E-Enterprise for the Environment

Combined Air Emissions Reporting (CAER)

Project Overview

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Overview

- What is CAER?
- Purpose and goals
- CAER basics
- Collaborative approach of the CAER project
- Methodology used for collecting requirements
- Air emissions reporting “As is” state
- Key challenges and concerns
- CAER conceptual model
- Current and future steps
  - R&D projects to support CAER
- Contacts and questions

CAER is an E-Enterprise Project

- E-Enterprise for the Environment is ***jointly*** governed by state/local/tribes (**SLTs**) and the EPA to collaboratively modernize business processes:
  - To improve **environmental results**
  - To **reduce burden** to the regulated community
  - To enhance services **to the regulated community** and **the public** by making government more efficient and effective
    - Streamlining of processes
    - Modernization of business practices
    - Trust and accessibility to regulated community

CAER Project Goals

- Basic purpose:
  - To consolidate emissions reporting activities through modern data sharing technologies and streamlined program collaboration
- Expected benefits would include:
  - **Industry**: Reduced reporting burden for industry by avoiding duplicative efforts across different programs and improved reporter experience through integrated electronic reporting and shared services
  - **Co-regulators**: Support timely decision making and analyses with more consistent, accessible, and higher quality emissions data
  - **Public**: Improvements to the availability, timeliness and transparency of data; also, higher quality and consistent data for various end users

CAER Basics

- Focused on point sources under four major air reporting programs:
  1. Toxics Release Inventory (TRI)
  2. Greenhouse Gas Reporting Program (GHGRP)
  3. Compliance and Emissions Data Reporting Interface (CEDRI)
  4. National Emissions Inventory (NEI)
- Need to address different pollutants, facility definitions, data resolution across programs
- Focused on *emissions* reporting (not facility attributes)
- Look at process improvements first, not regulations
- Use information technology to help, where appropriate

Collaborative Approach of the CAER Project

- Early engagement
  - LEAN event held with SLT and industry participants
  - Return on investment analysis conducted
    - Investment: $14 million (government costs)
    - Return at full implementation: $20 million per year (industry savings)
    - Best ROI from state-National Emissions Inventory (NEI) -TRI streamlining
  - Workshop held with 18F on product strategy
  - Early collaboration establishes trust and accessibility for affected community
- Collaborative approach
  - Joint identification of issues/problems and potential solutions
  - Creates an embedded value proposition
  - Collaboration on longer term implementation plan

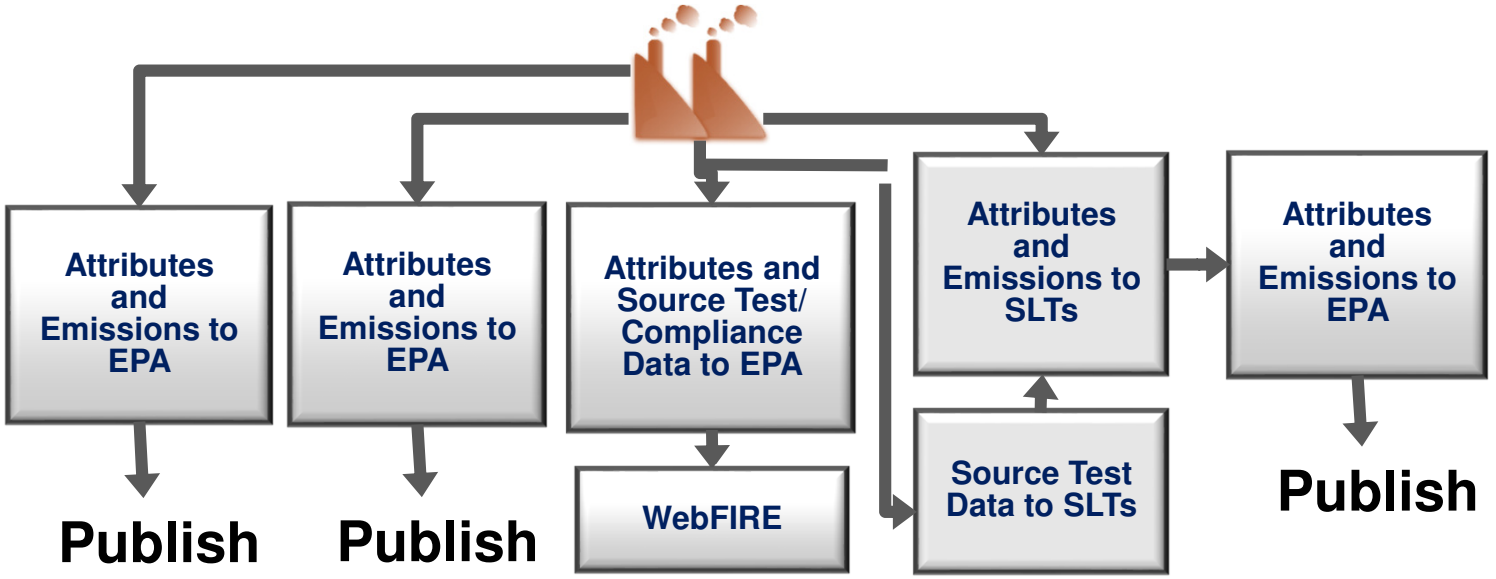
Methodology Used for CAER Project

- Modern business and information technology (IT) practices
  - Significant engagement between IT specialists and air program staff
  - Continuous feedback from the LEAN and Agile development processes results in prioritizing CAER-related activities and revisions to products
- Continued input received via:
  - Regular public webinars (typical audience >140 total; split around 50/50 for SLT/industry)
  - Dedicated mail server
  - Industry information forums around product testing

Key Challenges and Concerns

- SLT and industry concerns:
  - Trust by SLT and industry that EPA will listen and incorporate feedback
  - Accommodating diversity in state requirements and reporting systems
  - Accommodating diversity in industry data compilation/submittal processes
  - Concerns about requirements changes or new additions
  - Concerns about IT costs to implement
- Knowledge base differentiation/diversity across implementing community (e.g., air policy staff v. IT staff)
- Looking beyond program silos
- Volunteer effort for most participants (outside regular duties)

Air Emissions Reporting "As is" State



Compare Current vs. Future - Industry

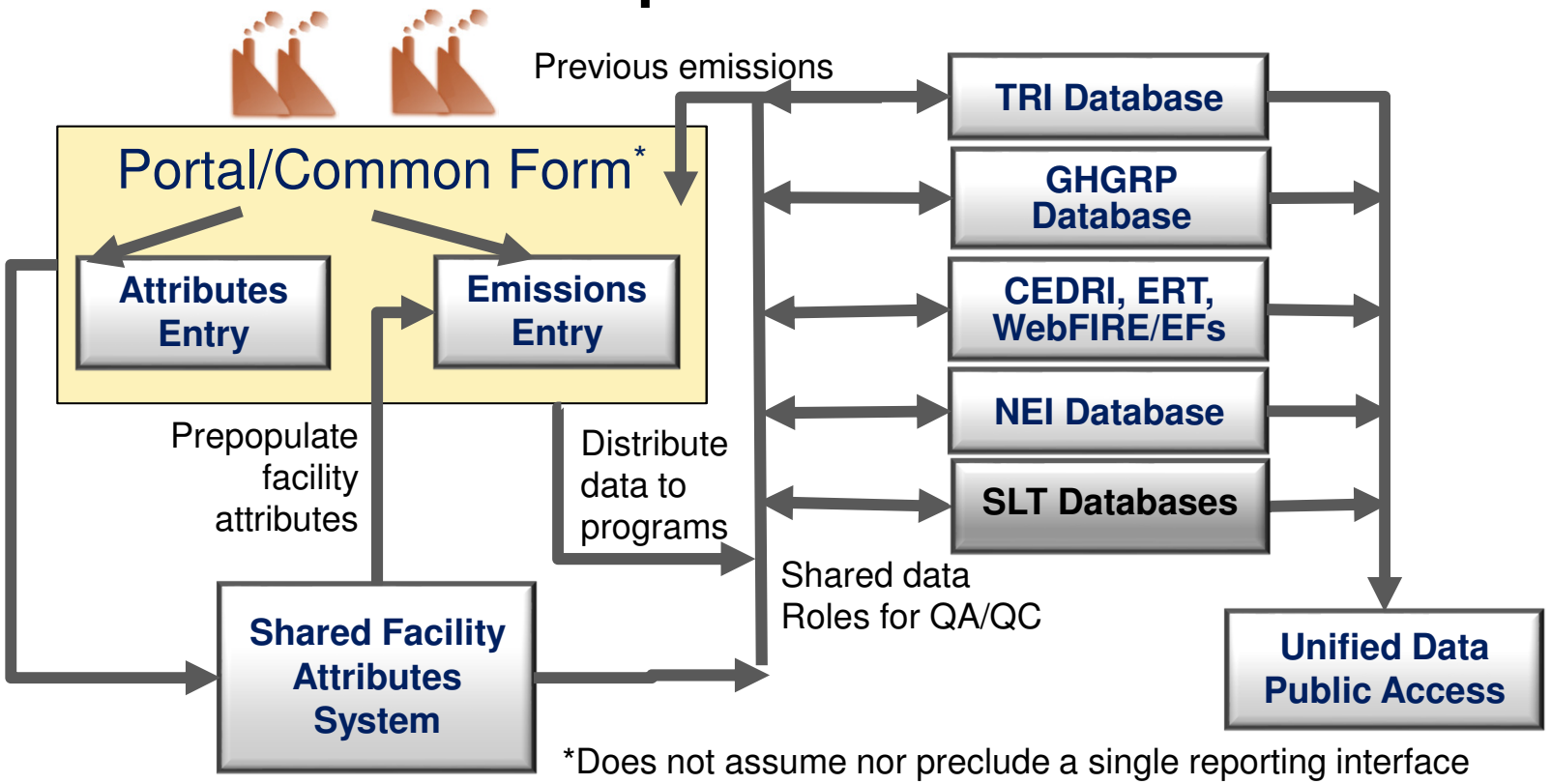
Current

- Login to reporting systems separately, some login sharing via CDX
- Limited use of FRS for facility attributes during data entry
- Update facility attributes separately in each system
- Enter emissions and other related parameters (throughput) separately
- Industry responsible for ensuring consistencies

Proposed Future Ideal

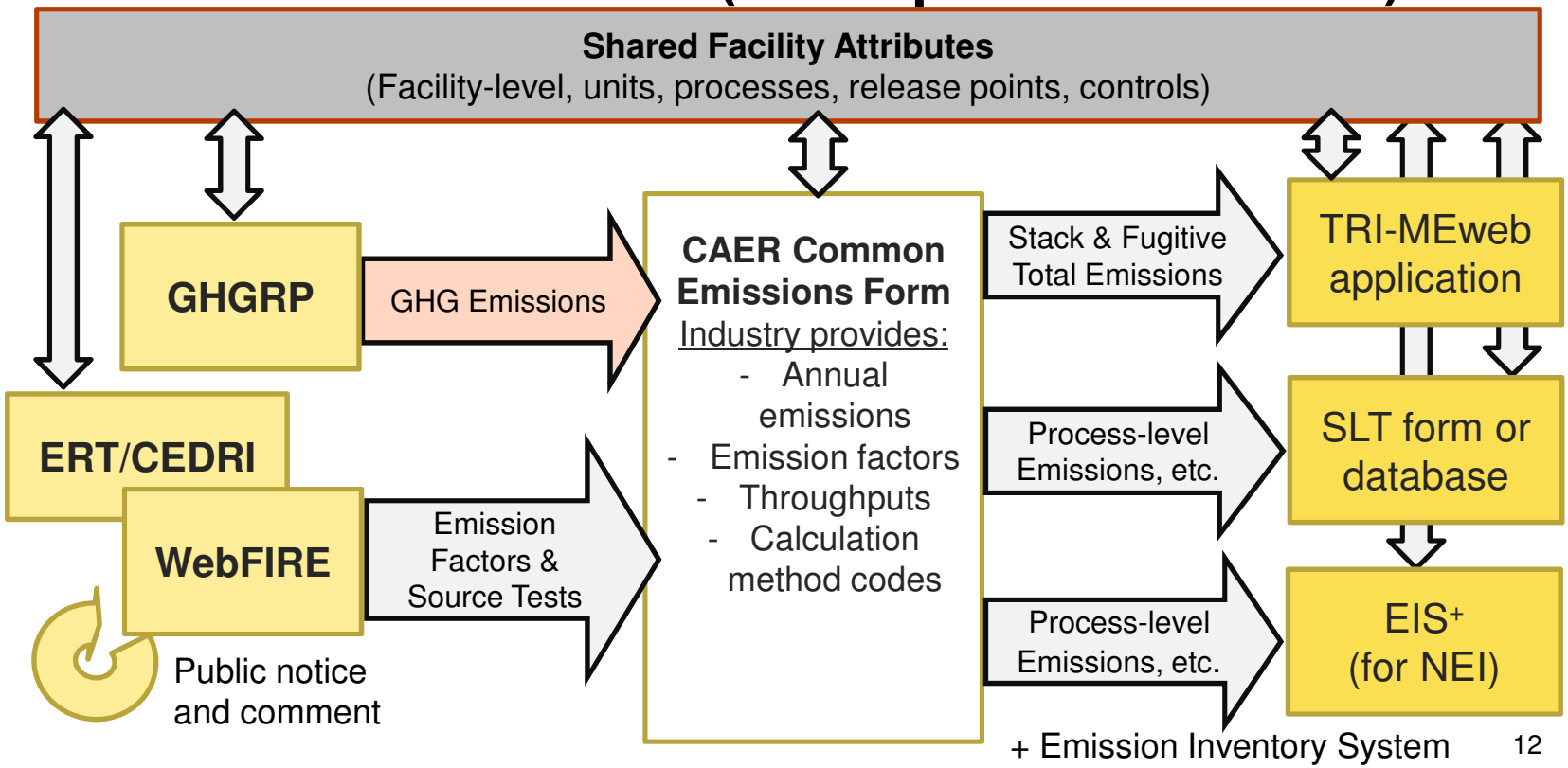
- Single login for access
- Shared facility attributes updated as changes occur
- Data systems get latest shared facility attributes
- Common form can collect emissions
- Where emissions entered elsewhere, could be used to prepopulate the common form
- Data systems help industry to be consistent

CAER Proposed Future State

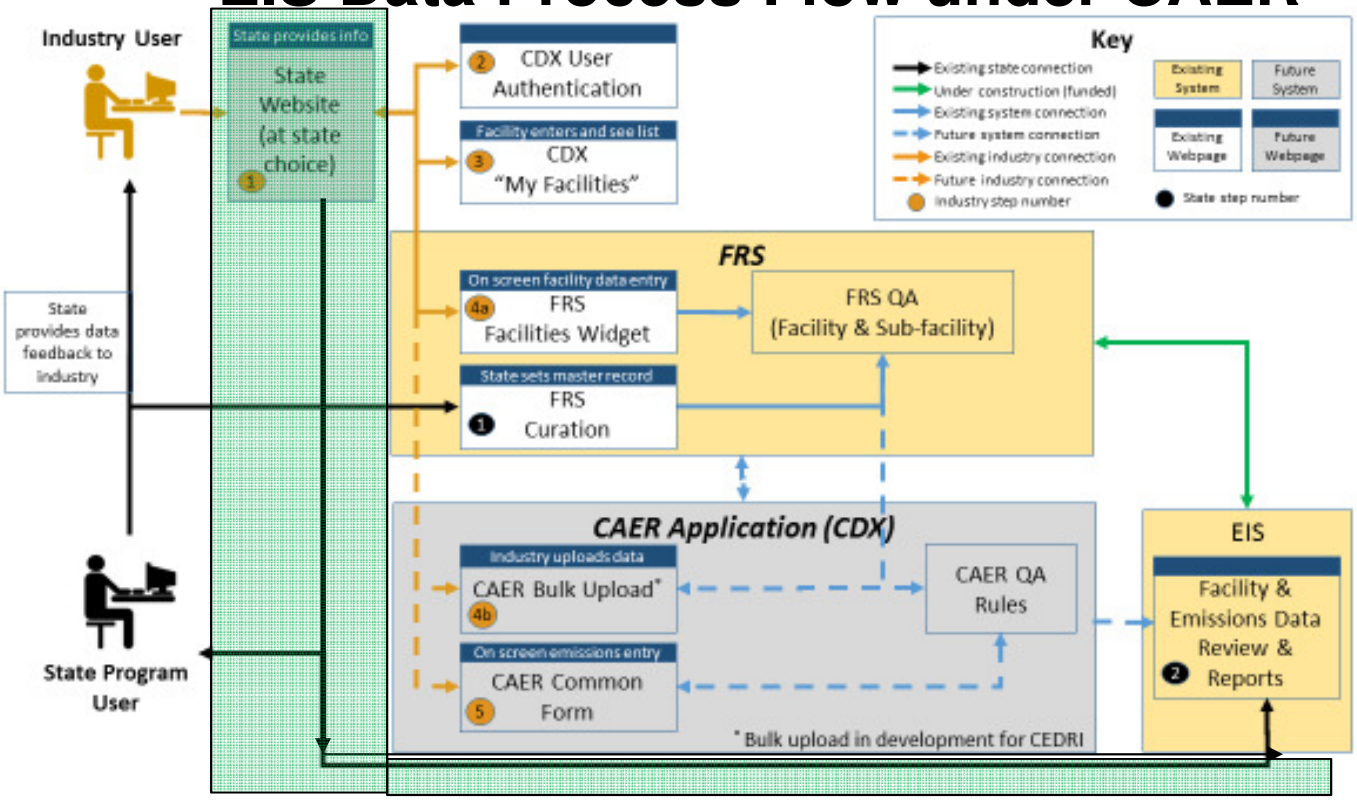


*Does not assume nor preclude a single reporting interface

CAER Common Form (conceptual illustration)



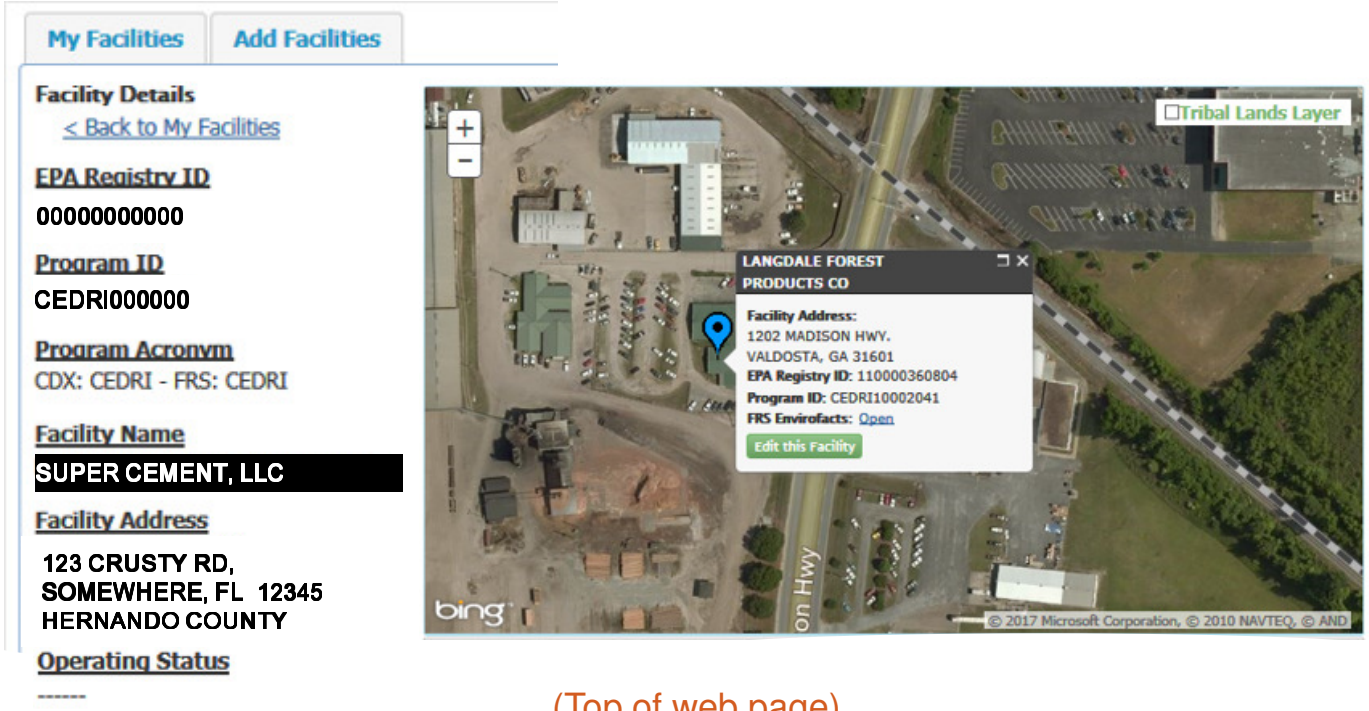
EIS Data Process Flow under CAER



CAER Related Projects

- Utilizing and considering results from all CAER-related projects
  - Product Design Team Implementation plan –governance group
  - Facility Integrated Planning Team
  - FRS/Risk and Technology Review (RTR) project
  - Federal Registry Service (FRS) data model revision
- The ***Facility IPT team*** is working on issues related to the 'business rules' on how industry and states would manage facility profiles established through the FRS data model.
- The ***RTR team*** is working on developing shared FRS services of facility-level and sub-facility details to improve collection of air modeling input files for risk analysis
- ***Connected to Combined Air Emissions Reporting (CAER) effort***
  - These teams is addressing the facility data management side of the proposed future state, while the CAER project addresses the emissions data sharing across programs.

RTR: Facility Widget Wireframe



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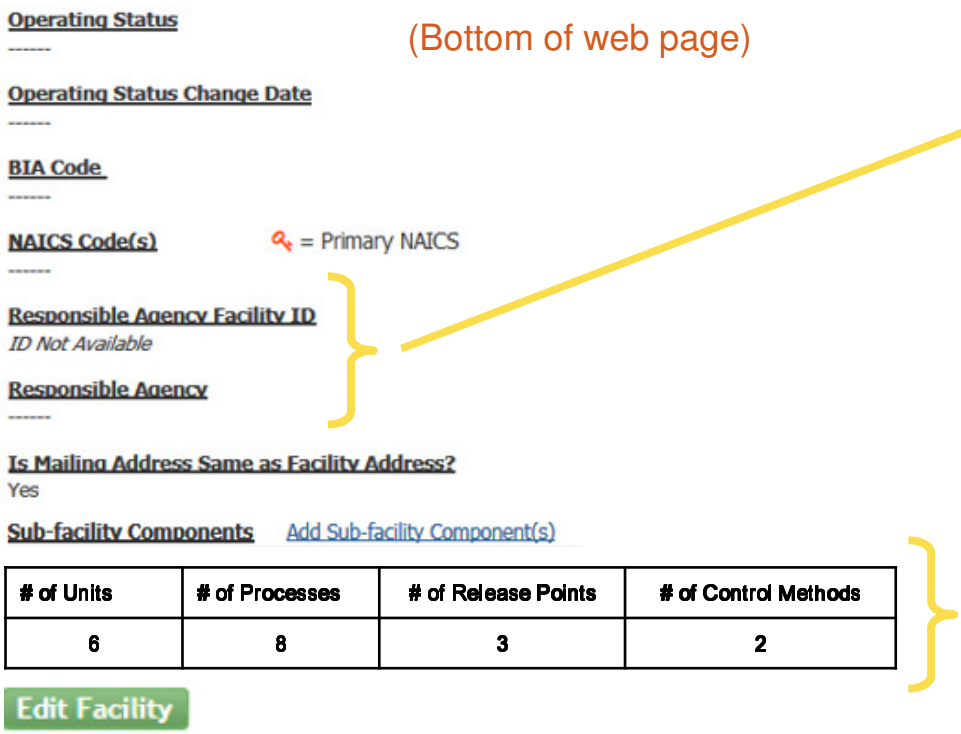
- Facility widget demoed in Industry Forums

* Facility widget is not a required element.

It is available for voluntary use by CEDRI and TRI users.

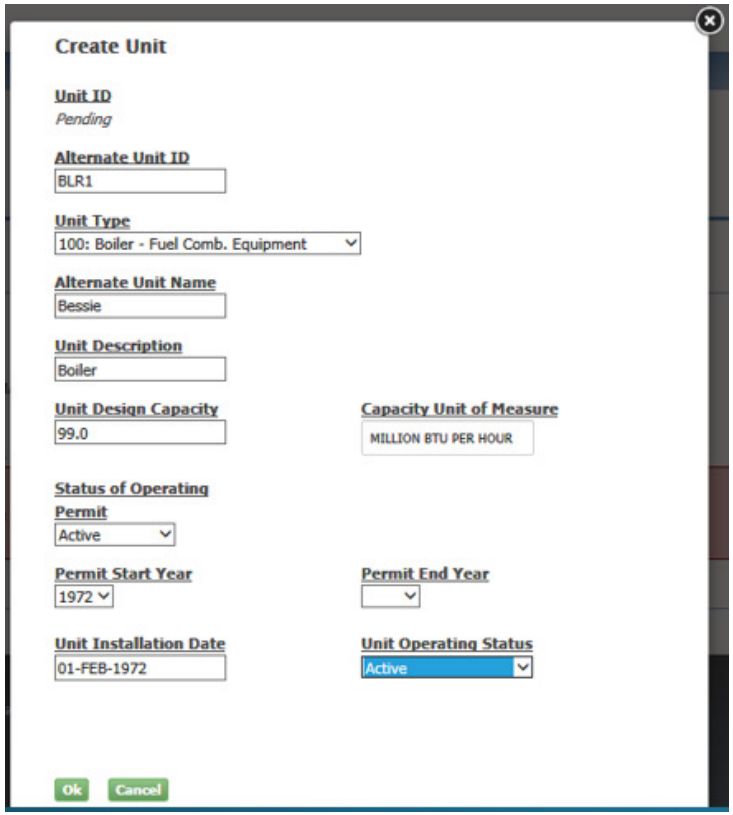
Facility Widget Wireframe (cont)



(Bottom of web page)

- We added some facility-level data elements to widget based on user feedback
- We added sub-facility components capability to widget
- To link to Add Sub-Facility Component(s),

Widget: Creating Sub-Facility Unit



- Information entered in boxes
- Automated QA to ensure required fields are filled

Current and Future Steps

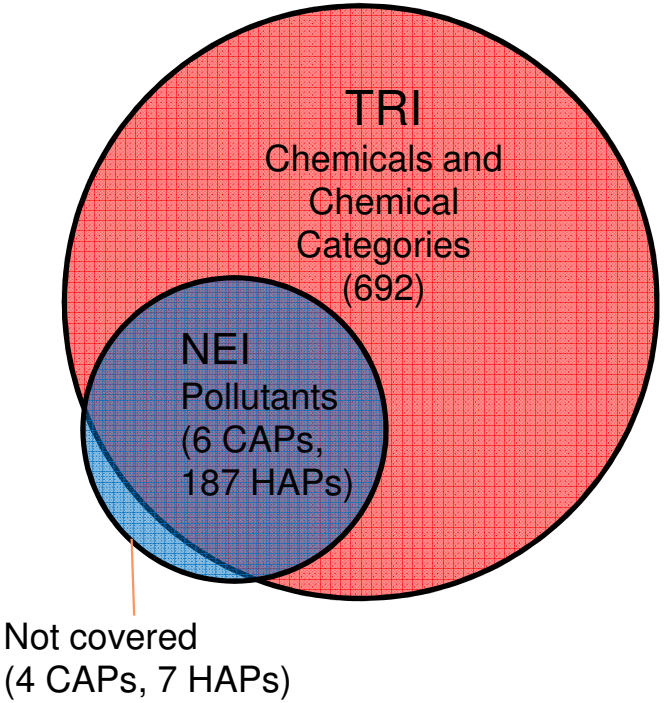
- CAER Implementation plan lays out multi-year process to implement CAER
- Initial phase of the Implementation Plan has started
  - Product Design Team (PDT) formed late 2016
  - **“First Round” R&D enabling projects conducted in 2017**

Product Design Team "First Round" R&D Projects

- ***QA/QC***
  - Identification and evaluation of a common set of emissions data QA/QC procedures for shared emission reporting
- ***GHG Emissions Mapping Study***
  - Pilot study to map emission data in the EPA's national GHGRP to example state greenhouse gas reporting program(s)
- ***TRI/NEI/SLT Program Crosswalk***
  - Research consistency and possible workflows for sharing of emissions data between TRI, SLTs and NEI -- Phase 1
- ***Emissions Data Design***
  - Establish and document a data model with basic core set of emissions-related data elements to support reporting through a CEF
- ***Source Classification Codes (SCCs)/Emission Factors***
  - Scoping study for identifying problems and solutions with SCCs and WebFIRE that will meet SLT, NEI, National Air Toxics Assessment (NATA), and CEDRI requirements under the CAER project

R&D Project: TRI/NEI/SLT Project Results

- Pollutant Crosswalk
  - NEI:
    - 6 criteria air pollutants (CAPs)
    - 187 HAPs
  - TRI:
    - 2 of the 6 criteria air pollutants: lead (which is both a HAP and CAP) and ammonia
    - Almost all (about 96%) of the 187 HAPs
    - In all, 692 chemicals and chemical categories



Current and Future Steps (cont)

- CAER Implementation plan lays out multi-year process to implement CAER
- Initial phase of the Implementation Plan has started
  - Product Design Team (PDT) formed late 2016
  - "First Round" R&D enabling projects conducted in first half of 2017
  - **"Second Round" R&D projects to be defined and scoped out in Fall 2017**
  - **Potential full scale pilot project scope being defined with goals of a 2018 pilot**
  - **Software evaluations and procurement options being investigated**
- **Successive phases dependent on results of initial R&D projects, availability of resources, overcoming any identified constraints**

Other Questions?

For more information on the E-Enterprise initiative, please see:

https://www.epa.gov/e-enterprise/about-e-enterprise-environment

http://e-enterprisefortheenvironment.net/

FAQ and webinar recordings posted at:
https://www.epa.gov/e-enterprise/e-enterprise-combined-air-emissions-reporting-caer

Contact Points

- CAER project contacts:
  - Contacts: Kelly Poole at kpoole@ecos.org , Michael Burton at Burton.Michael@azdeq.gov, Mark Wert at mark.wert@state.ma.us, and Joe Mangino at mangino.joseph@epa.gov
- Join the CAER listserv; send email to: join-caer@lists.epa.gov
- Help us learn more about what functionalities can help you most
  - We want "user stories" of the form:
    I am a <role> and I need <some capability> so that I can <some objective>
  - Send comments and user stories to: CAER@epa.gov
  - Individual comments only (group comments cannot be used)