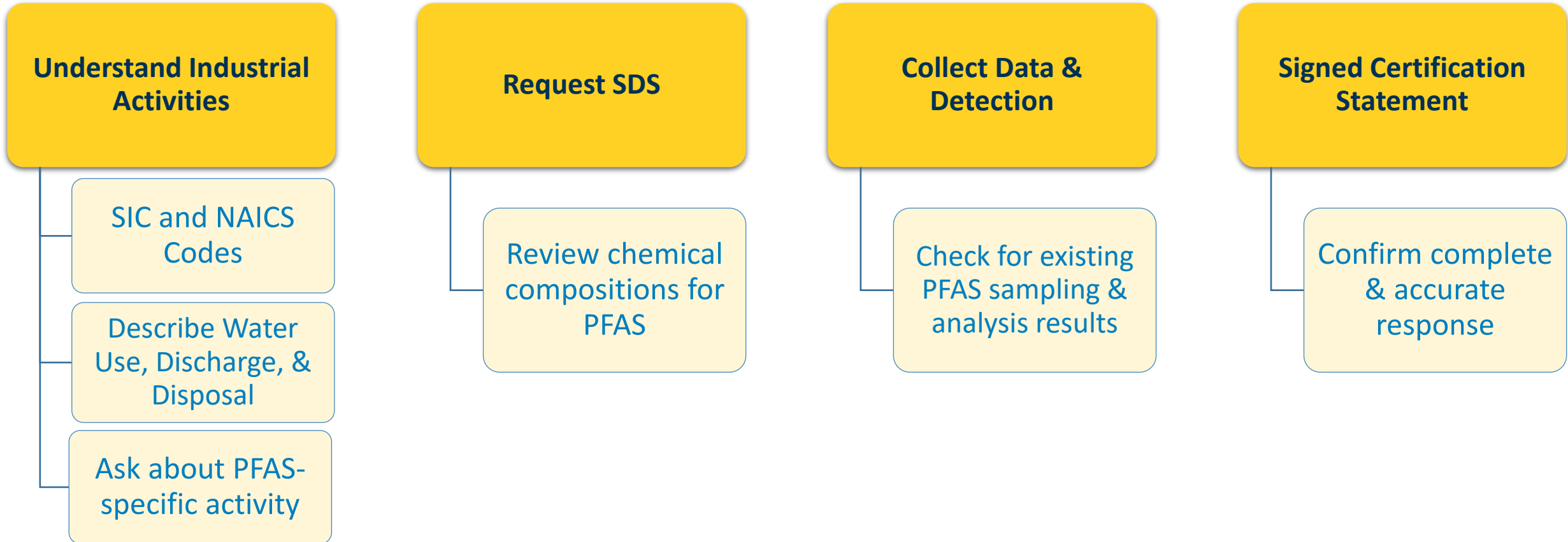
- **Formal Programs** -> annual IU Surveys
- **Informal Programs** -> Negotiable surveying timeline

Tip: Data Organization

- Software that streamlines:
 - Response tracking
 - Follow-up action
 - Follow-up response
 - SDS submittal
- Example: ArcGIS

SC 2 Part 1: PFAS Inventory – Survey Content

Distribute a PFAS Survey to all discharging IUs of concern to collect the following:



SC 2 Part 1: PFAS Inventory – Survey Details

PFAS Questions

- Does your business _____?
 - **Perform** electroplating, metal finishing, or circuit board **manufacturing**
 - **Use** defoamers/surfactants for plating or etch tanks
 - **Use** AFFF fire foam
 - **Treat** materials with coatings for oil, stain, & water repellency
 - **Manufacture** or coat materials with PTFE or non-stick
 - **Clean** containers or transport trucks that haul wastes or materials
 - Have industrial or commercial laundry facilities

SC 2 Part 1: PFAS Inventory - Safety Data Sheets (SDS)

Composition/Chemical List

- Cross-check CAS Numbers with PFAS
- “Fluoro”
- California Proposition 65 (February 2022): PFOA, PFOS, and PFNA



Follow-Up Questions

- IU: define how/where/why chemical is used
- Proprietary info -> contact chemical supplier
- Sign composition certification statement



Streamlining SDS Review

- 1 SDS may have 10+ chemicals
- 1 IU may have 100s of SDS
- Unreasonable volume -> contact chemical supplier



SC 2 Part 1: PFAS Inventory Evaluation

How to evaluate survey responses? Consider the following:

■ Activity

- SIC/NAICS on NPDES list of concern?
- Assembly, fabrication, distribution, retail, or **manufacturing**?
- SDS Review

■ Water use

- Direct contact with PFAS?
- Discharged or hauled offsite? Volume used?

■ Follow-up actions

- IU correspondence (chemical supplier)
 - More information, process-flow diagrams, etc.
 - PFAS sampling
- Site inspection

SC2 Part 1: PFAS Inventory – Reporting Requirements

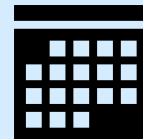
Inventory – Each IU of Concern:

- Facility Name and Address
- Justification for inventory inclusion
(SIC/NAICS Codes, Activity/Water Use)
- PFAS-Containing Wastestreams Origins and Fate
- Wastewater Volume
Monthly average flow (gpd)

Due 12 months from the permit effective date

Annual Report – Permittee must provide:

- Updates from the previous Inventory Report

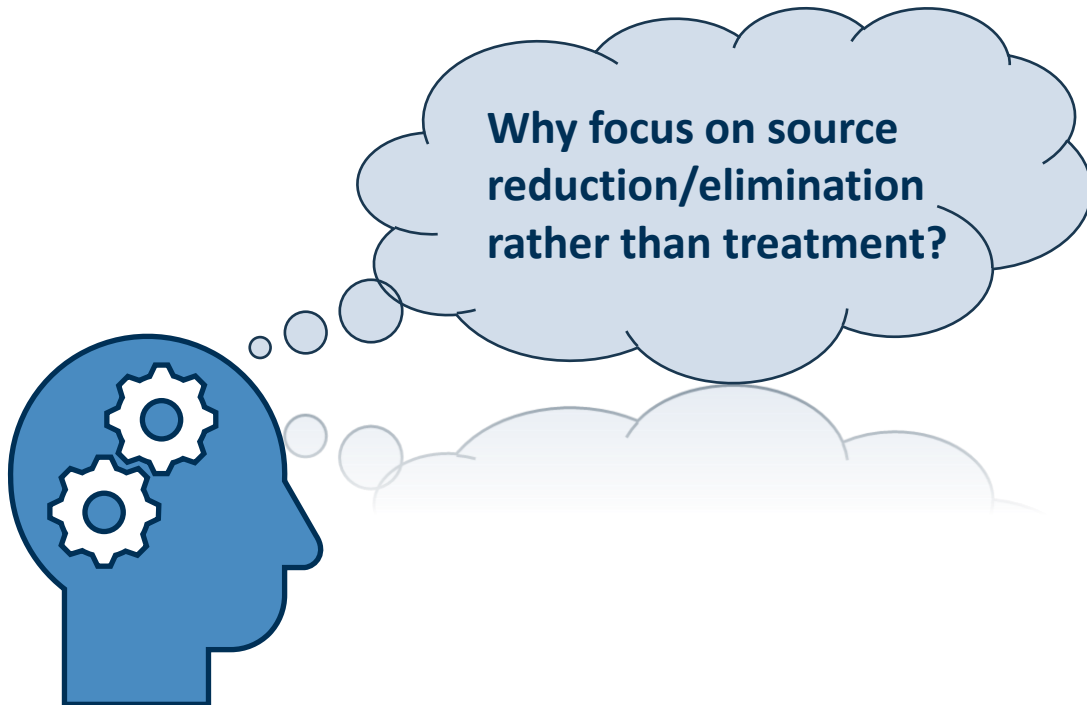


Due every subsequent 12 months from the previous report due date

SC 2 Part 2: PFAS Reduction Initiative



Goal: Reduce PFAS loadings from IUs to POTW



Treatment

- Expensive
- Not Efficient
- Concentrated By-Products

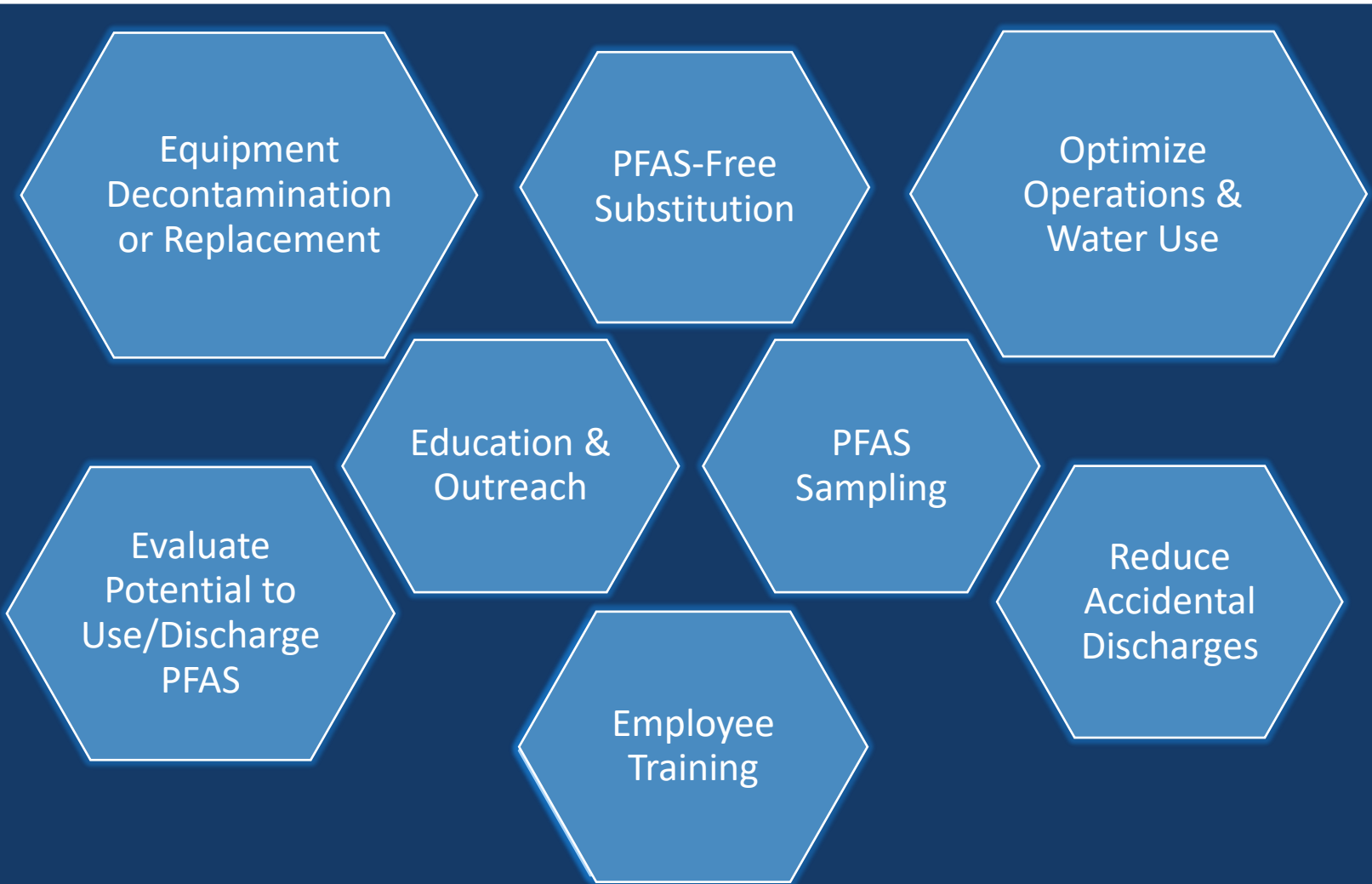
Toxicity

- Any exposure may pose health risks

POTW Impact

- Preserve infrastructure

SC 2 Part 2: PFAS Loading Reduction Plans



What should the PFAS Loading Reduction Plans include?

Many Options for the IUs

- Best Management Practices
- Pollution Prevention opportunities
- Source Reduction actions

NPDES PFAS Requirements Summary

SC 1: PFAS Testing & Reporting

■ POTW Sampling

Quarterly: influent & effluent

Semi-Annually: biosolids

■ Submit maximum concentrations on NetDMR

Tip: Check your NPDES permit expiration date – create your next fiscal year's budget with these PFAS SCs in mind

SC 2: PFAS Reduction Program

■ PFAS Inventory

- Inventory report due in **12 months**
- Annual inventory report due every **12 months** thereafter

■ PFAS Reduction Initiative

- Develop & implement a program in **24 months**
- PFAS Reduction Report due in **36 months**
- Annual Report updates due **every 12 months** thereafter

Questions?





CONTACT INFORMATION



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