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Agenda

- Overview of NEI and EIS (slides 3 – 6)
- Facility inventory structure and minimum requirements for new items (slides 7 – 25)
- Editing existing EIS facilities (slides 26 – 27)
- Maintaining recognized IDs (slides 29 – 30)
- Lat-Lons and other release point QA (slides 31 – 33)
- Building and submitting XML files (slides 34 – 42)
- Using the submittal feedback report (slides 43 – 45)
- Other reports available in EIS (slides 46 – 56)
- Recap of changes for 2011 (slides 57 – 59)

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EIS and the NEI

- Emission Inventory System (EIS)
  - Data repository for air emissions data used to create the NEI
  - Contains State, Local, Tribal and EPA-submitted data
  - Can be multiple emissions values for the same unit/process
  - Annual, monthly, daily data
  - Data available via a password-protected web site
    - EIS Gateway https://eis.epa.gov/eis-system-web/welcome.html
- National Emission Inventory (NEI)
  - Snapshot in time from EIS
  - Inventory version shared with the public
  - One emissions value per process selected
  - Annual emissions values

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S/L/T Reporting Requirement

- Air Emissions Reporting Rule (AERR)
  http://www.epa.gov/ttn/chief/aerr/
  - Complete criteria pollutant inventory every 3 years
    - All point sources (100 tpy potential to emit threshold)
    - Nonpoint sources
    - Onroad and Nonroad sources
    - Events (wildfires and prescribed fires)
    - 2011 Emissions due 12/31/2012, EIS window opens 6/1/2012
  - Annual reporting for Type A point source facilities
    - SO2, NOx, CO with potential to emit ≥ 2,500 tpy
    - VOC, PM, NH3 with potential to emit ≥ 250 tpy
    - Pb with potential to emit ≥ 5 tpy (to be amended to agree with Lead NAAQS level of ≥ 0.5 tpy)
  - HAPs are submitted voluntarily by many S/L/Ts and are encouraged as part of an integrated report

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Uses of the NEI

- The NEI is one of the key inputs for :
  - Modeling of national rules – NAAQS reviews, CSAPR, etc
  - Non-attainment Designations
  - NATA Review – toxics risk modeling
  - Trends reports and analyses

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Components of the EIS

- Six different data categories
  - Facility Inventory
  - Point Emissions
  - Nonpoint Emissions
  - Onroad Emissions
  - Nonroad Emissions
  - Event Emissions (wildfires and prescribed fires)
  - No biogenic emissions, although these are part of EPA's modeling files

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The Facility Inventory

- Information on the physical facility, as opposed to the annual thruputs and emissions. Provides the static framework to which point emissions can be reported each year.
  - Site-level information and location
  - Release point parameters and locations
  - Emission unit information (unit type, design capacity)
  - Emission process information (SCC)
  - Control devices or measures
  - Regulations
- Only changes or additions from year to year need to be reported.
  - EIS will recognize what the changes are if you maintain consistent facility/unit/process/release point IDs each year
- Appendix 2 at http://www.epa.gov/ttn/chief/net/neip/index.html provides full CERS schema data elements

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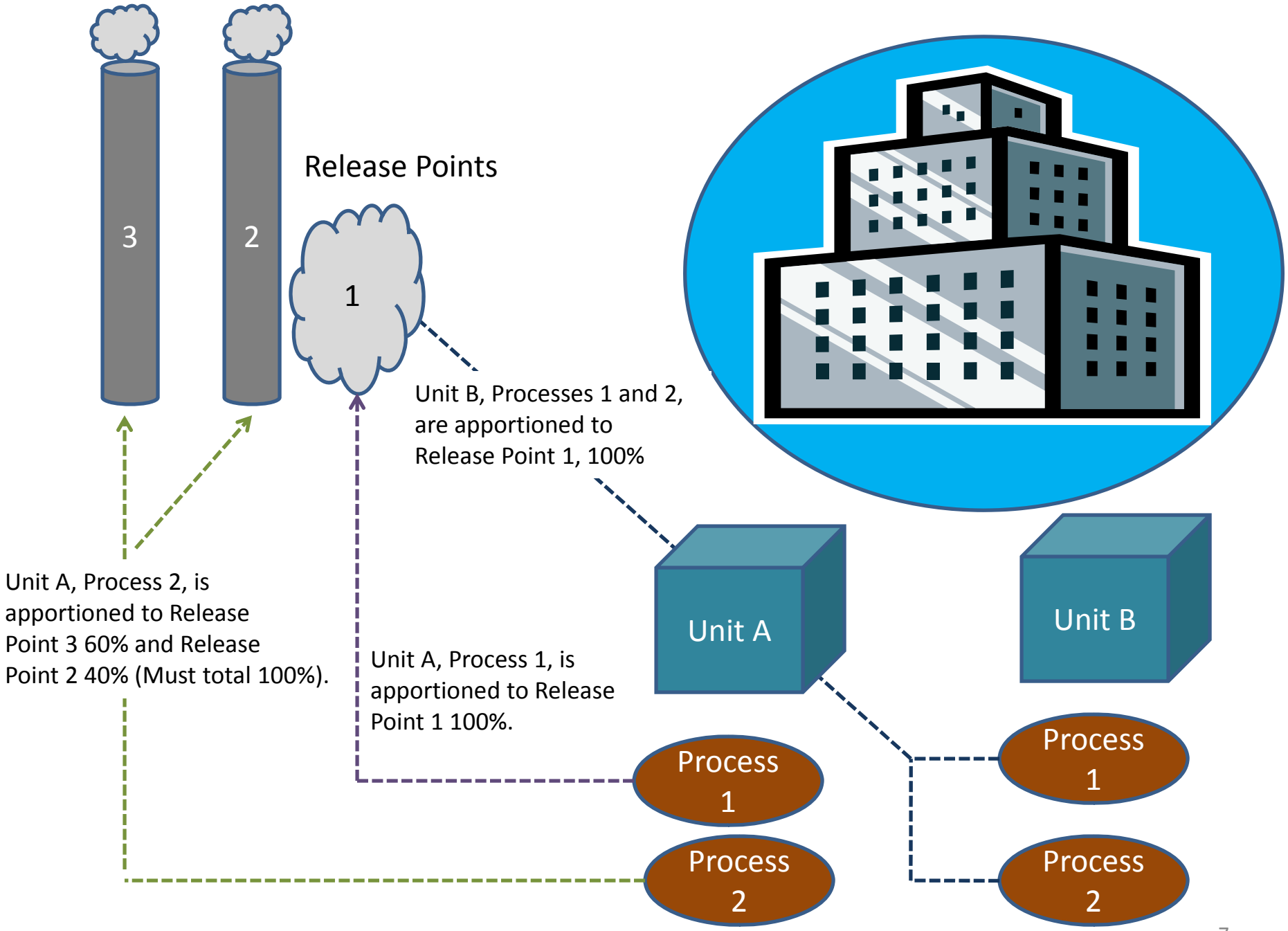

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Site-level Info Required for New Facility

- State and County FIPS or Tribal Code
- Facility Site Identifier (your Agency's ID)
- Facility Site Identifier Program System Code
- Facility Site Name
- Operating Status (and Status Year if not="OP")
- NAICS
- 4 **Physical** Address Fields : Street, City, State, Zip
- Site-level Latitude and Longitude
  - must be **Decimal Degrees** *(NOT Degrees.MinuteSecond)*

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Exceptions for Portable Facilities and Off-Shore Platforms

- Portable Facilities
  - State FIPS + 777
  - Use “Portable Facility” for FacilitySiteDescription
  - Geographic Coordinates and Physical Address can not be reported.
- Off-shore Platforms in State Waters
  - Provide the 5-digit FIPS
  - Use “Offshore Facility” for FacilitySiteDescription
  - Provide the Site-level Geographic Coordinates
  - Use “N/A” for Physical Street Address and City
  - Provide State Abbreviation
  - Use “99999” for Zip Code
- Off-shore Platforms in Federal Waters
  - State and County FIPS = 85000
  - USEPA loads emissions estimated by Dept of Interior to EIS

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Airports : Aircraft Engines, APUs, GSE

- Prior to 2008 NEI, reported by USEPA as nonpoint county sums
- USEPA added 20,000 airport facilities for 2008 NEI. ALL airports, helipads, seaplane bases now in Facility/Point
  - EPA provides estimates for LTOs and aircraft-related emissions, so only improved or missing local data need be reported
- No nonpoint or nonroad emissions accepted for aircraft engine exhaust, auxiliary power units or ground support equipment, even though NONROAD model calculates APU and GSE
  - aviation gas distribution and filling emissions continue to be reported as nonpoint county sums
- IF S/L/Ts report, use the existing unit and process ID framework to place emissions at same processes as USEPA
  - Units are aircraft types (military, commercial, general aviation, etc)
  - Processes are aircraft make and engine type, indicated by **aircraftenginetype code**. This is now a required field
  - Combinations of SCC plus **aircraftenginetype code** that duplicate existing processes will NOT be accepted as new processes

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Rail Yards

- Prior to 2008 NEI, all reported as nonpoint county sums
- USEPA added 800 largest facilities as Facility/Point for 2008
- There may be smaller rail yards not yet in Facility. S/L/Ts may add these as Facility/Point or report in nonpoint, but check Facility Inventory for duplication
- Emissions from yard locomotives only. Emissions from locomotives on rail lines are reported in nonpoint using line segment shapefiles

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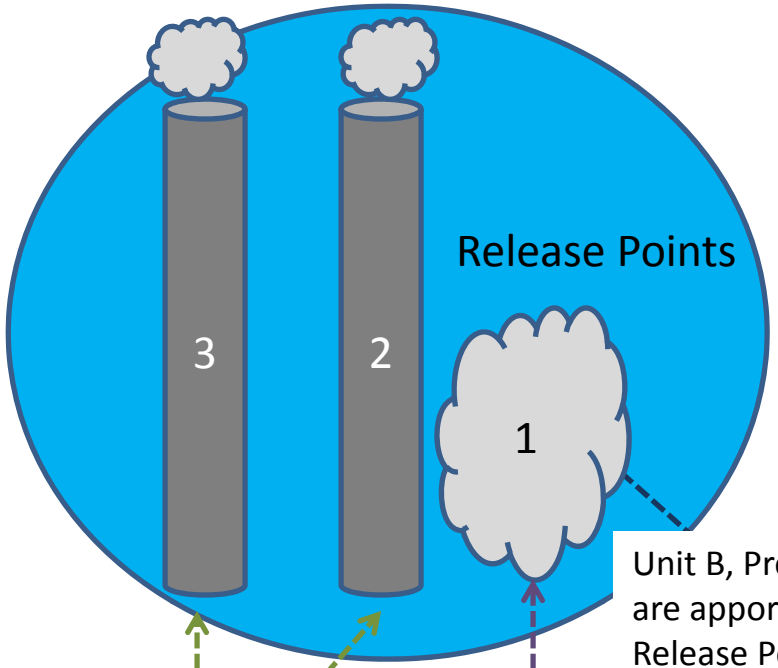
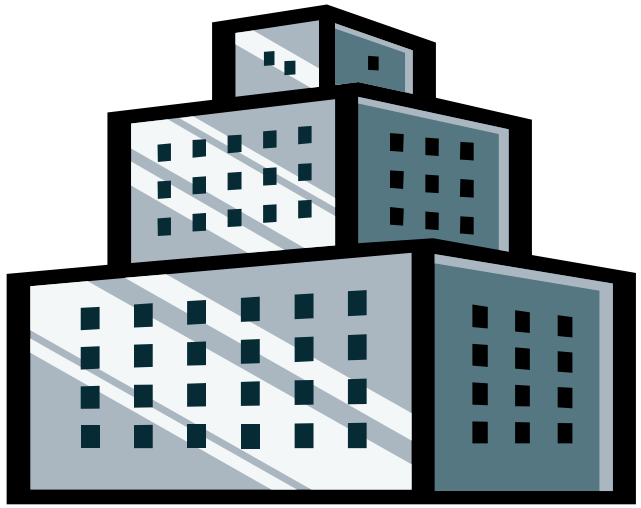
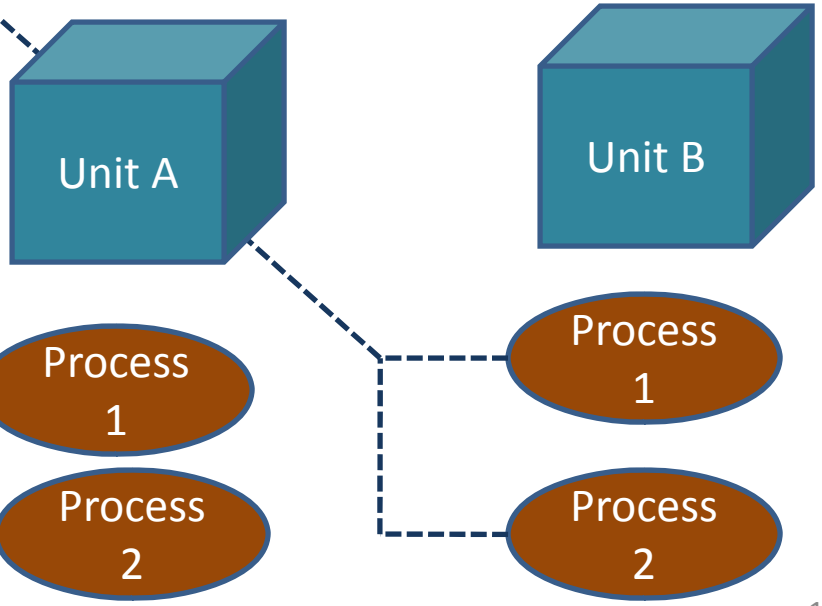




Unit B, Processes 1 and 2, are apportioned to Release Point 1, 100%

Unit A, Process 2, is apportioned to Release Point 3 60% and Release Point 2 40% (Must total 100%).

Unit A, Process 1, is apportioned to Release Point 1 100%.



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Info Required for New Release Point

- State and County FIPS or Tribal Code
- Facility Site Identifier and Program System Code
- Release Point Identifier (your Agency's ID)
- Release Point Identifier Program System Code
- Operating Status (and Status Year if not="OP")
  - OP, PS, TS
- Release Point Type Code
  - 1 – Fugitive
  - 2 – Vertical
  - 3 – Horizontal
  - 4 – Goose Neck
  - 5 – Vertical with Rain Cap
  - 6 – Downward-Facing Vent

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Required if Release Point is a Stack

- Height & Unit of Measure (FT)
- Diameter & Unit of Measure (FT)
- Exit Gas Velocity & Unit of Measure (FPS or FPM) or Exit Gas Flow Rate & Unit of Measure (ACFS or ACFM) or both
  - Error 192 – consistency of Diameter, Velocity, and Flow
- Exit Gas Temperature & Unit of Measure (DEGF)
- Optional : Release Point Lat-Lon Coordinates
  - must be **Decimal Degrees** *(NOT Degrees.MinuteSecond)*

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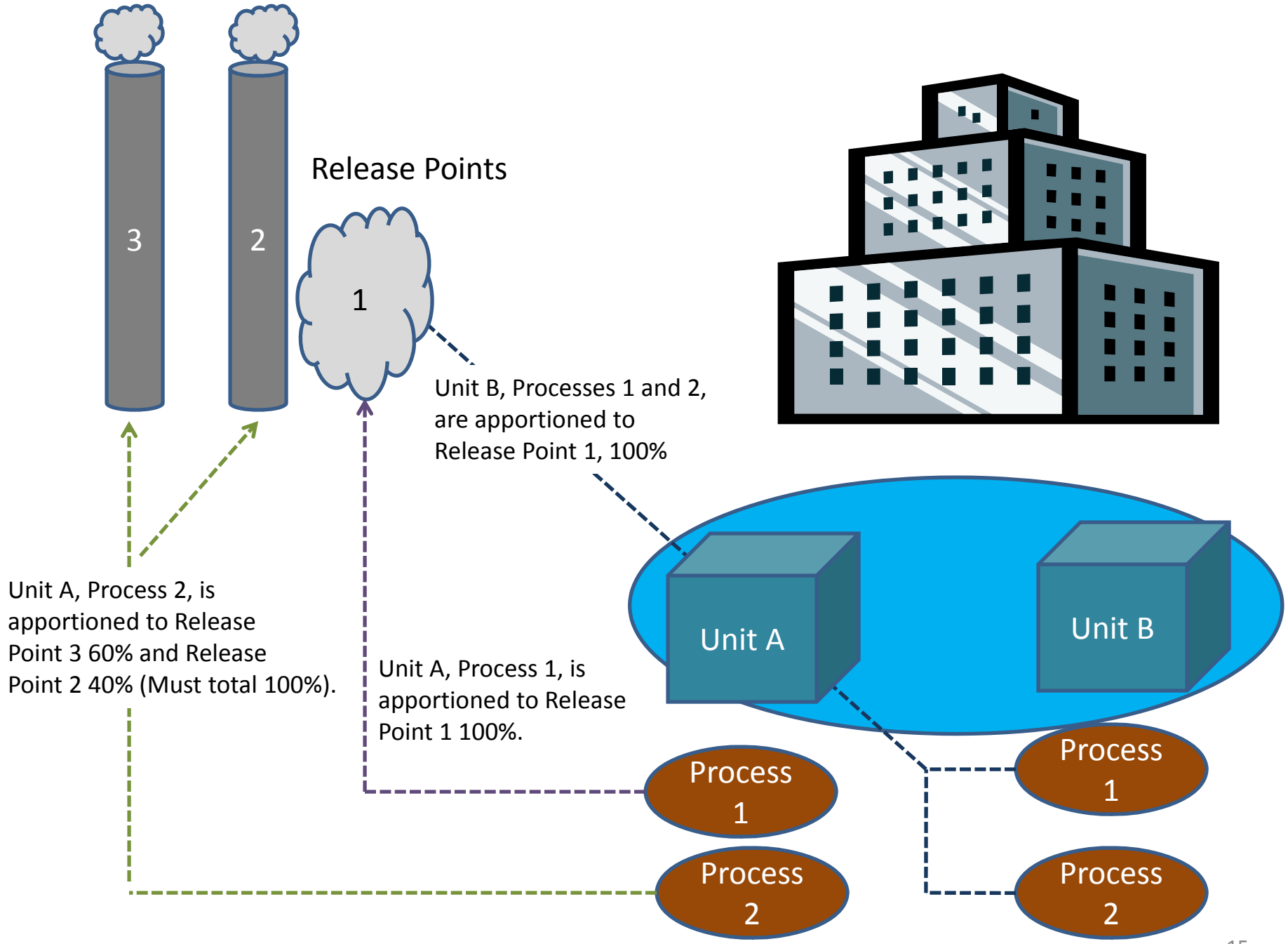

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Info Required for New Emission Unit

- State and County FIPS or Tribal Code
- Facility Site Identifier and Program System Code
- Unit Identifier (your Agency's ID)
- Unit Identifier Program System Code
- Operating Status (and Status Year if not="OP")
  - OP, PS, TS
- Unit Type Code (see EIS Gateway for list of 44)
  - 999 = "Miscellaneous" is available if necessary. Don't include this for existing units to avoid overwriting all with 999
- Design Capacity & Unit of Measure is requested for boilers, turbines, engines, heaters, and is a Warning check

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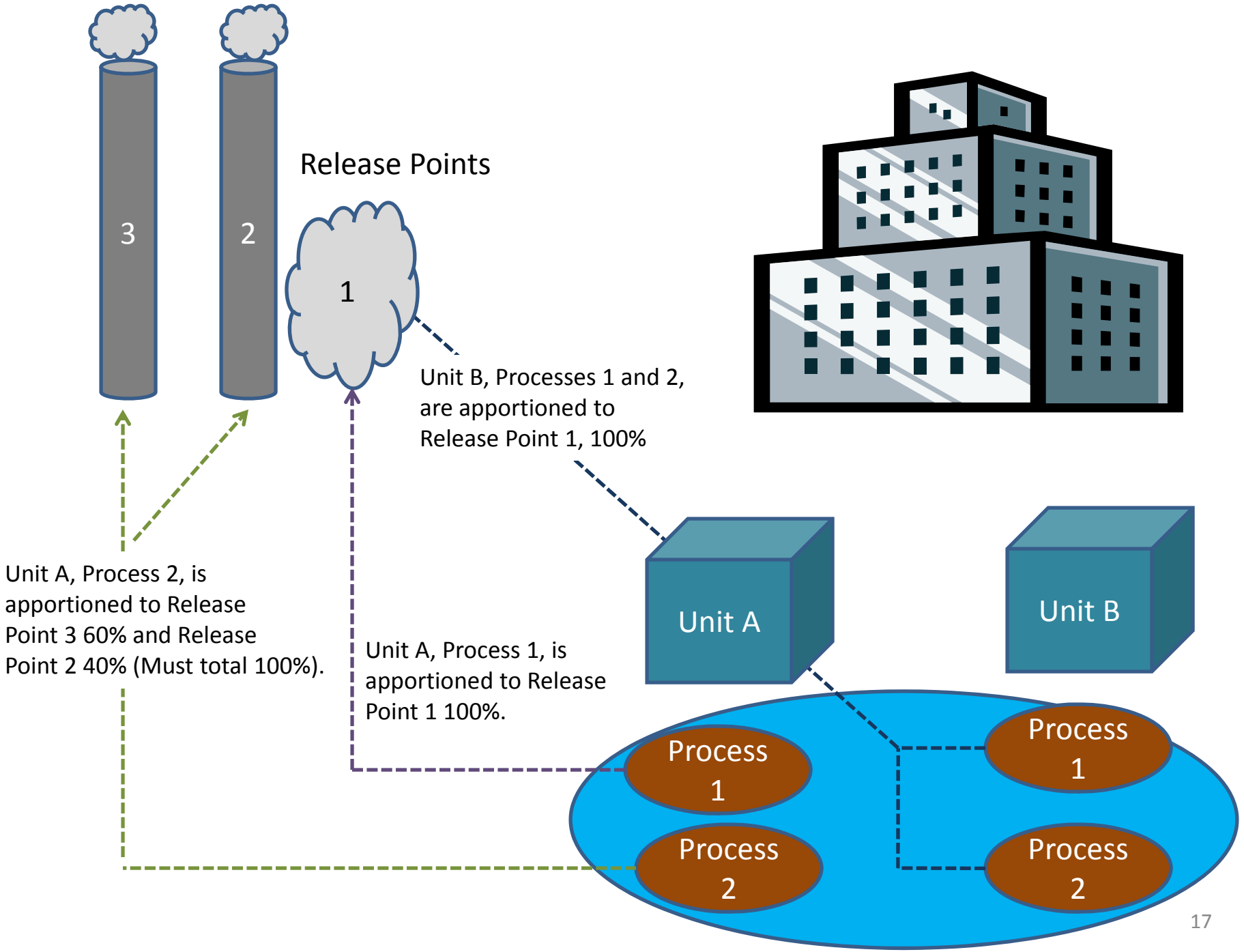

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Info Required for New Emission Process

- State and County FIPS or Tribal Code
- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier (your Agency's ID)
- Emissions Process Identifier Program System Code
- Source Classification Code (see EIS Gateway for list)
  - Avoid using non-specific codes such as 399999xx if possible
- AircraftEngineTypeCode – now required for aircraft SCCs
- One or more Release Point Apportionments

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Release Point Apportionment

- State and County FIPS or Tribal Code
- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier (your Agency's ID) and Program System Code
- Release Point Identifier (your Agency's ID)
- Release Point Identifier Program System Code
- Percent of process venting to release point
- A process may be vented to one or more release points
- Total percentages must equal 100

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Controls

- Controls are required by AERR to be reported if they exist
  - There is no uncontrolled code
- Either unit OR process level
- Only one control approach may be active at any given time – any new controls submittal replaces the previous completely, for all three components
- Three components must be reported together :
  - Control Approach Component
    - The “parent” of the control group
    - non-pollutant specific percentages – capture, effectiveness
  - Control Measure Component
    - control device codes that make up the control approach
  - Control Pollutant Component
    - Pollutants controlled by the all devices in the overall approach
    - Percent Reduction Efficiency for each pollutant, if available

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Control Approach Component

- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier and Program System Code
  - Reported only if the control approach is at the process level
- First Inventory Year
- Percent Control Approach Capture Efficiency
- Percent Control Approach Effectiveness

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Control Measure Component

- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier and Program System Code
  - Reported only if the control approach is at the process level
- Control Measure Code(s) – at least one required

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Control Pollutant

- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier and Program System Code
  - Reported only if the control approach is at the process level
- Pollutant Code(s) – at least one required
- Optional, and desirable, per pollutant : % reduction achieved by the combination of all control measures
- **New QA Check** – Percent Control Measures Reduction Efficiency cannot be 100% unless there is a ban in use.

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Regulations

- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier and Program System Code
  - Reported only if the regulation is at the process level
- Regulatory Code
  - EPA plans to populate and protect for MACT , Area Source, and Section 129 Rules
  - S/L/Ts can currently add any these regs, but can't protect
  - S/L/Ts can add their non-Federal regs using code SLT-0001
    - Agency Code Text required if you submit this reg code

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Editing an Existing Process

- State and County FIPS or Tribal Code
- Facility Site Identifier and Program System Code
- Unit Identifier and Program System Code
- Emissions Process Identifier and Program System Code
- New Source Classification Code, or
- AircraftEngineTypeCode, or
- Last Inventory Year : to end a process
  - Must be = or > most recent emissions reported
- Reapportioning a process to a new release point can only be done on the Gateway

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Editing an Existing Facility Site

- Changing the Status Code on a facility
  - State and County FIPS or Tribal Code
  - Facility Site Identifier and Program System Code
  - New Status Code
  - Status Code Year – If status code is other than OP
- Adding the Operating Status Code Year
  - Defined as 1/1/XXXX
  - Error 2249 – "The Operating Status for statuses other than "OP" must be greater than the latest year of emissions submitted to that facility site, except landfills."

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Break Time – 10 Minutes

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Maintaining Identifiers Across Years

- You may submit data to EIS using EITHER your Agency's IDs OR the EIS IDs
- Unique and recognized IDs for Sites, Units, Emission Processes and Release Points
- If a Site ID is not recognized by EIS, it checks existing for Potential Duplicate site. But no checks for duplicate units, processes, or release points
- Problems created
  - Growing number of "abandoned" units, processes, rps
  - Emissions reported from non-S/L sources not at "current" S/L process ID will be double-counted in NEI
  - No historical tracking below site level

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If You Have to Revise Your IDs

- Individually via EIS Gateway
- Or large batch – use two XML file submittals
  - first XML puts an End Date on the existing IDs
    - Identify the site, unit, rel pt or process using either the EIS IDs or the Agency IDs, Program System Code, and FIPs as currently recorded in EIS
    - End Date when the Agency ID stopped being used by your system
  - second XML to add your new ID to the same item(s)
    - Identify the site, unit, rel pt or process **using the EIS IDs**
    - The new Agency ID, Program System Code, and FIPs
    - Effective date when the new Agency ID began being used

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Geo Coordinates - Lat & Lon

- Required at Site Level
- Optional at Release Point Level *(unlike NIF)*
- Many migrated legacy NIF values at Release Point Level and derived averaged values at Site Level
- Unless you have actual release point coordinates for some of your larger facilities, we suggest reporting Site level only
  - Modeling files will use Site coords for any missing Release Point coords
  - Site center or main emitting point coords preferred
    - Use the Geo Reference Point Code to indicate that your measurement is the entrance or site center or other
- Be careful with any conversions from your system's data
  - **Decimal Degrees** *(NOT Degrees.MinuteSecond)*
  - Sum Longitude whole degrees and decimal portion correctly
  - UTM zone errors

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Protected Lat-Lon Coordinates

- Have been verified using Google Earth for accuracy
- Mostly from S/L/T responses to EPA review package in Summer 2011. Some due to later identified discrepancies
- Cannot be overwritten or edited until unprotected by EPA
- Does NOT prevent other data edits to the site or release point
- Errors 1230 and 1231 "… geographic coordinates are protected, the data will not be stored…"
  - Now appear as a separate worksheet in the feedback report
  - Use config reports or Gateway main site list to get coords
    - Working on adding current EIS lat-lon compared to XML-submitted lat-lon

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Release Point Parameter Checks

- Fugitive release Height, Width, Length, Angle warnings have been removed
- Stack Temperature has been reset to Critical, with wider range : now -30 to 4000 degrees F
- Consistency of Velocity, Flow, and Diameter
  - Still a warning
  - Next target for improvement after Lat-Lons

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CERS Table

- User Identifier : must be registered EIS account ID (email) with CDX submittal privileges
- Program System Code : of the identifiers in your tables
- Emissions Year : fill this even for Facility Inventory with a 4-digit year with open EIS window

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Exchange Header Table

- Your name, Org, Doc Title, Keywords, Comments
  - Free form text fields, not checked or used by EIS
- DataFlowName: must be "EIS_v1_0"
- Property-SubmissionType : must be either “QA” or “Production”
- Property-DataCategory : must be “FacilityInventory" or “Point” or "Nonpoint" or "Onroad" or "Nonroad" or "Event"

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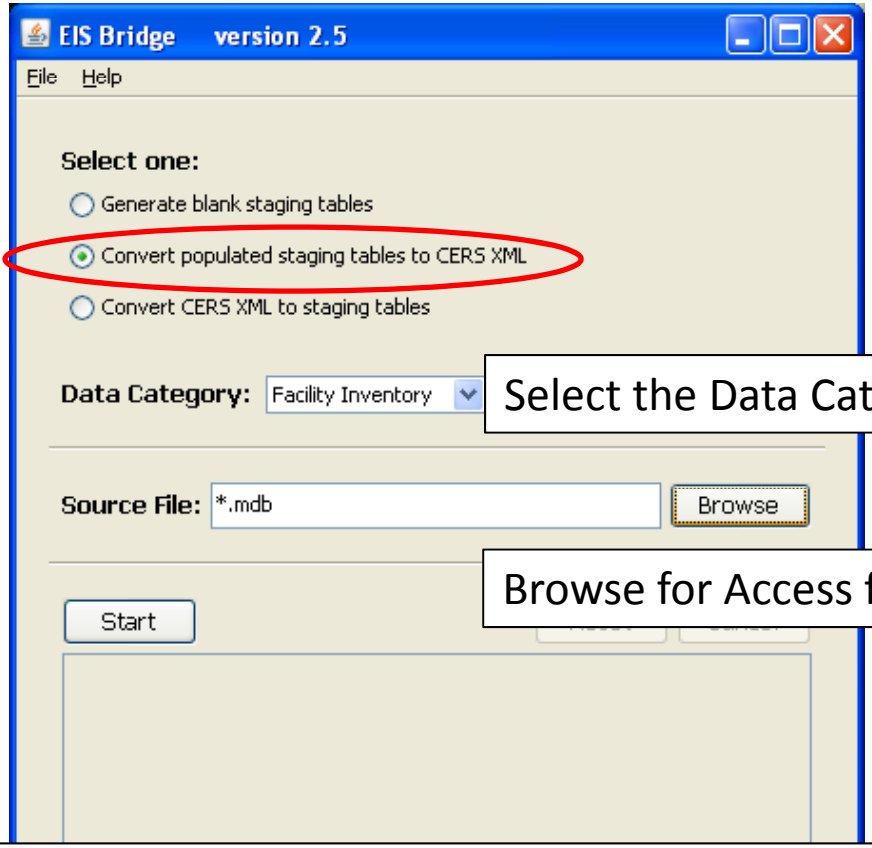
Creating XML File via the Bridge Tool



Select the Data Category being converted.

Browse for Access file and select “Start”.

REMEMBER: The Bridge Tool works on Access 2003. If your file is saved as Access 2007 Or later, you will need to do a “save as” to Access 2003 prior to using the Bridge Tool.

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Bridge Tool Messages

- "Processing has completed. CERS XML generated! " or,
- "A valid XML file could not be created…."
  - Widow and Orphan problems : "the content of element Emission Unit is not complete…"
  - Special characters in your tables : "Invalid byte 1 of 1-byte UTF – 8 sequence"
    - MS Word characters introduced by cut and paste, maybe other sources

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Submitting the zipped XML File

- Two methods
  - Node-to-node
  - CDX web client (most common method)
    - https://nodewebrss.epa.gov/user/Login.aspx
    - Use Gateway login and password
- QA and Production Environment
  - QA is always open to check your data. Does not change anything in the EIS
  - Production submission is your official submission and will update the EIS

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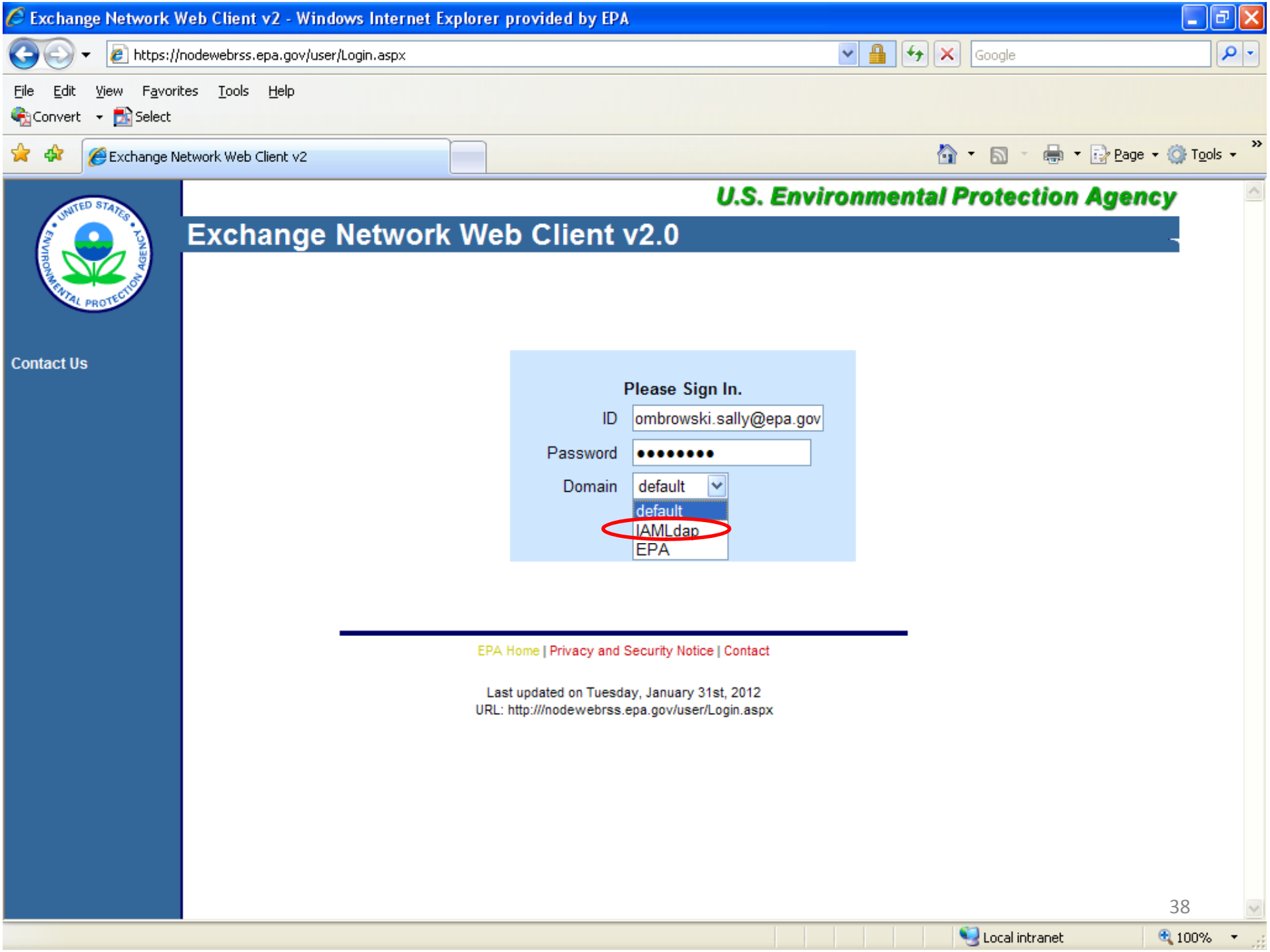

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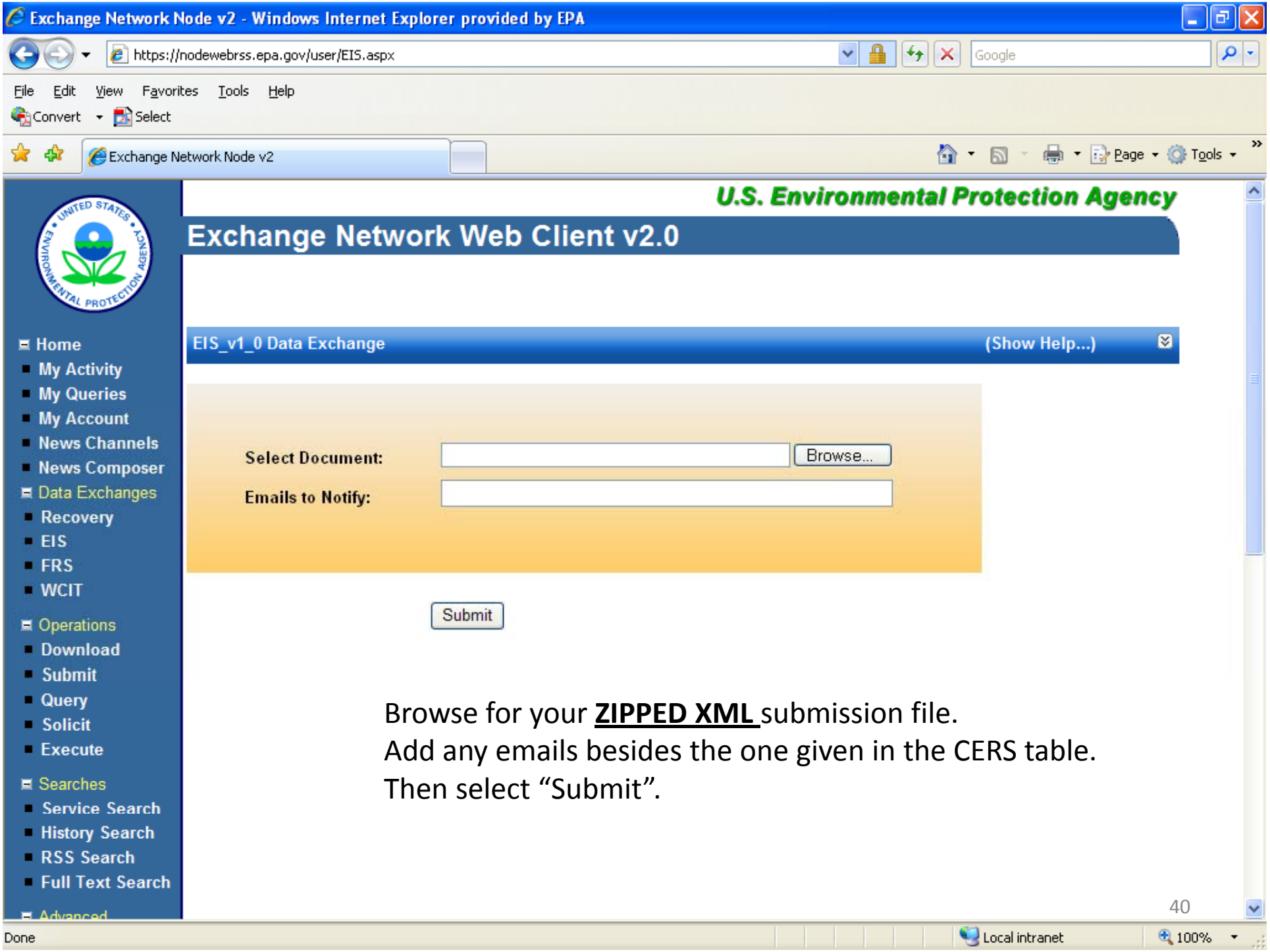

Browse for your **ZIPPED XML** submission file.
Add any emails besides the one given in the CERS table.
Then select “Submit”.

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Email Notifications

- First email, from “CDXNotification”, immediate
  - Transaction Status: **Pending**
- Second email, also from “CDXNotification” , when EIS completes processing
  - Transaction Status: **Completed**. Feedback report is available at EIS Gateway
- Third email, from “noreply” (EIS Gateway) , on quarter hours
  - Status : Completed or **Failed**
    - Wrong file submission error – Usually a zipped Access file is submitted instead of the xml file
    - Window closed error – “User, agency, submission year not authorized”
    - Completed might be for an XML file containing no data
- Go to EIS Gateway and read the Feedback Report and resolve any critical errors and Potential Duplicates
- DO NOT SUBMIT A POINT EMISSIONS FILE IMMEDIATELY FOLLOWING A FACILITY SUBMISSION

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The Submittal Feedback Report

- Sample Feedback Report .xlsx
  - compare the add and update counts in Statistics tab versus your staging tables
    - Be wary of too many adds – you are mostly updating existing EIS facilities
  - All critical errors (except protected lat-lon) should be addressed prior to your Production submission
  - Check and resolve the potential duplicates
  - Review the warning messages too

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Feedback Report Statistics

Component	Added	Updated
FacilitySite	1	32
FacilityIdentification	1	32
AlternativeFacilityName	0	0
EmissionsUnit	72	2602
Regulation	0	0
ControlApproach	0	0
AlternativeUnitIdentification	72	2602
EmissionsProcess	115	3576
ReleasePoint	2605	1206
Total	**2866**	**10050**

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QA and Production Error Checks

- The same set of checks are applied to both
- Error 1989 in QA : release point ID in apportionment must exist
  - EIS is checking against release points already saved in EIS. If you are creating the release point ID in the same XML as apportionment, this error should disappear in Production feedback

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When will my data show up in EIS?

- Facility Inventory data will show in the Gateway view screens and in the Facility Configuration Reports immediately
- Individual Emissions values at the process level will show in the Gateway screens immediately
- Any Emissions Sums (Unit or Facility totals on Gateway or Reports) are refreshed in batch overnight
- XML Snapshots – refreshes are done in batch overnight, but only for items requested via Reports pages

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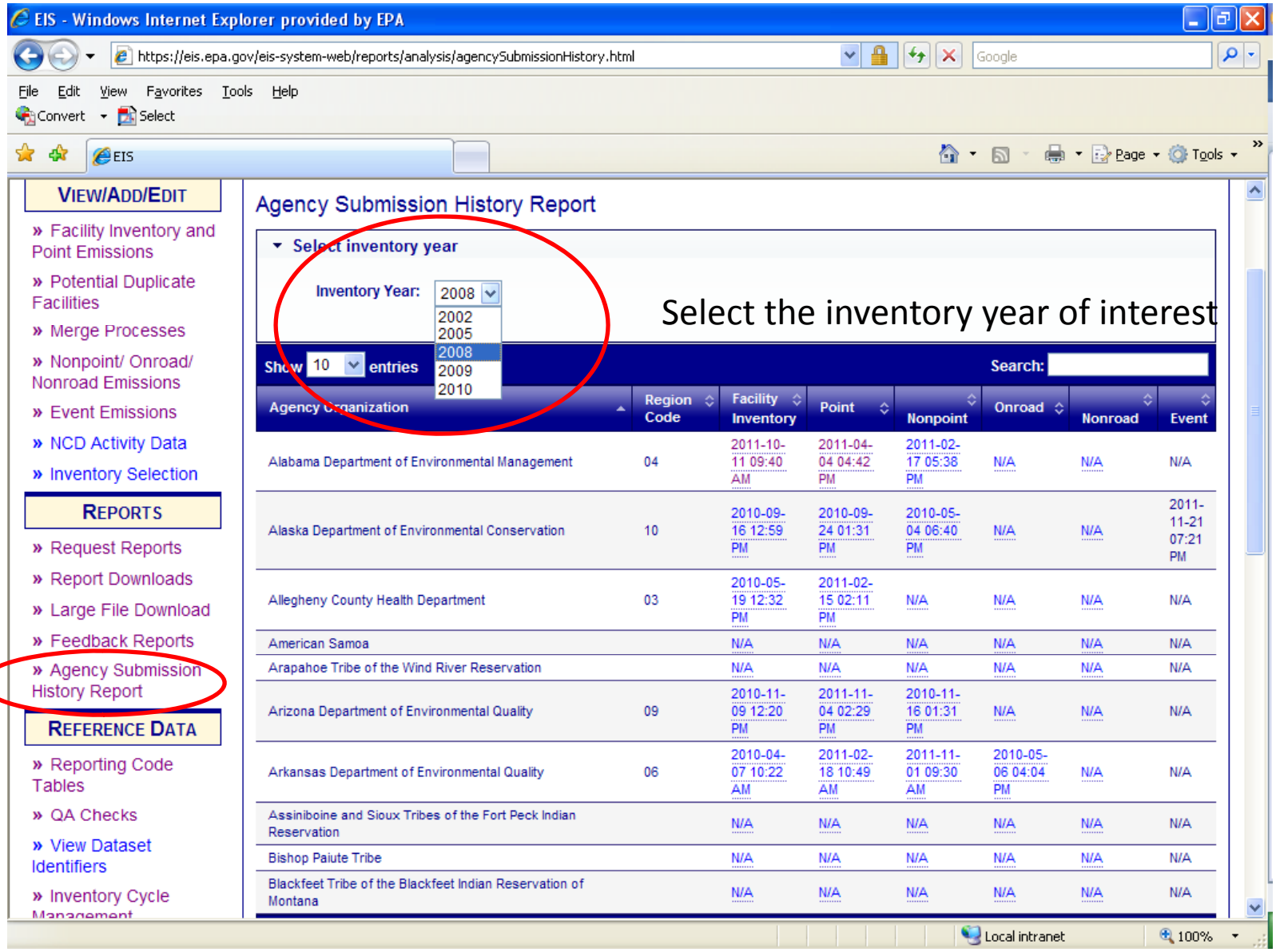
Agency Submission History Report



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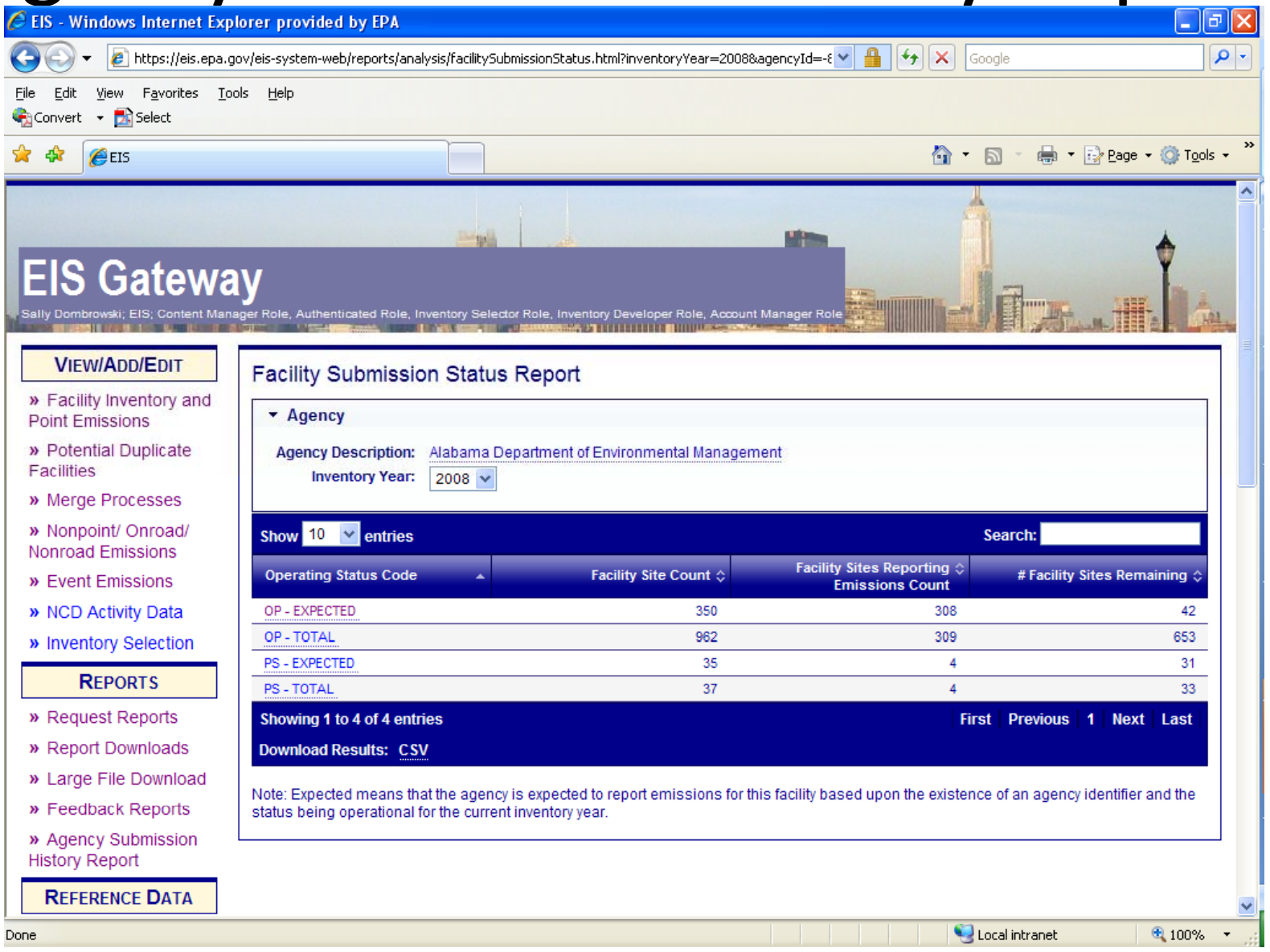
Agency Submission History Report



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Agency Submission History Report

EIS Facility ID	State and County Code	Agency System Code	Agency ID	Facility Name	Operating Status	Operating Status Year	Expected?	NAICS Code	Facility Type	Process Count	Pollutant Count
965011	1027	ADEM	10	3D Woodcraft Inc	OP	2008	yes	337122		2	5
1018811	1093	ADEM	4	3M Company	OP	2008	yes	327215		30	16
999511	1103	ADEM	9	3M Company	OP	2008	yes	325998		98	31
10535911	1067			Abbeville Muni	OP	2008	no	48811	Airport		
1037511	1067			Abbeville Sanitary Landfill	OP	2008	no	562212	Landfill		
7213111	1037	ADEM	S005	AbitibiBowater	OP	2008	yes	321113		6	18
10755811	1133			ADDISON MUNI	OP	2008	no	48811	Airport		
1076711	1097			Addsco Landfill	OP	2008	no	562212	Landfill		
887711	1115	ADEM	30	AFCO Architectural Products	OP	2008	yes	326199		2	3
560511	1003			Airport Landfill	OP	2008	no	562212	Landfill		

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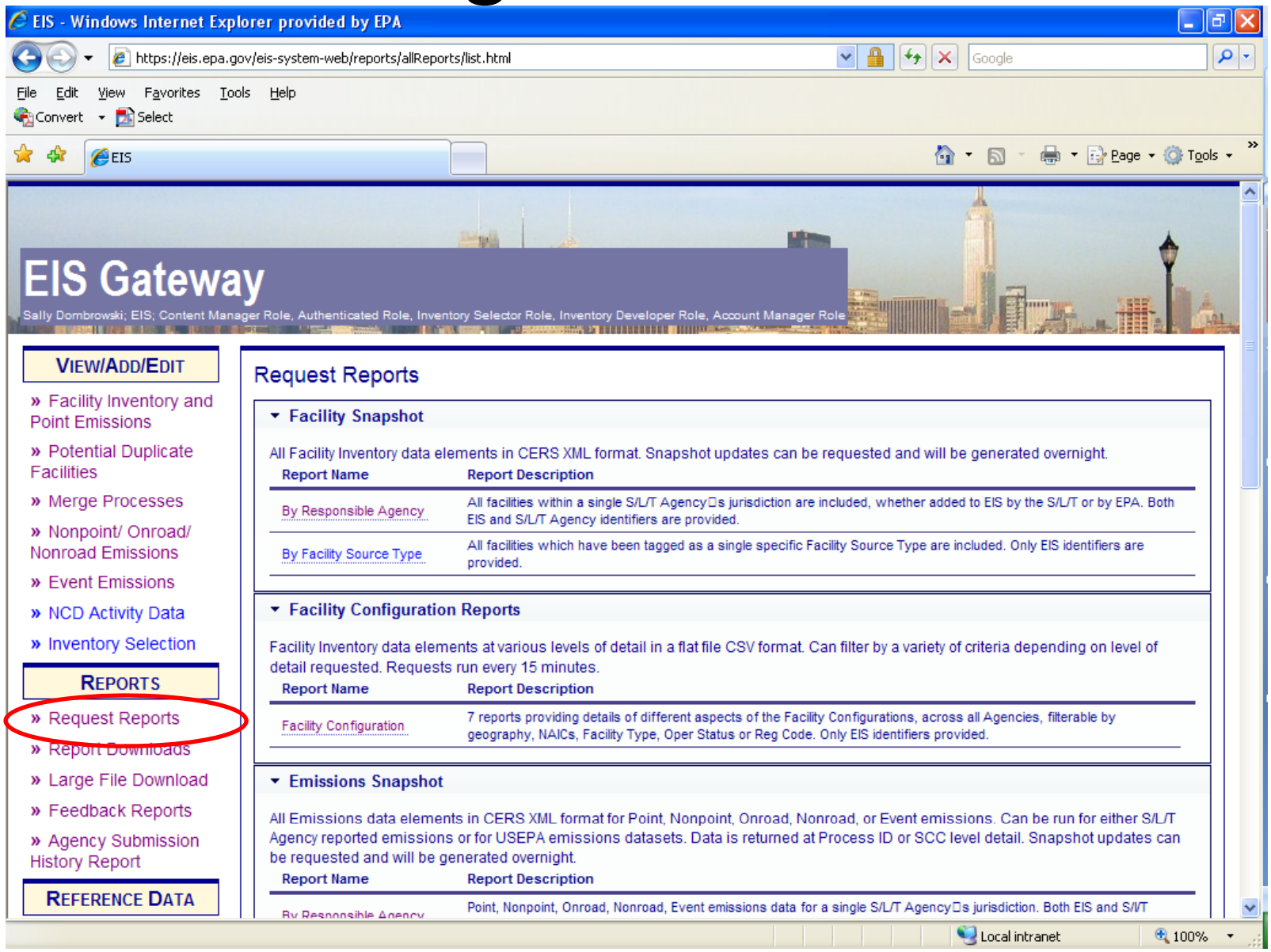
How do I get data out of EIS?



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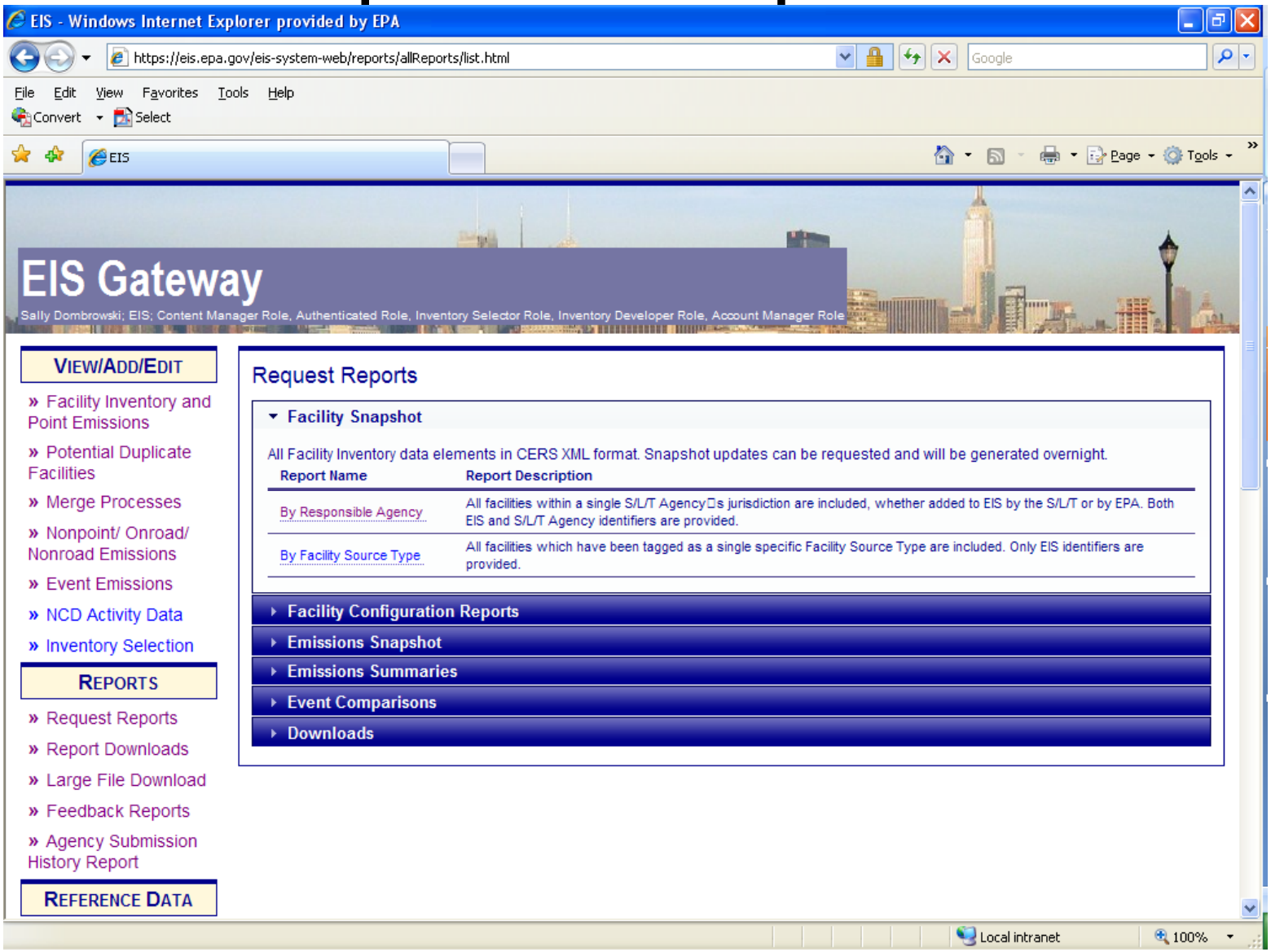
Reports - Snapshots



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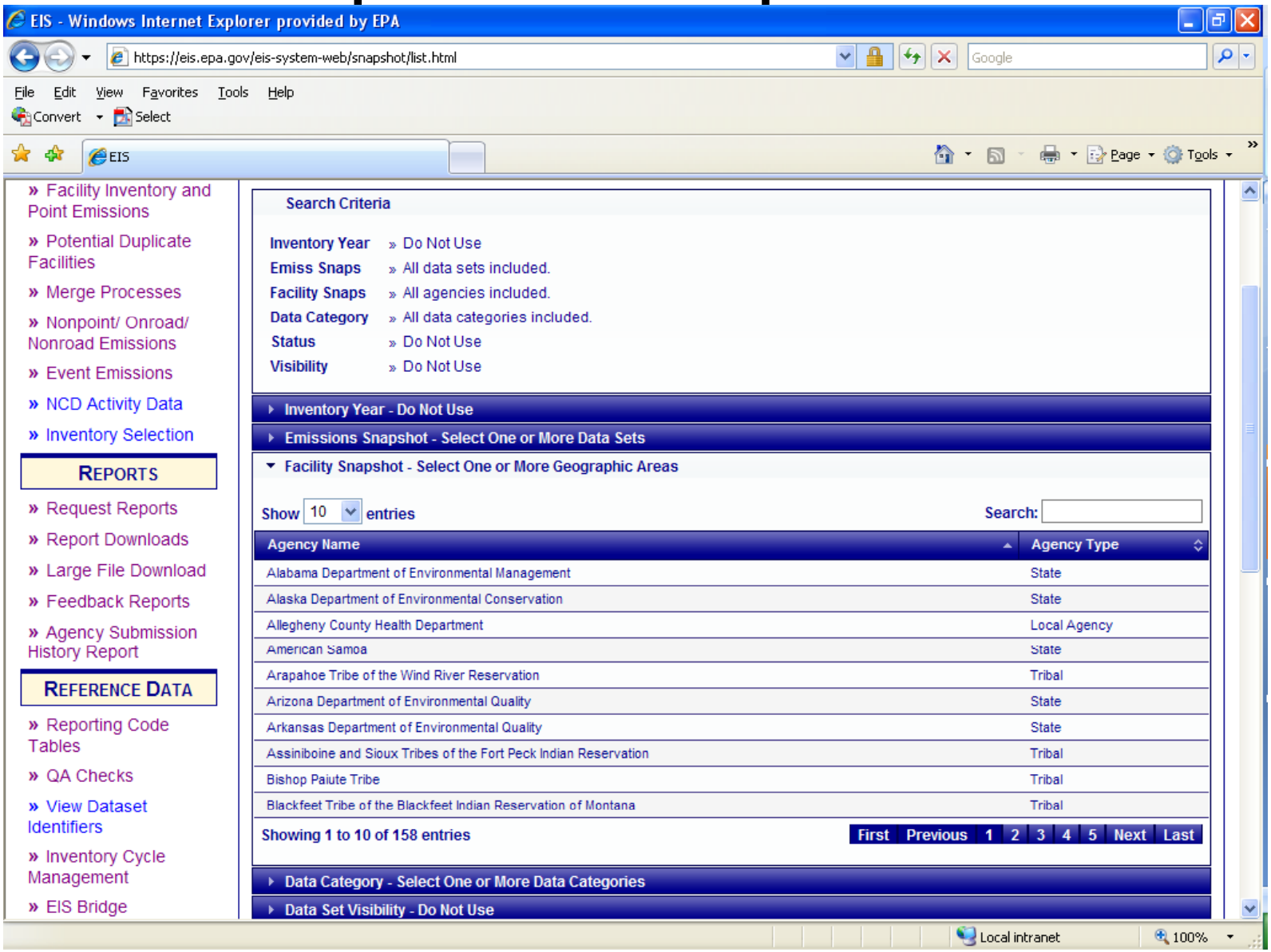

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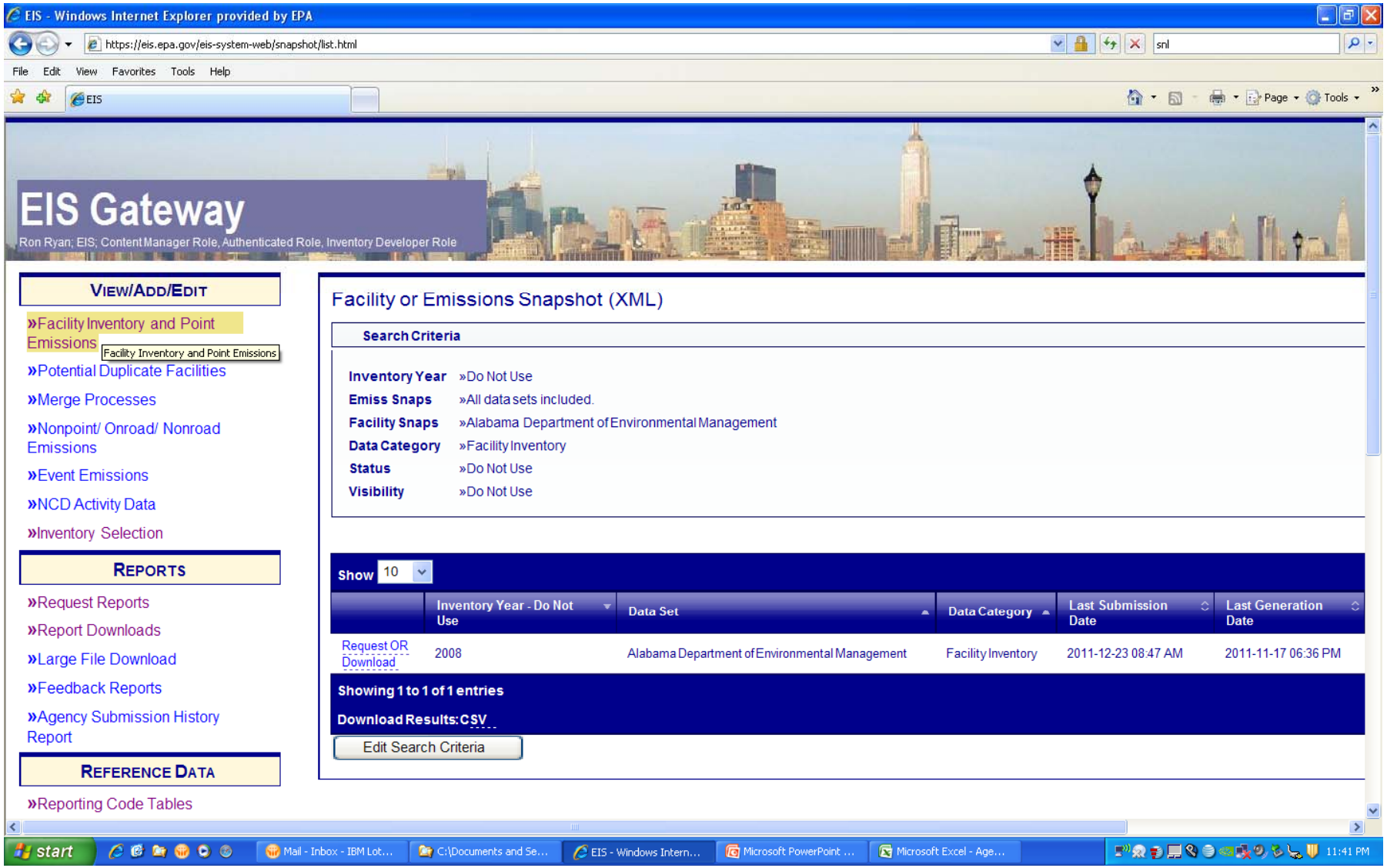
Reports - Snapshots



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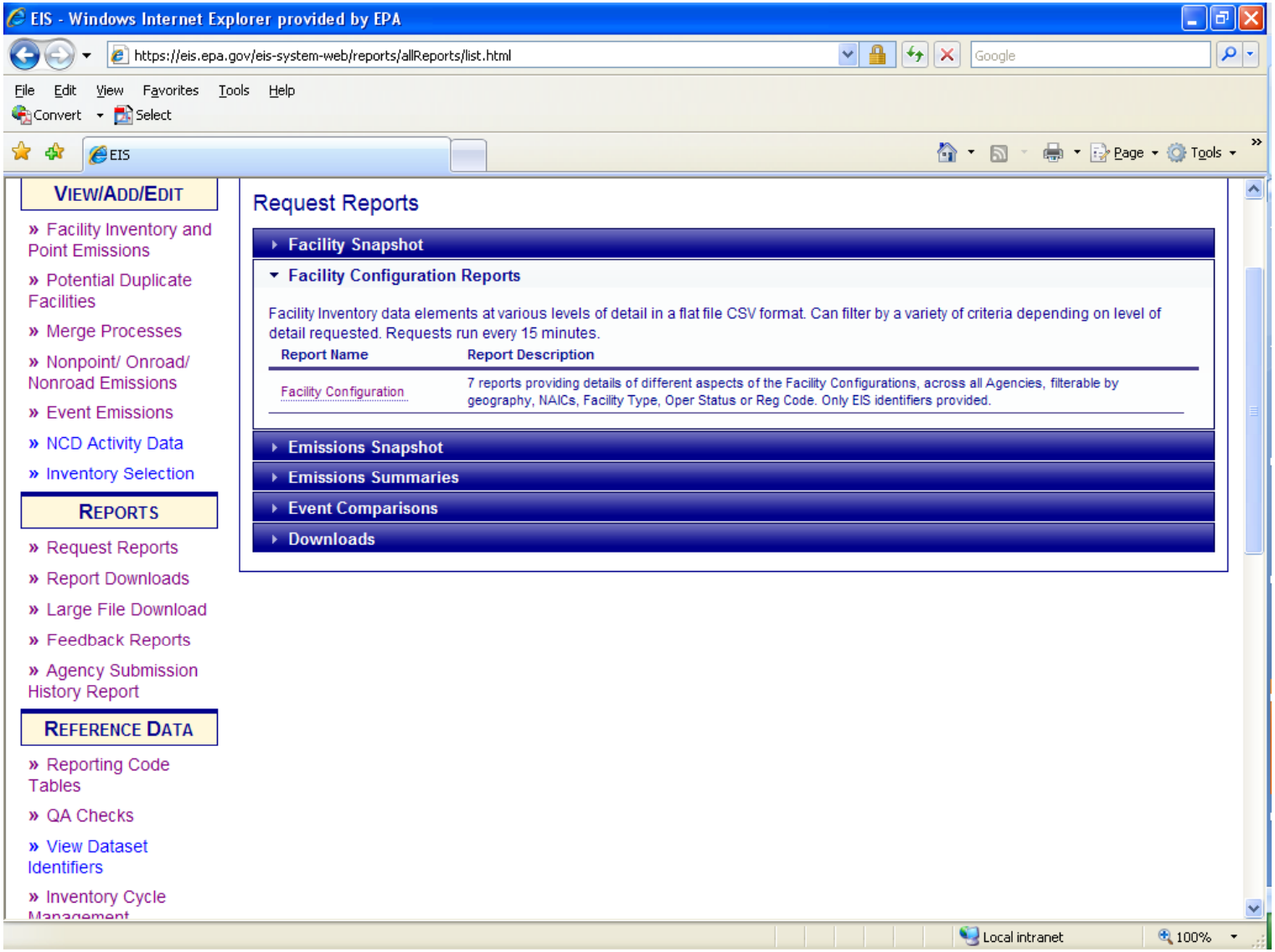
Reports – Facility Configuration



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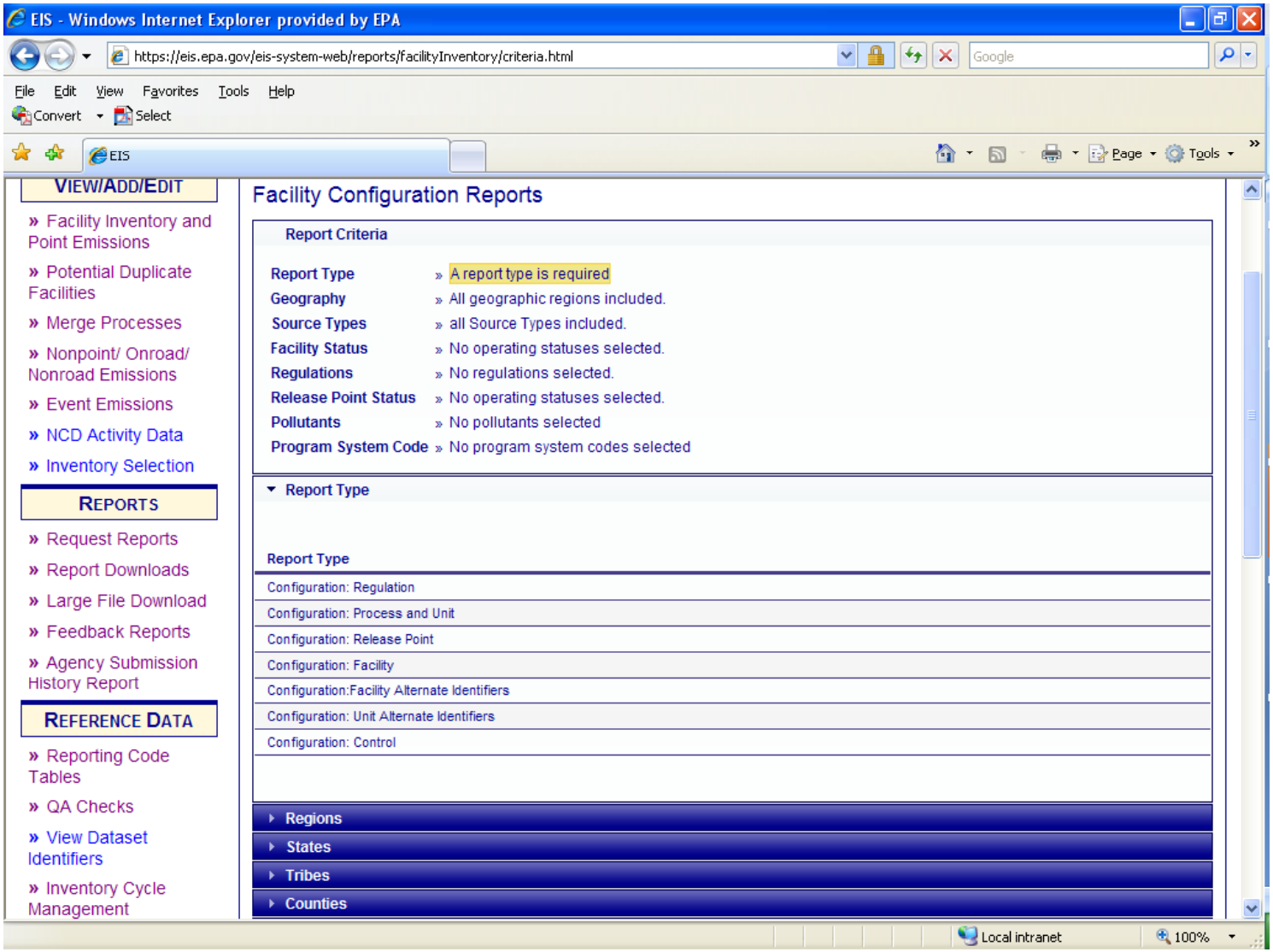
Reports – Facility Configuration Report



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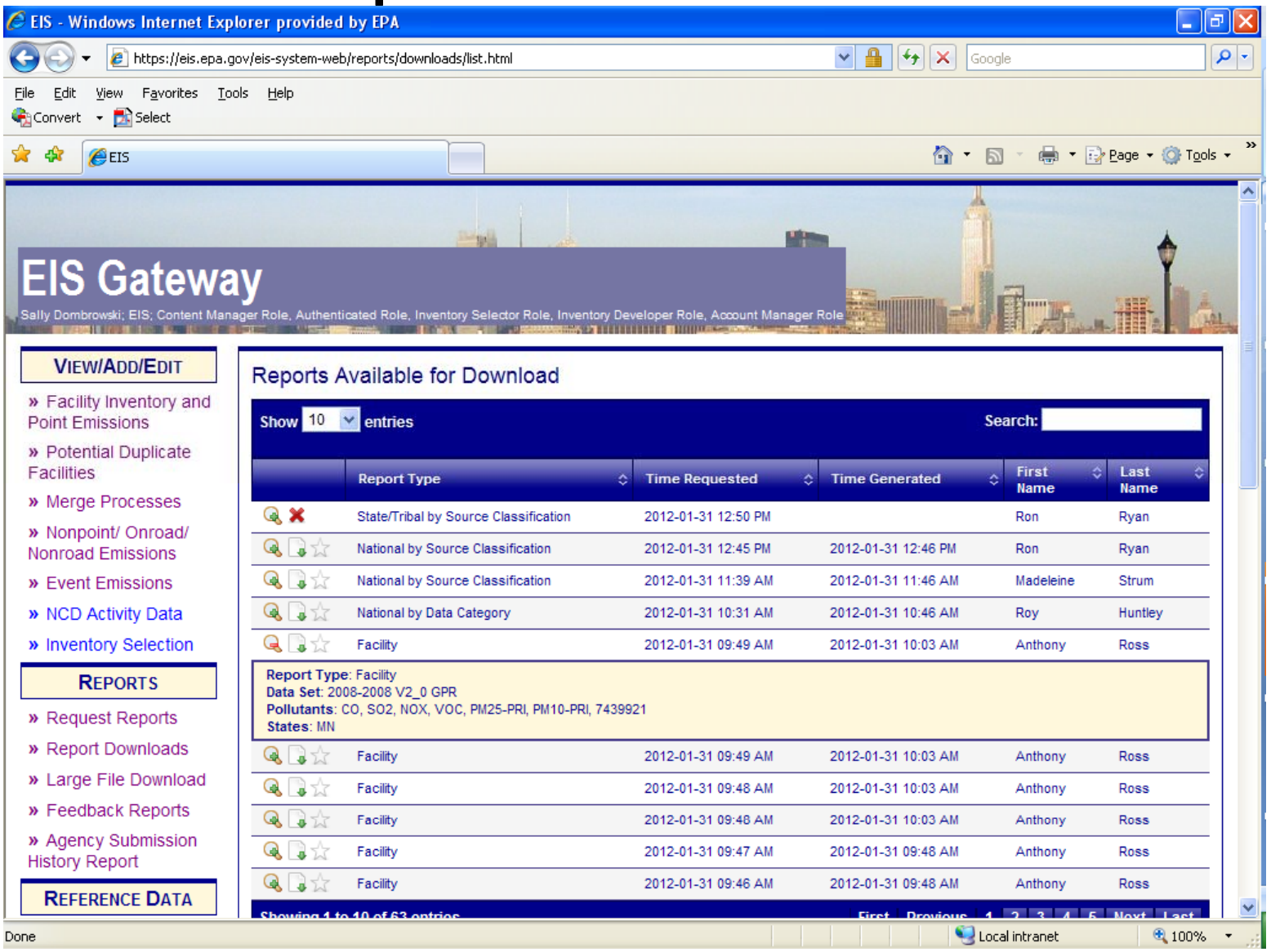
Report Downloads



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Recap

What will change for 2011 submissions?

- Codes added/retired
  - Control codes adds and retires
  - SCCs added for ERT test reporting
- QA warning checks - fewer
- Warning checks now critical
  - Aircraft/Engine type code for a few SCCs
  - Stack temperature
- The EIS Gateway and Appendix 6 on CHIEF will have final codes by June 1

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Web resources

- EIS Users Manual one-pagers
  http://www.epa.gov/ttn/chief/eis/index.html
  - How to gain access to the Gateway
  - How to change your password
  - How to submit data using the web client
- 2008 NEI/EIS Implementation Plan
  http://www.epa.gov/ttn/chief/net/neip/index.html

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