CAERS Customization and Onboarding Lessons Learned

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ADEQ
Arizona Department
of Environmental Quality

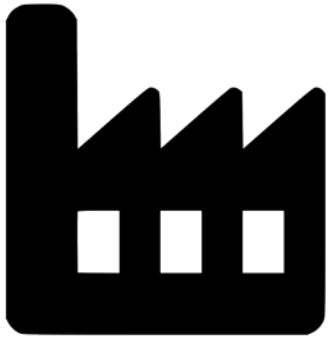Clean Air, Safe Water,
Healthy Land for Everyone

Overview

- EI reporting business needs
- Legacy reporting methods
- CAERS onboarding decision

- Customizations and adaptations
- Data access solution

- Arizona pilot
- Conclusions/next steps

- Discussion/Q&A
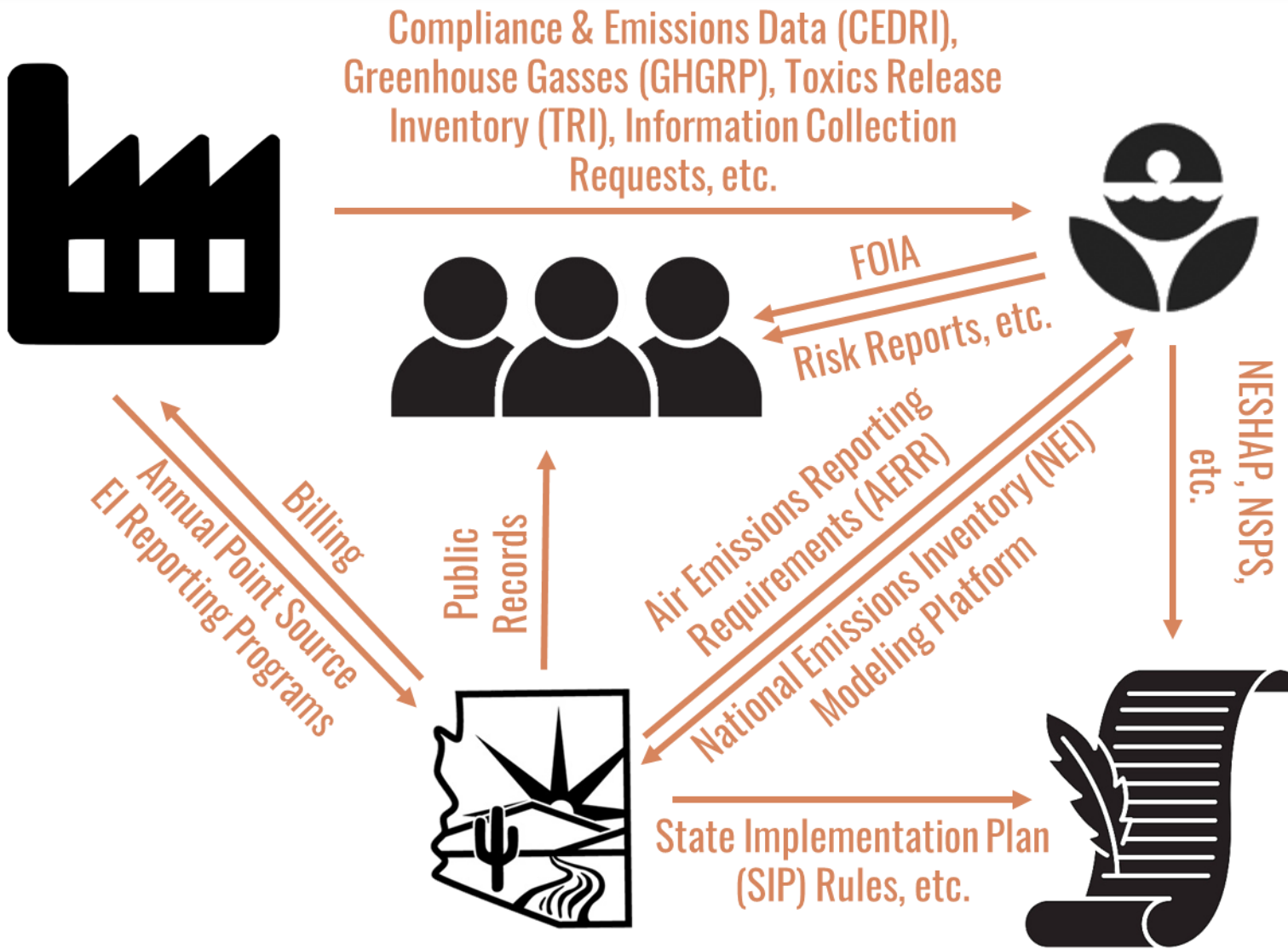
EI Reporting Background in Arizona

Collect detailed, annual emissions estimates of EIS quality

Encode into CERS and transmit to EIS by end of year

Annual Point Source EI Reporting Programs

Air Emissions Reporting Requirements (AERR)

Compliance & Emissions Data (CEDRI), Greenhouse Gasses (GHGRP), Toxics Release Inventory (TRI), Information Collection Requests, etc.

FOIA

Risk Reports, etc.

Billing

Annual Point Source EI Reporting Programs

Public Records

Air Emissions Reporting Requirements (AERR)

National Emissions Inventory (NEI) Modeling Platform

NESHAP, NSPS, etc.

State Implementation Plan (SIP) Rules, etc.

Collect detailed, annual emissions estimates of ~~EIS~~ quality befitting regulatory decision-making

Encode into CERS and transmit to EIS by end of ~~year~~ October

Distinguish billing-exempt subtotals & capture certain non-EIS pollutants,
Long-term record retention and accessibility, with CBI partitioned

Nice to have: consolidate or at least coordinate HAP reporting

EI Reporting Business Needs

Collect detailed, annual emissions estimates of quality befitting regulatory decision-making

Encode into CERS and transmit to EIS by end of October

Distinguish billing-exempt subtotals & capture certain non-EIS pollutants,
Long-term record retention and accessibility, with CBI partitioned

Nice to have: consolidate or at least coordinate HAP reporting

Nice to have: minimize recurring costs & manual data entry/manipulation

Editor's note: this is not a modern, proprietary version of SLEIS. Arizona uses a modified version of the 2012 release commissioned by the SLEIS Consortium.

...ons estimates of quality befitting

...t to EIS by end of October

...totals & capture certain non-EIS

...d accessibility, with CBI partitioned

...least coordinate HAP reporting

...g costs & manual data

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Fair — Collect detailed, annual emissions estimates of quality befitting regulatory decision-making

Ideal — Encode into CERS and transmit to EIS by end of October

Ideal — Distinguish billing-exempt subtotals & capture certain non-EIS pollutants, Long-term record retention and accessibility, with CBI partitioned

Poor — Nice to have: consolidate or at least coordinate HAP reporting

Good — Nice to have: minimize recurring costs & manual data entry/manipulation

CAERS Onboarding Decision

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Good	Fair	Collect detailed, annual emissions estimates of quality befitting regulatory decision-making
Ideal	~~Ideal~~ Poor	Encode into CERS and transmit to EIS by end of October
Unknown	Ideal	Distinguish billing-exempt subtotals & capture certain non-EIS pollutants, Long-term record retention and accessibility, with CBI partitioned
Promising	Poor	Nice to have: consolidate or at least coordinate HAP reporting
Ideal	~~Good~~ Fair	Nice to have: minimize recurring costs & manual data entry/manipulation

Customizations and Adaptations

Adaptations

CAERS risk: revisions require potentially time-consuming or error-prone handoffs. But...

	A	C	E	F	G	H
1						
3	Enter all information marked *. Where a drop-down menu exists, select from the list of options in each menu. All field formats are "General" except where specified.					
4	Ensure that data copied into cells is in the correct format and is devoid of spaces, quotation marks and other characters.					
5	Enter all reporting period information before working on this tab.					
8	Tab: Emissions					
9	Instruction:	Drop down. The unit, process, and reporting period reference.	Drop down. Pollutant from the process in the reporting year.	Drop down. Select "true" if no emission factor exists, or the units of measure of the denominator of the available emission factor do not match your throughput units of measure.	Total emisisons for the pollutant.	Drop down. Units the emissions.
10	Field	Reporting Period*	Pollutant Name*	I prefer to calculate this emission myself	Total Emissions*	Emissions Unit of N
14	Example Entry	ML05-1-Annual	Acetaldehyde	false	1000	TON
15	Example Entry	SCR-1-Annual	Benzene	false	1007.75	TON
16	Example Entry	SCR-2-Annual	Nitrogen Oxides	true	2015.6	TON
24		001-1-Annual	Acetaldehyde	false	0.1	TON
25		001-1-Annual	Carbon Monoxide	false	1.95	TON
26		001-1-Annual	Formaldehyde	false	0.1	TON
27		001-1-Annual	Nitrogen Oxides	false	8.46	TON
28		001-1-Annual	PM10 Filterable	false	0.23	TON
29		001-1-Annual	Sulfur Dioxide	false	0.12	TON
30		001-1-Annual	Volatile Organic Compounds	false	0.07	TON
31		002-1-Annual	Volatile Organic Compounds	false	0.56	TON

Control Path Pollutants | Apportionment | Reporting Period | Operating Details | Emissions | Emission Formula Variable ...

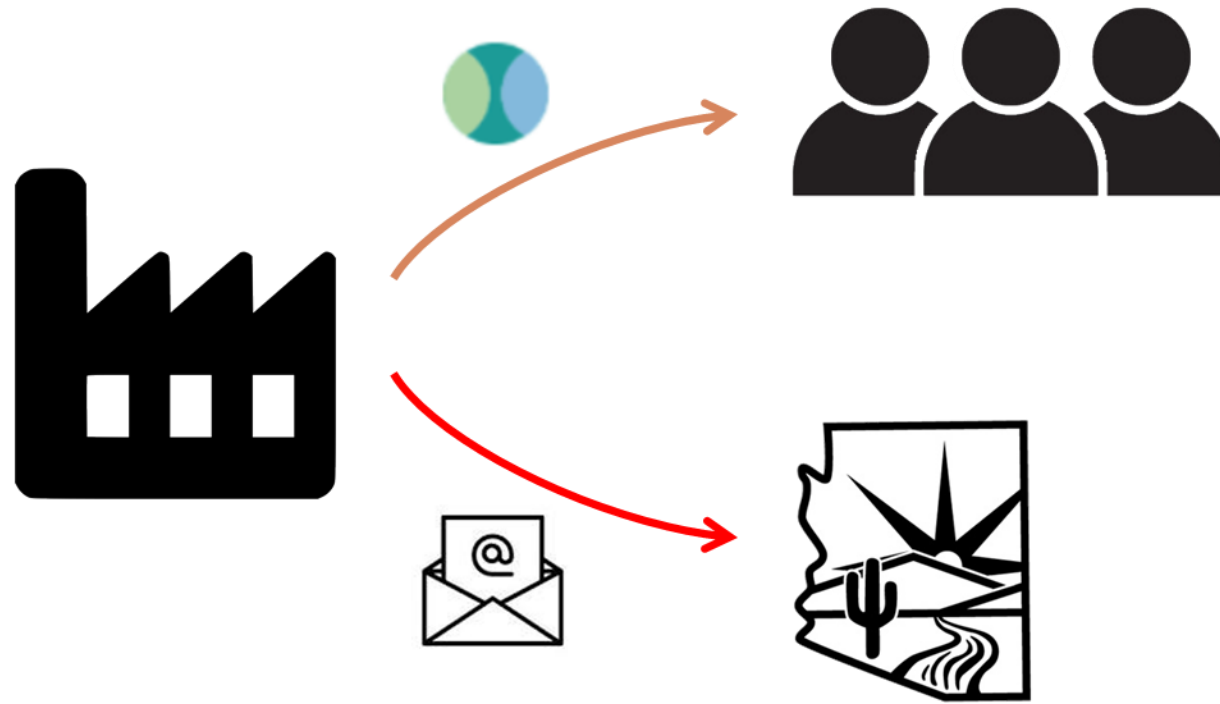# Adaptations (and, Eventually, Customizations)

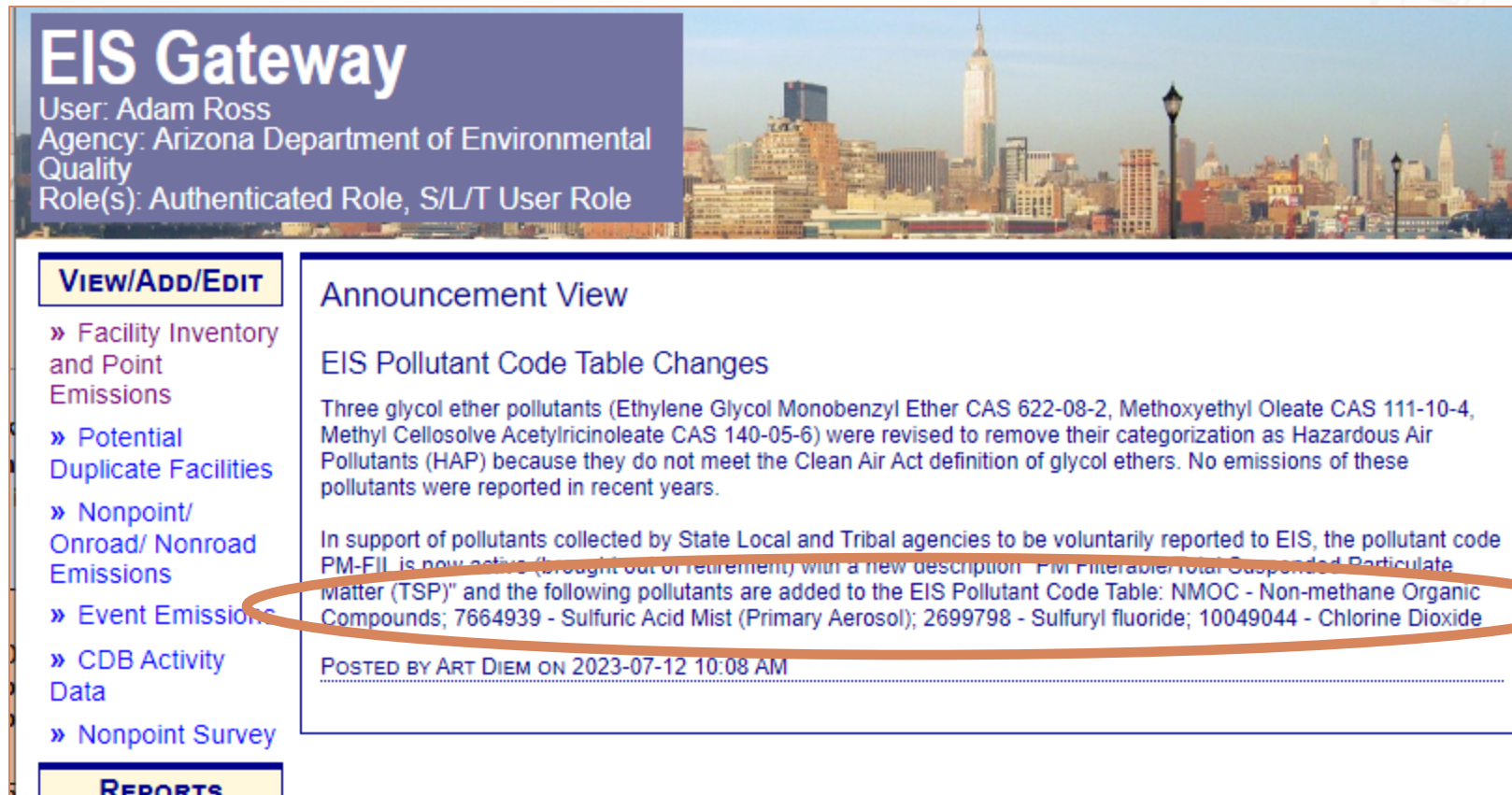CAERS risk: billing exemption flags cannot be encoded. But...

Process Information

Unit ID:	005
Process ID:*	1
Operating Status:*	Operating
Process Description:	MISC ROAD FUGITIVES
Operating Status Year:	2022
SCC:*	30501024 — Search for Source Classification Code
SCC Description:*	Industrial Processes > Mineral Products > Coal Mining, Cleaning, and Material Handling > Hauling
Comments:	Billing-exempt

CAERS risk: data submitted to CAERS cannot be held confidential. But...

Customizations

CAERS risk: non-EIS pollutants cannot be reported. But...

Customizations

CAERS risk: onboarded agencies cannot directly access the CAERS database. But...

Data Access Solution
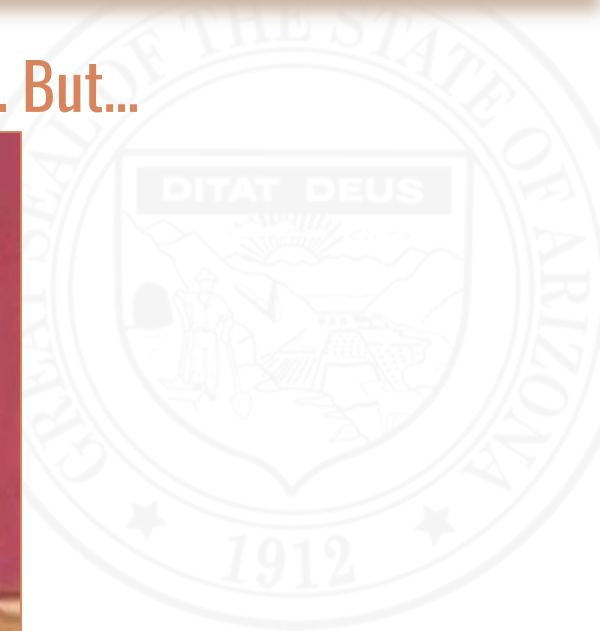
Combined Air Emissions Reporting System – CAERS

? Support

| Version: 1.0 - Supported | Data Exchange Status: Flowing | Download full package ▸ |

Data Exchange Description

Industry partners can utilize the Combined Air Emissions Reporting System (CAERS) to report air emissions to meet reporting requirements. CAERS provides outbound data across services that enable State, Local, and Tribal authorities to download air emissions data that was reported in CAERS. These outbound services provide CAERS reporting data using the same JavaScript Object Notation (JSON) schema used by industry partners within the CAERS application to upload reporting data.

CAERS has exposed REST publishing capabilities for the CAERS State, Local, Tribal (SLT) partner community. This capability allows SLTs to retrieve air emissions data that was reported by their industry in JSON format. All service requests must be accompanied by a valid OAuth security token. Information on how to request OAuth security credentials can be found in the Flow Configuration Document (FCD) below.

Contact

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▸ gamas.julia@epa.gov

Profiles and Progres[s]

Click the map to find conta[ct] information for Exchange Network Partners and to s[ee] Partners' progress toward[s]

Version Notes

Status: Supported

The resources and documentation for the CAERS APIs have been approved for use on the Exchange Network. Implementation resources for the most recent version follow.

Resources

▸ Flow Configuration Document
▸ Data Exchange Template
▸ Example JSON File
▸ OpenAPI Specification
▸ Swagger UI (v1.0): (https://cdxapps.epa.gov/cef-web/swagger-ui/index.html)

[CAERS API's home on the Exchange Network](#)

To use v1.0 of the off-the-shelf data client, you will need:

- CAERS API credentials
- Some basic familiarity with SQL
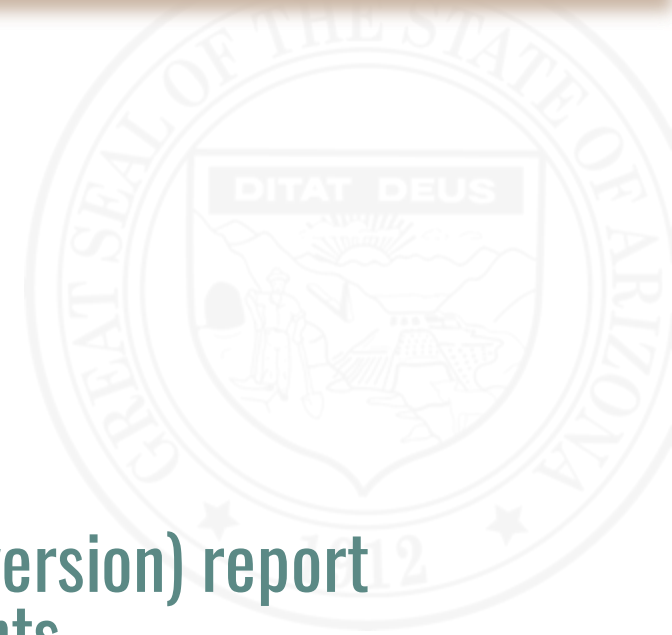- Ideally, an Amazon Web Services account ($)

Lessons Learned
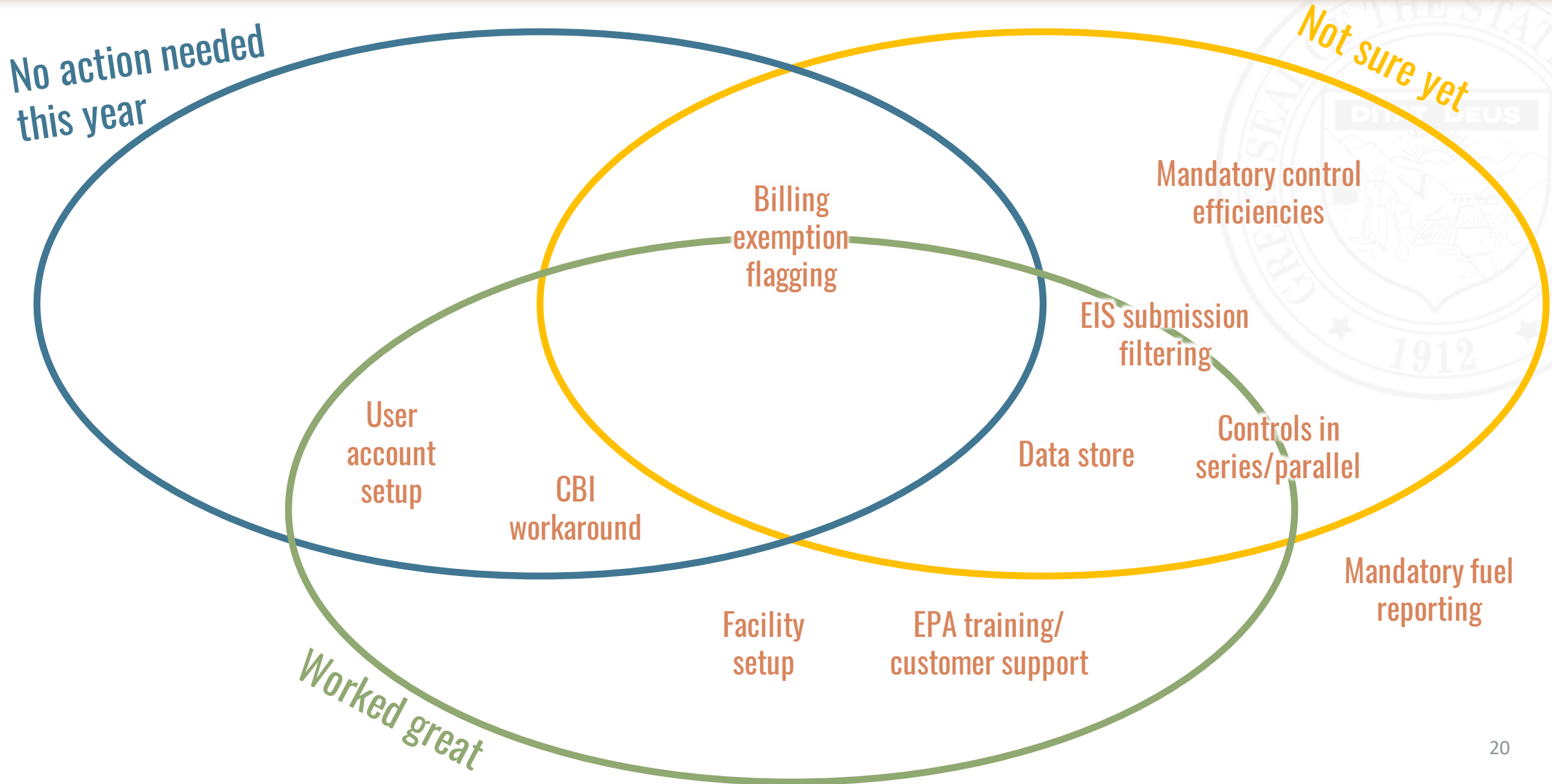
- 2022 Inventory Year
- 9 major sources
- 2 minor sources

Real-world testing:
- Facility setup
- User account setup
- EPA training/customer support
- New (relative to our old SLEIS version) report content options and requirements
- CBI and billing exemption workarounds
- Data store
- EIS submission

No action needed this year

Not sure yet

Worked great

Billing exemption flagging

Mandatory control efficiencies

EIS submission filtering

User account setup

CBI workaround

Data store

Controls in series/parallel

Facility setup

EPA training/ customer support

Mandatory fuel reporting

Thank you! Questions?

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of Environmental Quality

Clean Air, Safe Water,
Healthy Land for Everyone

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