



Streamlining Facility Data Collection Using the Facility Registry System to Support Residual Risk and Technology Reviews

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Overview

- Introduction and motivation
- Facility attributes and other key terms
- Connections to other projects and systems
- Targeted workflow
- Key project steps
- Facility widget updates
- Bulk upload template
- Quality assurance
- Remaining challenges and what's next?



FRS/RTR Introduction

- Purpose: Link the Compliance and Electronic Data Reporting Interface (CEDRI) with sub-facility Facility Registry Service (FRS) capabilities to support Risk and Technology Review (RTR) and
- Promote use of FRS sub-facility attributes to support Combined Air Emissions Reporting (CAER) goals
- Use Plywood sector Information Collection Request (ICR) as test case
- Leverage CEDRI and the FRS widget to:
 - Streamline and standardize RTR collection of facility attributes via CEDRI
 - Share RTR-collected facility attribute data with other programs via FRS
 - Provide a mechanism and incentive for industry to provide facility data
- Compliments CEDRI efforts to collect emissions and test data for RTR



What is RTR?

- Two parts:
 - Risk review: Evaluate sector risks of continued emissions after Maximum Achievable Control Technologies (MACT) and other programs have been implemented
 - Technology review: evaluate developments in practices, processes, and control technologies since implementation of the original MACT
- RTR needs detailed facility attributes, emissions, and other data
- Collection and inventory process amends other inventory programs
 - Starts with the National Emissions Inventory (NEI)
 - NEI includes data from the Toxics Release Inventory (TRI), but at facility level



Historical RTR Collection Process

- EPA issues Information Collection Request (ICR)
- EPA provides spreadsheet or other forms to collect data
 - Spreadsheet may be prepopulated with NEI and other information
 - Industry fills in the information and sends it back
- Industry may also submit test data
 - Historically has not been a standard format
 - Use of historical test data and (in some cases) new testing
- Labor-intensive process to compile the provided data and then extensive quality assurance checks are performed
- The resulting data are used to:
 - Create air modeling input files for risk analysis
 - Inform any regulations needed as a result of findings (proposal and final)

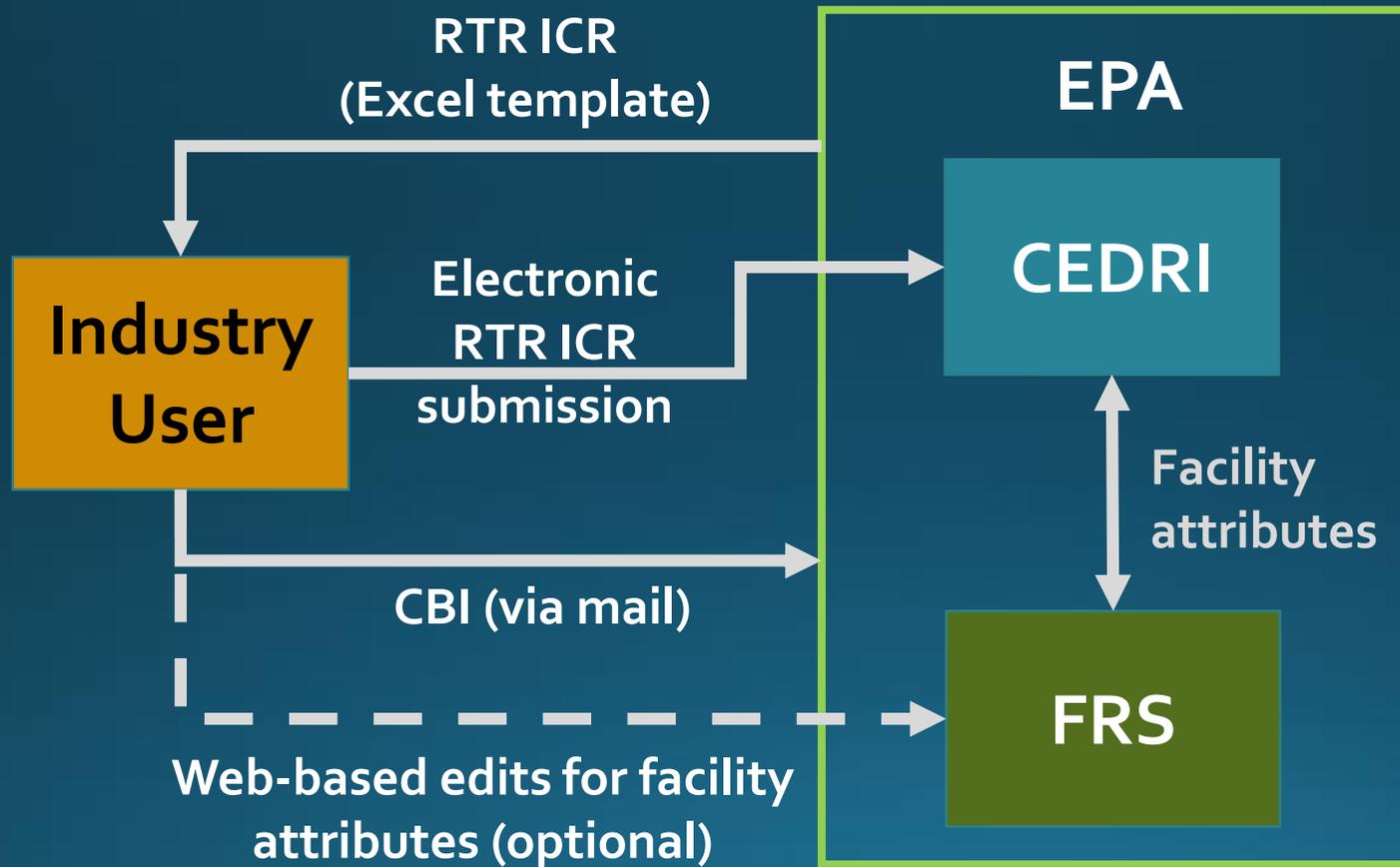


Known Facility Data Process Challenges

- State/local/tribal agencies (SLTs) sometimes use identifiers for facility components that facilities do not recognize
- RTR needs both emissions release point details and individual process unit details, but...
 - SLTs may use component groups (of units, processes, etc.) from permits
 - NEI hazardous air pollutant data may be from TRI (at facility level)
 - NEI may be more detailed than what is needed for RTR (when at emission point)
- Easier for industry to provide facility data without regard to what has been provided to the SLT, but then...
 - Data cannot be matched to the NEI or used to enhance the NEI or the National Air Toxics Assessment (NATA)
 - Consistency questions arise with related work for all parties
 - Credibility of RTR and NEI drawn into question
- Some ICR data collected may be confidential business information (CBI)



FRS-RTR Workflow Target





Facility Attributes

- Characteristics about a facility
 - Facility-level (e.g., address)
 - Sub-facility level
 - Unit, Process, Control, Release Point
 - Groups of these
- FRS data model includes:
 - All data elements to support the NEI through the Emissions Inventory System (EIS)
 - Many other data elements to support other partner programs
 - Called “components”
- Does not include emissions data



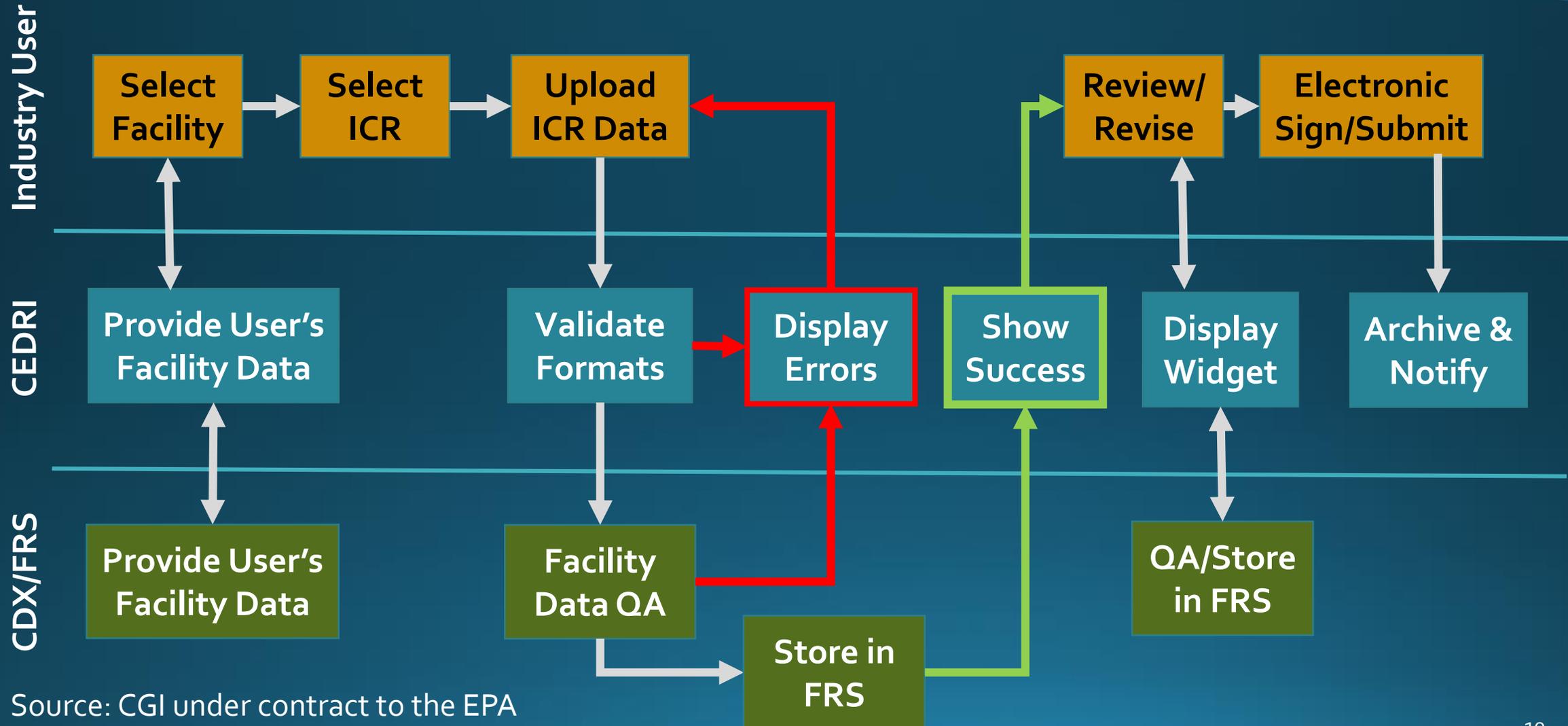


FRS-RTR Relies on Other Systems

- Central Data Exchange (CDX) and FRS for managing facilities
- CEDRI for reviewer roles
- CEDRI for uploading data
 - Create a Package Name
 - Select a Facility
 - This assumes you have already associated your facilities with your profile
 - Use Facility Widget to add facilities to your CDX profile or change attributes
 - Select the regulation subpart (e.g., Plywood: Part 63, subpart DDDD)
 - Select the Plywood and Composite Wood Products (PCWP) ICR from the "Select Reports" dropdown



ICR Process Flow: Bulk Upload



Source: CGI under contract to the EPA



Key FRS-RTR Project Steps

- Expand existing FRS “facility widget” graphical user interface (GUI) to include sub-facility data collection
- Update widget quality assurance (QA) checks for sub-facility data
 - A back-end module that can be used without the widget GUI
- Update widget web services to communicate with other reporting systems about sub-facility data
- Ensure CEDRI bulk upload features are able to write data to FRS and rely on widget QA module, using web services to communicate
- Upload historical RTR sub-facility attribute data to FRS database
 - FRS project is doing the same for the NEI/EIS sub-facility data

Select Facility with "My Facilities"



EPA United States Environmental Protection Agency

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CDX Central Data Exchange [Contact Us](#)
Logged in as MHOUYOUX ([Log out](#))

You are here: [MyCDX](#) [Manage Program Services](#) Manage Facilities

My Facilities **Add Facilities**

Manage Facilities (4 facilities managed) [List View](#) | [Map View](#)

Filter: [Export Options](#)

EPA Registry ID	Program ID	Facility Name	Facility Address	
000000000000	Pending	SUPER CEMENT, LLC	123 CRUSTY RD, SOMEWHERE, FL 12345	View/Edit Details Remove

Showing 1 to 1 of 1 facilities Previous 1 Next

[Save Selected Facilities](#)

- Current function within CDX
- Already used by CEDRI for industry reporting compliance data

Widget GUI: Facility View*

My Facilities **Add Facilities**

Facility Details
[< Back to My Facilities](#)

EPA Registry ID
00000000000

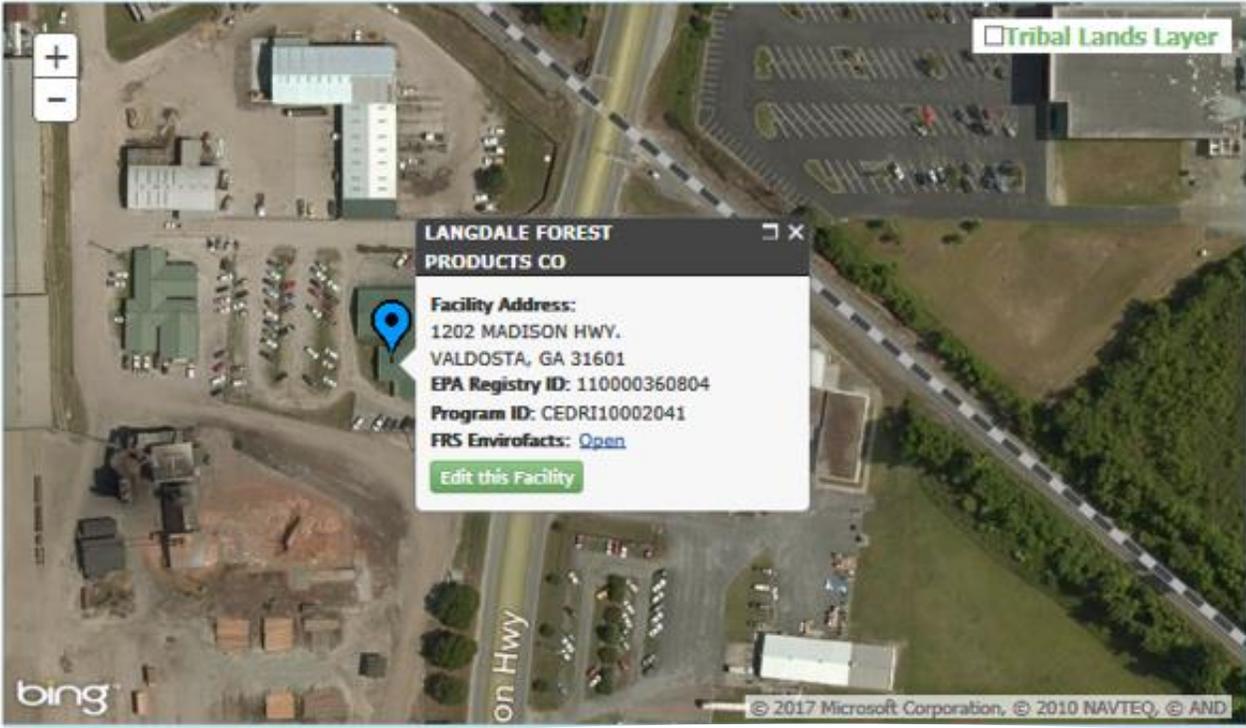
Program ID
CEDRI000000

Program Acronym
CDX: CEDRI - FRS: CEDRI

Facility Name
SUPER CEMENT, LLC

Facility Address
123 CRUSTY RD,
SOMEWHERE, FL 12345
HERNANDO COUNTY

Operating Status



(Top of web page)

* Facility widget is not a required element of planned Plywood ICR process.

It is available for voluntary use by CEDRI users.



Widget: Facility View

Operating Status

Operating Status Change Date

BIA Code

NAICS Code(s)

= Primary NAICS

Responsible Agency Facility ID

ID Not Available

Responsible Agency

Is Mailing Address Same as Facility Address?

Yes

Sub-facility Components [Add Sub-facility Component\(s\)](#)

# of Units	# of Processes	# of Release Points	# of Control Methods
6	8	3	2

[Edit Facility](#)

(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 edit, click “Edit Facility”



Widget: Sub-Facility View Units

Registration Information

Organization	Houyoux Inc.
Program Service	CEDRI
Role	Certifier

[My Facilities](#) [Add Facilities](#)

[Back to Facility Details](#) **Create Sub-facility Component**

Facility
SUPER CEMENT, LLC; 123 CRUSTY RD; SOMEWHERE, FL 12345; HERNANDO COUNTY

Viewing By [Add Unit](#)

No Units Found
This facility has no associated units. Please click the 'Add Unit' button to add one.

[Save Sub-facility Information](#)

- If no units previously added to CEDRI, will not appear in widget
- To add unit, click “Add unit”



Widget: Sub-Facility Create Unit

Create Unit

Unit ID
Pending

Alternate Unit ID

Unit Type
100: Boiler - Fuel Comb. Equipment ▼

Alternate Unit Name

Unit Description

Unit Design Capacity

Capacity Unit of Measure

Status of Operating
Permit

Permit Start Year

Permit End Year

Unit Installation Date

Unit Operating Status

- Enter information in boxes
- Automated QA to ensure required fields are filled



Widget: Sub-Facility View Unit

My Facilities | Add Facilities

[Back to Edit Facility](#) **Create Sub-facility Component**

Facility
SUPER CEMENT, LLC; 123 CRUSTY RD; SOMEWHERE, FL 12345; HERNANDO COUNTY

Viewing By: Units [Add Another Unit](#) ⓘ Filter:

Unit ID ▲	Alternate Unit ID ▼	Alternate Unit Name ▼	Unit Type ▼	# of Release Points ▼	# of Processes ▼	# of Control Measures ▼	
▼ Pending	BLR1	Bessie	Boiler - Fuel Comb. Equipment	0 Update	0 Update	0 Update	View/Edit Details Remove

Unit Description
Boiler

Permitting Status ACTIVE **Permit Start Year** 1972 **Permit End Year**

Related Components

[Release Points](#) | [Processes](#) | [Control Measures](#) | [Add release point to unit](#)

No Related Release Points

There are currently no related release points. Click the 'Add release point' link above to add one.

[Save Sub-facility Information](#)

- Back to prior screen – now unit shows in list
- To open unit, click arrow
 - Details preview
 - Related components table
- Can add more units: click “Add Another Unit”
- Click “Save Sub-facility Information”



Bulk Upload Template

Hidden & locked rows for CEDRI and FRS tell Excel reader how to map data

Pull-down lists coordinated with EIS and FRS

Facility users told which FRS ID to use to match facility in CEDRI.

Field:	ICR ID	FRS Site ID	Process Unit ID	Process Unit Type	Process Unit Des
XML Tag:	Icrid	FrsSiteId	ProcessUnitId	ProcessUnitType	ProcessUnitD
Data Base Reference	ICR_ID	FRS_SiteID	ProcessUnitID	ProcessUnitType	ProcessUnitD
1	123	999999999999	Process 1	Softwood veneer dryer	▼ heer dryer 1
2	123	999999999999	Resin Tank 1	Resin storage tank	Resin Tank 1
3	123	999999999999	Process 7	Rotary strand dryer	Rotary dryer 7
4	123	999999999999	Process 8	Conveyor strand dryer	Preheat Oven 8
5	123	999999999999	Process 15	Lumber dry kiln	Lumber Kiln 15
6	123	999999999999	Press Process 7	Reconstituted wood product pre	Press 7

Navigation tabs: Mill | Prod | **EquipDetail** | ReleasePt | Permit | Resin | Tank | VeneerDry | RotaryDry | TubeDry

Multiple tabs keep data organized during entry. CEDRI reader given a "map" in advance to know where to find fields to send to FRS.



Widget Quality Assurance

- Same QA from on-screen GUI and bulk upload
- Inherited FRS facility-level checks
- Examples of types of checks for sub-facility attributes
 - Field lengths
 - Range checks
 - Format checks
 - Valid codes (e.g., industry codes, process codes, unit types, control types)
 - Compare fields (e.g., start year is before end year)
 - Required fields
 - Warnings for component relationships



FRS-RTR Supports CAER Goals

- FRS-RTR electronic submission of facility data
 - Improve timeliness and transparency of data
- FRS-RTR quality assurance of sub-facility data
 - Improve data quality
- FRS-RTR sharing data with FRS
 - Reduce industry burden for point source reporting (sub-facility data will be in FRS for subsequent use in CEDRI)
 - Help promote consistent information across air emissions programs
 - Improve accessibility and usability of data

Remaining Facility Data Process Challenges



- Have not yet resolved differences between industry data from RTR and SLT data in EIS
- Still allowing industry to provide facility data without regard to what is in EIS
- But, this project gets all data in FRS, which facilitates the matching and component grouping work needed to further streamline inventory data collection



FRS-RTR Next Steps

- Test recently implemented CEDRI bulk upload approach and use of widget services for QA of facility data
 - Awaiting ongoing FRS team steps
- Complete RTR historical facility attributes upload and publication in FRS
- Review and improve widget QA user feedback messages
- Plywood ICR is planned for Fall 2017
- Make additional widget GUI refinements
 - Complete release point map
 - Improve unit type selection
 - Improve SCC selection
- Further refine features based on user input as resources allow



Beyond FRS-RTR

- Complete upload of latest EIS facility data to FRS
- FRS-EIS project working to start moving EIS towards CAER
- EIS to use SCC web service developed under CAER
- Use FRS to start sharing facility and other data across RTR and EIS/NEI and uses of NEI
- Consider whether FRS could be used for industry input when states do not provide some facility data (e.g., controls)
- Implement FRS “component group” editing features to help reconcile across programs
- Build from experience to support E-Enterprise Facility Team



Questions?

Appendix





Key Definitions

- **FRS data model:** A new EPA approach for storing facility-level and sub-facility data
 - Allows each program feeding data to FRS to maintain its original data, irrespective of possible conflicts with other programs' information
 - Allows temporal tracking for all facility information for each program
- **Master Record:** In the FRS data model, the authoritative set of attributes for a given facility
- **Curation:** Within FRS, the process a user must take to update the Master Record with the latest authoritative information taken from one or more program data sources
- **Component:** Any part of a facility such as a unit, process, release point, or control device
- **Component group:** A group of more detailed components (e.g., units) that is used for data collection by one or more programs (e.g., an emissions total for a group of units)



CDX and FRS Manages Your Facilities

- Login to MyCDX at <https://cdx.epa.gov>
- To register with CEDRI
 - On "My Profile" → Modify Program Services
 - Click "Add Program Service" and add CEDRI if not already there
 - You will need to select your role
- To access your list of facilities
 - MyCDX → "Manage Program Services"
 - Click bar for "CEDRI: Compliance and Emissions Data Reporting Interface"
 - Click "Manage Facilities" at far right
 - Opens Facility Widget





Upload PCWP ICR Data

Subpart DDDD - Plywood and Composite Wood Products

File Upload

ICR Description: The Plywood and Composite Wood Products (PCWP) industry information collection request (ICR) applies to facilities that are major sources or synthetic area sources of hazardous air pollutant (HAP) emissions. Facilities that must respond to this ICR are those that:

- manufacture softwood or hardwood plywood or veneer, or
- manufacture composite wood or agricultural panels such as particleboard, medium density fiberboard (MDF), fiberboard, hardboard, and/or oriented strand board (OSB), or
- manufacture engineered wood products such as laminated veneer lumber (LVL), laminated strand lumber (LSL), wood I-joists, and/or glue-laminated beams], or
- operate a softwood or hardwood lumber kiln, or
- are otherwise subject to the National Emission standards for Hazardous Air Pollutants: Plywood and Composite Wood Products, 40 CFR part 63, subpart DDDD.

 Confidential business information (CBI) may not be submitted to EPA via the CEDRI interface. ICR materials containing CBI must be submitted to EPA on a compact disc, flash drive, or other commonly used electronic storage media. The electronic media must be clearly marked with the words "Confidential Business Information" and mailed to:

US Environmental Protection Agency
Office of Air Quality Planning and Standards
US EPA Mailroom (C404-02)
Attn: Ms. Tiffany Purifoy Document Control Officer
109 T.W Alexander Drive
Research Triangle Park, NC 27711

• ICR Description

• Includes CBI disclaimer

(Top of web page)

Upload ICR Data (continued)

Part 1: Plywood and Composite Wood Products Survey Data

Uploads:

Survey Spreadsheet:	SWInc-PCWP_survey_xlsx	Browse	Remove
CEMS Spreadsheet:	SWInc-PCWP_CEMS.xlsx	Browse	Remove
Permit:	SWInc_permit.pdf	Browse	Remove
Process Diagram:	SWInc-PFDs.zip	Browse	Remove
Map:	SWInc-ReleasePoints.kmz	Browse	Remove
Emissions Averaging Plan:	SWInc_EAP.pdf	Browse	Remove
Tank Estimates:	SWInc-TANKS.pdf	Browse	Remove
Lumber Kiln Schedule:	SWInc-kilns.zip	Browse	Remove
Semiannual Reports:	SWInc-reports.zip	Browse	Remove
Start/shutdown Recommendations:	SWInc-SS.pdf	Browse	Remove
WW Documents:	SWInc-WWflow-permit-emis.zip	Browse	Remove
Emissions Test Reports:	SWInc-HAP-PM-tests.zip	Browse	Remove

Instructions/Template Library

- [Part 1 Instructions Document](#)
- [PCWP_survey.xlsx](#)
- [PCWP_CEMS.xlsx](#)

Note: *Please zip multiple files of a given file type (i.e., multiple Permits) prior to uploading.

- Upload space for Excel template
- Other supporting files

(Middle of web page)



Upload ICR Data (continued)

(Bottom of web page)

You have uploaded the following XX report(s) for the Plywood and Composite Wood Products ICR:

SWInc-PCWP_survey_.xlsx, SWInc-PCWP_CEMS.xlsx, SWInc_permit.pdf, SWInc-PFDs.zip, SWInc-ReleasePoints.kmz, SWInc_EAP.pdf, SWInc-TANKS.pdf, SWInc-kilns.zip, SWInc-reports.zip, SWInc-SS.pdf, SWInc-WWflow-permit-emis.zip, SWInc-HAP-PM-tests.zip, SWInc-ERT.zip, SWInc-TestSupp.xlsx

Upload

Cancel



Comparing CAER and FRS-RTR

Function	CAER	FRS-RTR
Reporting interface	EPA or SLT (at choice of SLT)	CEDRI
Facility selection	Shared Facility Attributes (with FRS a part)	FRS
Sub-facility data submission		Facility widget or Bulk Upload via CEDRI
Emissions data submission	Common Form	CEDRI bulk upload (Excel)
Supporting data submission (e.g., source test data)		CEDRI bulk upload
Data transfer	SLT choice	CEDRI and FRS



FRS Component Groups

E.g. a facility has 5 combustion boilers. Detailed risk modeling for rule development needs all five separately, but for SLT purposes those 5 boilers may be reported to the NEI as a single unit.

