

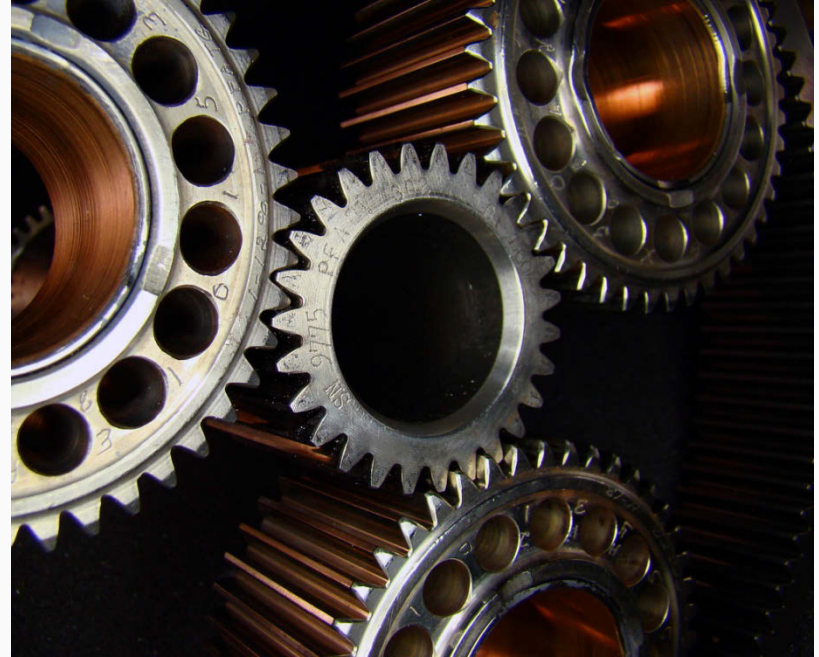
2014 TRI Conference: Facility Registry Service and TRI Data Quality

David Smith	202-566-0797	Smith.DavidG@epa.gov
Ana Greene	202-566-2132	Greene.Ana@epa.gov
Aaron Meyers	202-566-0690	Meyers.Aaron@epa.gov
Lee Kyle	202-564-4622	Kyle.Lee@epa.gov

Topics



- Overview/Role of FRS
- Where are we now?
- What can we do to improve data on the back end (after it's been collected)?
- What can we do to improve data on the front end (as it's being collected)?



FRS Overview



- **Facility Registry System**
- FRS is a data aggregator
- FRS performs facility data integration, validation and QA across 90 different federal, state, territory and tribal databases
- FRS contains information on nearly 3.5 million places of interest.

What FRS Does

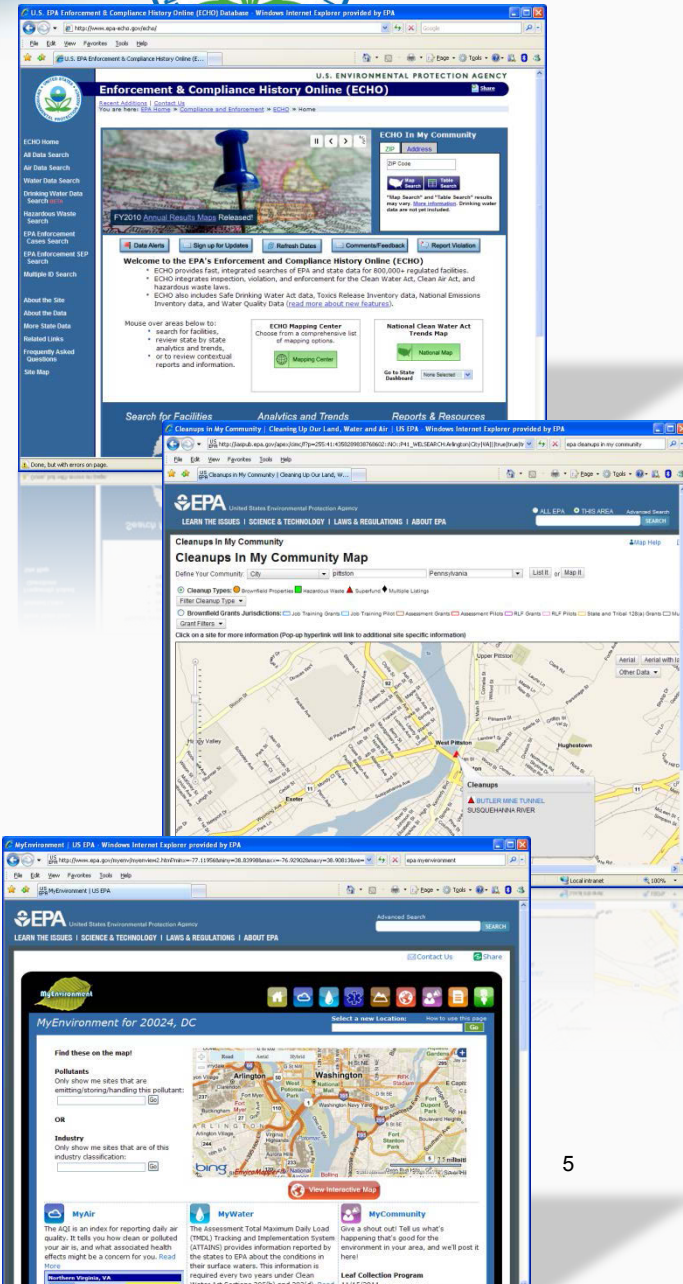


- FRS improves program facility data validity from 40—95% by selecting best contact and location information from multiple data sources
- Allows EPA, public, academic, and investment communities to evaluate compliance with environmental regulations
- Provides robust, complete view of facility information, facilitating cross-media analyses:
 - *Community-based initiatives*
 - *Environmental justice analyses*
 - *NEPA assessments*
 - *Emergency response*
 - *Other mission needs (TMDL program, climate change analysis, etc.)*

FRS Features



- Provides essential support for applications that rely on integrated views of facilities
 - GIS applications (EnviroMapper, MyEnvironment)
 - Public access applications (Envirofacts, Cleanups in My Community (CIMC))
 - Enforcement systems and applications (IDEA, OTIS, ECHO, ICIS)
- Offers specialized services to applications in need of accurate facility information
 - Emergency Response
 - TRI-ME web
 - DMR Loading Tool
- Provides web services, enabling data exchanges with state partners on the Environmental Exchange Network



FRS Features

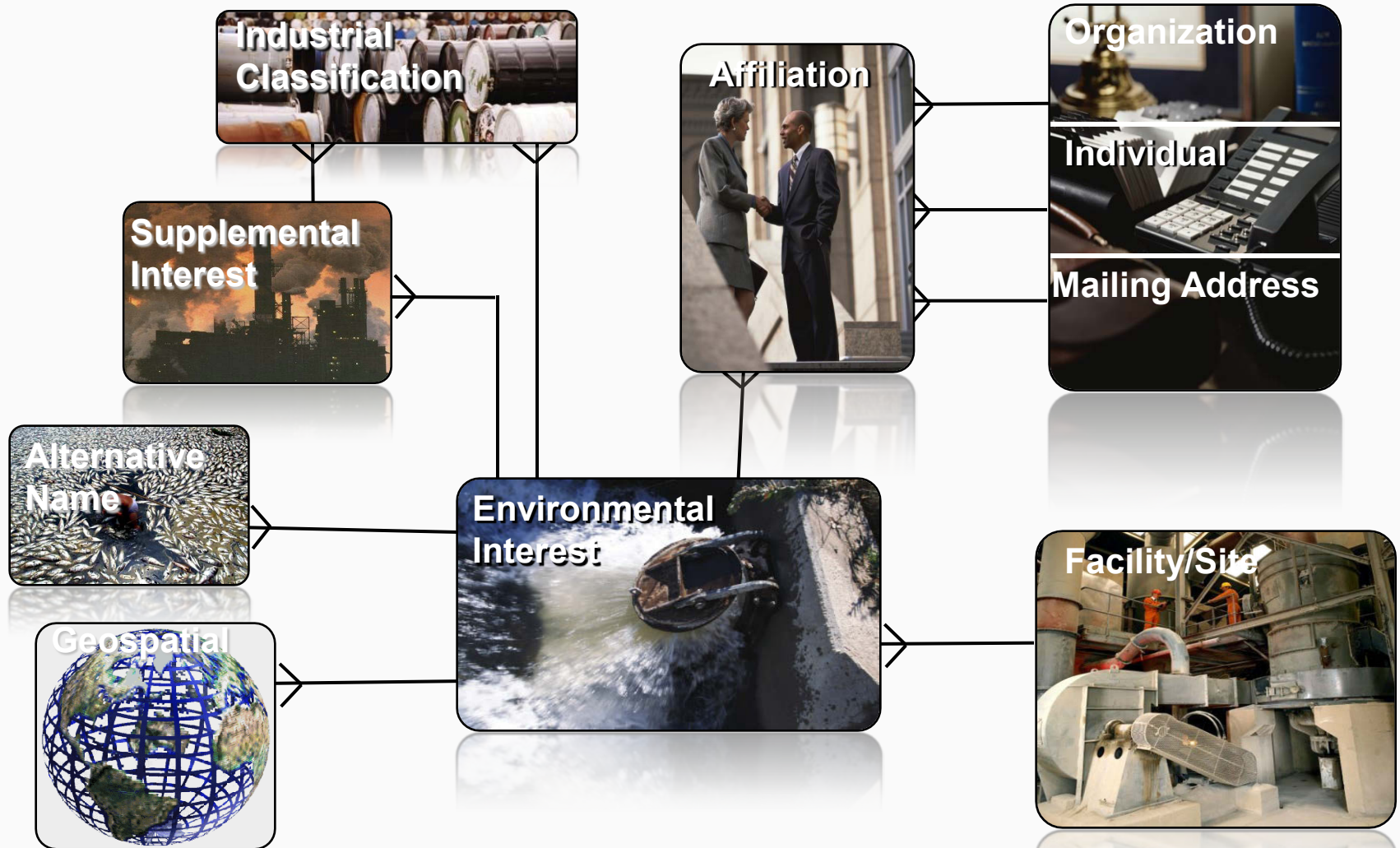


- Supported by a network of data stewards covering
 - geographic and programmatic areas of expertise
- Data quality reporting and improvement tool: FRS Linkage Application
 - The FRS team recently rolled out Secondary Stewardship capabilities to allow additional stewards to access reports, tools, and contribute
 - Recommended updates from Secondary stewards are reviewed and approved by EPA Primary stewards before going into production
- Fully integrated with the Locational Data and the Integrated Error Correction Process (IECP)
 - “Report An Error” Button

FRS Data Model



High Level Data Model



FRS QA Process



Clean &
Validate

- **Geo-codes & parses addresses**

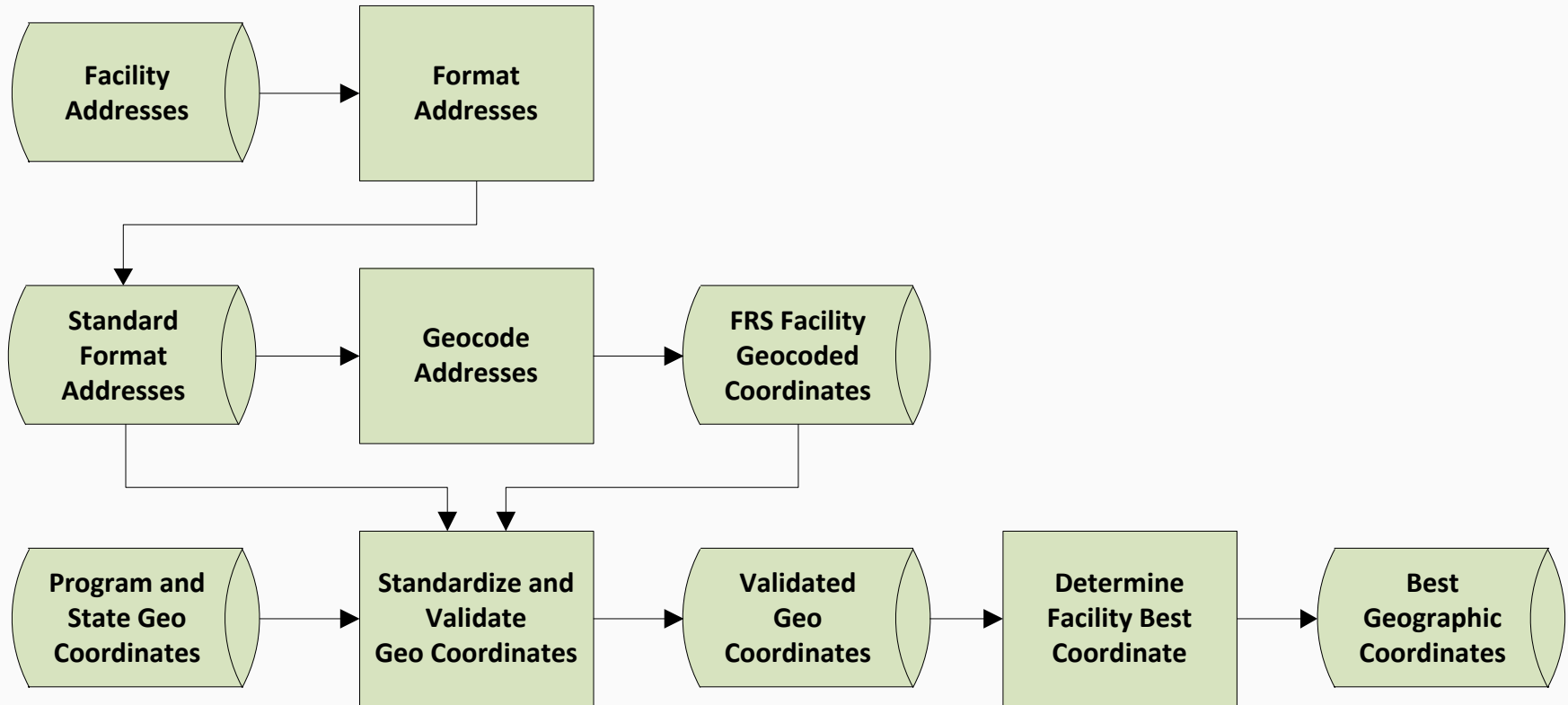
Integrate &
Match

- **Assigns a unique ID to each facility record**

Select Best
Pick

- **Uses business rules to select the best information**

FRS QA Process



TRI Data Quality



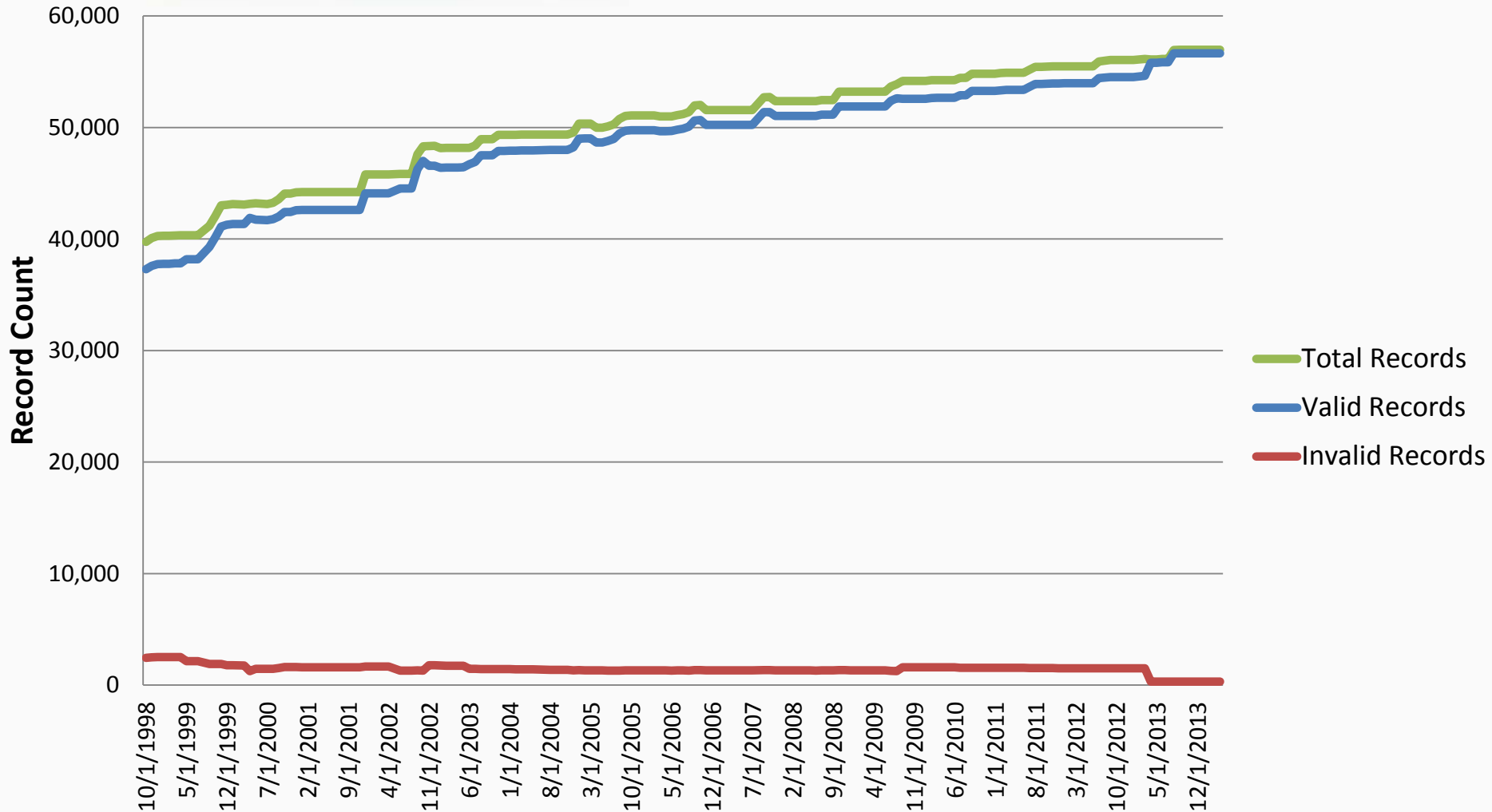
- TRI is a flagship data product
- One of the most high-quality datasets at EPA, along with RMP
- Tangible improvement over time



TRI Data Validity Overall



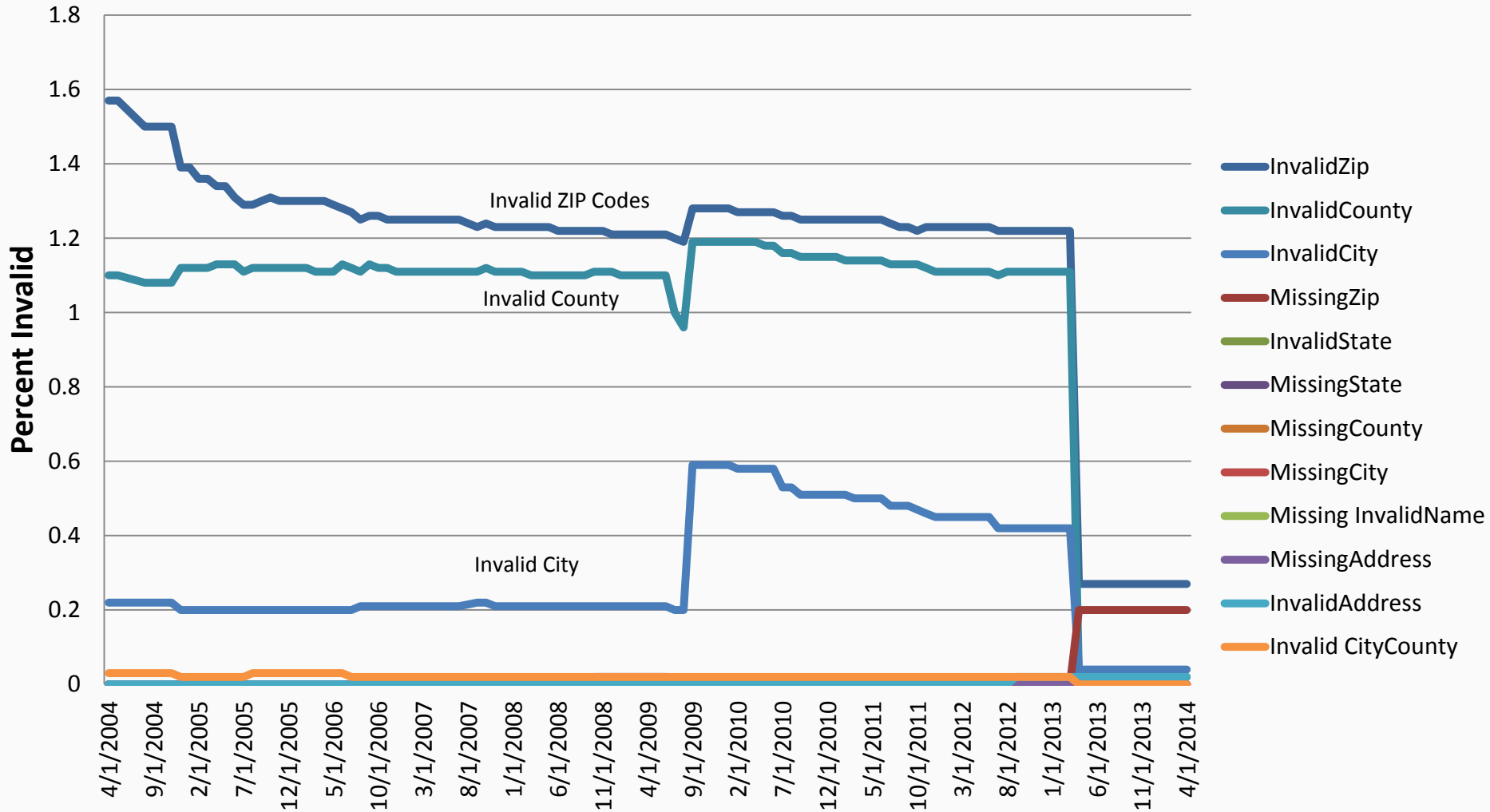
TRI Records



TRI Facility Attributes



TRI Facility Attribute Data



TRI GIS Data



- Out of 56,960 current and former TRI Reporters, 127 currently do not have valid lat/long values (0.22%)
- Lat/Long values are not collected by TRI
- FRS attempts to geocode based on street address
- FRS attempts to leverage latitude / longitude values collected by other programs



TRI GIS Issues

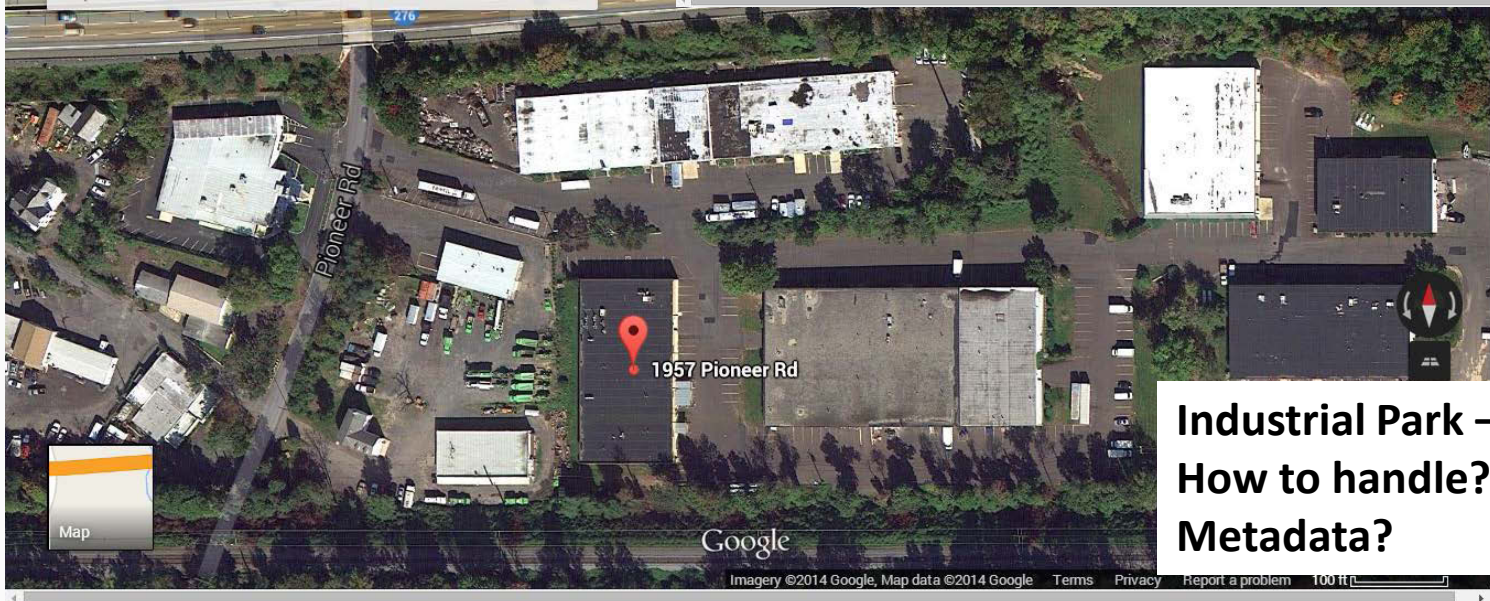
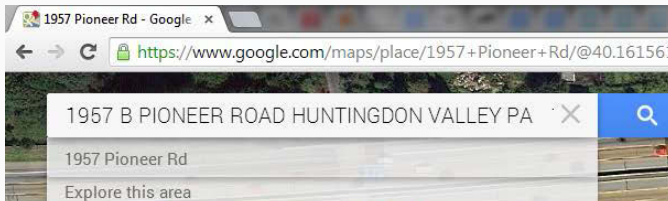
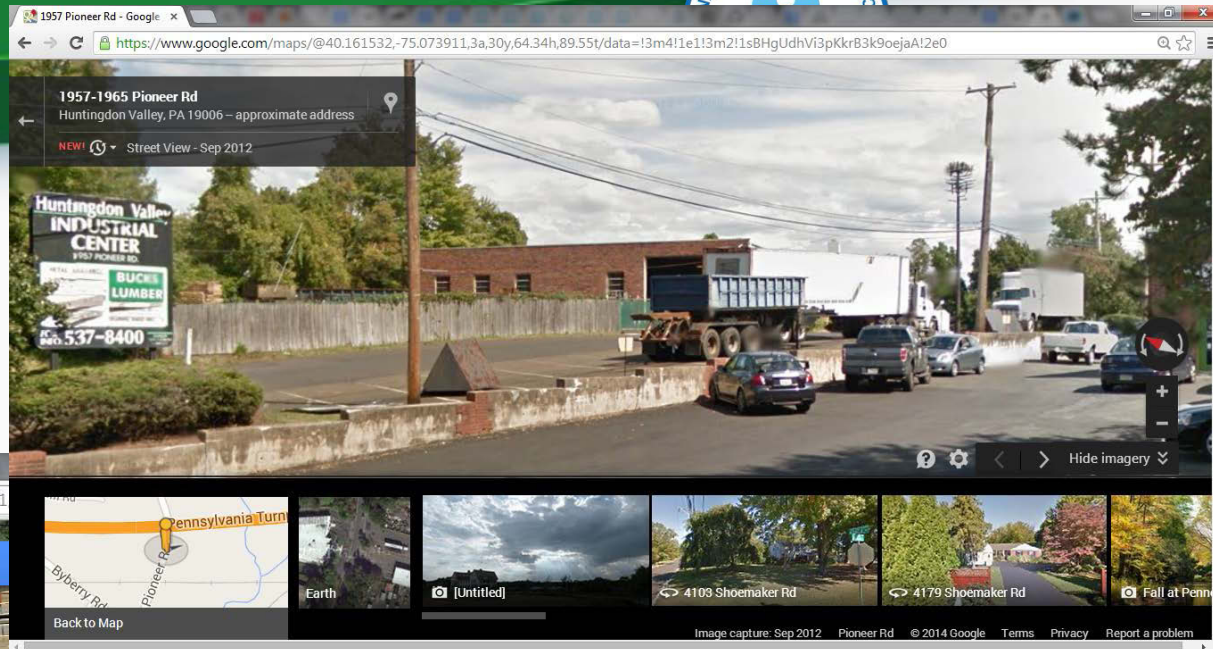


**Many located in Puerto Rico –
difficult to geocode**

TRIFID	Primary Name	Address	City	State	ZIP	Date Updated
00617GNRLNTOMAS	GENERAL INSTRUMENT PR INCORPORATED	CALLE TOMAS DAVILA # 9	BARCELONETA	PR	6170000	10/21/2009
00630VRSPRD887	VERPAS PRODUCTS INC	PR-887 KM 0.9	CAROLINA	PR	987	2/19/2014
00725NTRSPHWY18	INTERSPACE INDUSTRIES CORP	PR-183 KM 1.7	CAGUAS	PR	725	4/30/2014
00602BXTRF111CO	FENWAL INTERNATIONAL	111 CALLE COLON	AGUADA	PR	602	1/10/2014
00740XMDTRCARR1	XOMED TREACE PUERTO RICO INC	PR-195 KM 1.5	CABO ROJO	PR	6230731	3/1/2014
19006FLCND1957B	FIELCO INDUSTRIES	1957 B PIONEER ROAD	HUNTINGDON VALLEY	PA	19006-2505	11/4/2011
71701HLHNC12MIW	HLH INCORPORATED	AR HWY 203 0.5 MILES EAST OF HAMPTON	HAMPTON	AR	71744	3/1/2014
23185MNNNDRTE60	MANN INDUSTRIES INC	ROUTE 60 E	LEE HALL	VA	23603	9/13/2013
00634BCTNDLOT6V	BECTON DICKINSON CARIBE LTD	VICKS DR LOT 6 N-18 0720	CAYEY	PR	00736-2860	3/1/2014
2655WFRMNT25RDE	FAIRMONT SERVICE CENTER	25 RODEO DR	FAIRMONT	WV	26554	7/30/2012
00673CRBSTRD992	CARIBE STAPLE COMPANY INCORPORATED	ROAD 992 KM 0.2	LUQUILLO	PR	773	10/21/2009
23115TPPNTRTE62	TAPPA ENTERPRISES INCORPORATED	ROUTE 621	MILLERS TAVERN	VA	23115	4/30/2014
00766MDTRNROAD1	MEDTRONIC PR INC	PR-149 KM 56.3	VILLALBA	PR	766	4/30/2014
00731NTNLPAVEST	NATIONAL PACKING CO	AVE SANTIAGO	PONCE	PR	731	9/21/2009

TRI GIS Issues

**FIELCO INDUSTRIES
1957 B PIONEER ROAD
HUNTINGDON VALLEY
PA**



**Industrial Park – which building?
How to handle?
Metadata?**

FRS Linkage Application



FRS Facility Linkage Application

- Home
- Improve FRS Data
- Search
- Reports
- User Profile
- Help
- Admin

Improve FRS

Enter search criteria to narrow your search and select a radio button for Data Improvement, Resolve Possible Duplicates, or Facilities Flagged for Manual Review
[Learn more](#)

Search Options: *

- Improve Data
- Resolve Possible Duplicates
- Resolve Facilities Flagged for Manual Review

EPA Program Systems:

- RADINFO
- RBLC
- RCRAINFO
- REGION
- RFS
- RMP
- SDWIS
- SSTS
- TSCA

- TRIS

State/Tribal Program Systems:

- AL-PERMIT TRACKIN
- AR-PDS
- AZ-AZURITE
- CA-CASWIS
- CA-CERS
- CA-DTSC-ENVIROST
- CA-HWTS-DATAMAR
- CA-UORS
- CO-ECOMAP
- CT-SIMS

-

Other Program Systems:

- BIA INDIAN SCHOOL
- BRAC
- DHS-CSAT
- EIA-860
- LANDFILL
- OSHA-IMIS

-

FRS Linkage Application



FRS

Facility Linkage Application

- Home
- Improve FRS Data
- Search
- Reports
- User Profile
- Help
- Admin
- ETS

Improve Facility Data

The following facilities can be updated to improve data quality. If a record cannot be improved, it can be designated as "Known to be Incomplete" by clicking on the Unlist button, or you can remove the record from the list. [Learn more](#)

Rows

DQ Co

	Registry ID	DQ Code	Primary Name	Location Address	City	State	Zip	County	EPA Region	Standardized Address	Update Date
Edit	110020572860	iC	QUESTECH CORP	92 PARK ST	RUTLAND CITY	VT	05701	RUTLAND	01	92 PARK ST, RUTLAND, VT 05701 US	30-A
Edit	110014955003	iC	WEST CO	1001 10TH ST	MILLVILLE CITY	NJ	08332	CUMBERLAND	02	1001 N 10TH ST, MILLVILLE, NJ 08332 US	30-A
Edit	110001602622	iZ	ENDURART INCORPORATED	20 WEST 22ND STREET	NEW YORK CITY	NY	10010	NEW YORK	02	20 W 22ND ST, NEW YORK, NY 10010 US	30-A
Edit	110001577990	iZ	EMSIG MANUFACTURING CORP.	225 WEST 60TH ST	NEW YORK CITY	NY	10023	NEW YORK	02	225 W 60TH ST, NEW YORK, NY 10023 US	27-F
Edit	110020673500	iO	VIRGINIA CONCRETE COMPANY INCORPORATED -	659 BUILDERS LN	ASHBURN	VA	20147	LOUDOUN COUNTY	03	BUILDERS LN, ASHBURN, VA 20147 US	30-A

FRS Linkage Application



FRS

Facility Linkage Application

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Facility Matching Results

Analyze the duplicate candidates and place a check in the box beside any duplicate records.

- Select any registry IDs to merge by clicking the check box.
- Additional registry IDs can be added manually on the next screen after pushing the Merge button.
- Select the Cancel button to not merge any records and return to the previous page.

Registry ID	Primary Name	Location Address	City	State	Zip	County	Standardized Address	DQ Code
<input checked="" type="checkbox"/> 110000460484	CARGILL VALUE ADDED MEATS	2510 EAST LAKE SHORE DRIVE	WACO	TX	76705	MCLENNAN	2510 E LAKE SHORE DR, WACO, TX 76705 US	V
<input checked="" type="checkbox"/> 110034298677	CARGILL MEAT SOLUTIONS WACO	2510 E LAKESHORE DR	WACO	TX	76705	MCLENNAN	2510 E LAKE SHORE DR, WACO, TX 76705 US	V

1 - 2

- Merge
- Clear Flag
- Reset
- Cancel

FRS Linkage Application



FRS
Facility Linkage Application

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- ETS

Duplicate Program Records

This report identifies facilities that have multiple program interest records from the same program associated with one facility.

Programs

Please select a Program and click on the Submit button.

Program

Search Go

State Code = 'PA'

FRS record

Registry ID	Program	Program ID	Primary Name	Location Address	City Name	State Code	Postal Code	County Name	Standardized Address	Update Date
110000328967			MEDRAD INC	1 MEDRAD DRIVE	INDIANOLA	PA	15051	ALLEGHENY	1 NORTHEAST PLZ	30-APR-14
110000328967	TRIS	15051MRDRNMEDRA	MEDRAD INC	1 MEDRAD DR	INDIANOLA	PA	15051	ALLEGHENY	1 NORTHEAST PLZ	04-NOV-11
110000328967	TRIS	15238BCHRC625AL	MEDRAD, INC. HEILMAN CENTER	625 ALPHA DR	PITTSBURGH	PA	15238	ALLEGHENY	625 ALPHA DR	04-NOV-11
110000329038			HORSEHEAD CORP MONACA SMELTER	300 FRANKFORT ROAD	MONACA	PA	15061	BEAVER	300 FRANKFORT RD	30-APR-14
110000329038	TRIS	15061MTSZC300FR	HORSEHEAD ZINC POWDERS LLC	302 FRANKFORT RD	MONACA	PA	15061	BEAVER	302 FRANKFORT RD	25-SEP-13
110000329038	TRIS	15061ZNCRC300FR	HORSEHEAD CORP MONACA SMELTER	300 FRANKFORT RD	MONACA	PA	15061	BEAVER	300 FRANKFORT RD	04-NOV-11

FRS Linkage Application



Improved FRS Data to Programs x

← → ↻ <https://ofmext.epa.gov/apex/fii/f?p=104:65:347028061487::NO::> 🔍 ☆ ☰

Improved FRS Data to Programs

This report identifies facility records and the corresponding program records where data quality improvements have been made.

Programs

Please select a Program and click on the Submit button.

Program ▼

Go

FRS record

Registry ID	Program	Program ID	Primary Name	Location Address	City Name	County Name	Postal Code	State Code	Standardized Full Address	Data Quality Code
110000342521			CHURCH & DWIGHT CO INC	1851 TOUCHSTONE ROAD	COLONIAL HEIGHTS	CHESTERFIELD	23834-5949	VA	1851 TOUCHSTONE RD, COLONIAL HEIGHTS, VA 23834 US	V
	TRIS	23834LDNCR16101	CHURCH & DWIGHT CO INC	1851 TOUCHSTONE RD	COLONIAL HEIGHTS	CHESTERFIELD	23834	VA	1851 TOUCHSTONE RD, COLONIAL HEIGHTS, VA 23834 US	iO
110000383246			STYLE CREST ENTERPRISES INC	600 HAGERTY DRIVE	FREMONT	SANDUSKY	43420-9100	OH	600 HAGERTY DR, FREMONT, OH 43420 US	V
	TRIS	43420STYLC600HA	STYLE CREST ENTERPRISES INC	600 HAGERTY DR DRAWER A	FREMONT	SANDUSKY	43420	OH	600 HAGERTY DR, FREMONT, OH 43420 US	eA
110000403821			COLLIS, INC.	3001 MAXX RD	EVANSVILLE	VANDERBURGH	47711	IN	3001 MAXX RD, EVANSVILLE, IN 47711 US	V
	TRIS	47711CLLSN3001M	COLLIS INC EVANSVILLE DIV	3001 MAXX RD	EVANSVILLE	VANDERBURGH	477112931	IN	3001 MAXX RD, EVANSVILLE, IN 47711 US	eA
110000428421			EXXONMOBIL BILLINGS REFINERY	700 EXXON REFINERY RD	BILLINGS	YELLOWSTONE	59101-7300	MT	700 EXXON REFINERY RD, BILLINGS, MT 59101 US	V
	TRIS	59101XXNBL700EX	EXXONMOBIL BILLINGS REFINERY	700 EXXONMOBIL RD	BILLINGS	YELLOWSTONE	59101	MT	700 EXXON REFINERY RD, BILLINGS, MT 59101 US	eA

FRS Linkage Application



Program System Address | x
 https://ofmext.epa.gov/apex/fii/f?p=104:53:347028061487::NO::P53_CHART_TYPE:F

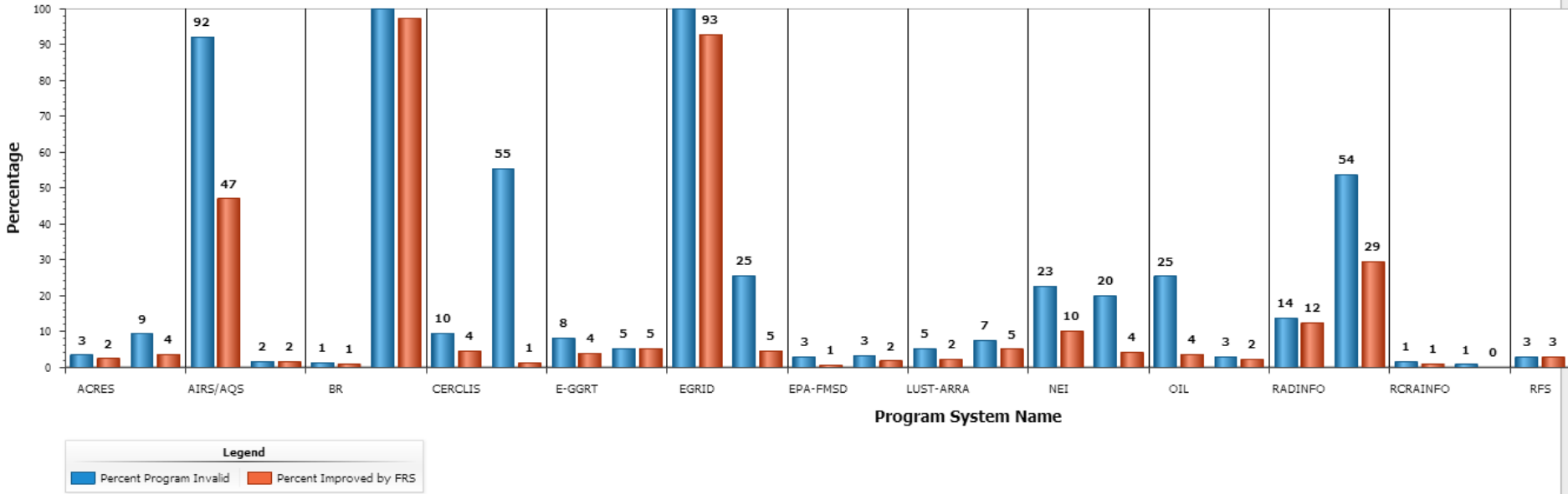


FRS Facility Linkage Application

- Improve FRS Data
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- ETS

Program System Address Improvements

Click on one of the bars on the bar chart to drill down to see more information about the data.



FRS FLA: Summary



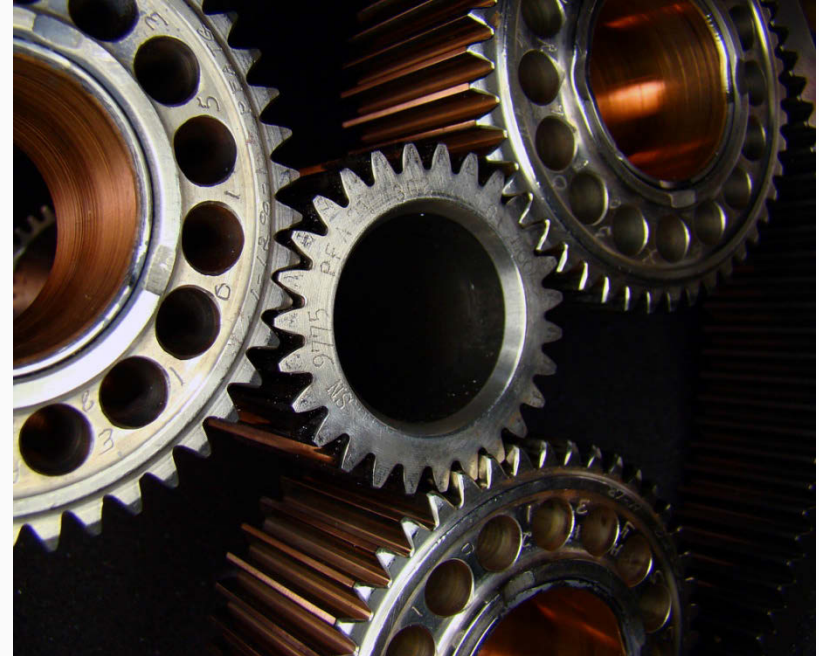
- Many capabilities
 - Search
 - Update facilities
 - Geospatial site locator
 - Data Validity reports
 - Comparative analysis
 - Download spreadsheets



Front-End Integration



- Services can be built once, and then power many different types of applications and serve many different needs
- You can mix and match different APIs to serve emergent needs
- REST is a great option for building interactive, dynamic applications



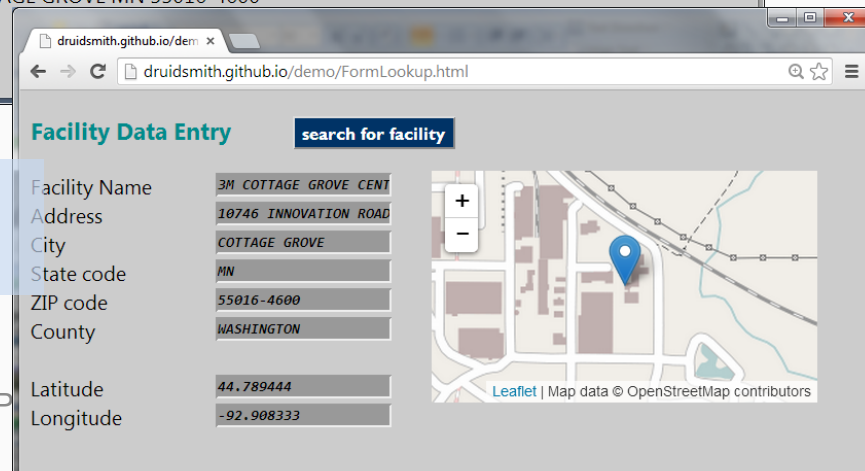
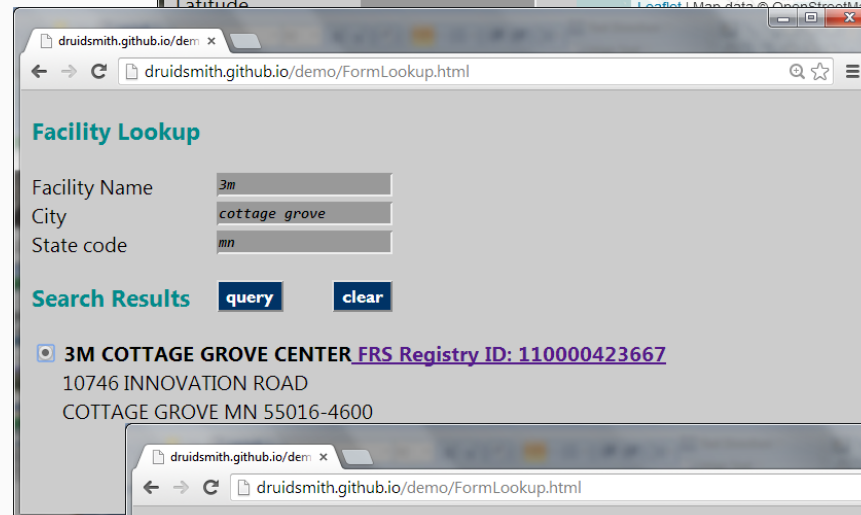
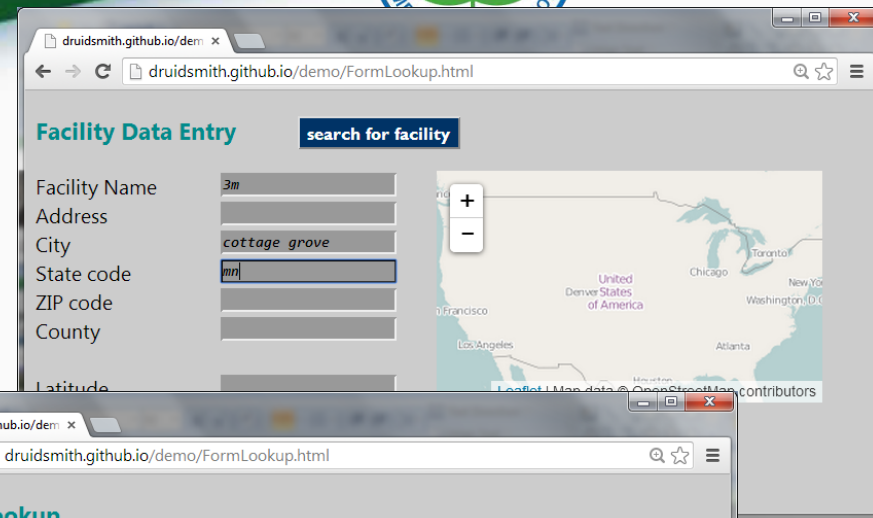
**REST = “REpresentational State Transfer”*

e-Enterprisey goodness..?



- APIs can be useful in reporting and burden reduction via lookups, prepopulating forms, and validation
- In use in TRIME-Web

<https://github.com/USEPA/FRS-getfacilities-samples/blob/master/FormLookup.html>



Why might others care?



- ***Because you can use some of these services, too!***

```
{
  "Results":{
    "Message":"Success",
    "Permits":[
      {
        "Statute":"","
        "EPASystem":"FRS",
        "EPARegion":"03",
        "SourceID":"110006368206",
        "FacilityName":"AKER PHILA SHIPYARD",
        "FacilityStreet":"PORTER AVENUE AND BRIDGE STREET",
        "FacilityCity":"PHILADELPHIA",
        "FacilityState":"PA",
        "FacilityZip":"19112",
        "Universe":"","
        "Areas":null,
        "ExpDate":null,
        "Statute":"CAA",
        "EPASystem":"AFS",
        "EPARegion":"03",
        "SourceID":"4210101569",
        "FacilityName":"AKER PHILA SHIPYARD/SHIPBUILDING YARD",
        "FacilityStreet":"PHILA NAVAL BUS CTR",
        "FacilityCity":"PHILADELPHIA",
        "FacilityState":"PA",
        "FacilityZip":"19112",
        "Universe":"Major",
        "Areas":"SIP, NSPS, MACT (SECTION 63 NESHAPS), TITLE V PERMITS",
        "ExpDate":null,
        "Latitude":null,
        "Longitude":null,
      }
    ]
  }
}
```

Detailed Facility Report | E x

echo.epa.gov/detailed_facility_report?fid=110006368206

EPA United States Environmental Protection Agency

Learn the Issues Science & Technology Laws & Regulations About EPA

ECHO Enforcement and Compliance History Online

You are here Home > Detailed Facility Report

Detailed Facility Report

This page updates dynamically based on your search within the page.

Expand All Collapse All Report Violation Report Data Error Data Dictionary Download

Facility Summary

AKER PHILA SHIPYARD
PORTER AVENUE AND BRIDGE STREET, PHILADELPHIA, PA 19112

Facility Information (FRS)
FRS ID: 110006368206
EPA Region: 03
Latitude: 39.884891
Longitude: -75.191124
Industry:
Indian Country: --
[Go To Facility/System Characteristics](#)

Regulatory Interests
Clean Air Act: Operating Major (421010)
Clean Water Act: Minor, Permit Effective
Terminated (PA0058483)
Resource Conservation and Recovery Act (PAR000040162)
Safe Drinking Water Act:

Also Reports

External linkages



FRS Facility Detail Report

http://iaspub.epa.gov/enviro/fii_query_detail_disp_program_facility?p_registry_id=110000416158

FRS Facility Detail Report

BRENTAG GREAT LAKES LLC
 W194 N11756 MCCORMICK DRIVE
 GERMANTOWN, WI 53022491
 EPA Registry Id: 110000416158

Legend

- Selected Facility
- EPA Facility of Interest
- State/Tribe Facility of Interest

The facility locations displayed come from the FRS Spatial Coordinates tables. They are the best representative locations for the displayed facilities based on the accuracy of the collection method and quality assurance checks performed against each location. The North American Datum of 1983 is used to display all coordinates.

Environmental Interests

Information System	ID	Environmental Interest Type	Diets Source	Last Updated Date	Supplemental Envt
TOXIC RELEASE INVENTORY SYSTEM	53022HCVRM1348	TRI REPORTER	TRI REPORTING FORM	07/09/2001	
INTEGRATED COMPLIANCE INFORMATION SYSTEM	4022659	ENFORCEMENT/COMPLIANCE ACTIVITY	ICIS	02/15/2006	
WISCONSIN - ENVIRONMENTAL SYSTEM REGISTRY	162059	STATE MASTER	WI-ESR	26713236	

ECHO Enforcement and Compliance Report

http://echo.epa.gov/detailed_facility_report?fid=110000416158

ECHO Enforcement and Compliance History Online

Detailed Facility Report

BRENTAG GREAT LAKES LLC
 W194 N11756 MCCORMICK DRIVE, GERMANTOWN, WI 53022

Facility Information (FRS)
 FRS ID: 110000416158
 EPA Region: 05
 Latitude: 43.23138
 Longitude: -88.14909
 Industry: Indian Country: N
[Go To Facility/System Characteristics](#)

Regulatory Interests
 Clean Air Act:
 Clean Water Act:
 Resource Conservation and Recovery Act: Active Transporter (WRP00)
 Safe Drinking Water Act:
Also Reports
 Air Emissions Inventory (EIS):
 Greenhouse Gas Emissions (eGGRT):
 Toxic Releases (TRI): [53022HCVRM1348](#)

Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Current Compliance Status	Qtr s in NC (of 12)	Qtr s in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	EPA Cases
RCRA	--	--	No Violation	0	0	--	--	--

[Go To Enforcement/Compliance Details](#)

Facility/System Characteristics

“The ability to designate a buffer zone adjacent to the state, returning points from that nearby state - Our Site Investigation maps include potential sources and receptors within 4 miles (ground water/soil contamination) or 15 miles (surface water contamination) of the site center. If this service could be tailored to return results based on a point location or user-defined polygon, this could be useful for us.”

Example: CERCLIS facilities within 4 mile radius of a location on the Missouri River in Kansas City, MO - REST Call:

http://ofmpub.epa.gov/enviro/frs_rest_services.get_facilities?latitude83=39.120638&longitude83=-94.573593&search_radius=4&pgm_sys_acrn=TRIS

<Results>
<FRSFacility>
<RegistryId>110024699174</RegistryId>
<FacilityName>A & E CUSTOM MFG</FacilityName>
<LocationAddress>3150 CHRYSLER RD</LocationAddress>
<SupplementalLocation/>
<CityName>KANSAS CITY</CityName>
<CountyName>WYANDOTTE</CountyName>
<StateAbbr>KS</StateAbbr>
<ZipCode>66115</ZipCode>
<FIPSCode>20209</FIPSCode>
<Latitude83>39.144817</Latitude83>
<Longitude83>-94.612876</Longitude83>
</FRSFacility>
<FRSFacility>
<RegistryId>110003945198</RegistryId>
<FacilityName>ADM MILLING CO.</FacilityName>
<LocationAddress>1701 ARMOUR ROAD</LocationAddress>
<SupplementalLocation/>
<CityName>KANSAS CITY</CityName>
<CountyName>CLAY</CountyName>

<StateAbbr>MO</StateAbbr>
<ZipCode>64116-3299</ZipCode>
<FIPSCode>29047</FIPSCode>
<Latitude83>39.14138</Latitude83>
<Longitude83>-94.559921</Longitude83>
</FRSFacility>
<FRSFacility>
<RegistryId>110000443048</RegistryId>
<FacilityName>ADM PROCESSING</FacilityName>
<LocationAddress>200 WEST 19TH AVENUE</LocationAddress>
<SupplementalLocation/>
<CityName>KANSAS CITY</CityName>
<CountyName>CLAY</CountyName>
<StateAbbr>MO</StateAbbr>
<ZipCode>64116-3441</ZipCode>
<FIPSCode>29047</FIPSCode>
<Latitude83>39.141521</Latitude83>
<Longitude83>-94.581169</Longitude83>
</FRSFacility>

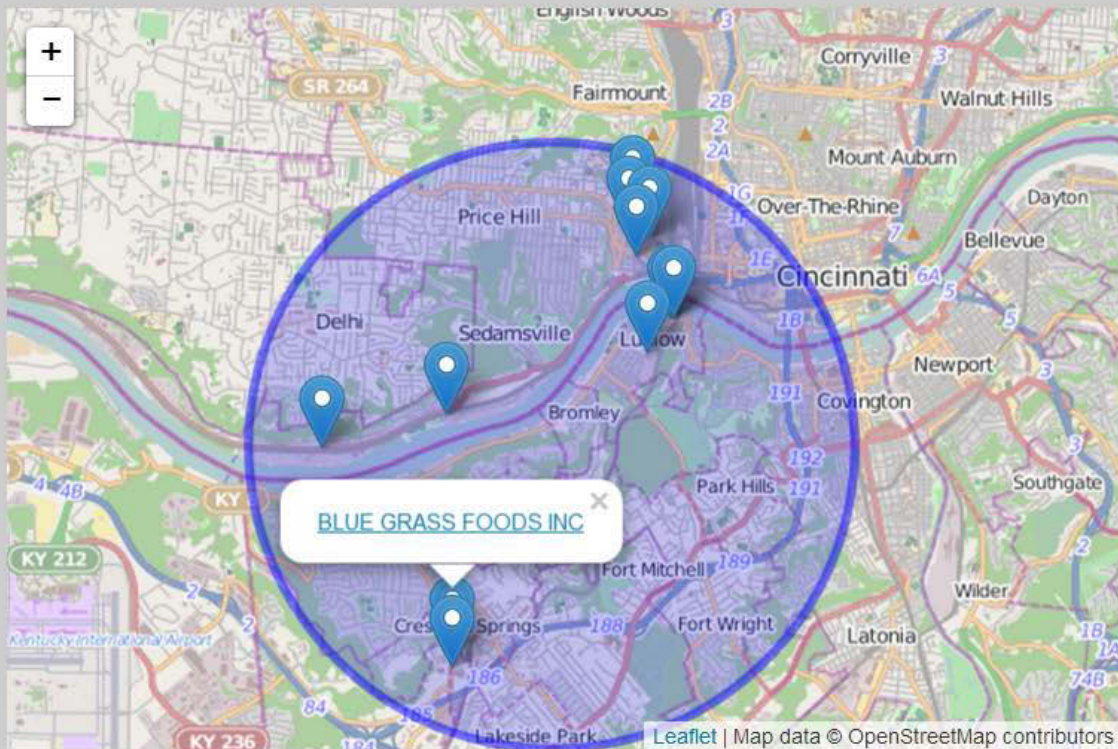
“The ability to search for data adjacent to the state, returning points from that nearby state - Our Site Investigation maps include potential sources and receptors within 4 miles (ground water/soil contamination) or 15 miles (surface water contamination) of the site center. If this service could be tailored to return results based on a point location or user-defined polygon, this could be useful for us.”

Leaflet FRS Query Example x
← → ↻ druidsmith.git

Map Search

Pan and zoom to area of interest; select search parameters, and click on the map to query.

Search National Program: Search Radius: (miles)



BARKER FINE COLOR INC

- ACRES Program ID: 122542
- KY-TEMPO Program ID: 11683
- TRIS Program ID: 41016BRKRF38ELM

BLUE GRASS FOODS INC

- ICIS Program ID: 14176
- NPDES Program ID: KYR001396
- TRIS Program ID: 41017BLGRS2645C

BODYCOTE THERMAL PROCESSING

- AIRS/AFS Program ID: 3906100127
- ICIS Program ID: 26908

<https://github.com/USEPA/FRS-getfacilities-samples/blob/master/MapDemo.html>

Thank You / Questions?



David Smith	202-566-0797	Smith.DavidG@epa.gov
Ana Greene	202-566-2132	Greene.Ana@epa.gov
Aaron Meyers	202-566-0690	Meyers.Aaron@epa.gov
Lee Kyle	202-564-4622	Kyle.Lee@epa.gov

Topic	URL
FRS Homepage	http://www.epa.gov/frs/
FRS REST Services	http://www.epa.gov/enviro/html/fii/FRS_REST_Services.html
FRS REST Services Demo Code	https://github.com/USEPA/FRS-getfacilities-samples
FRS Data Resources	http://www.epa.gov/enviro/html/fii/dataresources.html
EPA Geospatial Program	http://www.epa.gov/geospatial/index.html
EPA Geodata Gateway	https://edg.epa.gov/