Combined Air Emissions Reporting Project
“Common Emissions Form” Pilot

AAPCA 2019 FALL BUSINESS MEETING
RALEIGH, NC
AUGUST 28TH, 2019

Julia Gamas
U.S. EPA
109 T.W. Alexander Drive
RTP, NC 27517

Tammy Manning
NC DEQ
217 West Jones Street
Raleigh, NC 27603

Stacy Knapp
ME DEP
28 Tyson Drive
Augusta, ME 04333
Goals of this talk

1. Describe the CAER project and the “Common Emissions Form” (CEF) initiative
2. Share draft wireframes for the CEF (ongoing)
3. Elicit feedback
Air Emissions Reporting “As is” State

Attributes and Emissions to EPA

Attributes and Emissions to EPA

Attributes and Source Test/Compliance Data to EPA

Source Test Data to SLTs

Attributes and Emissions to SLTs

Attributes and Emissions to EPA

Publish

Publish

WebFIRE

Source Test Data to SLTs

Publish

TRI

GHGRP

CEDRI, NSPS/NESHAP

NEI

Acronyms defined on next slide.
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.
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

The Product Design Team (PDT), composed of EPA staff from various programs and SLT staff, has gathered program and SLT user requirements and has ongoing discussions on biweekly calls:

**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

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

See background slides for more information about the PDT.
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, and available for 2019 inventory year reporting

Post MVP:
Onboard more states, add workflows, incorporate more features, incorporate CEDRI...
Guiding Principles

**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
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
# Emissions Report Dashboard (Industry Preparer)

## Combined Air Emissions Reporting Form

**Emissions Reports**

<table>
<thead>
<tr>
<th>Year</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>![Continue</td>
</tr>
<tr>
<td>2018</td>
<td>![View</td>
</tr>
<tr>
<td>2017</td>
<td>![View</td>
</tr>
<tr>
<td>2016</td>
<td>![View</td>
</tr>
</tbody>
</table>
## Emissions Report Dashboard (Industry Certifier)

**Combined Air Emissions Reporting Form**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>View</td>
</tr>
<tr>
<td>2018</td>
<td>View</td>
</tr>
<tr>
<td>2017</td>
<td>View</td>
</tr>
<tr>
<td>2016</td>
<td>View</td>
</tr>
</tbody>
</table>
### Facility Information (Industry User)

#### Combined Air Emissions Reporting Form

**Facility Information**

<table>
<thead>
<tr>
<th>Facility EIS ID:</th>
<th>975661</th>
<th>Latitude:</th>
<th>31.70528</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Name:</td>
<td>Gilman Building Products, LLC</td>
<td>Longitude:</td>
<td>-83.20667</td>
</tr>
<tr>
<td>Facility Address:</td>
<td>173 Peachtree Rd, Fitzgerald, GA 31750</td>
<td>Mailing Address:</td>
<td>PO Box 65213, Fitzgerald, GA 31750</td>
</tr>
</tbody>
</table>

**Operating Status:** Operating

**BIA Code:** N/A

**NAICS Code(s):** 321999

#### Facility Contact Information

<table>
<thead>
<tr>
<th>Contact Type:</th>
<th>Responsible Official</th>
<th>Phone Number:</th>
<th>319-319-3119 x001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Name:</td>
<td>John Smith</td>
<td>Email Address:</td>
<td><a href="mailto:johnsmith@gilmanbuilding.com">johnsmith@gilmanbuilding.com</a></td>
</tr>
<tr>
<td>Contact Address:</td>
<td>173 Peachtree Rd, Fitzgerald, GA 31750</td>
<td>Mailing Address:</td>
<td>173 Peachtree Rd, Fitzgerald, GA 31750</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Type:</th>
<th>Preparer</th>
<th>Phone Number:</th>
<th>319-319-3119 x017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Name:</td>
<td>Jane Doe</td>
<td>Email Address:</td>
<td><a href="mailto:janedoe@gilmanbuilding.com">janedoe@gilmanbuilding.com</a></td>
</tr>
<tr>
<td>Contact Address:</td>
<td>173 Peachtree Rd, Fitzgerald, GA 31750</td>
<td>Mailing Address:</td>
<td>173 Peachtree Rd, Fitzgerald, GA 31750</td>
</tr>
</tbody>
</table>
Process Details (Industry User)

Combined Air Emissions Reporting Form

Report Facility &
Emissions Information

Perform
Quality Checks

Submit
to SLT Authority

Approved
by SLT Authority

Process Information

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

Operating Details

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

Reporting Period

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

Emissions Associated With This Process

<table>
<thead>
<tr>
<th>Pollutant Name</th>
<th>CAS Number</th>
<th>Total Emissions</th>
</tr>
</thead>
</table>

Release Points Associated With This Process

<table>
<thead>
<tr>
<th>Release Point ID</th>
<th>Release Type</th>
<th>Average % Emissions</th>
</tr>
</thead>
</table>
## Process Details (Industry User)

**Combined Air Emissions Reporting Form**

### Process Information

- **Process ID:** 0001
- **SCC:** 10320587
- **Aircraft Engine Code:** Code
- **Process Status:** Status

### Operating Details

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

### Reporting Period

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

### Emissions Associated With This Process

<table>
<thead>
<tr>
<th>Pollutant Name</th>
<th>CAS Number</th>
<th>Total Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>7664-41-7</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>17 TONS</td>
</tr>
</tbody>
</table>

### Release Points Associated With This Process

- **Release Point ID:**
- **Release Type:** Vertical
- **Average % Emissions:** 100%
Add New Emission (Industry User)

Add an Emission

Emission Information

- Process ID: 0001
- Reporting Period: Annual
- Operating Status: Operating

- Calculated 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
### Submission Summary Popup (SLT Reviewer User)

#### Combined Air Emissions Reporting Form

#### Submission Summary

**Facility:** Test Facility 3

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Type</th>
<th>Fugitive Amount</th>
<th>Stack Amount</th>
<th>Units</th>
<th>2019 Reported Tons</th>
<th>2018 Reported Tons</th>
<th>Last Submittal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO - Carbon Monoxide</td>
<td>CAP</td>
<td>0</td>
<td>31</td>
<td>Tons</td>
<td>31</td>
<td>48</td>
<td>2018</td>
</tr>
<tr>
<td>NOx - Nitrogen Oxides</td>
<td>CAP</td>
<td>0</td>
<td>4</td>
<td>Tons</td>
<td>4</td>
<td>12</td>
<td>2018</td>
</tr>
<tr>
<td>SO2 - Sulfur Dioxide</td>
<td>CAP</td>
<td>74</td>
<td>6</td>
<td>Tons</td>
<td>80</td>
<td>89</td>
<td>2018</td>
</tr>
<tr>
<td>VOC - Volatile Organic Compounds</td>
<td>CAP</td>
<td>0</td>
<td>139</td>
<td>Tons</td>
<td>139</td>
<td>--</td>
<td>2016</td>
</tr>
<tr>
<td>Ammonia</td>
<td>HAP</td>
<td>241</td>
<td>17</td>
<td>Tons</td>
<td>258</td>
<td>212</td>
<td>2018</td>
</tr>
<tr>
<td>Fluorene</td>
<td>HAP</td>
<td>0</td>
<td>31</td>
<td>Tons</td>
<td>31</td>
<td>38</td>
<td>2018</td>
</tr>
<tr>
<td>Nickel</td>
<td>HAP</td>
<td>52</td>
<td>0</td>
<td>Tons</td>
<td>52</td>
<td>--</td>
<td>2016</td>
</tr>
<tr>
<td>Toluene</td>
<td>HAP</td>
<td>33</td>
<td>4</td>
<td>Tons</td>
<td>37</td>
<td>74</td>
<td>2018</td>
</tr>
<tr>
<td><strong>Total Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>632</strong></td>
<td><strong>473</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Report Year:** 2019
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.
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.
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 (SLTs)
  - 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 **return on investment**: $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
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.
Air Emissions Reporting “As is” State

- Attributes and Emissions to EPA
  - Publish
- Attributes and Emissions to EPA
  - Publish
- Attributes and Source Test/Compliance Data to EPA
  - WebFIRE
- Attributes and Emissions to SLTs
- Source Test Data to SLTs
- Attributes and Emissions to EPA
  - Publish

TRI, GHGRP, CEDRI, NSPS/NESHAP, NEI
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.
A “Common Form” approach supports a single point of reporting for programs that participate. Separate entry points for SLTs, GHG, TRI, and CEDRI are still retained, sharing facility data and emissions data where appropriate.
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
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.
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](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

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](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 so WebFIRE 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
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.
Current CAER PDT State participants:

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

As of June 2019.
### Acronyms

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