



EPA's Proposed Revisions to the Air Emissions Reporting Requirements (AERR)

March 19, 2024

Amanda Jennings



trinityconsultants.com



Agenda

1. Background of AERR
2. Summary of Proposed Rule Revisions
3. Key Takeaways



The rule discussed in this presentation is proposed and may not reflect the final rule requirements. Review the final rule when preparing any state or federal submittals.

States may choose to request more information than required by EPA. Always check with your state requirements (if your state has incorporated the federal rules) when preparing submittals.

Background

EPA's Air Emission Reporting Rule (AERR)

▶ What is **AERR**?

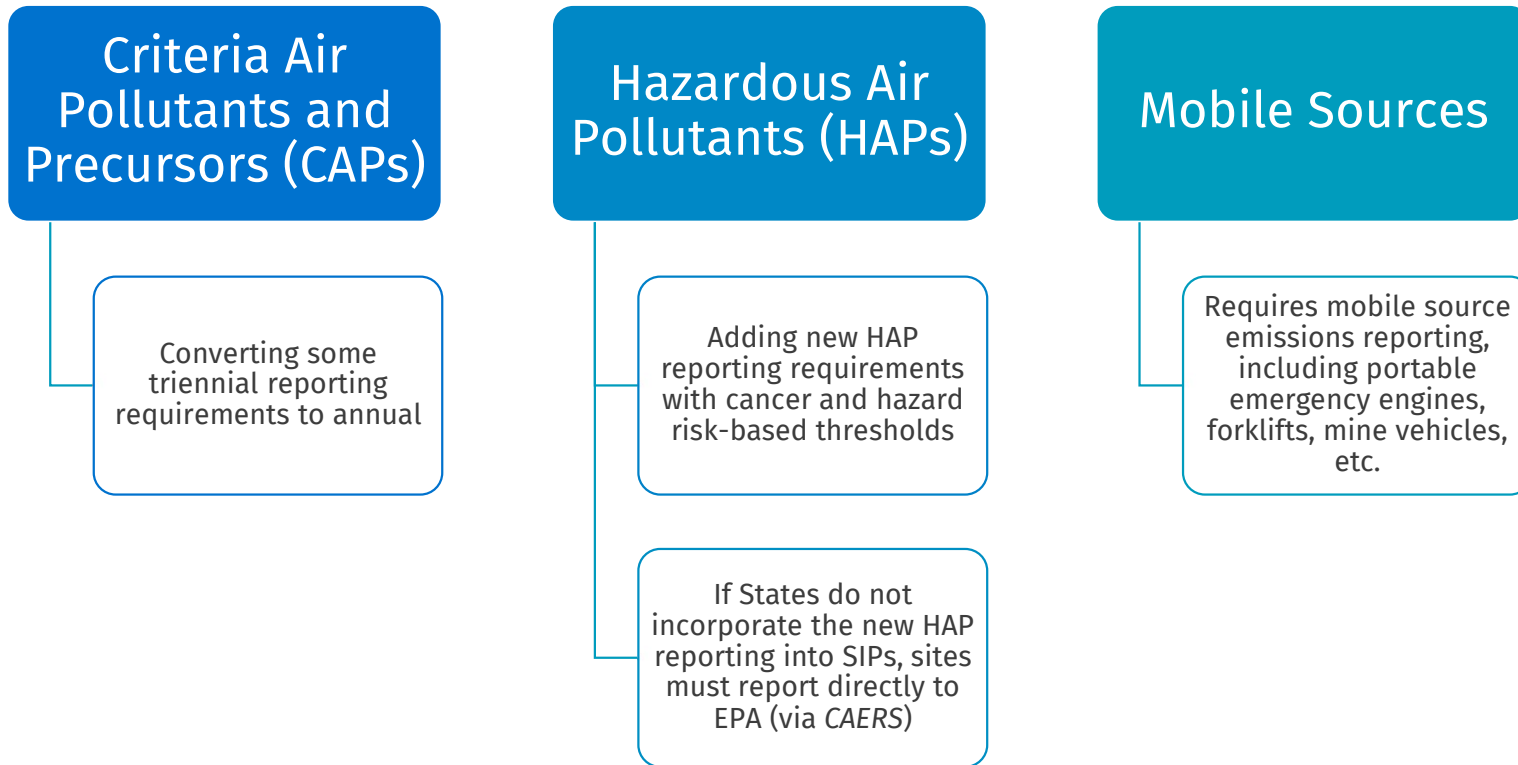
- EPA regulation (40 CFR 51, Subpart A) requiring states, local agencies, and some tribes to report annual criteria pollutant emissions
- Currently, hazardous air pollutant (HAP) emissions reporting is voluntary.
- Data used to create National Emissions Inventory (NEI) used for air quality modeling, rulemaking, risk assessments, emission factor development, etc.

▶ Proposed rule with AERR updates published August 9, 2023

- <https://www.federalregister.gov/documents/2023/08/09/2023-16158/revisions-to-the-air-emissions-reporting-requirements>

▶ Comments due November 17, 2023 (extended comment period)

Proposed AERR Key Changes



Proposed AERR Key Changes (continued)



Additional data being requested

Unit-specific release point locations (lat./long.), stack exhaust parameters, control equipment identification and effectiveness, regulatory applicability, etc.



All stack test reports must be submitted (if not already submitted via *CEDRI*)



Required information cannot be marked confidential

Including throughput data (in stack tests & annual reporting)

Acronyms Used in this Presentation

- ▶ AERR = Air Emission Reporting Rule
- ▶ CAA = Clean Air Act
- ▶ CAPs = Criteria Air Pollutants and Precursors
- ▶ CFR = Code of Federal Regulations
- ▶ HAP = Hazardous Air Pollutant
- ▶ NSPS = New Source Performance Standard
- ▶ SIP = State Implementation Plan
- ▶ TIP = Tribal Implementation Plan

Hazardous Air Pollutant (HAP)

- ▶ Pollutants not subject to other standards which are thought to increase mortality or serious irreversible or incapacitating illness
- ▶ Defined by Federal Government
- ▶ Listed in Title 40 Code of Federal Regulations (40 CFR) Parts 61 and 63
- ▶ 188 HAPs
 - <https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications>
 - New HAP added January 5, 2022
 - ◆ <https://www.epa.gov/haps/addition-1-bp-npb-clean-air-act-list-hazardous-air-pollutants>

Definitions (Some Unique to AERR)

Nonpoint source

Point source

Mobile source

Portable facility

Potential to emit

Definitions

- ▶ Nonpoint source
 - *Nonpoint sources collectively represent individual sources that **have not been inventoried as specific point or mobile sources** and are compiled as a county total. The individual sources treated collectively as nonpoint sources are typically too small, numerous, or difficult to inventory using the methods for the other classes of sources*
- ▶ Point source (defined in a later slide)

Definitions (continued)

► Mobile source

- *Mobile source means a motor vehicle, nonroad engine or nonroad vehicle, where:*

Motor Vehicle

- Self-propelled vehicle designed for **transporting persons** or property on a street or highway

Nonroad Engine

- Internal combustion **engine** (including the fuel system) **not used in a motor vehicle** or a vehicle used solely for competition, or not subject to standards under sections 111 or 202 of the CAA (NSPS and motor vehicle rules, respectively)

Nonroad Vehicle

- Vehicle powered by a nonroad engine and that is **not a motor vehicle** or a vehicle used solely for competition

Definitions (continued)

- ▶ Portable facility
 - *Portable facility means a facility that **does not have a fixed location** such as an asphalt plant or portable drilling rig, mobile offshore drilling units (MODUs), and offshore installation vessels*

- ▶ Potential to emit (from 40 CFR Part 70)
 - *The **maximum capacity** of a stationary source to emit any air pollutant **under its physical and operational design**. Any **physical or operational limitation** on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator.*

Summary of Revised Rule

AERR Applicability (Point Sources)

► Point Source Definition

- *Point source means a stationary or portable facility that*
 - (1) is a major source under 40 CFR part 70 for any pollutant, or*
 - (2) has PTE or annual actual emissions of pollutants greater than or equal to the reporting thresholds in Table 1A to Appendix A of this subpart, or*
 - (3) has a primary NAICS code listed in Table 1C to Appendix A of this subpart and annual actual emissions of pollutants greater than or equal to the reporting HAP reporting thresholds (presented in Table 1B to Appendix A of this subpart).*

In assessing whether emissions levels exceed reporting thresholds, all provisions of this subpart related to emissions estimation approaches apply, including §§ 51.5 and 51.10 of this subpart.

AERR Applicability (Point Sources)

▶ Point Sources meet **one** of the criteria below

1. Title V major source

- or -

2. Potential or actual emissions \geq thresholds in Table 1A (see reference)

- or -

3. Primary NAICS in Table 1C *and* actual emissions $>$ thresholds in Table 1B (see references)

* Some variations apply to sources subject to emissions inventory requirements in Subparts G, X, Z, AA, and CC of this rule.

Reference: Table 1A – CAP Reporting Thresholds

OTR = Ozone Transport Region

Pollutant	PTE Thresholds (RY 2021-2022, 2024-2025) (tpy)	Thresholds (RY 2023, 2026 on) (tpy)	Nonattainment Area PTE Thresholds (tpy)
VOC	≥250	≥100 ≥50 within OTR	≥100 VOC ≥50 within OTR
NO _x	≥2,500	≥100	O ₃ Serious ≥50 O ₃ Severe ≥25 O ₃ Extreme ≥10 PM _{2.5} Serious ≥70
CO	≥2,500	≥1,000	≥1,000 CO all areas ≥100
Pb	-		≥0.5 (actual)
PM ₁₀ -PRI	≥250	≥100	≥100 PM ₁₀ Serious ≥70
PM _{2.5} -PRI	≥250	≥100	
NH ₃	≥250	≥100	≥100 PM _{2.5} Serious ≥70
SO ₂	≥2,500	≥100	

Could pull in Non-Title V facilities

OTR: <https://www.epa.gov/air-quality-implementation-plans/nonattainment-and-ozone-transport-region-otr-sip-requirements>



Reference: Table 1C Primary NAICS

NAICS	Description
21-22xxxx, 3xxxxx, except 311811	Industrial and manufacturing industries.
4247xx	Petroleum and Petroleum Products Merchant Wholesalers.
481xxx	Scheduled Air Transportation.
486xxx	Pipeline Transportation.
4883xx	Support Activities for Water Transportation.
493xxx	Warehousing and Storage.
5417xx	Scientific Research and Development Services
54199x	Other Professional, Scientific, and Technical Services.
56191x	Packaging and Labeling Services.
5622xx	Waste Treatment and Disposal.

NAICS	Description
5629xx	Waste Management and Remediation Services.
61131x	Colleges, Universities, and Professional Schools.
62211x	General Medical and Surgical Hospitals.
62231x	Specialty (except Psychiatric and Substance Abuse) Hospitals.
811121	Automotive Body, Paint and Interior Repair and Maintenance (except small entities)
8122xx	Death Care Services.
812332	Industrial Launderers.
92214x	Correctional Institutions.
927xxx	Space Research and Technology.
928xxx	National Security and International Affairs.

Reference: Table 1B – Excerpt

TABLE 1B TO APPENDIX A OF SUBPART A—REPORTING THRESHOLDS BY POLLUTANT FOR HAZARDOUS AIR POLLUTANTS FOR TREATMENT AS POINT SOURCE—Continued

Description	Associated CAPs ¹	Pollutant code ²	Actual emissions initial threshold (short tons/year)
Tetrachloroethylene .....	.....	127184	7.7
Titanium Tetrachloride .....	.....	7550450	0.22
Toluene	VOC	108883	10
Toluene-2,4-Diamine	VOC	95807	0.010
Toxaphene	VOC	8001352	0.0084
Trichloroethylene	VOC	79016	0.48
Triethylamine	VOC	121448	9.5
Trifluralin	VOC	1582098	10
Vinyl Acetate	VOC	108054	10
Vinyl Bromide	VOC	593602	0.79
Vinyl Chloride	VOC	75014	0.43
Vinylidene Chloride	VOC	75354	10
Xylenes	VOC	See Table 1D	10

Thresholds vary by pollutant and range from 1.1E-07 tpy to 10 tpy

Table 1D defines compound "groups"

m-Xylene
o-Xylene
p-Xylene
Xylenes (Mixed Isomers)

Point Source Emissions Reported

- ▶ What emissions are included in CAPs and HAP threshold comparisons?
 - Stack releases
 - Fugitive releases
 - Mobile sources excluding aircraft and ground support equipment*
- ▶ If **potential** emissions of any pollutant on Table 1A is exceeded, all Table 1A pollutants are reported (CAPs)
- ▶ Title V major sources must report **“all HAP”** emissions
- ▶ Non-major sources report only those **actual** HAP emissions that exceed thresholds PLUS **“Associated CAPS”** (see Tables 1B and 1D)

*Aircraft and ground support equipment reported separately by states

“ALL HAP”

For major sources, rule requires reporting of “all HAP”

HAP reporting requirement does not align with supplier notifications that can exclude certain HAP in SDS below specific thresholds (e.g., <1%)

Implies inclusion of all possible sources of HAP (e.g., laboratories, maintenance, office-supply, janitorial, etc.)

No exemption for sources that must be considered when evaluating the emission thresholds for non-major sites. Could require reporting from sources that have no air permit.

Associated CAPs (Table 1B or 1D)

TABLE 1B TO APPENDIX A OF SUBPART A—REPORTING THRESHOLDS BY POLLUTANT FOR HAZARDOUS AIR POLLUTANTS FOR TREATMENT AS POINT SOURCE—Continued

Description	Associated CAPs ¹	Pollutant code ²	Actual emissions initial threshold (short tons/year)
Hexane	VOC	110543	10
Hydrazine .....	.....	302012	3.8E-04
Hydrochloric Acid .....	.....	7647010	10
Hydrogen Fluoride .....	.....	7664393	7.8
Hydroquinone	VOC	123319	10
Isophorone	VOC	78591	10
Lead	PM	7439921	0.074
Lindane (all isomers)	VOC	See Table 1D	0.0015
Maleic Anhydride	VOC	108316	0.64
Manganese	PM	7439965	0.16
Mercury Compounds	PM	See Table 1D	0.0026
Methanol	VOC	67561	10
Methyl Bromide	VOC	74839	10
Methyl Chloride	VOC	74873	10

Listed CAPs must also be reported when individual HAP threshold is triggered!

PM includes:
 PM10-PRI
 PM2.5-PRI
 PM10-FILT
 PM2.5-FILT

Primary PM₁₀/PM_{2.5} = The sum of filterable PM₁₀/PM_{2.5} and condensable PM



Emissions Estimation Requirements

- ▶ Must use best available estimation methods
 - Use available emission calculation methods at the top of the hierarchy in Figure 1
- ▶ Provide justification when the best data is not used
- ▶ If better data is not available, use EPA SPECIATE database
 - <https://www.epa.gov/air-emissions-modeling/speciate>

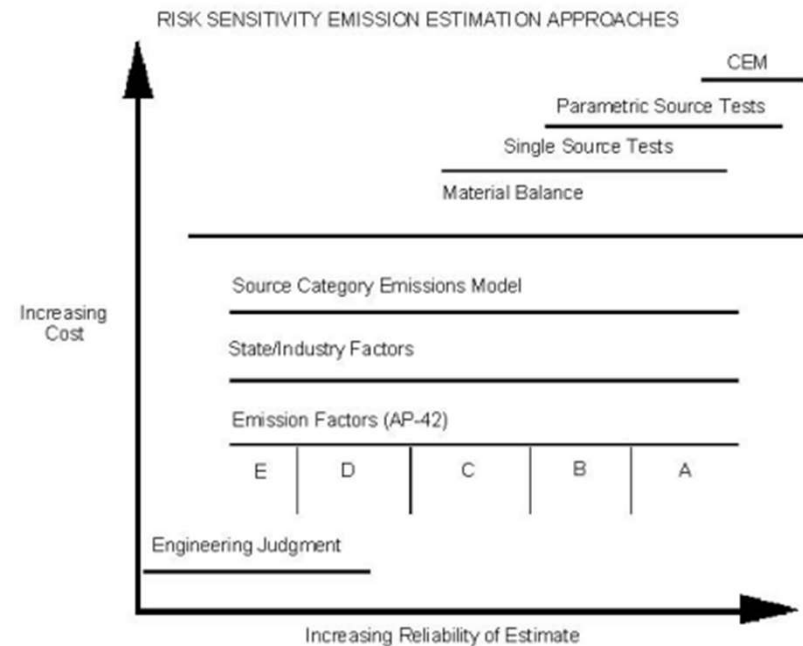
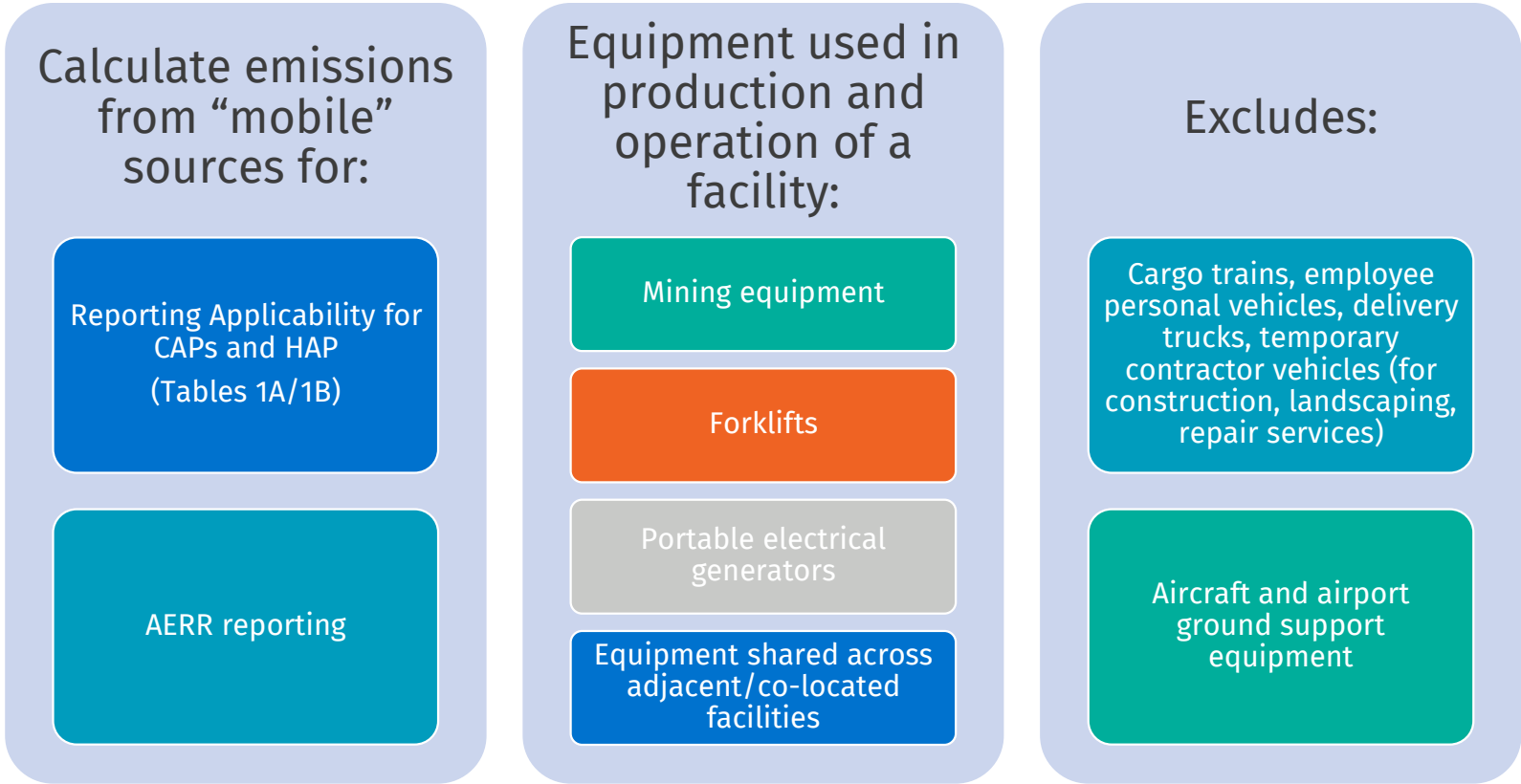
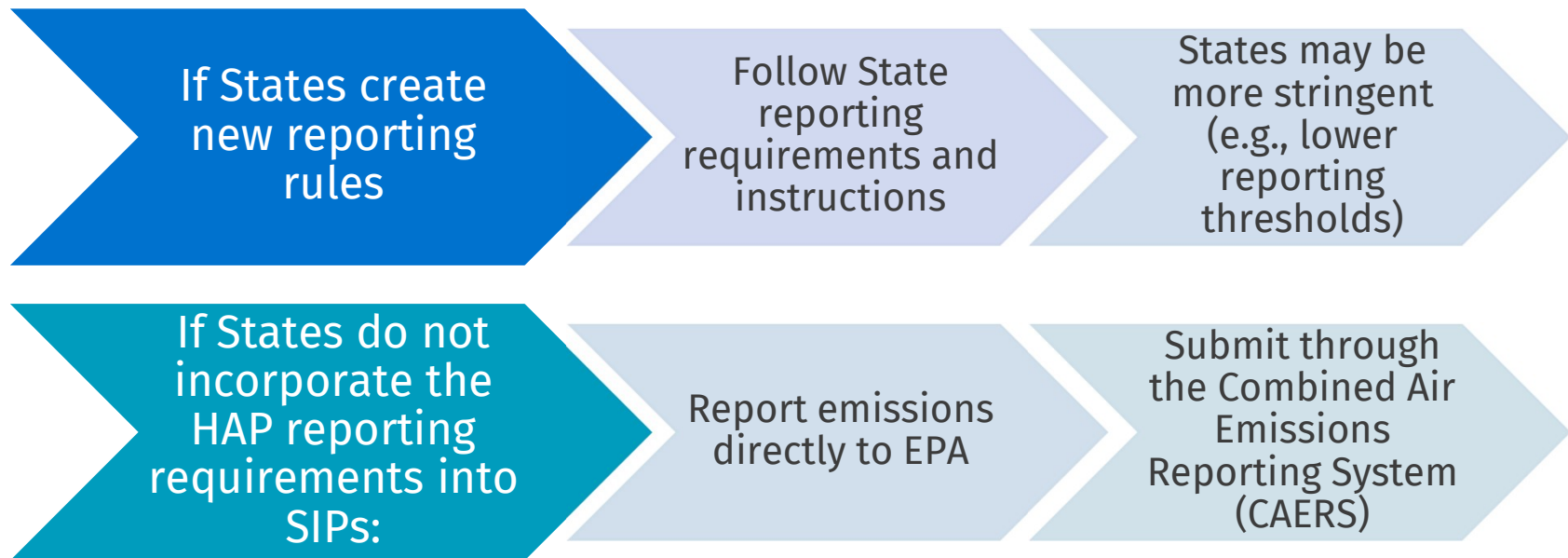


Figure 1. Approach to emission estimation.

Mobile Sources




Owner/Operator Reporting



Combined Air Emissions Reporting System (CAERS)

- ▶ Accessed as a Program Service through CDX
- ▶ Currently used (in some extent) in DC, GA, ID, ME, and RI for annual/triennial emissions reporting
- ▶ Provides emission factors (WebFIRE) to auto-calculate
- ▶ Links to TRI-MEweb
- ▶ Initial issues identified:
 - ◆ Emission factor quality, units issues
 - ◆ Cumbersome quality checks
 - ◆ Bulk upload option simplifies, but is time-consuming
 - ◆ Issues with visibility and rounding



The screenshot shows the CDX Central Data Exchange interface. At the top, there is a navigation bar with the CDX logo and the text "Central Data Exchange". Below this, there are several tabs: "MyCDX", "Inbox", "My Profile", "Submission History", and "Payment History". The main content area is titled "Services" and contains a table with three columns: "Status", "Program Service Name", and "Role". Each row in the table has a small person icon in the "Status" column. The "Program Service Name" column contains the names of the services, and the "Role" column contains the user's role for each service. A "Manage" link is visible in the top right corner of the table area.

Status	Program Service Name	Role
	CAER: Combined Air Emissions Reporting	Preparer
	CEDRI: Compliance and Emissions Data Reporting Interface	Preparer
	CSPP: Submissions for Chemical Safety and Pesticide Programs	Primary Agent/Consultant

<https://www.epa.gov/combined-air-emissions-reporting/combined-air-emissions-reporting-system-caers>

Source Test Reporting

- ▶ Submit all source tests and performance evaluations to EPA (if not already required under another federal rule)
- ▶ Submit electronically (ERT via CEDRI)
 - Electronic Reporting Tool (ERT)
 - ◆ <https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>
- ▶ Submittal should include (not a complete list)
 - ◆ Capacity of unit tested
 - ◆ Load of unit in % capacity during test
 - ◆ Level of activity during test (e.g., input consumption rate, heat input, output production rate, etc.)
 - ◆ Process data (e.g., temperatures, flow rates, etc.) of unit and control devices during test

Additional Information to be Reported (Point Sources)

Refer to Table 2A

- ▶ Speciation profile
- ▶ Title V permit number
- ▶ Emission unit design capacity
- ▶ Applicable regulations
- ▶ Specific location coordinates for each stack or fugitive release point
- ▶ Stack release exhaust flows and temperatures
- ▶ Fugitive release point width, length
- ▶ Stack heights and diameters
- ▶ Control measure type and percent effectiveness

*Not a complete list and may not be required for all sources

Changes to Confidential Treatment

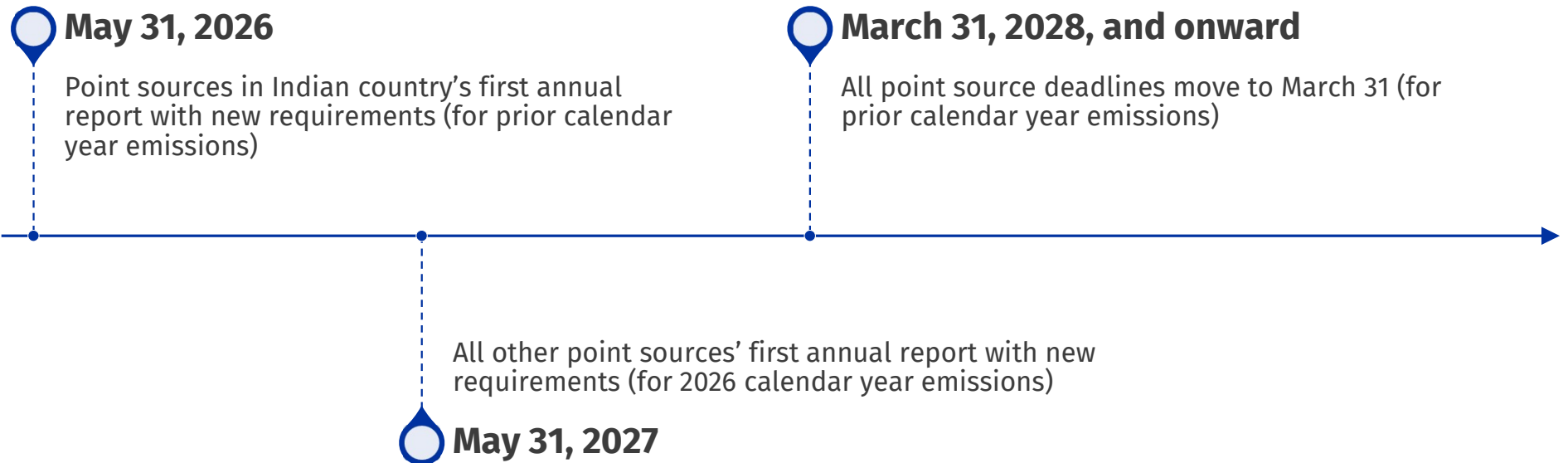
“Emissions data” is not subject to confidential treatment
(All information submitted under proposed AERR)

Source test data

Throughput, load data, process data

Installation dates, stack locations
(Table 2A)

Proposed Reporting Deadlines for Sites Reporting Directly to EPA



When Will I Know if I Report to EPA or State?

- ▶ State/local/tribal (SLT) agencies must apply to EPA by March 31 of the inventory year
 - e.g., for the SLT to report the RY2026 data, they must apply by March 31, 2026
- ▶ ***Any sites in a state that has not submitted an application by March 31 should prepare to report that year's information to EPA in CAERS.***

Applicability & Information to be Reported by States (Point, Nonpoint, Onroad Mobile, & Nonroad Mobile Sources)



Rail Yards

- ▶ Activity data with collection documentation
- ▶ Voluntary – Pollutants based on EPA rail yard emissions method



Mobile Sources

- ▶ County database
- ▶ Vehicle miles travelled
- ▶ Vehicle population



Airports

- ▶ Landings/takeoffs
- ▶ Voluntary - Emissions based on aircraft model and aircraft data



Nonpoint Sources

- ▶ Triennial years only
- ▶ Online survey of nonpoint sources
- ▶ Emissions and estimation methods



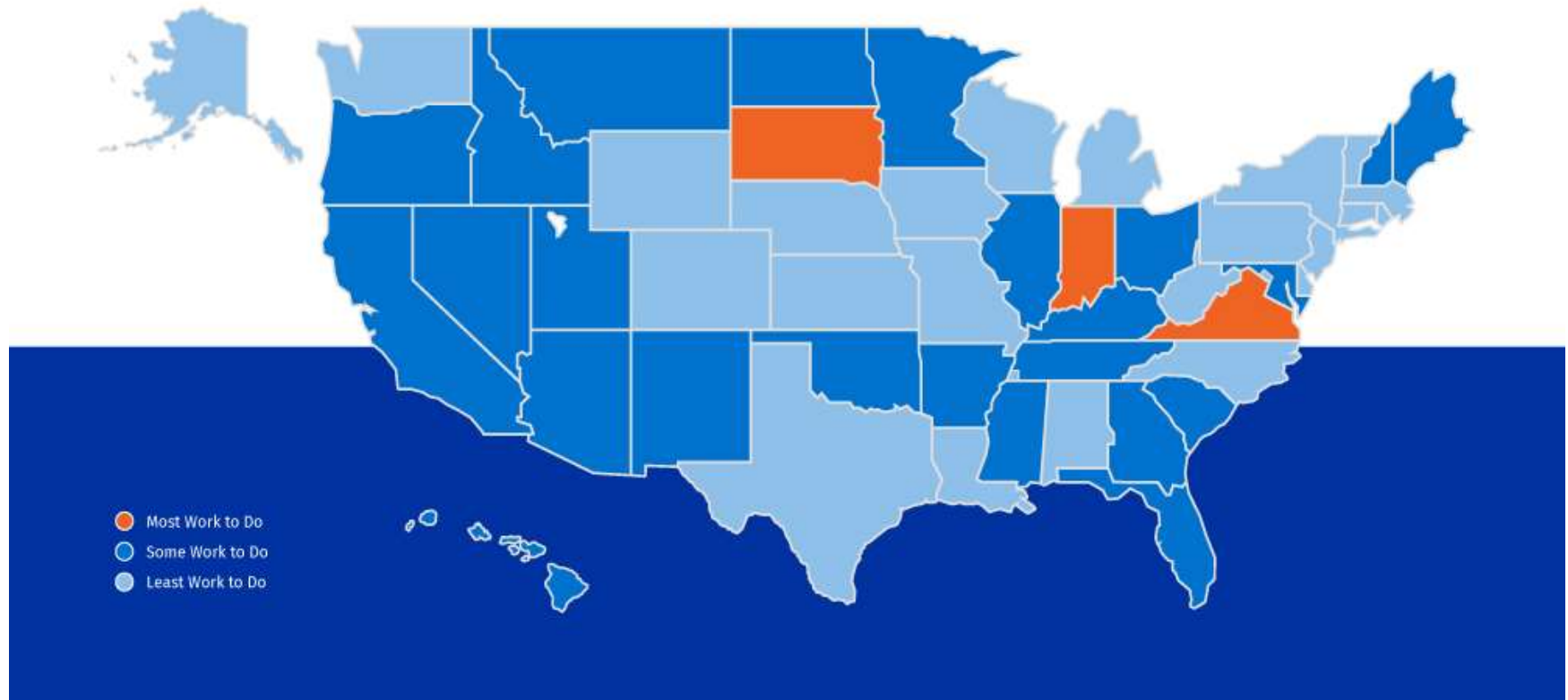
Prescribed Fires, Wildfires, and Agricultural Fires

- ▶ Timing and activity

*Not a complete list

Key Takeaways

AERR - Potential Reporting Efforts Map



Recap of Points of Contention and Additional Questions

Mobile Sources

All HAPs

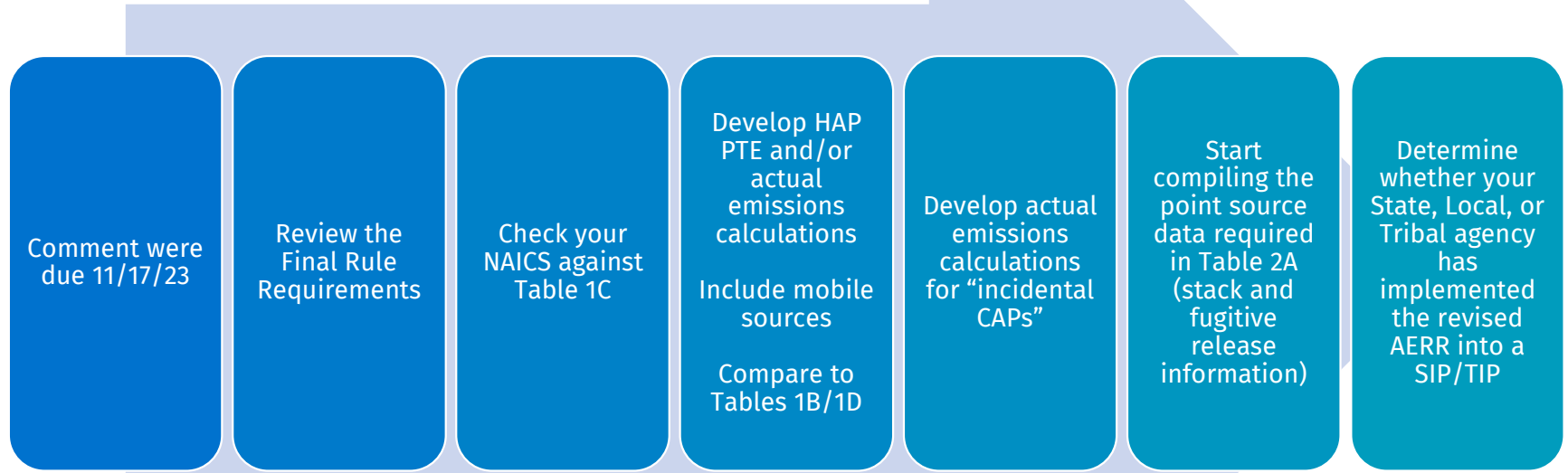
Stack Test Submittals

Loss of Confidentiality

PFAS

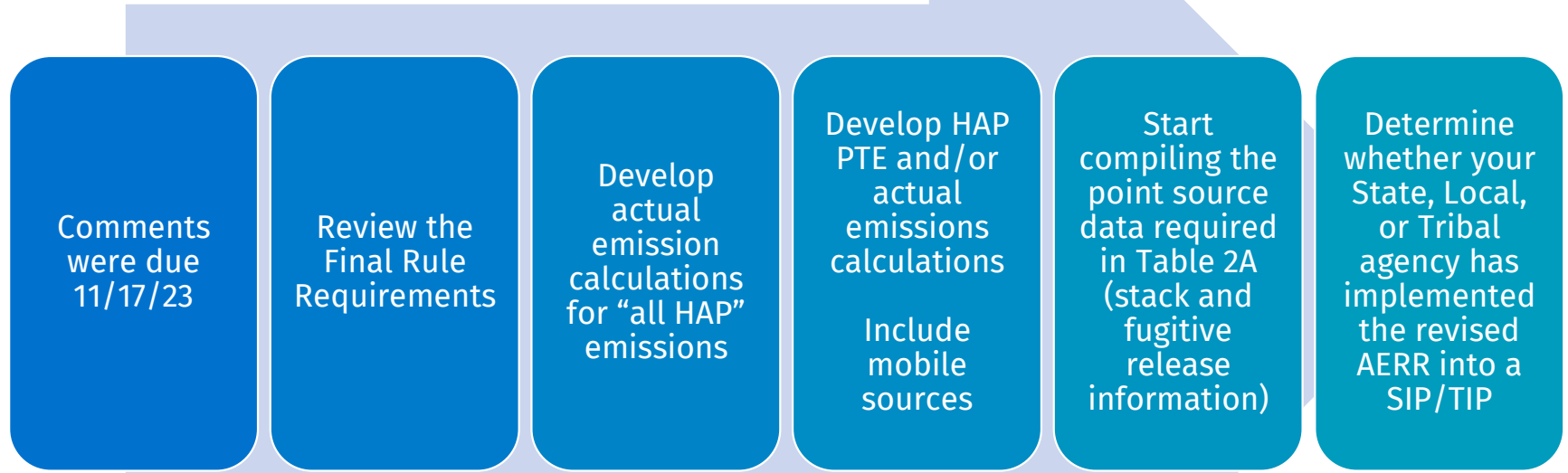
Proposed AERR – Next Steps

► Non-Major Facilities



Proposed AERR – Next Steps

► Major Facilities



Summary

- ▶ Proposed changes will increase CAPs and add mandatory HAP reporting requirements
 - Some smaller affected sources may not even have air permits!
 - ◆ HAP calculations needed to determine applicability, at a minimum
- ▶ More detailed site and source information must be submitted (without confidential treatment)
 - Including all stack test reports
- ▶ States may do more! States may also opt out, and you will report directly to EPA
 - Many states do not have the funding or staff to update existing reporting platforms to accommodate new reporting requirements.
- ▶ Significant comments received on proposed rule



Amanda Jennings
ajennings@trinityconsultants.com
[614-568-8847](tel:614-568-8847)

Biographical Information

Amanda Jennings
Managing Consultant
Trinity Consultants
440 Polaris Parkway, Suite 275
Westerville, Ohio 43082
Phone: 614.568.8847
E-mail: ajennings@trinityconsultants.com

Amanda Jennings is a Managing Consultant in Trinity's Westerville, Ohio, office and provides air quality support for several industries in Ohio, including but not limited to, petroleum refining/distribution, chemical manufacturing, surface coating, asphalt processing/shingle manufacturing, and fiberglass and foam insulation manufacturing. She graduated from Ohio University with a Bachelor of Science Degree in Chemical Engineering. Amanda has completed numerous projects over her 19 years of consulting experience ranging from minor and major source state construction permit to install (PTI) or permits to install and operate (PTIO) applications, Fee Emissions Reports (FERs), emissions inventories, Toxic Release Inventory Reports (TRIs), Title V operating permit renewal and modification applications, MACT and GACT general consulting/compliance assistance, and regulatory applicability analyses. Also, she routinely teaches Trinity's *Strategic Air Permitting in Ohio* training course.