Combined Air Emissions Reporting Project "Common Emissions Form" Pilot

INTERNATIONAL EMISSIONS INVENTORY CONFERENCE 2019

DALLAS, TX

JULY 29TH – AUGUST 2ND

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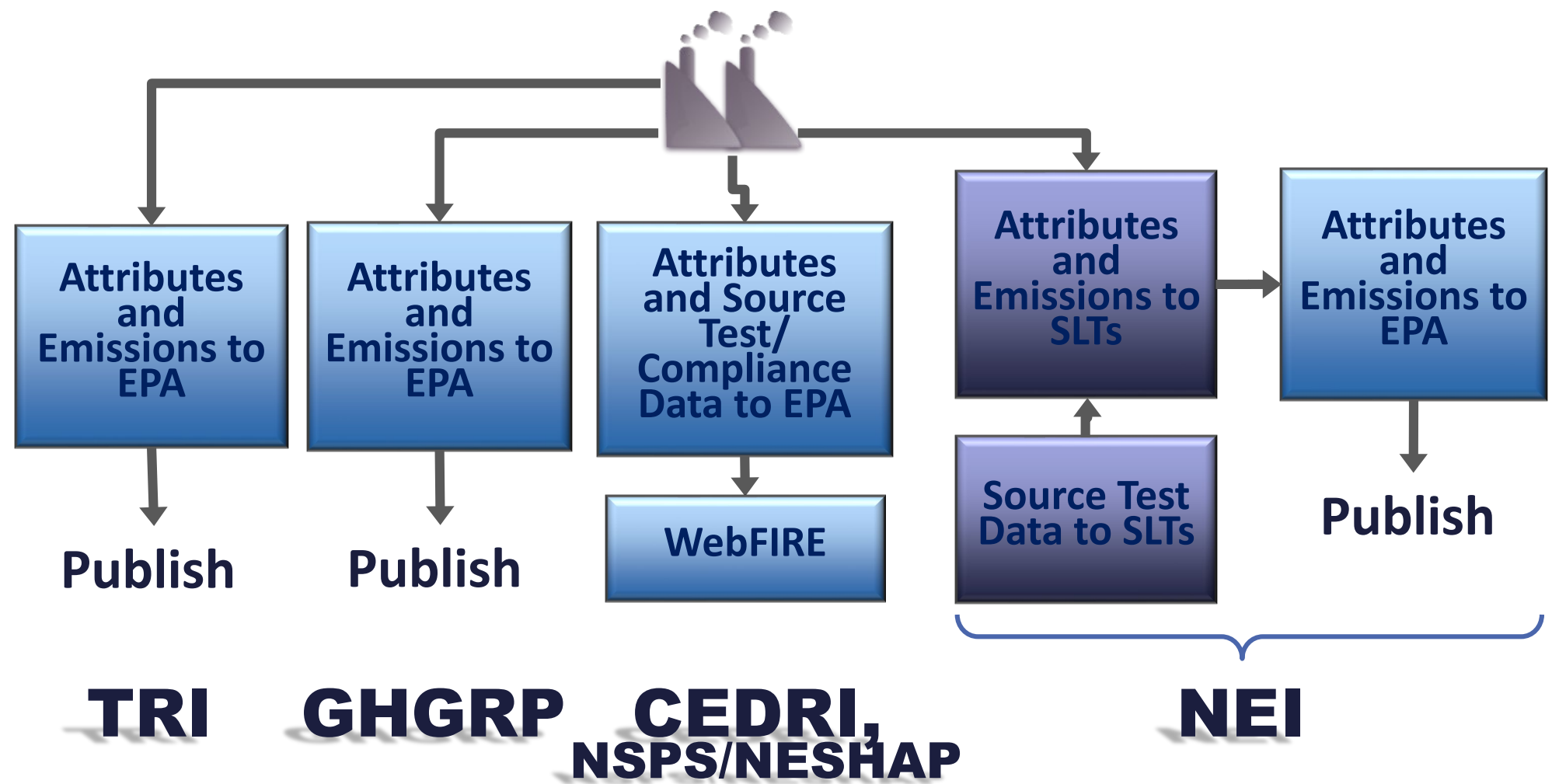
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Raleigh, NC 27603

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ME DEP
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Goals of this talk

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1. Explain CAER project and the "Common Emissions Form" (CEF) initiative

2. Share draft wireframes for the CEF (work still in progress)

3. Get your input

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What are we building and why?

What: "Common Emissions Form" to streamline air emissions reporting.

Why: Emissions data being reported separately, at different times for:

- Greenhouse Gas Reporting Program (GHGRP),

- National Emissions Inventory (NEI),

- Toxics Release Inventory (TRI),

- Sector/Industry specific via the Compliance and Emissions Data Reporting Interface (CEDRI),

- State/local/tribal (SLT) specific programs

Consequences: duplication and inconsistent data

What are we building and why?

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Duplication: time savings from simultaneous reporting of shared data elements

- Data for the same facility – e.g., company name & address
- Input data to emissions estimation:
    - activity data – e.g., BTU of coal, operating hours
    - emission factors – e.g., tons of VOC per MMBTU of coal
- Identical/related pollutants among programs (e.g., toxics to TRI and NEI).

Inconsistent data: reduction of data mismatch between programs for same facility and staff time spent on data reconciliation.
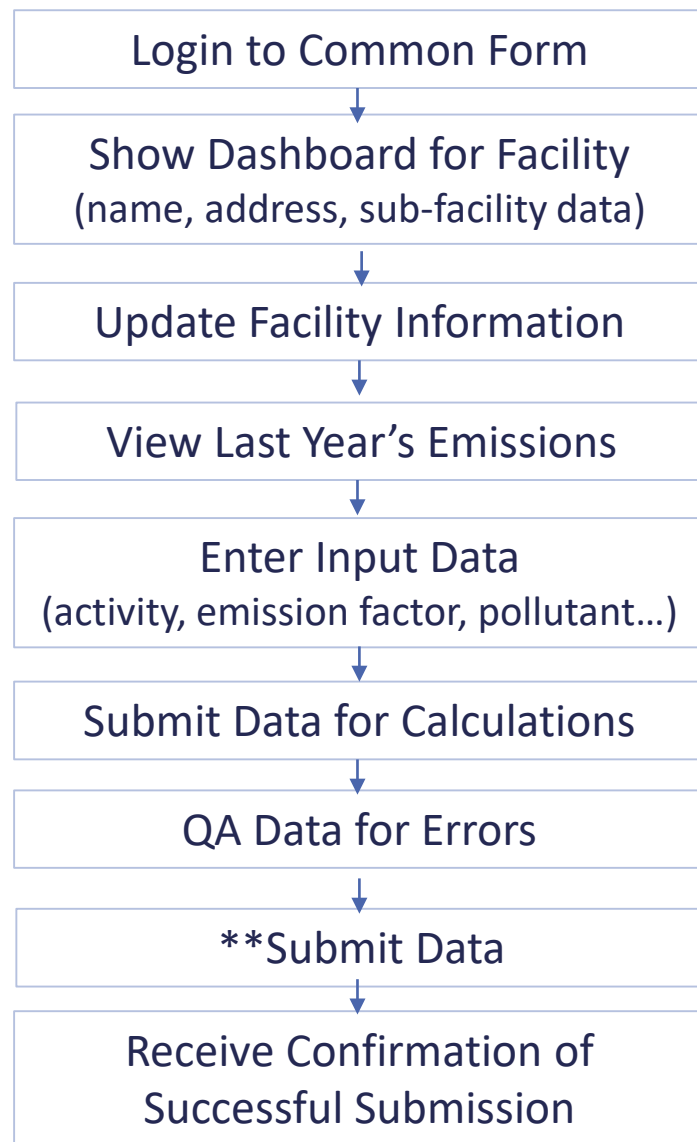
![E-ENTERPRISE for the environment — Modernizing the business of environmental protection](logo)

An electronic reporting *tool* that allows facilities to report their emissions data to more than one federal (NEI, TRI, GHGRP & CEDRI*) and state program at the same time.
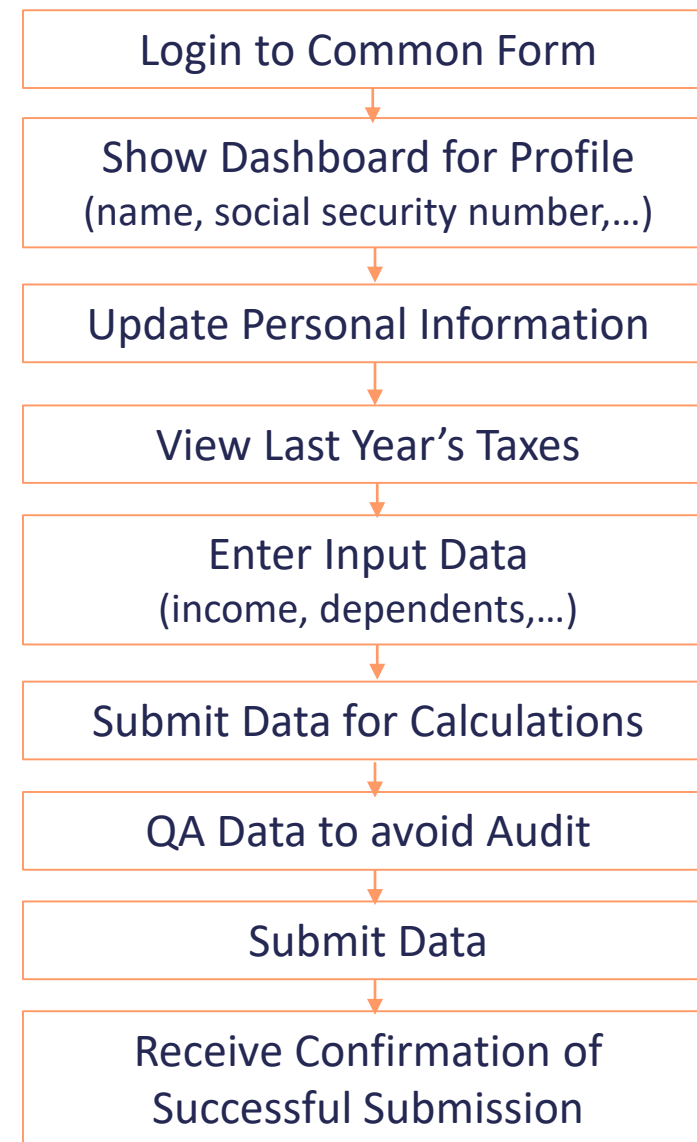
Users:
- Facilities reporting
- SLT authorities who review NEI data **

*CEDRI is a system that collects data from a number of sector specific air rules including: RTRs, NSPS: 60, 62, 63, & MATS

Combined Air Emissions Reporting

- Login to Common Form
- Show Dashboard for Facility (name, address, sub-facility data)
- Update Facility Information
- View Last Year's Emissions
- Enter Input Data (activity, emission factor, pollutant…)
- Submit Data for Calculations
- QA Data for Errors
- **Submit Data
- Receive Confirmation of Successful Submission

Online Tax Reporting

- Login to Common Form
- Show Dashboard for Profile (name, social security number,…)
- Update Personal Information
- View Last Year's Taxes
- Enter Input Data (income, dependents,…)
- Submit Data for Calculations
- QA Data to avoid Audit
- Submit Data
- Receive Confirmation of Successful Submission

Summary of work so far

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The Product Design Team (PDT), composed of EPA staff from various programs and SLT staff, has gathered requirements:
- Research and Development teams (Phases I & II, 2017 to 2018)
- Ongoing discussions on biweekly calls

More work is needed but we have enough to start building the CEF

See background slides for more information about the PDT.

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CAER CEF Construction

"First Year Pilot" by Fall 2019:

- One "piloting state", Georgia, and 5 pilot facilities
- One, and *only one* workflow: TRI-NEI-SLT
- Pilot state without/does not want to keep reporting system
- All steps without all features (e.g., no Confidential Business Information, not all calculation methods)
- Not available for "real" reporting (staging only)
- Interaction but no substitution for current systems (TRI-MEweb or EIS)

Minimum Viable Product by June 2020:

All of the above plus additional features, plus available for the 2019 inventory year

Guiding Principles

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Agile (create in increments, test and improve) vs. waterfall (create exhaustively, then see if it works…)

Essential functionality (all steps) vs. exhaustive (one step exhaustively)

Customizable, flexible: many states may have unique needs, different workflows

Prioritization of input:

1. Essential for federal programs and SLTs (see PDT background slides)
2. GA needs
3. Continuous improvement through SLT and industry feedback

Clean, simple & intuitive: exactly what's needed in each screen (no clutter or excess links), minimum of steps to desired screen, large manuals unnecessary

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Guidelines for providing input

1. Focus on **critical** vs. nice to have

2. Focus on **functionality** versus look and feel (must be EPA and 508 compliant)

3. Provide **specific use cases to your state/industry**

4. Ask **clarification questions during demo**, input during Q&A

Facility Dashboard (Industry User)

Combined Air Emissions Reporting Form

Certifier - JOHNSMITH 👤 Logout

My Facilities | Help

My Facilities

Gilman Building Products, LLC
173 Peachtree Rd
Fitzgerald, GA 31750

[Review Facility Data] [Begin / Continue Reporting]

Tiarco Chemical
1350 Tiarco Dr
Dalton, GA 30720

[Review Facility Data] [Begin / Continue Reporting]

[Add a Facility]

My Notifications

▶ Report rejected by SLT

▶ Report submitted to SLT

▼ Report submitted to SLT

Your report for Gilman Building Products, LLC has been successfully submitted to the participating SLT.

To view a copy of record for this submission, click here.

View Facility Information (Industry User)

Emissions Report Dashboard (Industry Preparer)

Combined Air Emissions Reporting Form

Preparer - JANEDOE   Logout

My Facilities > **Emissions Report Dashboard**   Help

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

Emissions Reports

2019 Report	**Continue | Run Quality Check | Notify Certifier**
2018 Report	**View | Download**
2017 Report	**View | Download**
2016 Report	**View | Download**

Emissions Report Dashboard (Industry Certifier)

My Facilities > **Emissions Report Dashboard**   Help

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

Emissions Reports

2019 Report	**View	Certify	Return to Preparer**
2018 Report	**View	Download**
2017 Report	**View	Download**
2016 Report	**View	Download**

Facility Information (Industry User)

Combined Air Emissions Reporting Form

Preparer - JANEDOE Logout

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

- **Report Summary**
- ▼ **Facility Inventory**
  - **Facility Information** ‹
  - **Emissions Units**
  - **Release Points**
  - **Control Devices**
- ▶ **Emissions Inventory**

| ○───────○───────○───────○ |
| Report Facility & | Perform | Submit | Approved |
| Emissions Information | Quality Checks | to SLT Authority | by SLT Authority |

Facility Information

Facility EIS ID:	9758611	**Latitude:**	31.70528	**Operating Status:**	Operating
Facility Name:	Gilman Building Products, LLC	**Longitude:**	-83.20667	**BIA Code:**	- - - - -
Facility Address:	173 Peachtree Rd Fitzgerald, GA 31750 Ben Hill County	**Mailing Address:**	PO Box 65213 Fitzgerald, GA 31750	**NAICS Code(s):**	321999

Facility Contact Information

Contact Type:	Responsible Official	**Phone Number:**	319-319-3119 x001
Contact Name:	John Smith	**Email Address:**	johnsmith@gilmanbuilding.com
Contact Address:	173 Peachtree Rd Fitzgerald, GA 31750 Ben Hill County	**Mailing Address:**	173 Peachtree Rd Fitzgerald, GA 31750 Ben Hill County

Facility Contact Information

Contact Type:	Preparer	**Phone Number:**	319-319-3119 x017
Contact Name:	Jane Doe	**Email Address:**	janedoe@gilmanbuilding.com
Contact Address:	173 Peachtree Rd Fitzgerald, GA 31750	**Mailing Address:**	173 Peachtree Rd Fitzgerald, GA 31750

Emission Unit Details (Industry User)

Combined Air Emissions Reporting Form

Certifier - JOHNSMITH · Logout

My Facilities > Emissions Report Dashboard > 2019 Emissions Report | Help

Gilman Building Products, LLC
173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Summary

▶ Facility Inventory

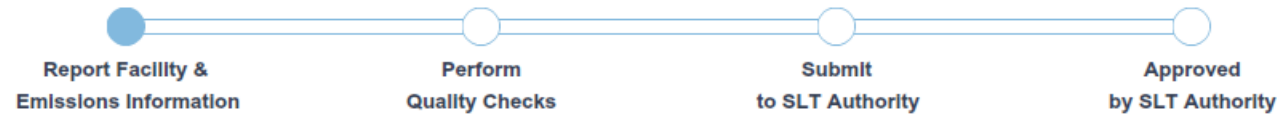▼ Emissions Inventory

Boiler 001 ‹

Process 007

Control 004

Release Point 002

Condenser 001

Generator 001

Generator 002

Incinerator 001

Report Facility & Emissions Information — Perform Quality Checks — Submit to SLT Authority — Approved by SLT Authority

Emissions Unit Information

Unit ID:	0001	**Unit Type Code:**	Boiler	**Unit Status:**	Operating
Unit Description:	Boiler 001	**Unit Design Capacity UoM:**	UoM	**Unit Status Year:**	2019
UoM Description:	Description of Unit of Measure Code				

Processes Associated With This Emissions Unit

Process Description ⇕	SCC ⇕	
Process 007	10320587	🗑
		＋

Process Details (Industry User)

Combined Air Emissions Reporting Form

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Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Summary

▸ **Facility Inventory**

▾ **Emissions Inventory**

  Boiler 001

    Process 007   ‹

      Control 004

        Release Point 002

  Condenser 001

  Generator 001

  Generator 002

  Incinerator 001

○ Report Facility & Emissions Information — ○ Perform Quality Checks — ○ Submit to SLT Authority — ○ Approved by SLT Authority

Process Information

Process ID:	0001	**SCC:**	10320587	**Process Status:**	Status
Process Description:	Process 007	**Aircraft Engine Code:**	Code	**Process Status Year:**	2019

Operating Details

Avg. Days Per Week:	7	**Hours Per Period:**	2736	**Inventory Year:**	2019
Avg. Hours Per Day:	24	**Winter Operating Days:**		**Summer Operating Days:**	
Avg. Weeks Per Year:	52	**Spring Operating Days:**		**Fall Operating Days:**	

Reporting Period

Reporting Period:	Annual	**Operating Type:**	Permitted	**Calculation Param.:**	Code
Calculation Material:	Material	**Calculation Value:**	Throughput Value	**Calculation UoM:**	UoM

Emissions Associated With This Process

Pollutant Name ⇕	CAS Number ⇕	Total Emissions ⇕	

Release Points Associated With This Process

Release Point ID ⇕	Release Type ⇕	Avgerage % Emissions ⇕	

EPA Home | MyCDX | Combined Air Emissions Reporting (CAER) | CAER Program Contacts

Process Details (Industry User)

Combined Air Emissions Reporting Form

Certifier - JOHNSMITH Logout

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Summary

▸ **Facility Inventory**

▾ **Emissions Inventory**

  Boiler 001

    Process 007   ‹

      Control 004

        Release Point 002

  Condenser 001

  Generator 001

  Generator 002

  Incinerator 001

Process Information

Process ID:	0001	**SCC:**	10320587	**Process Status:**	Status
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Reporting Period

Reporting Period:	Annual	**Operating Type:**	Permitted	**Calculation Param.:**	Code
Calculation Material:	Material	**Calculation Value:**	Throughput Value	**Calculation UoM:**	UoM

Emissions Associated With This Process

Pollutant Name	CAS Number	Total Emissions	
Ammonia	7664-41-7		🗑
Toluene ✔	108-88-3	17 TONS	🗑
			➕

Release Points Associated With This Process

Release Point ID	Release Type	Avgerage % Emissions	
Release Point 002	Vertical	100%	🗑
			➕

Add New Emission (Industry User)

My Facilities > Emissions Report Dashboard > 2019 Emissions Report — Help

Gilman Building Products, LLC
173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Summary

▸ **Facility Inventory**

▾ **Emissions Inventory**

   Boiler 001

     Process 007 ‹

     Control 004

       Release Point 002

   Condenser 001

   Generator 001

   Generator 002

   Incinerator 001

Add an Emission ✕

Emission Information

Process ID:	0001	**Reporting Period:** Annual	**Operating Status:** Operating
Calc. Parameter:	Output	**Calculation Value:** 200	**Calculation UoM:** TONS

Pollutant Name: [ ] **CAS/ID:** [ ] [Search]

Calc. Method: [Select ▾]

Emission Factor: [ ] [Search] **Desc.:** [ ]

Total Emissions: [ ] **UoM:** [ ]

Comments: [ ]

[Cancel] [Save]

(partially obscured right panel): Approved — LT Authority — ...ess Status: Status — ...ess Status Year: 2019 — ...tory Year: 2019 — ...mer Operating Days: — ...Operating Days: — This Process — Avg. % Emissions — 100%

Control Details (Industry User)

Combined Air Emissions Reporting Form

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Certifier - JOHNSMITH Logout

My Facilities > Emissions Report Dashboard > 2019 Emissions Report   Help

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Summary

▶ Facility Inventory

▼ Emissions Inventory

   Boiler 001

     Process 007

      Control 004   ‹

       Release Point 002

   Condenser 001

   Generator 001

   Generator 002

   Incinerator 001

● Report Facility & Emissions Information	○ Perform Quality Checks	○ Submit to SLT Authority	○ Approved by SLT Authority

Control Device Information

Control ID:	0004	**Control Description:**	Control 004	**Operating Status:**	Operating
Percent Capture:	74%	**Percent Control:**	54%		

Control Device Assignment

Control Measure ⇕	Connection Type ⇕	Control Order ⇕	
Process 007	Serial	2	🗑
Release Point 002	Serial	1	🗑
			＋

Controlled Pollutants

Pollutant Name ⇕	CAS Number ⇕	Reduction Efficiency ⇕	
Ammonia	7664-41-7	33%	🗑
Toluene	108-88-3	21%	🗑
			＋

Release Point Details (Industry User)

Combined Air Emissions Reporting Form

Certifier - JOHNSMITH Logout

My Facilities > Emissions Report Dashboard > 2019 Emissions Report   Help

Gilman Building Products, LLC

173 Peachtree Rd
Fitzgerald, GA 31750

2019 Emissions Report

Report Facility &
Emissions Information

Perform
Quality Checks

Submit
to SLT Authority

Approved
by SLT Authority

Report Summary

▶ Facility Inventory

▼ Emissions Inventory

    Boiler 001

      Process 007

       Control 004

        Release Point 002 ‹

    Condenser 001

    Generator 001

    Generator 002

    Incinerator 001

Release Point Information

Field	Value	Field	Value	Field	Value
Release Point ID:	0001	**Release Point Type Code:**	Code	**Release Point Status:**	Operating
Stack Height Measure:	Measure	**Release Point Description:**	Release Point 002	**Release Point Status Year:**	2019
Stack Height UoM:	UoM Code	**Exit Gas Flow Rate Measure:**	Measure	**Fugitive Line Point 1 Lat.:**	Lat
Stack Diameter Measure:	Measure	**Exit Gas Flow Rate UoM:**	UoM Code	**Fugitive Line Point 1 Long.:**	Long
Stack Diameter UoM:	UoM Code	**Exit Gas Temp. Measure:**	Measure	**Fugitive Line Point 2 Lat.:**	Lat
Gas Velocity Measure:	Measure	**Latitude Measure:**	Measure	**Fugitive Line Point 2 Long.:**	Long
Gas Velocity UoM:	UoM Code	**Longitude Measure:**	Measure	**RP Program Sys. Code:**	Code

Processes Associated With This Release Point

Process Description ⬍	SCC ⬍	
Process 007	10320587	🗑
		➕

Submission Review Dashboard (SLT Reviewer User)

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Combined Air Emissions Reporting Form

Reviewer - JOHNDOE Logout

Submission Review Dashboard

Help

Submissions Pending Review

Instructional text will appear here.

🔍 filter

	Facility Name ⬍	Facility ID ⬍	Operating Status ⬍	Industry ⬍	Last Submittal Year	Actions
☐	Test Facility 1	132185	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 2	894654	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 3	642844	Operating	Industry	2016	**Summary** **View Report**
☐	Test Facility 4	21231	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 5	121315	Operating	Industry	2016	**Summary** **View Report**
☐	Test Facility 6	984564	Operating	Industry	2017	**Summary** **View Report**
☐	Test Facility 7	885498	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 8	94654	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 9	32221	Operating	Industry	2018	**Summary** **View Report**
☐	Test Facility 10	984002	Operating	Industry	2016	**Summary** **View Report**
☐	Test Facility 11	65012	Operating	Industry	2018	**Summary** **View Report**

Reject and Return to Facility   **Accept and Submit to EIS**

My Notifications

39 Pending Review

518 Accepted

7 Rejected

▶ **13 new submissions for review**

▼ **Potential outlier detected**

The report for Gilman Building Products, LLC indicates an incease in emissions of 3,400% over the prior year's reported total.

To view and review this submission, click here.

EPA Home | MyCDX | Combined Air Emissions Reporting (CAER) | CAER Program Contacts

Submission Summary Popup (SLT Reviewer User)

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Combined Air Emissions Reporting Form

Reviewer - JOHNDOE Logout

Submission Review Dashboard   Help

Submission Summary   ✕

Facility: Test Facility 3   **Operating Status:** Operating   **Report Year:** 2019

Pollutant	Type	Fugitive Amount	Stack Amount	Units	2019 Reported Tons	2018 Reported Tons	Last Submittal Year
CO - Carbon Monxide	CAP	0	31	Tons	31	48	2018
NOx - Nitrogen Oxides	CAP	0	4	Tons	4	12	2018
SO2 - Sulfur Dioxide	CAP	74	6	Tons	80	89	2018
VOC - Volatile Organic Compounds	CAP	0	139	Tons	139	--	2016
Ammonia	HAP	241	17	Tons	258	212	2018
Flourene	HAP	0	31	Tons	31	38	2018
Nickel	HAP	52	0	Tons	52	--	2016
Toluene	HAP	33	4	Tons	37	74	2018
Total Emissions	--	--	--	--	**632**	**473**	--

Print   **Close**

EPA Home | MyCDX | Combined Air Emissions Reporting (CAER) | CAER Program Contacts

Questions/Discussion

- Are there any critical items missing from any of the screens?

- What kinds of flags/QA checks would you want to be able to see?

- What kinds of notifications would you want to be able to receive and how (email, within a specific page, other)?

Additional comments can be provided at the EPA table and/or sent to: caer@epa.gov.

FAQs & Background Slides

Frequently Asked Questions

Can I take advantage of the CEF and still keep my SLT system? Yes. For pilot and MVP we are building one workflow. However, we have anticipated that there may be many workflows in the future. Background slide 37 talks about 4 workflows for NEI data, for example.

I report many facilities and entering one at a time would still be time consuming. Will there be bulk upload? Yes. We are working on that feature so that we can provide a template or schema for bulk uploads.

What about Confidential Business Information (CBI)? One of our PDT R&D teams researched CBI, and we are designing the CEF in such a way that CBI data can be entered to perform calculations, but that data is not sent to EPA. You'd work with your SLT to establish the need for CBI in the CEF.

Will states be obligated to use the CEF? A state may opt-in to the CEF if they would like to. We hope to create a product that users will want to use, but it will not be mandatory.

Frequently Asked Questions

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Are there any plans to let facilities opt out of TRI and GHG reporting if they report this data as part of the NEI?

There are no plans to change the TRI or GHG reporting rules to allow for "opt out" of those rules. The goal of the CEF is to enable the facility to enter their data a minimum number of times to report to all the programs. For example, for TRI reporting, the CEF will allow for the automatic transfer of state/NEI reported emissions to pre-populate the air emissions portion of the TRI online form, so that very little additional effort for air reporting for TRI would be needed.

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CAER Background

CAER was started to reduce and eliminate duplicative reporting of emissions data by industry:

Lean Event (February 2015) on Air Emissions Reporting
- Industry currently reports to 4 federal programs, each with their own workflows
  - National Emissions Inventory, including states/locals/tribes (SLT)s
  - Toxics Release Inventory (TRI)
  - Greenhouse Gas Reporting Program (GHGRP)
  - Compliance and Emissions Data Reporting Interface (CEDRI)
- ~ 50 + individual steps, much of the data entered is the same
  - E.g., facility data, some activity data used to estimate emissions such as fuel used
- Expected <u>return on investment</u>: $28 million annually, time and effort savings to
  - Industry: Easier to report emissions to several places at once
  - SLTs, who collect and QA some of the data, and EPA

CAER Background
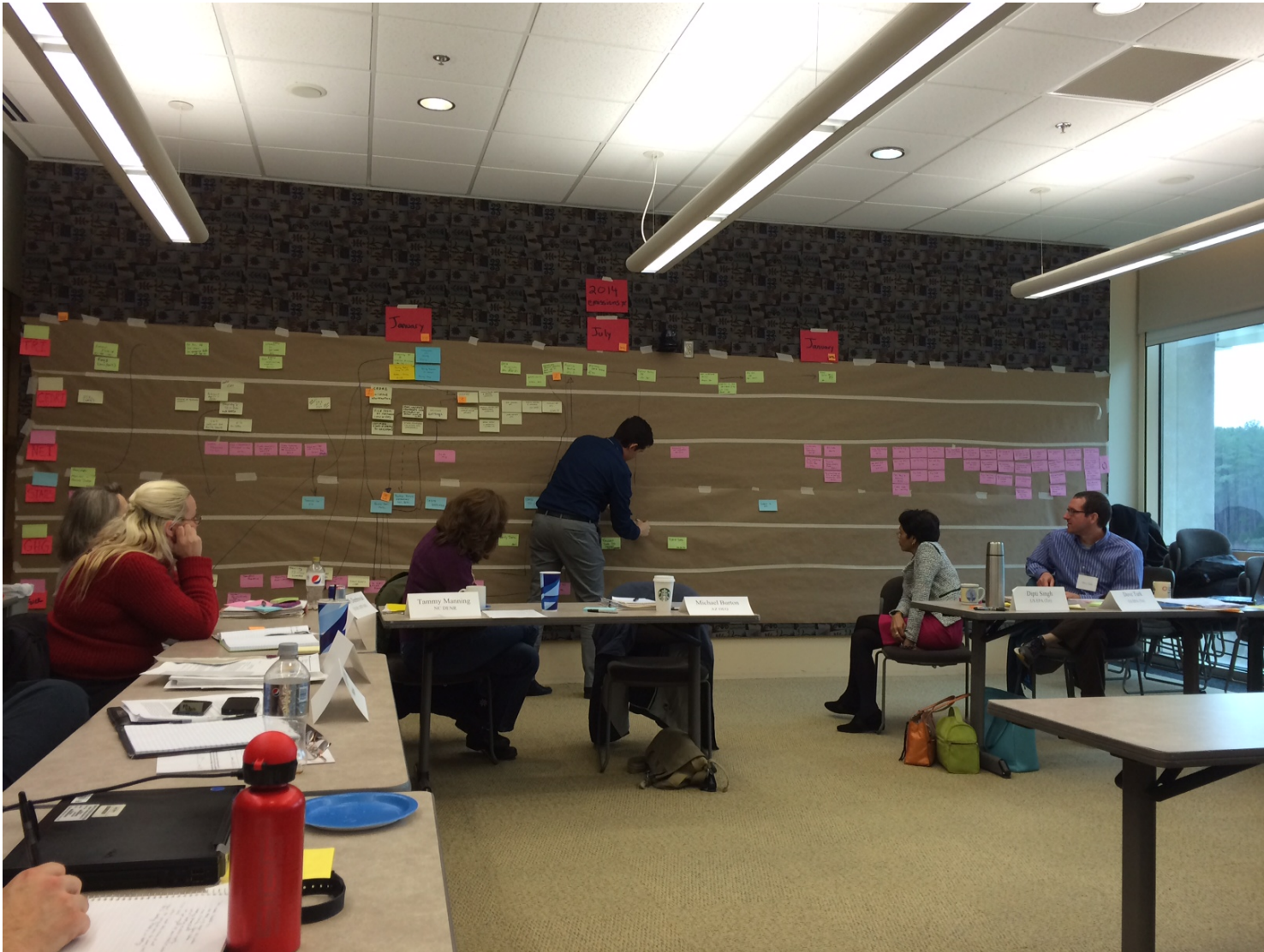
Current State

CAER Background
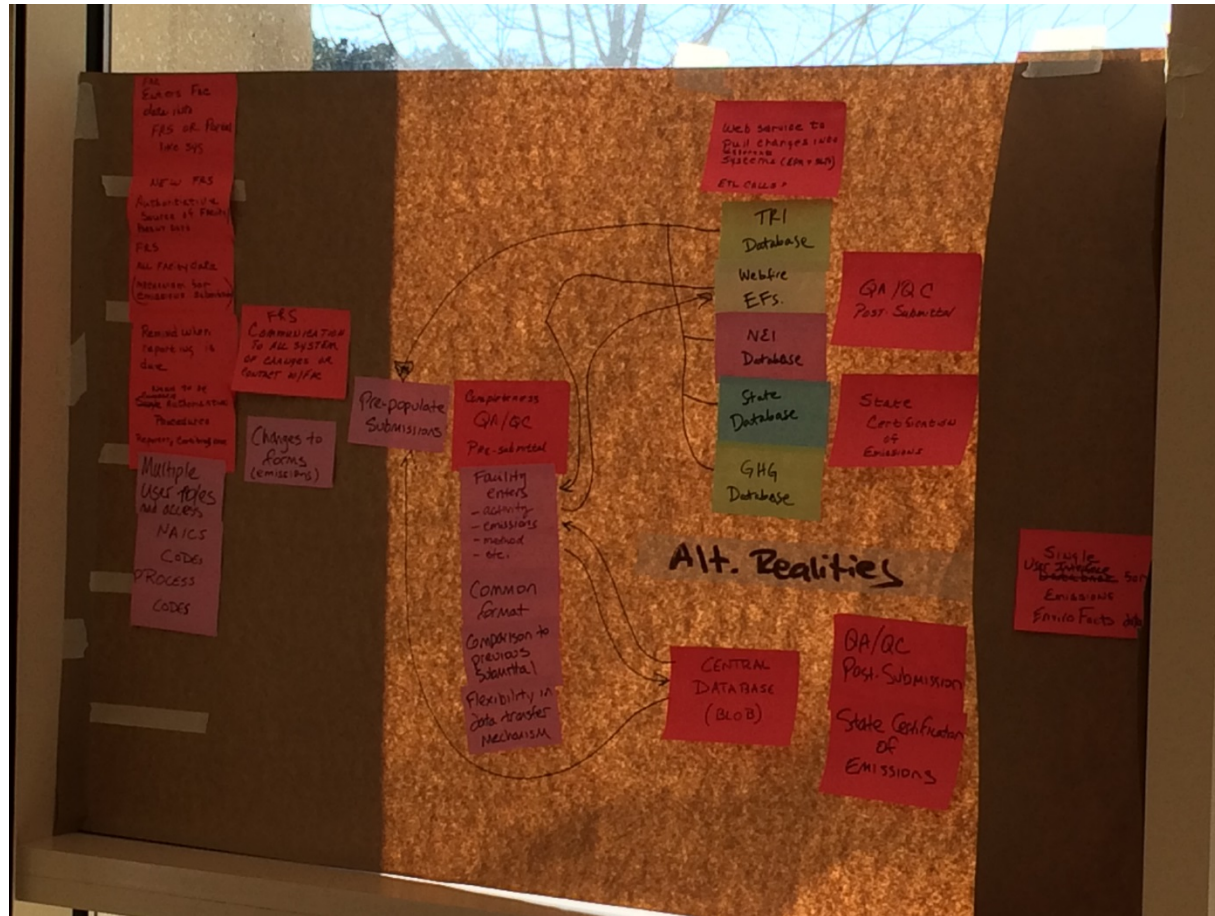
Future State

Four Major Federal Air Programs

Toxics Release Inventory (TRI) via TRI-MEWeb:

- 21,000 facilities reporting annually
- 80,000 XML files with over 250 reporting elements per file

National Emissions Inventory (NEI) via Emissions Inventory System (EIS) in 2014:

- Facilities report to their SLT first, then SLT reviews and submits to EPA
- 75 SLT agencies reporting about 86,776 facilities
- 1,477 point source emissions submissions & 196.27 KB is the average submission size
- 1,600 facility data changes & 86.27 KB is average size per submission

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Four Major Federal Air Programs

Greenhouse Gas Reporting Program (GHGRP) via Electronic Greenhouse gas Reporting Tool (E-GGRT), annually:

- 8,000 facilities and about
- 1.5 GB for all reports per year (about 150-200 KB per report)

Risk & Technology Review (RTR) and other stack test results via Electronic Reporting Tool (ERT) to Compliance and Emissions Data Reporting Interface (CEDRI) for review:

- 5,900 facilities and 31,000 submissions since 2014, and counting as rules change (10,000 reports this year alone, 8,000 in 2017).
- 43,220 records (size: average 4,062 KB, minimum 1 KB, maximum 589,284 KB)
- CEDRI uses the most storage and bandwidth out of all the OAQPS systems.
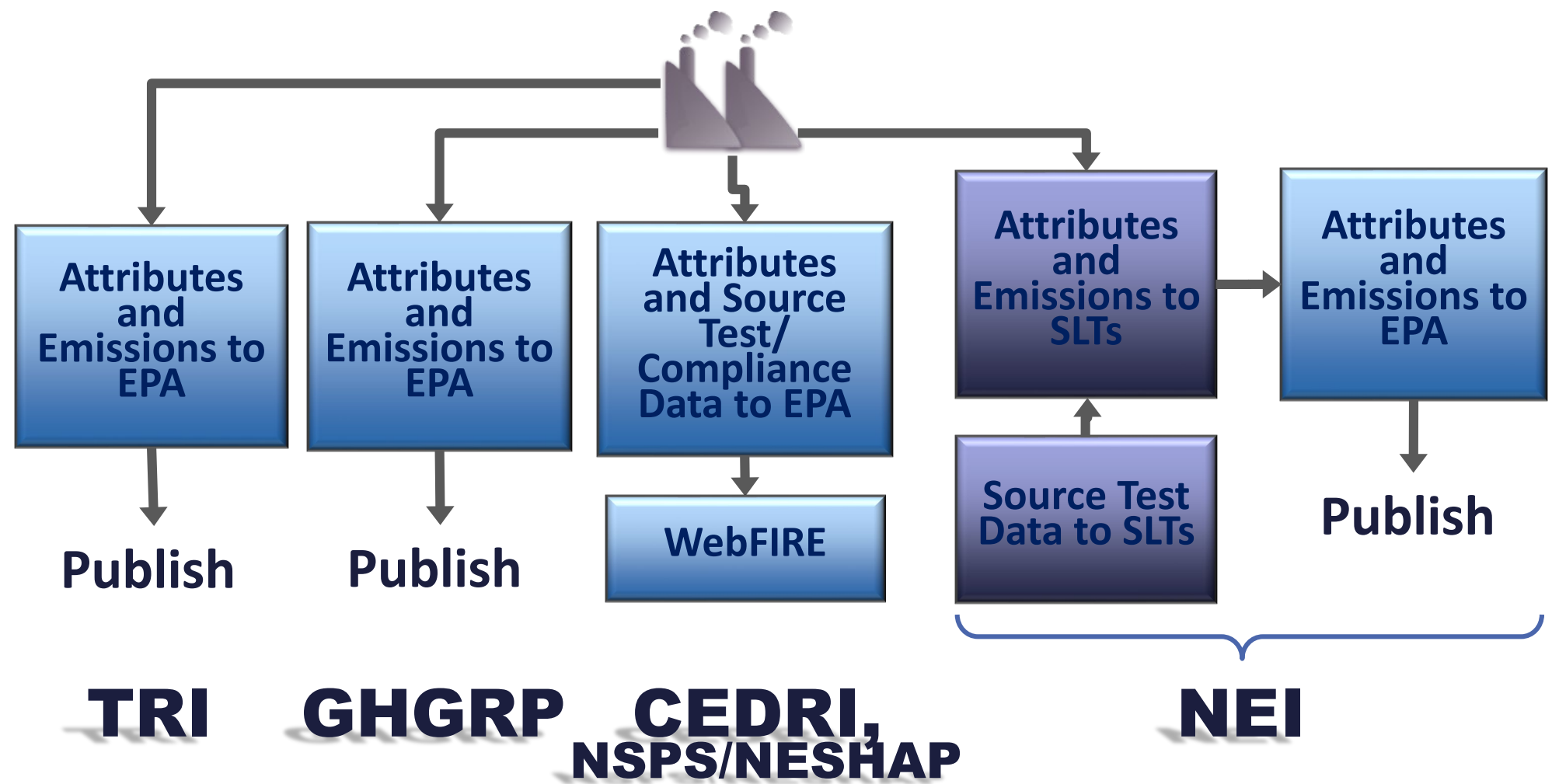
What are we building and why?

What: "Common Emissions Form" to streamline air emissions reporting.

Why: Emissions data being reported separately, at different times for:

- Greenhouse Gas Reporting Program (GHGRP),
- National Emissions Inventory (NEI),
- Toxics Release Inventory (TRI),
- Sector/Industry specific via the Compliance and Emissions Data Reporting Interface (CEDRI),
- State/local/tribal (SLT) specific programs

Consequences: duplication and inconsistent data

What are we building and why?

Duplication: time savings from simultaneous reporting of shared data elements

- Data for the same facility – e.g., company name & address
- Input data to emissions estimation:
  - activity data – e.g., BTU of coal, operating hours
  - emission factors – e.g., tons of VOC per MMBTU of coal
- Identical/related pollutants among programs (e.g., toxics to TRI and NEI).

Inconsistent data: reduction of data mismatch between programs for same facility and staff time spent on data reconciliation.

Proposed "Future State" Concept

A "Common Form" approach supports a single point of reporting for programs that participate.

Common Reporting

Shared

Common Form

Facility Attributes

Emission Data

Unique Program Reporting Requirements
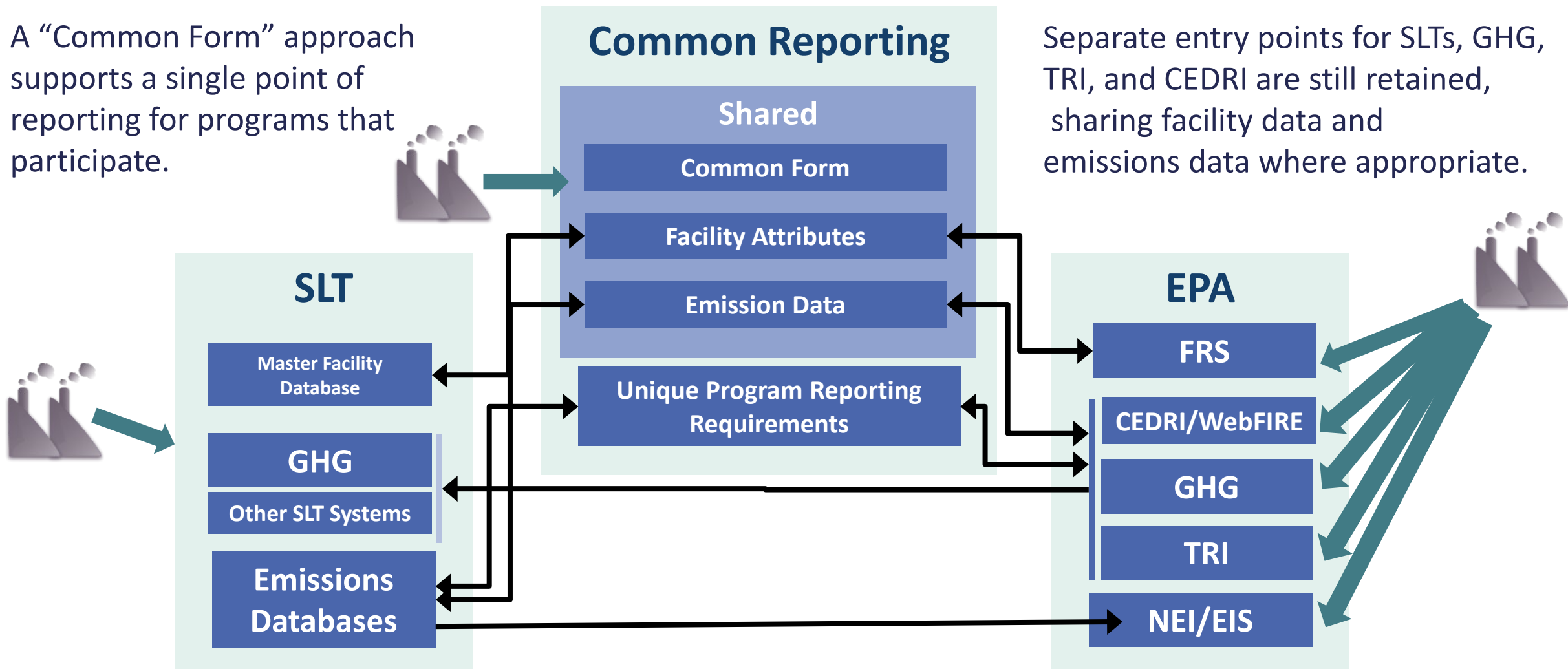
Separate entry points for SLTs, GHG, TRI, and CEDRI are still retained, sharing facility data and emissions data where appropriate.

SLT

Master Facility Database

GHG

Other SLT Systems

Emissions Databases

EPA

FRS

CEDRI/WebFIRE

GHG

TRI

NEI/EIS

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Benefits of Streamlined Reporting

- Reduced industry and SLT burden for air emissions reporting
- Consistent information across air emissions programs
- Improved timeliness and transparency of data
- Improved data quality
- Data made more accessible and useable
- More timely decision making supported

Further details found at: https://www.epa.gov/e-enterprise/e-enterprise-combined-air-emissions-reporting-caer

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Air Emissions Data Requirements

Broad categories of data of interest across programs:

- **Air emissions:** activity data (e.g., fuels burnt, materials used), emission factors, estimation methods – equations
- **Reporting codes:** control codes, pollutant codes, units of measure, source classification codes, etc.
- **Facility and sub-facility:** facilities, units, processes, release points, controls

Differences amongst programs:

- *Much* shared data, *but not all*, and some similar but not identical
  - E.g., different levels of resolution: facility (TRI) versus sub-facility (NEI)
  - E.g., different calculation method codes for the same calculation method.
- Many *states with own* air programs: state-specific data requirements, and procedures for reviewing reported NEI data.

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Workflow Cases

Case 1: State interface and backend are retained (Common Form received data from state interface)

- (a) data goes to state first or (b) state and EPA at same time

Case 2: State interface and backend are retained (Common Form pushes data to state interface)

- (a) data goes to state first or (b) state and EPA at same time

Case 3: Common Form replaces state interface but state database is retained

- (a) data goes to state first or (b) state and EPA at same time

Case 4: State uses Common Form

- State reviews/revises data and signs off prior to use in EIS (new certification process in EIS would be needed)

Cases 1-3 assume the state uses its own system (custom) or SLEIS

Post Lean Event Short Term Wins

In 2016, five projects were aimed at improvements that could be made in a short time frame and would start rendering benefits immediately, without requiring the existence of the CF to become effective:

CAER Implementation plan – the formulation of a path forward to get from the current state to the future state.

WebFIRE search improvements and consolidated expert of industry test data – an initiative to enhance and streamline searches of test data from WebFIRE so that inventory developers can quickly and systematically update and QA data fields.

Identify and eliminate root causes of EPA augmentation for the NEI – an initiative to identify the reasons for the mismatch between inventory data submitted by state, local and tribal (SLT) authorities, and data required by EPA for the NEI. The goal was to reduce the need for EPA staff time (6-12 months) devoted to data augmentation after inventory data submissions.

Web-based Services for Source Classification Codes (SCC) - work that resulted in an SCC search tool and the availability of the "master" SCC table to be available to everyone via web-services. The goal was to provide access to the most updated list of SCCs in a central location, thus eliminating time and effort to find the correct list of SCCs. See: epa.gov/scc

Data dictionary and harmonization of codes tables – an effort to identify differences in similar types of codes needed by different programs and creating crosswalks. The goal was to harmonize codes tables across multiple programs where the same types of codes are needed.

For more details, go to: https://www.epa.gov/e-enterprise/phase-1-short-term-wins

Air Emissions Data Requirements

E-Enterprise Facility Team has worked on establishing business rules for (shared) facility data governance

Facility Registry Service (FRS) has worked on the new data model (breaking down the facility into sub-facility components – units, processes, release points, controls)

Emissions Inventory System (EIS)-FRS Team (OAQPS) has worked on the EIS-FRS data transfers.

Webservices for Source Classification Codes (SCCs), codes were moved from EIS to manage codes in one central location; lessons learned for managing other reporting codes via webservices.

WebFIRE (EPA's emission factors database) to be made "webservices able" for the CF.

CAER Product Design Team (PDT) and its Research and Development (R&D) teams, composed of EPA program staff as well as state representatives, has done research on air emissions data requirements, requirements comparisons amongst programs, and issuing recommendations for the CF.

Product Design Research and Development Teams

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Were established as part of the E-Enterprise governance of CAER and include staff from EPA and SLTs:

Phase I (January-October 2017)
- QA & QC
- GHG Mapping Study
- NEI/TRI/SLT Sharing
- Emissions Data Model
- Emission Factors Scoping Study

Phase II (January-October 2018)
- GHG Mapping Study (continued)
- NEI/TRI/SLT Sharing (continued)
- Emissions Data Model (continued)
- Confidential Business Information
- State Emission Factors Compendium

For more details including team reports, see: https://www.epa.gov/e-enterprise/product-design-team

Air Emissions Data Requirements

Highlights from PDT R&D teams most relevant to one-year pilot:

Emissions Data Model

◦ Documented data model with the emissions-related data elements needed to support a common emission form

Emission Factors

◦ Survey of states that identified problems and solutions with SCCs and WebFIRE.

◦ Emission Factor Compendium containing State specific emission factors.

Quality Assurance/Quality Control (QA/QC)

◦ Identified and evaluated a common set of emissions data QA/QC procedures for shared emissions reporting

NEI/TRI/SLT Sharing

◦ Identified and created crosswalks for common pollutants and codes.

Emissions Data Model

Phase I: National survey to determine SLT required data elements, how they process emissions data, and possible interaction with the Common Emissions Form (CEF)

Phase II: Continues the documentation of the emissions-related data elements including the identification of state-specific data elements sufficient to allow for a broader usage by SLTs and EPA CAER programs.

- Research on data elements needed for the CEF:
  - Essential to pilot versus non-essential but necessary in future versions of the form for SLT and NEI
    - Facility data that must be in FRS for the CEF
- Emissions calculator needs that must be met by the CEF

Emission Factors Compendium

Survey to states asking what emission factors they use and how they use them for NEI reporting which pointed to the need for a state-specific database of emission factors that could be shared.

Created business rules for compendium governance, researched venue for the compendium (Virtual Exchange Services in EPA) and recommendations of how the compendium should be used in the CEF.

Pulled together state -specific factors from MN, MI and SC to start the compendium.

Ongoing work (webservices and updates) and discussions soWebFIRE data can also be pulled into the CEF in a similar fashion.

TRI/NEI/SLT

Better defined overlap between TRI and NEI– in terms of numbers of facilities in both programs and quantity of emissions of overlapping pollutants for these facilities overlapping facilities

Quantified emissions differences for overlapping facilities and explored reasons through case studies

Looked at current QA procedures that involve using other program's data for QA (TRI looks at NEI air emissions, NEI looks at TRI reported air waste streams)

Developed crosswalks for common data fields: chemicals (Phase 1), basis of estimate codes and waste treatment codes (Phase 2)

Made recommendations for common form interface and back end calculations that would be needed to support combined air emissions reporting for SLT, NEI and TRI programs

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Quality Assurance/Quality Control

Compilation of QA/QC checks and procedures identified from review of states on the team (WY, VA, NC, SC, GA and AZ), EIS/NEI and TRI.

- Routine automated QA/QC checks from EIS, SLEIS and a few other SLT program systems. Members of the team focused on QA checks done on emissions data, but also some non-emissions data such as ranges for release point dimensions.

- Emissions data accuracy and reasonableness QA/QC checks: not broadly applied in automated/electronic manner, but rather as "engineering review" or "manual checks".

National survey of SLTs: how checks are done by SLTs both automated (not EIS), and manual.

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Current CAER PDT State participants:

Names	State	Names	State
Anna Wood	AL	Tammy Manning	NC
Jing Wang, Deborah Basnight	GA	Josh Kalfas	OK
Jordan Garfinkle	MA	Elizabeth Elbel, Stephanie Summers	OR
Stacy Knapp	ME	Chad Wilbanks	SC
Dennis McGeen	MI	Jill Dickey	TX
Chun Yi Wu, Azra Kovacevic	MN	Sue Hines	VA
Elliot Bickerstaff, Deborah Boleware, Matt Carpenter	MS	Ben Way	WY

As of June 2019.

Acronyms

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CAER- Combined Air Emissions Reporting	FRS – Facility Registry Service
CDX – Central Data Exchange	GHGRP – Greenhouse Gas Reporting Program
CEDRI – Compliance and Emissions Data Reporting Interface that supports stack test reporting	MVP – Minimum Viable Product
CFS – Common Form System	NCC – National Computer Center at EPA
EF Compendium – State specific emission factors compendium that are not part of WebFIRE or AP-42	NEI – National Emissions Inventory
	SLT – State, Local and Tribal authorities
E-GGRT – Electronic Greenhouse Gas Reporting Tool that supports GHG emissions data reporting	TRI – Toxics Release Inventory
EIS – Emissions Inventory System that supports data collection of NEI data	TRI-MEweb – TRI emissions data collection system
	WebFIRE – System that houses emission factors needed to estimate air emissions
ERT – Electronic Reporting Tool that supports stack testing reporting	