Annual Emission Inventory Reporting Workshop

EmissionInventory@AZDEQ.gov
(602) 771-2373

ADEQ
Arizona Department
of Environmental Quality

Overview

- Introduction
- Who Must Report, What Must Be Reported And What Does ADEQ Do With Emission Inventories (EI)?
- **Major Point Source** Reporting Through SLEIS
- **Minor Point Source** Reporting
- Q&A

Due Date for 2018 Emission Inventory Reports (both Major and Minor Sources):

June 1st, 2019

What is an Emission Inventory (EI)?

- Your 2018 emission inventory should contain the total amount of air pollution that you *actually* emitted in 2018.
  - Generally reported as TONS per YEAR

Who Must Report Emissions?

R18-2-327. Annual Emissions Inventory Questionnaire

(A) Every source subject to permit requirements under this Chapter shall complete and submit to the Director an annual emissions inventory questionnaire.

For definitions of a source type for the purposes of determining permit types and reporting guidelines/forms, see AAC R18-2-326 & R18-2-511

Source Classifications

Major Point Source

- Has the Potential to Emit or Emits Aggregate TPY of 10HAP|25HAPS|100CAP|250CAPS
- Full Definition @ A.A.C. R18-2-401
- Must use SLEIS to report 2017 emissions

Synthetic Minor Point Source

- Permit Restrictions on Production, Operation or Emissions
- Emissions "Artificially" Below Point Source Threshold
- Can use either SLEIS or paper forms to report 2017 emissions

Minor Point Source

- Non-Major Source Subject to Regulation by Director under ARS 49-402 (B)
- E.g. Dry Cleaner
- Can use either SLEIS or paper forms to report 2017 emissions

Portable Source

- Can Operate in Multiple Places
- E.g. Rock Crusher & Screener
- Can use either SLEIS or paper forms to report 2017 emissions

How Do I Prepare and Submit an Emission Inventory?

- Major Point Sources Are Required To Use SLEIS
- ADEQ Reports Major Source EIs From SLEIS To The EPA
- Minor Source Permit Holders (Class II and General Permits) Should Use Excel/PDF Forms Located On ADEQ Website

What Data Do I Need To Report?

- The annual questionnaire should include the following information (R18-2-327(b)):
  - The source's name, description, mailing address, contact person (w/ phone number), and physical address and location (if different than mailing address).
  - Process information for the source, including design capacity, operations schedule, and emissions control devices, their descriptions and efficiencies.
  - The actual quantity of emissions from permitted emission points and fugitive emissions as provided in the permit of the following regulated air pollutants:
    - Any single regulated air pollutant in a quantity greater than 1 ton or the amount listed for the pollutant in the definition of "significant" in R18-2-101(130)(a), whichever is less.
    - Any combination of regulated air pollutants in a quantity greater than 2 1/2 tons.

What Data Do I Need To Report?

- At a minimum, you must report emissions as specified in your permit
- The following are the pollutants ADEQ needs to report to EPA:
  - Sulfur dioxide (SO_2)
  - Volatile organic compounds (VOC)
    - This total should include all HAPs which are also VOCs
  - Nitrogen oxides (NO_X)
  - Carbon monoxide (CO)
  - Lead and lead compounds
  - Primary $PM_{2.5}$ (PM25-PRI). As applicable, also report filterable and condensable components
  - Primary PM_{10} (PM10-PRI). As applicable, also report filterable and condensable components
  - Ammonia (NH_3)
- We strongly encourage you to report individual HAP emissions.

EF Hierarchy

- A.A.C. R18-2-327(C) sets the following hierarchy for emission estimations:
  - CEMS data
  - Performance Test data
  - AP-42
  - Material Balance
  - Director Approved Alternate Method

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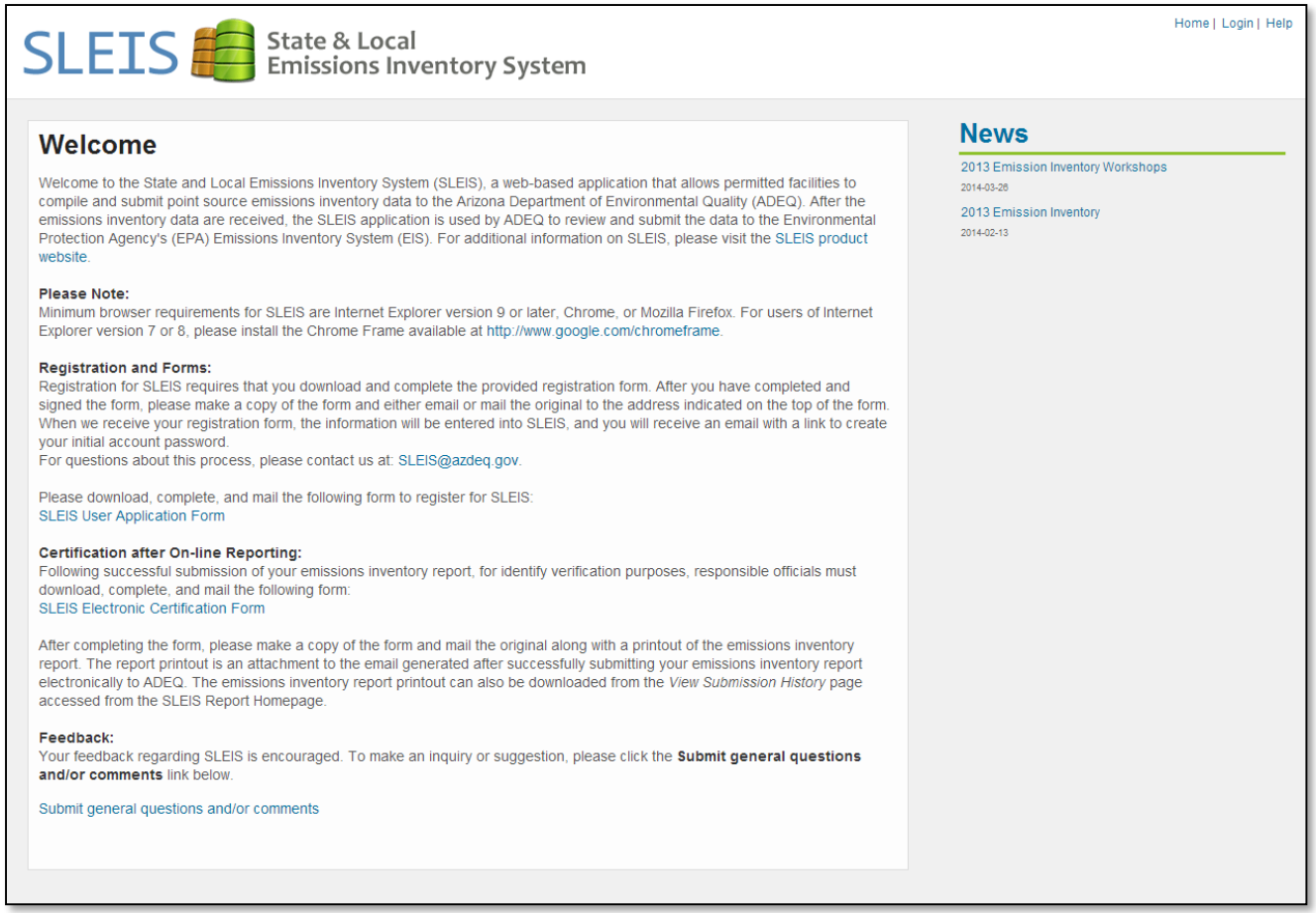
SLEIS State & Local Emissions Inventory System

MAJOR POINT SOURCE REPORTING WITH SLEIS

SLEIS Home Page

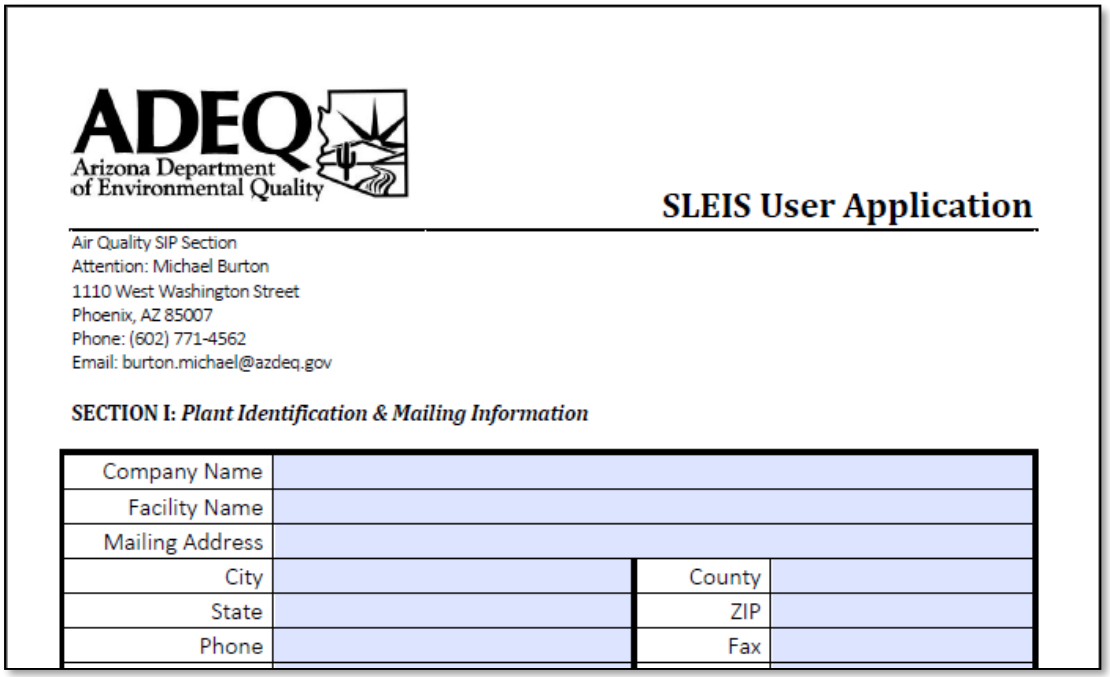
https://sleis.azdeq.gov/



- 'News' section is periodically updated with important information
- Application and Certification forms available for download

SLEIS Application Form

- The SLEIS User Application form is used to:
  1. Create new facilities in SLEIS
  2. Add users to existing facilities



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SLEIS User Application

Air Quality SIP Section
Attention: Michael Burton
1110 West Washington Street
Phoenix, AZ 85007
Phone: (602) 771-4562
Email: burton.michael@azdeq.gov

SECTION I: ***Plant Identification & Mailing Information***

Company Name			
Facility Name			
Mailing Address			
City		County	
State		ZIP	
Phone		Fax	

SLEIS User Accounts

- Two main roles:
  - **Editor** – Can make changes to emission reports
  - **Viewer** – Can only view emission reports

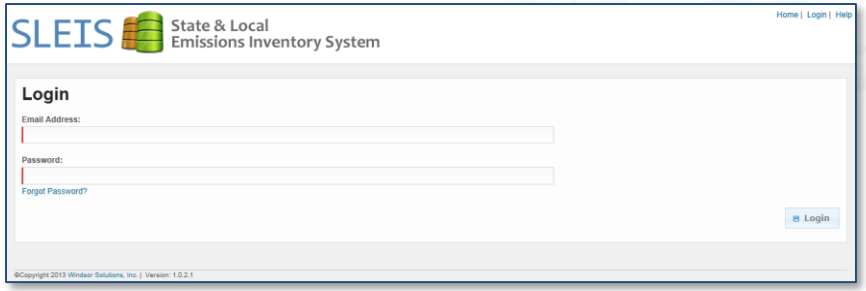
- In addition, you can also be:
  - **Administrator** – Can edit other user accounts for the facilities they are assigned to
  - **Submitter** – Allowed to submit official version of emission report. Needs to be a responsible official of the facility.

SLEIS User Accounts Cont'd

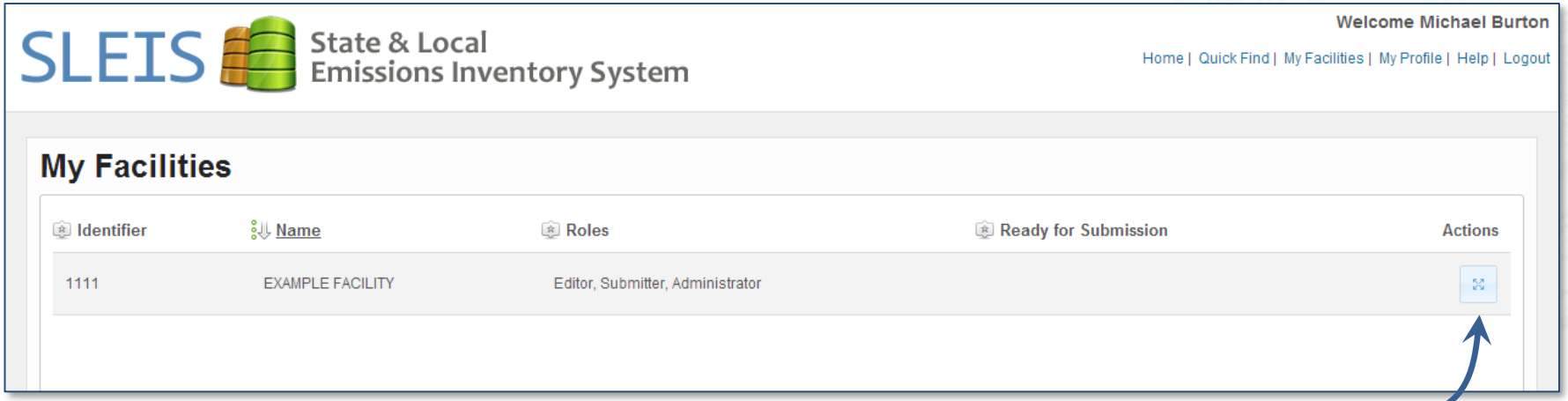
- Administrators
  - Be aware that you are responsible for maintaining the user accounts for your facilities.
  - If someone leaves your company, it is up to you to remove or inactivate their user account.

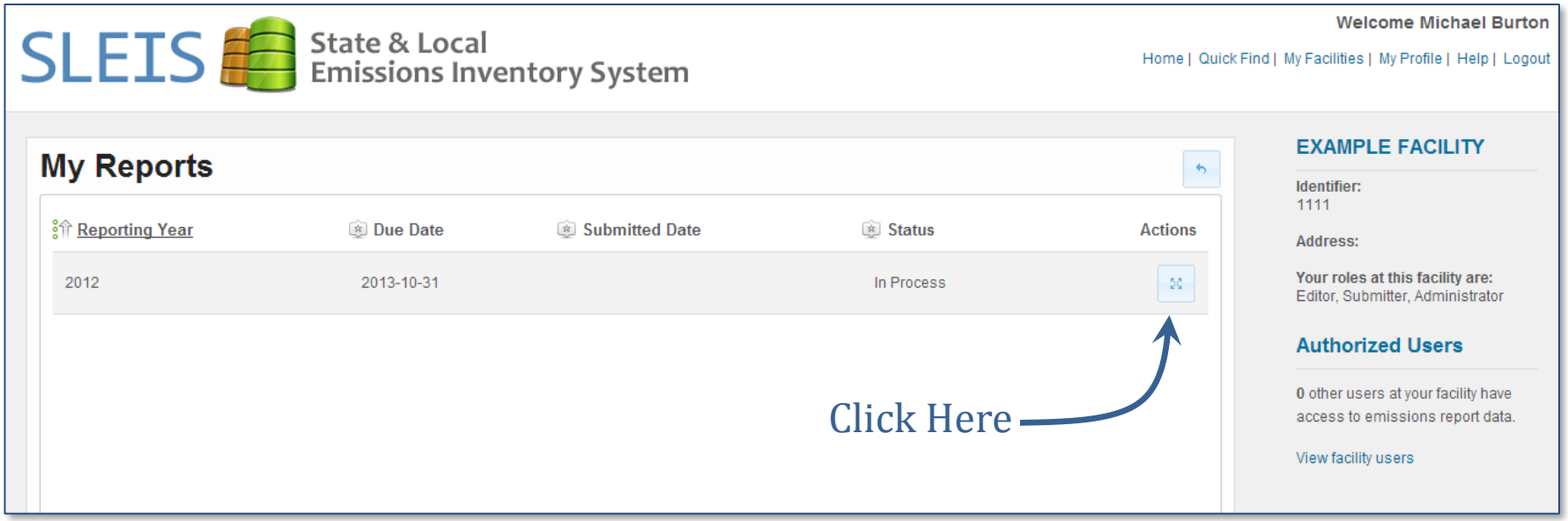
Logging In

1. Go to the secure application site at https://sleis.azdeq.gov/SLEIS/
2. Click login in the top right corner
3. Enter user email address and password
   - Only authorized facility users may access SLEIS
   - Submitters are responsible for everything submitted under your facility



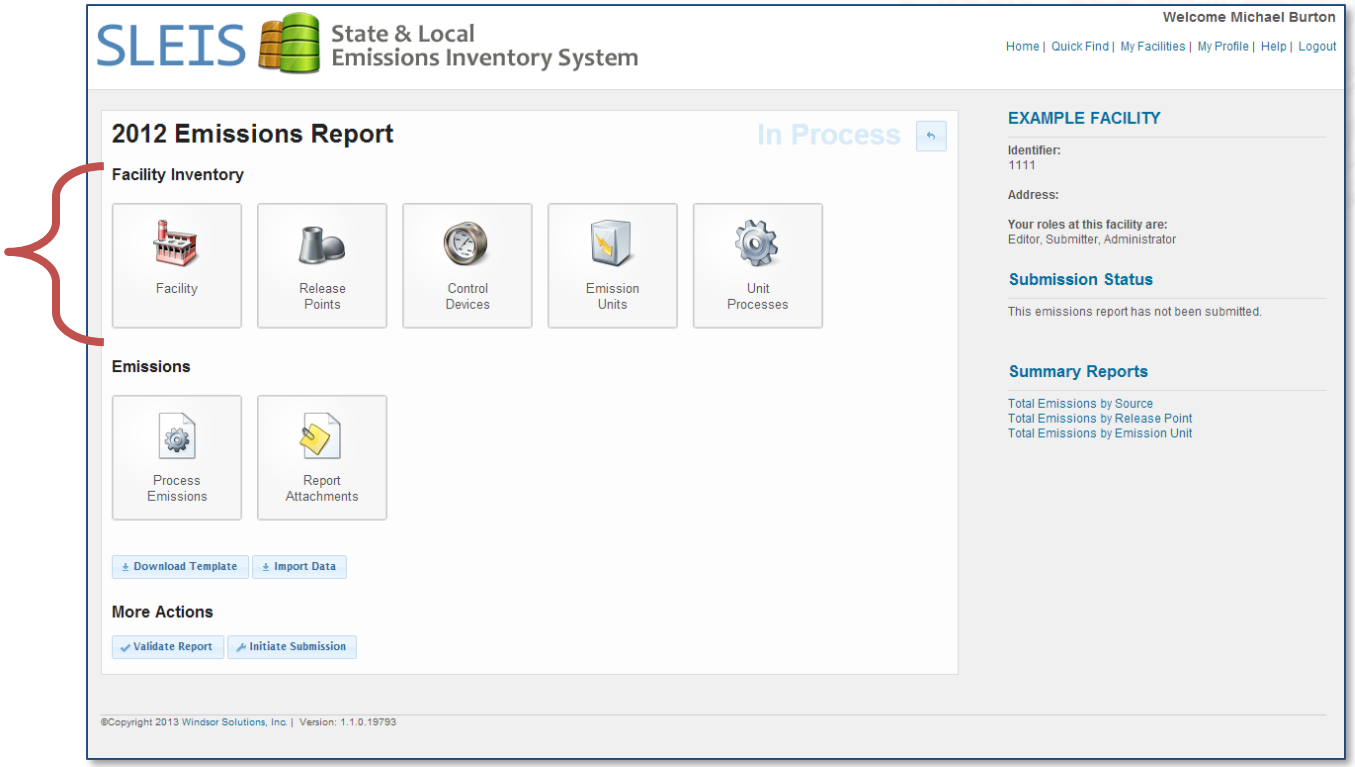
Accessing Your Facility Reporting Page



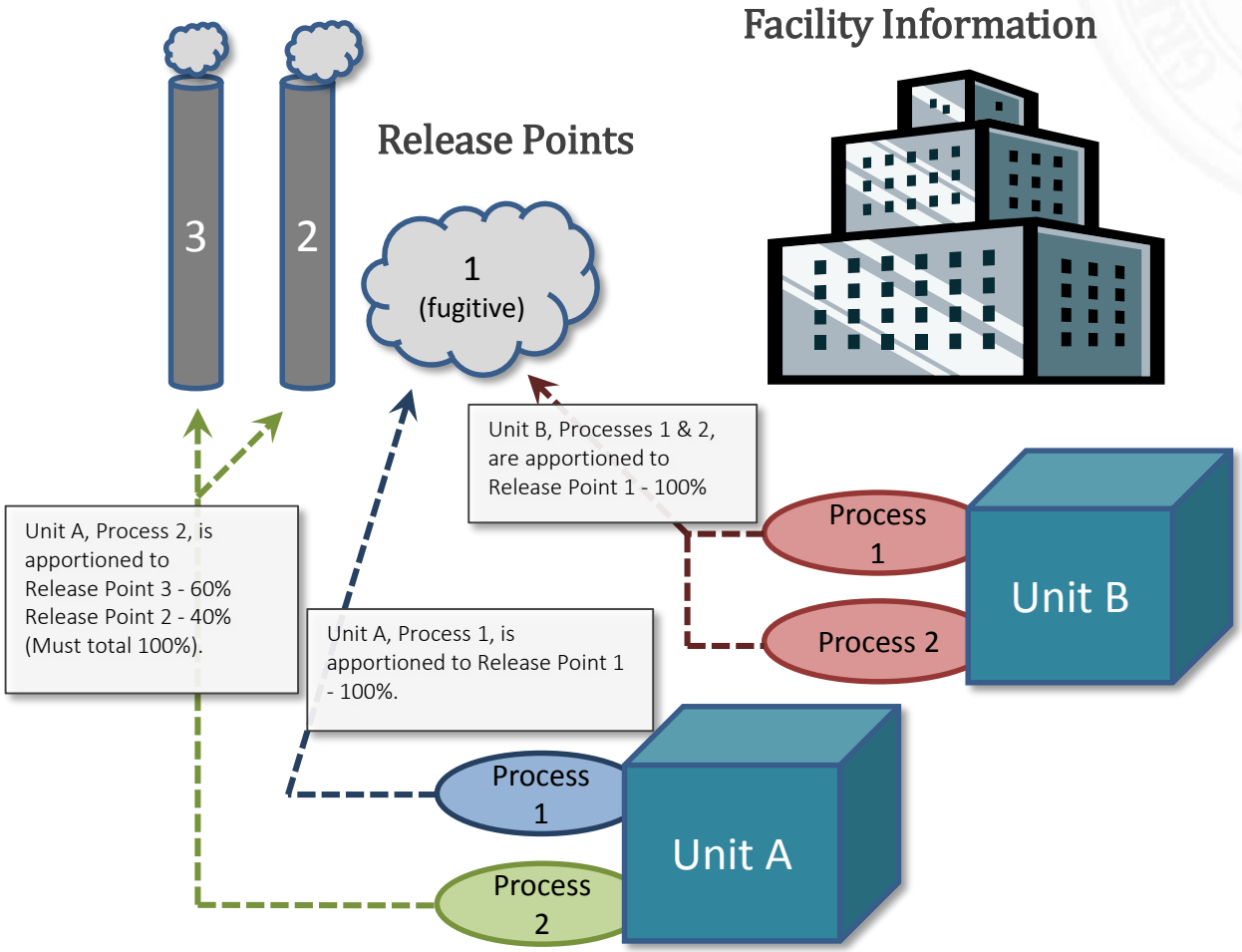


First Things First: Emission Report Review

- Facility Information
- Release Points
- Control Devices
- Emission Units
- Unit Processes

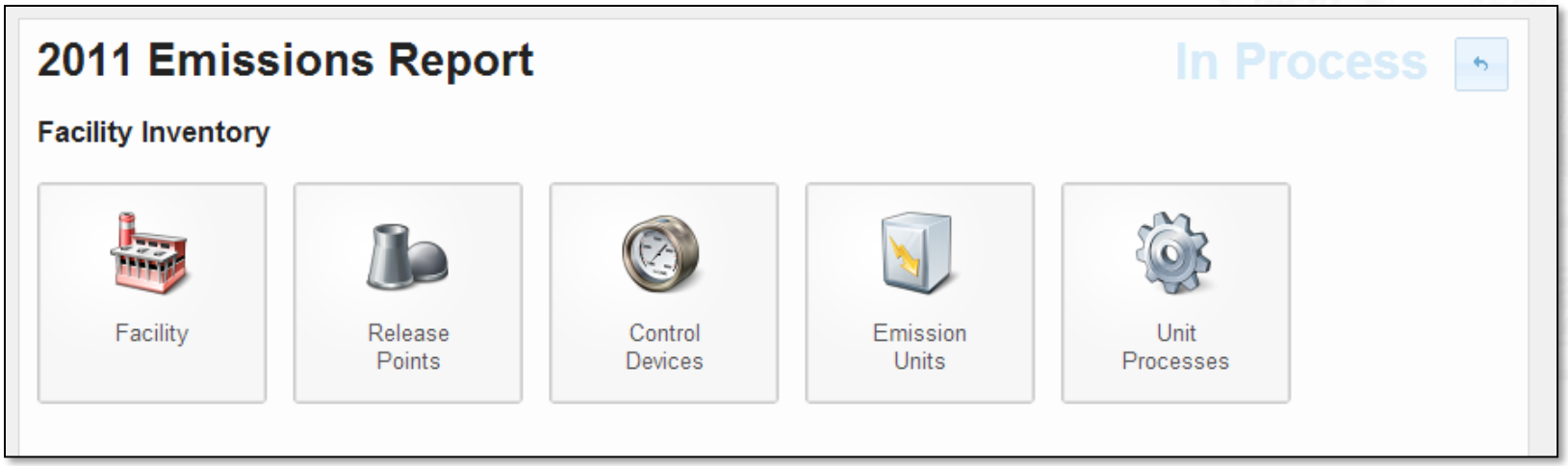


EPA's Emission Inventory System (EIS)



http://www.epa.gov/ttn/chief/eidocs/eis_training/presentation_w_speakers_notes2.zip

Facility Inventory

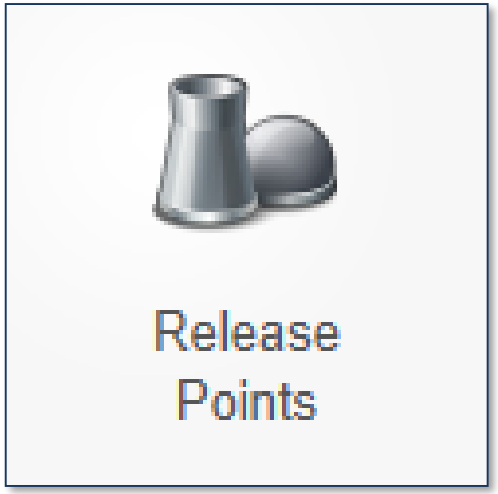


- Facility Users can Add:
  - Release Points
  - Control Devices
  - Emissions Units
  - Unit Processes
- Once submitted, Emissions Units, Control Devices and Release Points are Added to the Master Facility Inventory list. This Master list will be used to generate next year's emissions report.

EDITING FACILITY INFORMATION

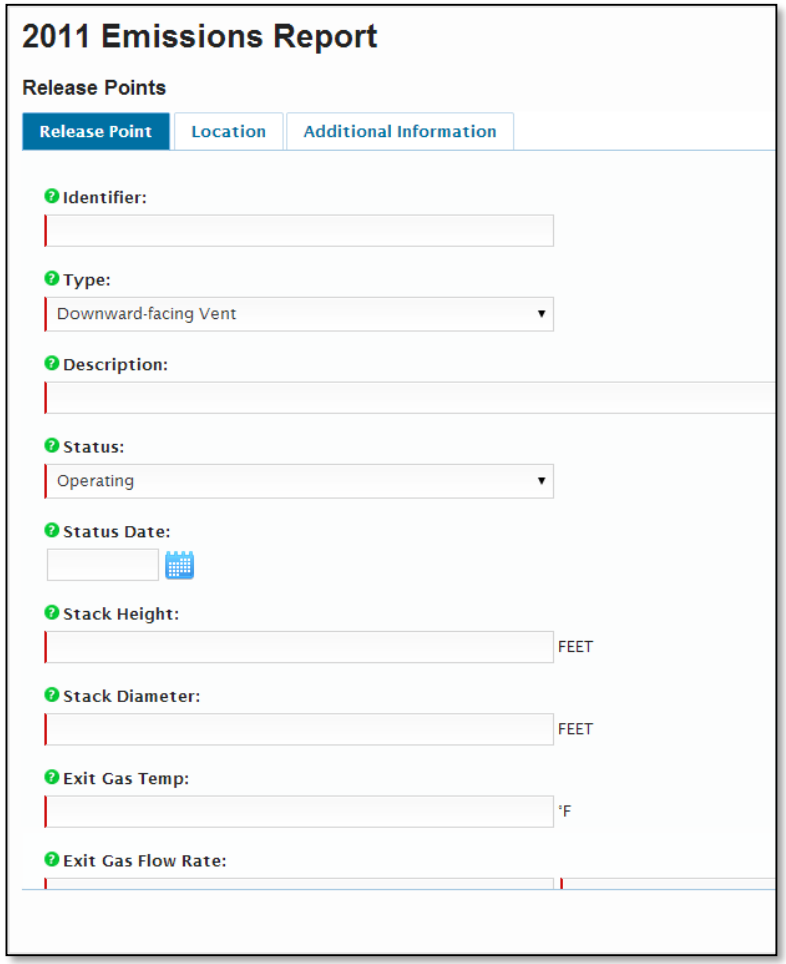
General Facility Information

- Users Cannot Create a New Facility
- Users May Edit Certain Facility Attributes
  - Facility Status
  - Emission/Permit/Compliance Contact Info
  - Physical and Mailing Address
  - Additional Information
- Facility ID, Name, and Owner are Read Only

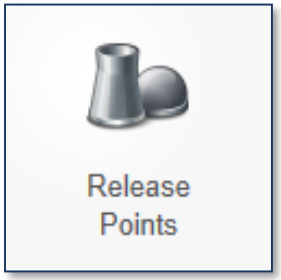


ADDING AND VERIFYING RELEASE POINTS

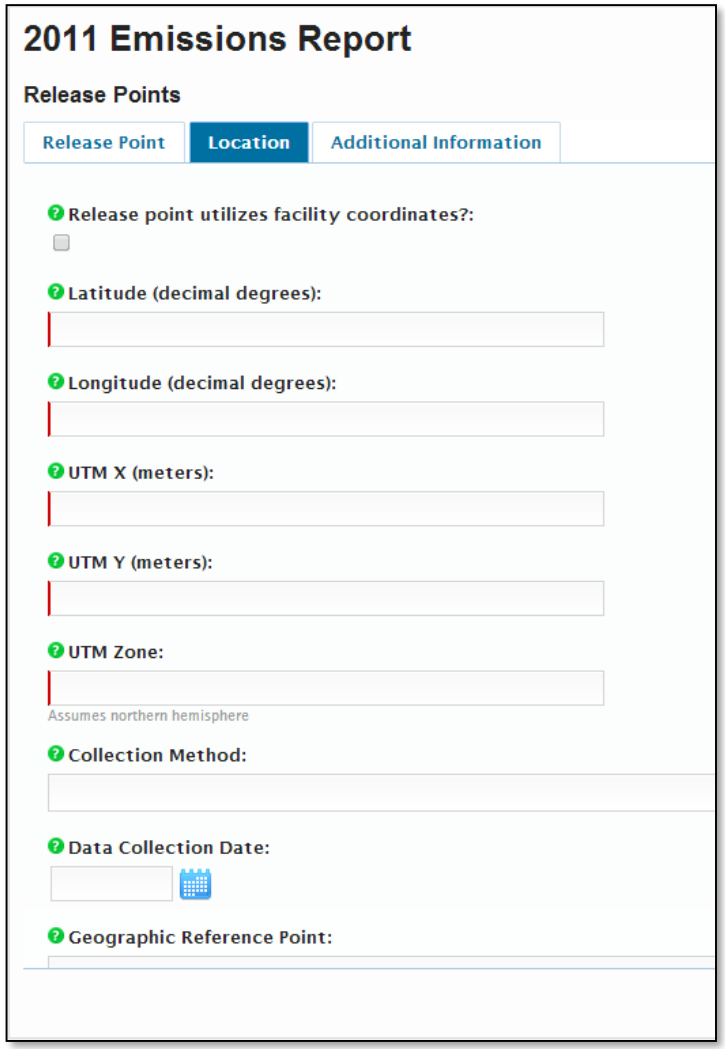
Release Point



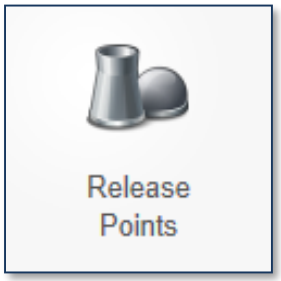
- Assign a Unique Release Point Identifier
- Choose from Vertical, Horizontal, Fugitive or Vent
- Enter Description to Match Equipment or Process It Serves
- Enter Release Point Physical Characteristics



Location

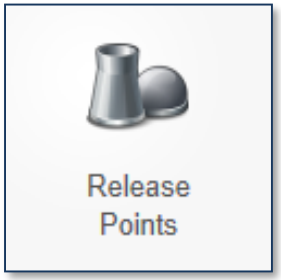


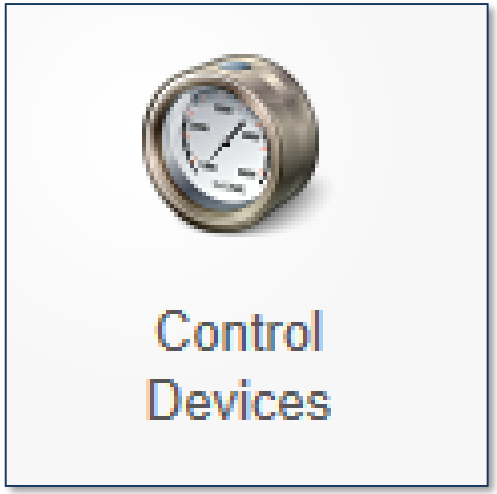
- Some Sources May Use Facility Coordinates
- Others Enter Stack or Vent Location
- Enter Lat/Long or UTM Coordinates
- The Converse Will Auto-populate



Guidance

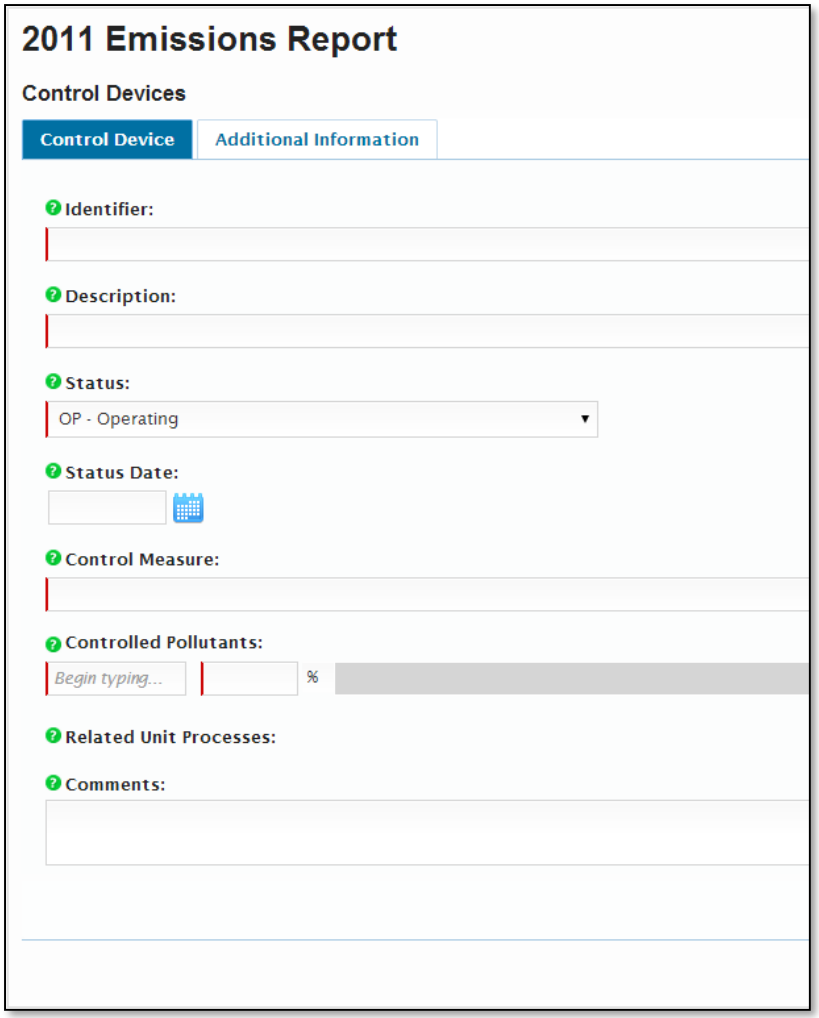
- A release point is needed for every emission source
- It is generally acceptable to have a single Facility-wide fugitive release point along with release points for stacks
- For these purposes, exhaust pipes from emergency generators do not count as stacks





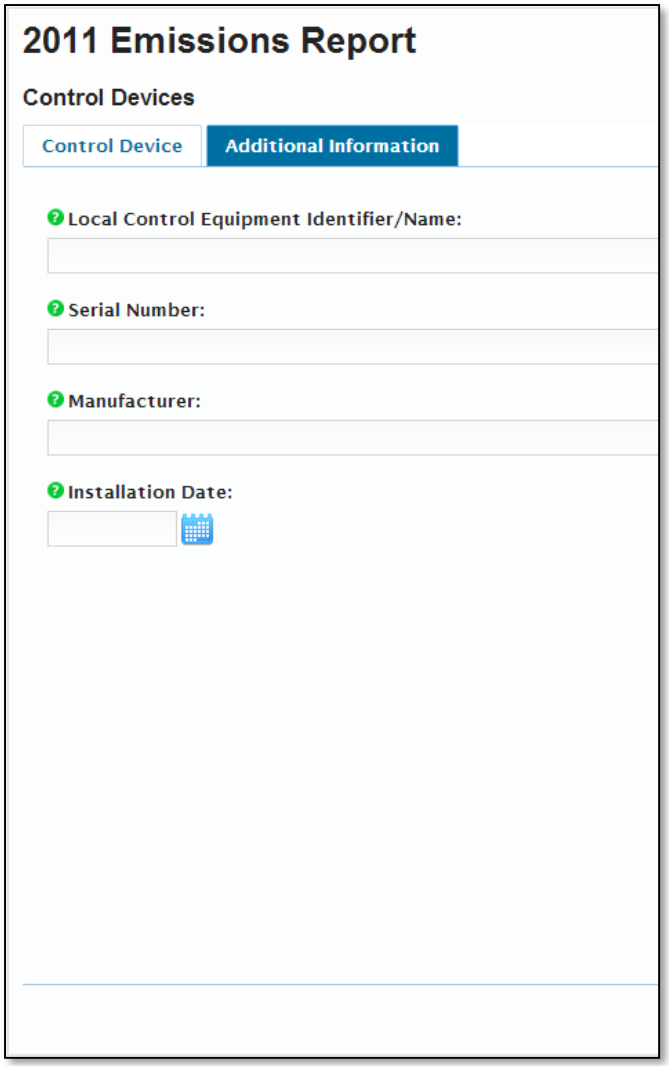
ADDING AND VERIFYING CONTROL DEVICES

Control Device

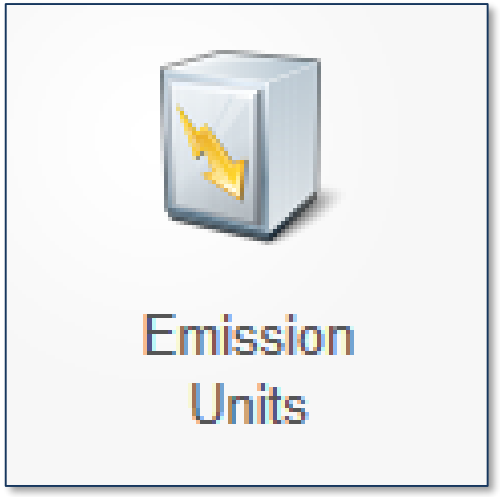


- Choose a Unique Identifier for Your Control Device
- Description Should Adequately Identify the Control Device
- SLEIS will Auto-Populate Control Measures
- Choose Your Controlled Pollutants Carefully!

Additional Information

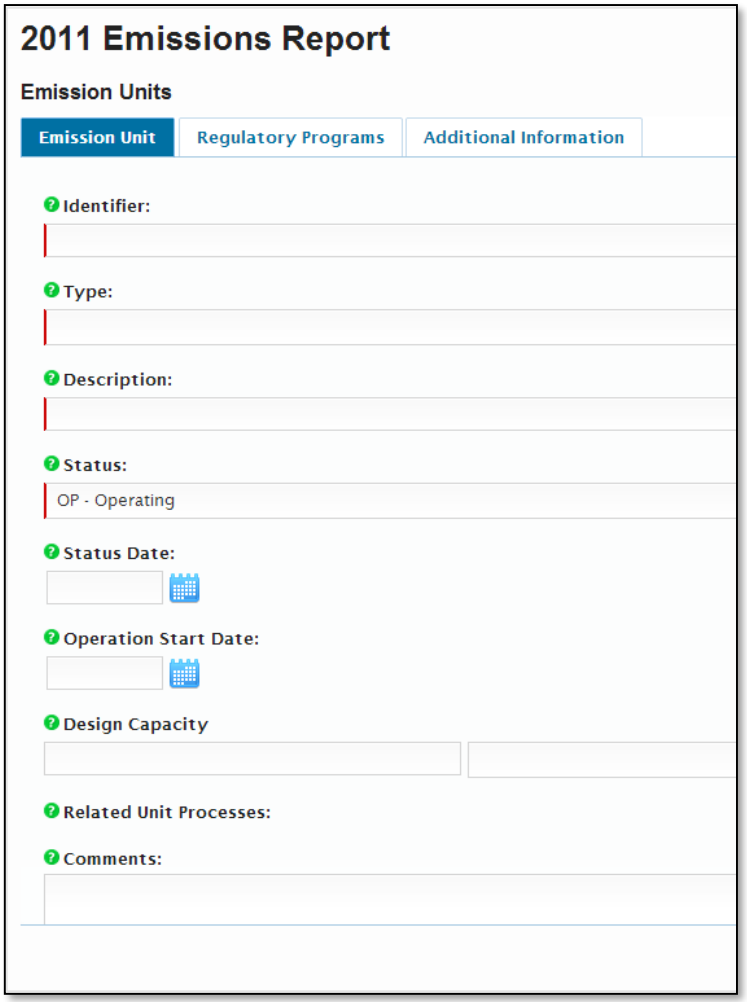


- Most Information Entered on This Page is Voluntary
- Please Enter This Info if You Have it
- Helps with the QA/QC of Emission Reporting

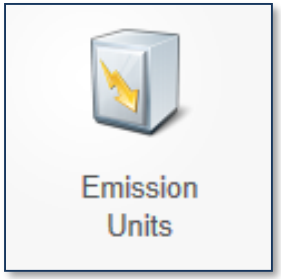


ADDING AND VERIFYING EMISSION UNITS

Emission Unit (EU)

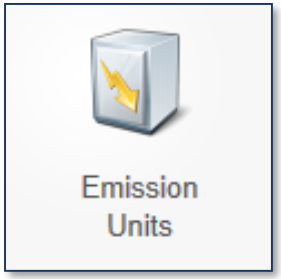


- Identifier Designate Emission Creating Units
- Description Personalizes EUs of Facility
- Design Capacity Required for Certain EU Types



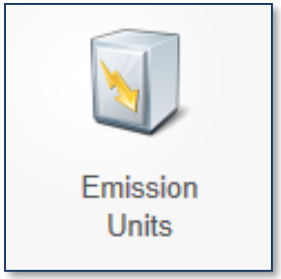
EPA Definition - Emissions Unit

"Emissions Units include **all individual pieces of equipment that emit air pollutants** at a stationary source. EPA regulations define an emissions unit as any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the Clean Air Act. **Examples** of common emissions units include Stationary Internal Combustion Engines, Boilers or Steam Generators, Combustion Turbines, Printing Presses, Solvent Degreasers, and Paint Spray Booths."



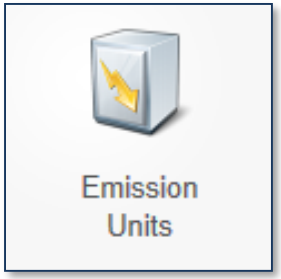
EPA Definition - Emissions Unit

- The Emission Units in SLEIS should match the equipment list in your permit



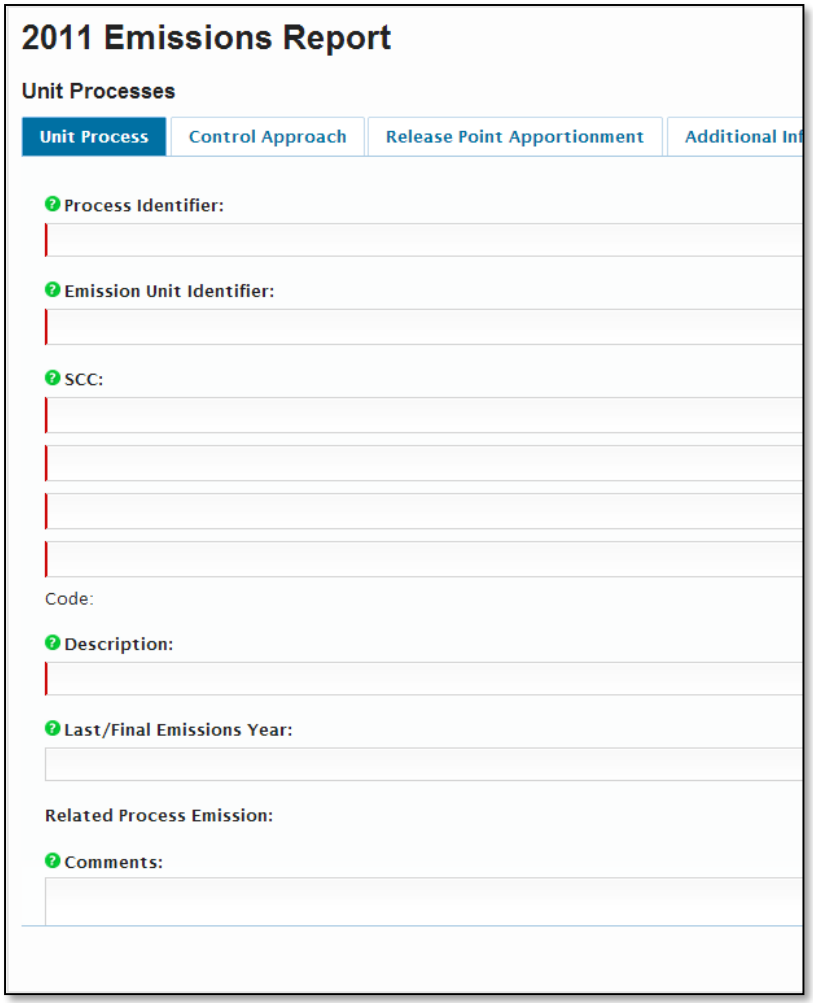
Regulatory Programs and Additional Information

- Used Mainly to Track Regulatory Program Associated with EU
  - E.G. MACT Standards
  - E.G State and Local Regulations
- Internal Tool for Facility to Track EU
  - Tracks Title V EUs
  - Alphanumeric Value of 10 Characters or Less

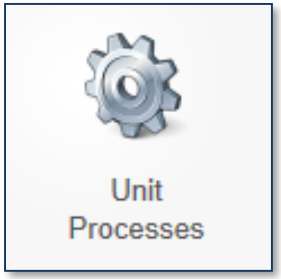


ADDING AND VERIFYING UNIT PROCESSES

Unit Process



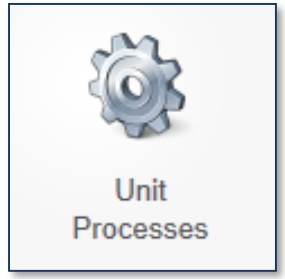
- Links Release Points, Control Devices, Emission Units
- Choose Identifier of EU that Matches Process
- Choose Appropriate Source Classification Code (SCC) and Description



Unit Process

- NOTE: It is important to know your emission factors when creating your processes.

- You will only be able to enter one type of throughput for each process.



Unit Process

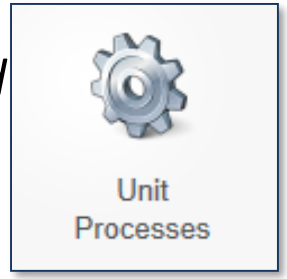
- In general, a separate Unit Process is needed for each different Source Classification Code (SCC) associated with a particular emission unit.

EXAMPLE #1: Gasoline Storage Tanks

SCC 40400201 – Breathing Loss (RVP 13, Fixed Roof)

SCC 40400204 – Working Loss (RVP 13, Fixed Roof)

EPA's TANKS program gives emission totals for both breathing loss and working loss.

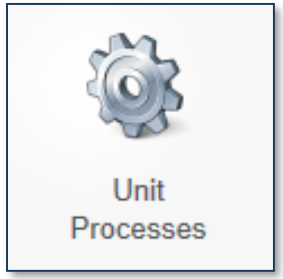


EXAMPLE #2: Electric Generation

SCC 10100601 – Natural Gas

SCC 10100501 – Distillate Oil

In this example, if both natural gas and distillate oil are used in the same generation unit, a separate unit process would need to be created for each of these processes. You would *not* create an emission unit for each.

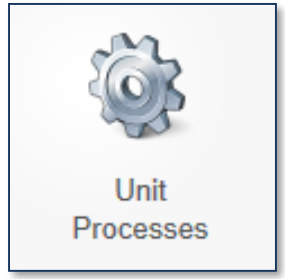


Unit Process

A list of SCC's can be found in EPA's Appendix 6 – Code Tables:

http://www.epa.gov/ttn/chief/eiinformation.html

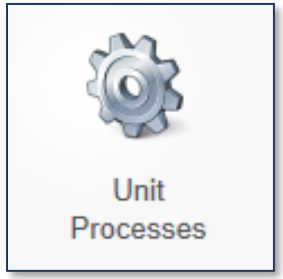
Click on 'EIS Code Tables (including SCCs)'



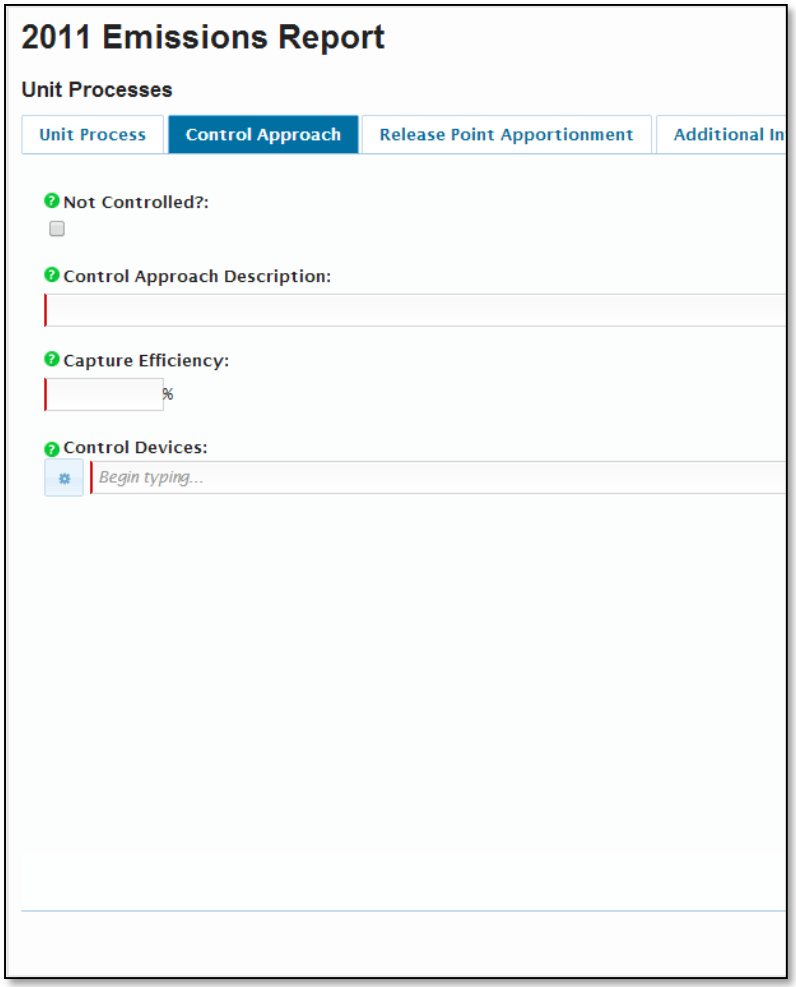
New - SCC Code Update

- ADEQ has updated the SLEIS SCC list
  - Only current, valid, point source SCCs my be used

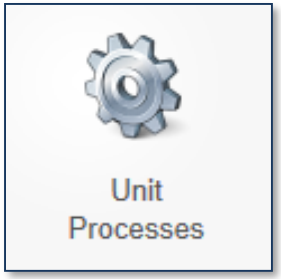
- SCC codes used in past inventories might not be valid
  - When updating SCCs check out EPA's tools
  - Issues? Contact ADEQ



Control Approach



- If Uncontrolled, Check Box and Skip
- If Controlled
  - Add Description
  - Add Capture Efficiency
  - Designate Applicable Control Devices
  - Inherent vs. add-on



Determining What is Billable…The Annual Fee Rule

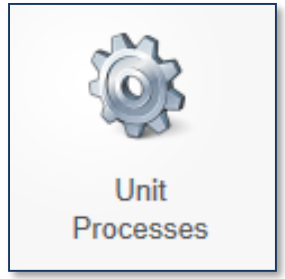
- Class I Sources Pay An Annual Emission-Based Fee
- All Sources Pay Permit Processing/Annual Fees
- Fee Rule Summary:

  http://www.azdeq.gov/environ/air/permits/fees.html
- Fee Rule A.A.C. R18-2-326:

  http://www.azsos.gov/public_services/Title_18/18-02.htm

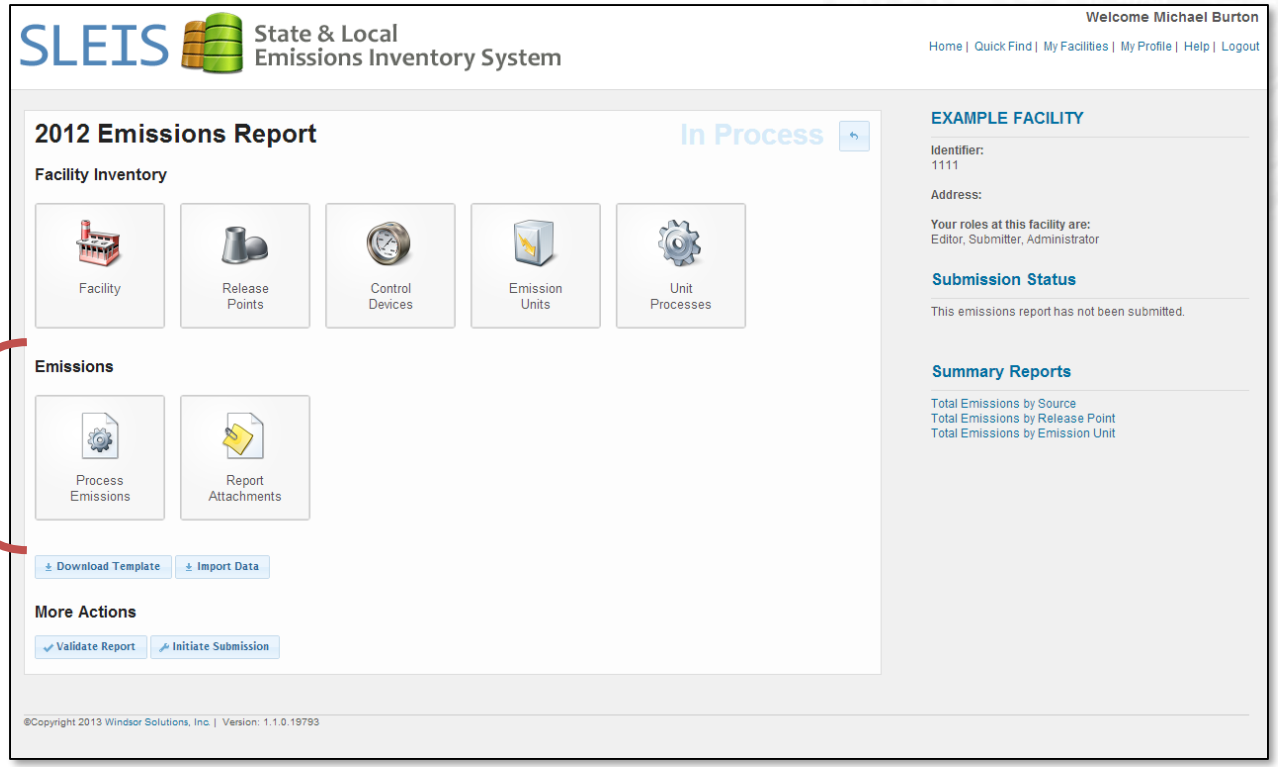
Release Point Appointment & Additional Information

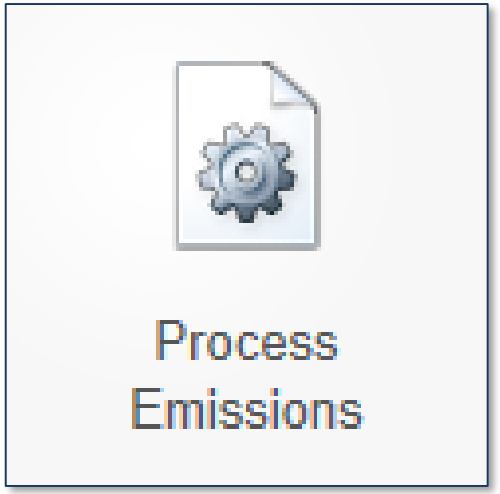
- Release Point Appointment
  - Allows for Designation of Emissions/Release Point
  - Can Designate one or Multiple Release Points
  - Must be Entered Prior to Appointment
- Additional Information: Billable Emissions
  - Are Emissions From This Process Billable?
  - If Non-Billable…Why? You Need To Include Justification In Comment Box.



Emissions Review

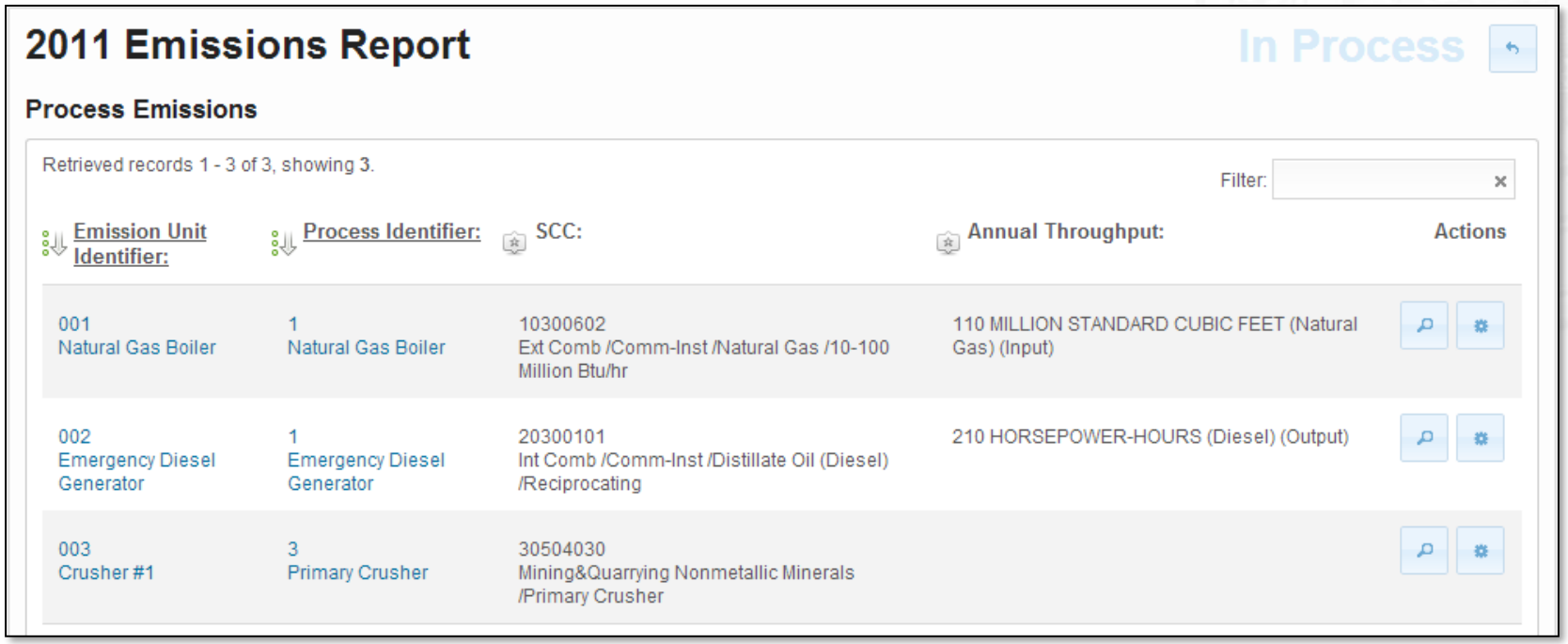
- Process Emissions
- Report Attachments





THE NITTY GRITTY: REPORTING PROCESS EMISSIONS

Choose your Process



2011 Emissions Report

In Process

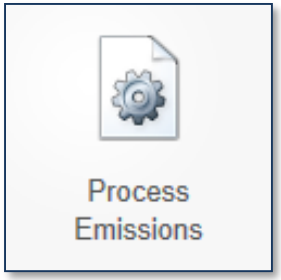
Process Emissions

Retrieved records 1 - 3 of 3, showing 3.

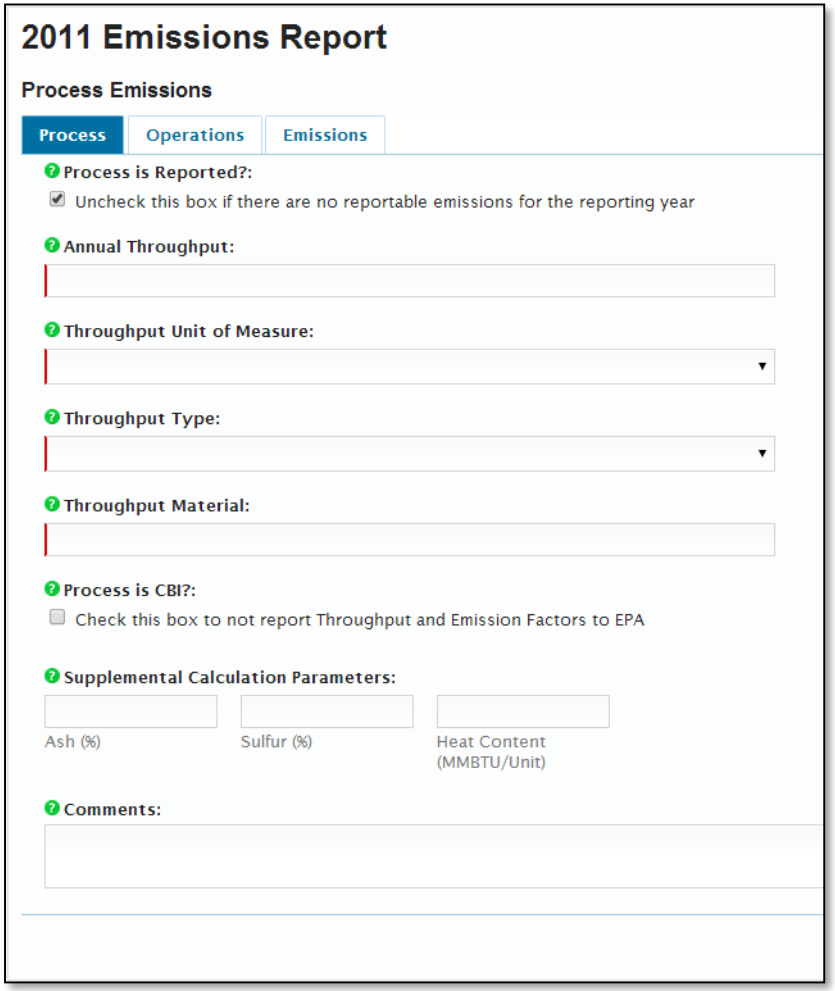
Filter:

Emission Unit Identifier:	Process Identifier:	SCC:	Annual Throughput:	Actions
001 Natural Gas Boiler	1 Natural Gas Boiler	10300602 Ext Comb /Comm-Inst /Natural Gas /10-100 Million Btu/hr	110 MILLION STANDARD CUBIC FEET (Natural Gas) (Input)	
002 Emergency Diesel Generator	1 Emergency Diesel Generator	20300101 Int Comb /Comm-Inst /Distillate Oil (Diesel) /Reciprocating	210 HORSEPOWER-HOURS (Diesel) (Output)	
003 Crusher #1	3 Primary Crusher	30504030 Mining&Quarrying Nonmetallic Minerals /Primary Crusher		

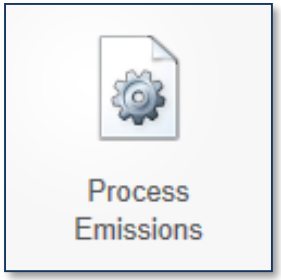
- Emissions Must be Calculated for Each Process
- Users May Import and Export Data for All Process Emissions



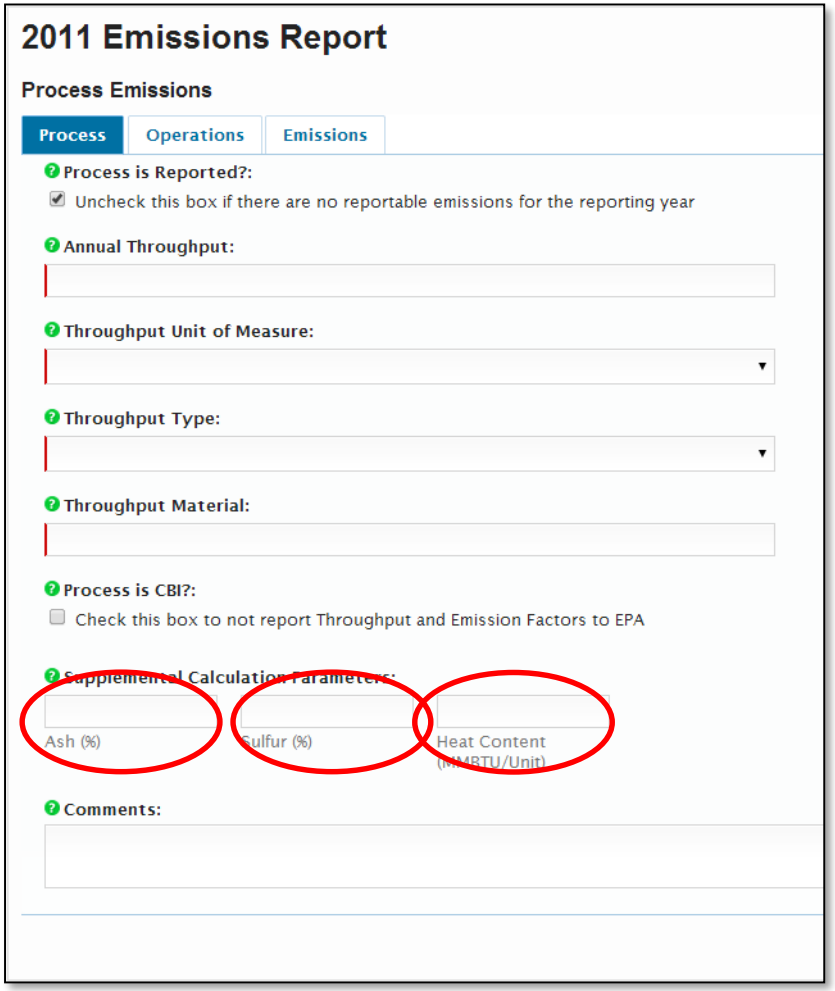
Process



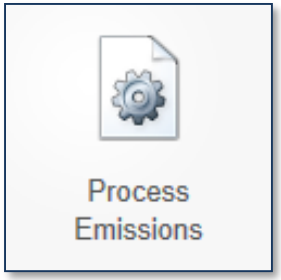
- Determine if Process Must be Reported
- Enter Throughput Information in Accordance to SCC
- Supplemental Calculation Parameters Necessary for Combustion Equipment
- Previous Years Information will Populate Some Fields



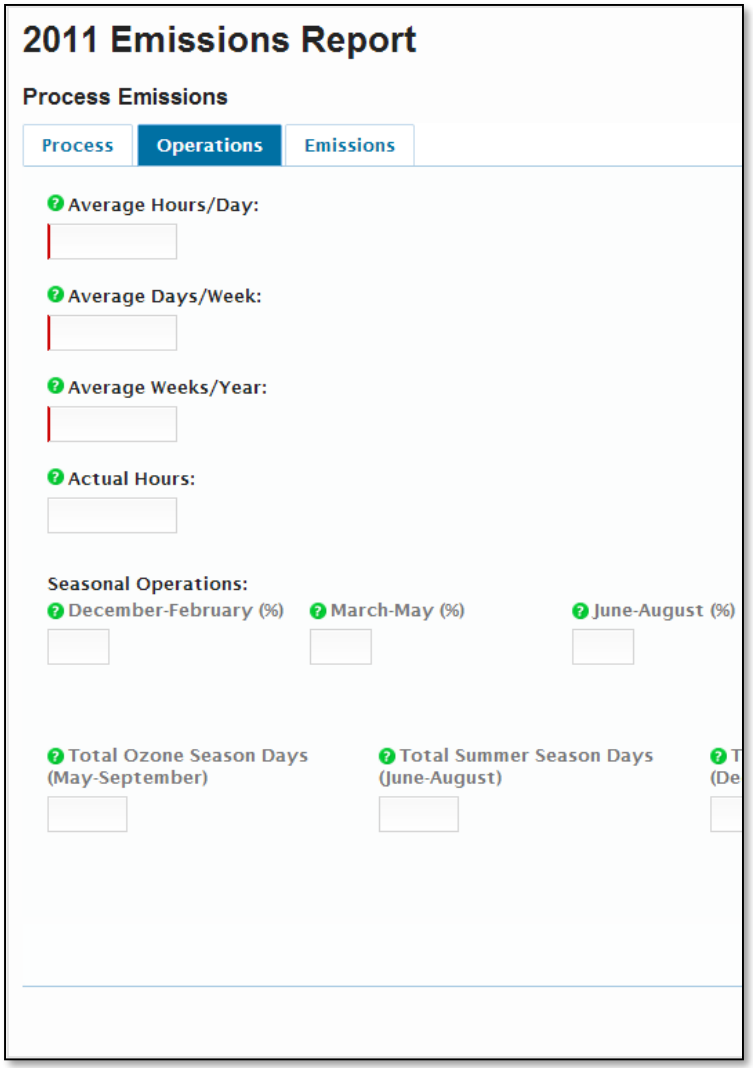
New – Process Tab



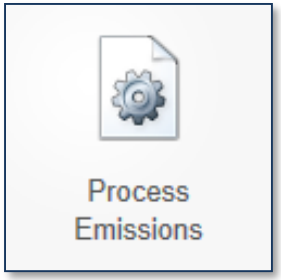
- % ash, % sulfur, and heat content cannot be zero (but can be blank)
- % sulfur must be under 10%



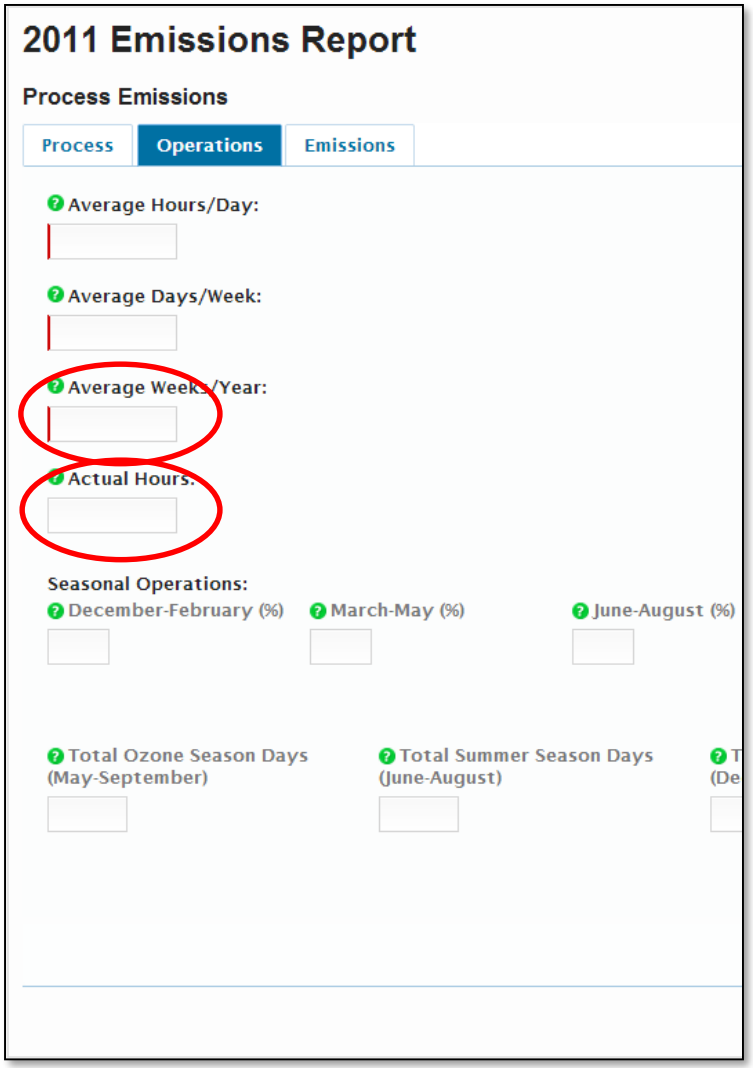
Operations



- Average Hours/Days/Weeks of Operation Required
- Actual Hours of Operation Calculates Automatically
- Please Enter Seasonal Operations

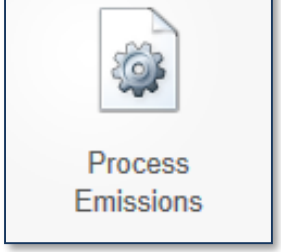


New – Operations Tab

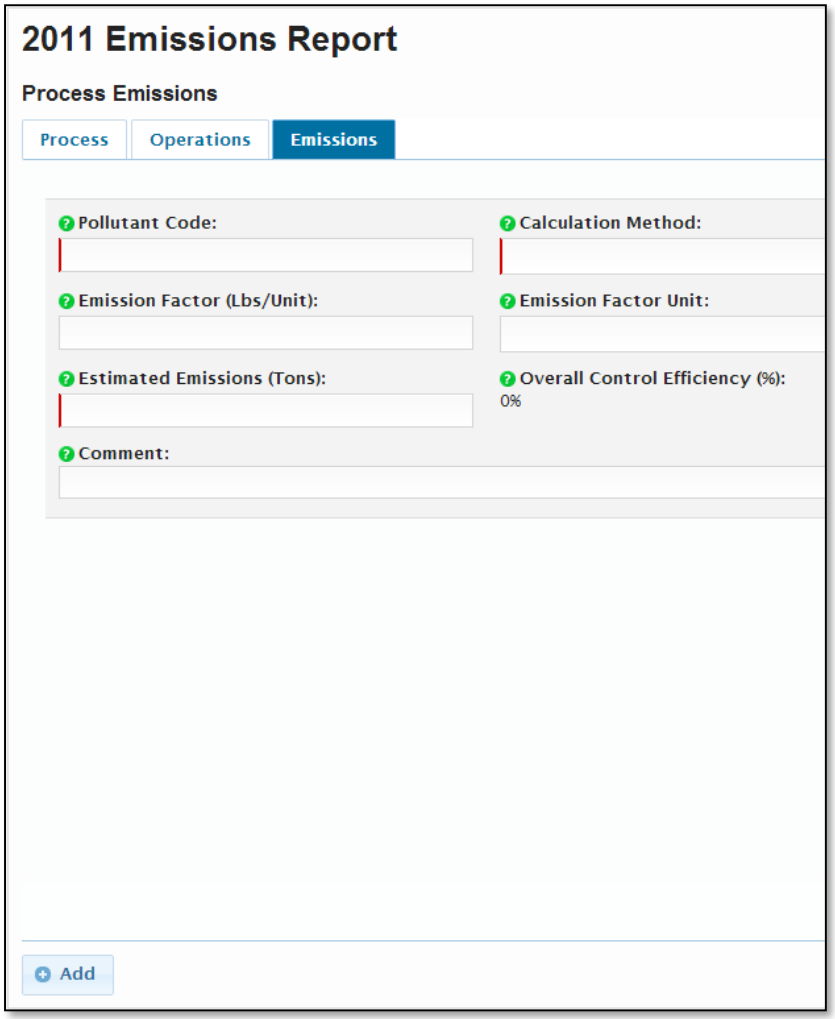


New to Operations Tab

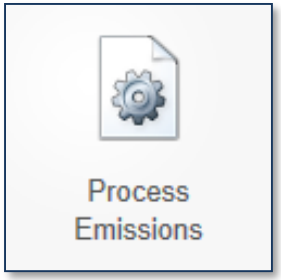
- Average Weeks per Year AND Actual Hours must be an integer (no decimals)



Emissions



- Users Can Calculate Multiple Emissions Per Process
- Be Sure Pollutant Code Matches That of Control Measure
- All Data in Process Emission Can Be Imported
- Saving will Run Error Report/Estimated Emissions



Emissions

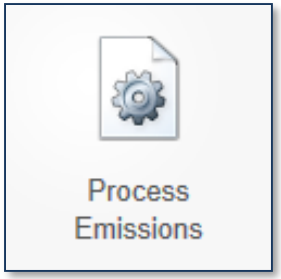
- If you report PM2.5-FIL you *must* also report PM10-FIL. Same for PM2.5-PRI.

- For a single process, PM2.5 emissions should *not* exceed PM10 emissions.

- To ensure accurate totals please report PM10/2.5-PRI for all processes that have PM emissions. This will reduce need for EPA to augment our emissions.

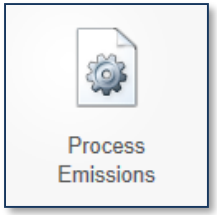
New – Emissions Tab

- SLEIS has new quality control checks
- If inventory includes value for total VOCs AND values for individual VOCs, then individual VOCs must be less than or equal to total VOCs.
- If a process has both PM2.5-PRI and PM10-PRI, PM2.5-PRI must be less than or equal to PM10-PRI (same for filterable PM).



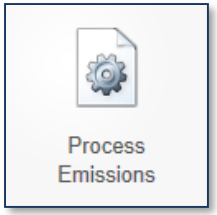
New – Emissions Tab Cont

- If a process has PM10-PRI AND PM10-FIL, PM10-FIL must be less than or equal to PM10-PRI (same for PM2.5).
- If a process has PM10-PRI AND PM-CON, PM-CON must be less than or equal to PM10-PRI (same for PM2.5).
- If a process has PM10-PRI, PM10-FIL, and PM-CON, then PM10-FIL and PM-CON must add to PM10-PRI, up to a tolerance of +/- 1 ton (same for PM2.5).



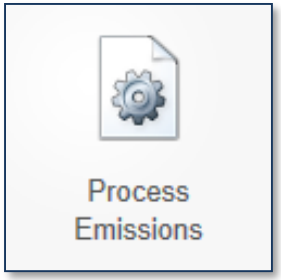
New – Emissions Tab Cont

- Additional new quality control features in SLEIS
  - Negative emissions estimates will give error, but not zero.
  - You cant leave emissions blank for direct input methodologies (CEMs, Material Balance, Engineering Judgement). If you have no emissions for a given process, but don't want to delete it, fill in zero.
  - Emission factors cant be negative or zero – must be positive
  - If you select an emission factor calculation method you cant leave it blank.



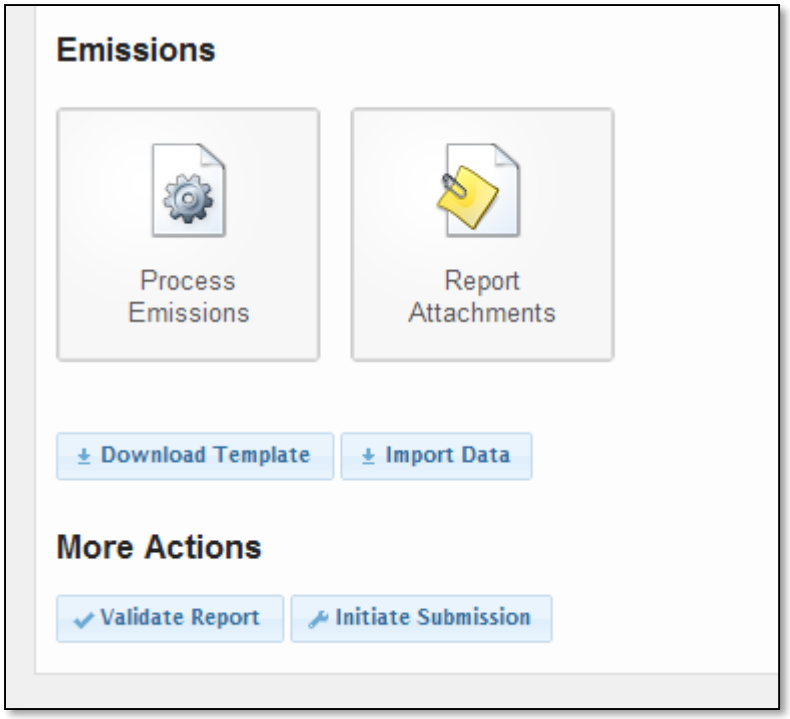
SLEIS CSV Templates

- Some Sources may Prefer to Import Data Into SLEIS
- You May Download Formatted CSV Templates for Data Entry
  - Please download new templates each year. Do not reuse templates from year to year.
- These CSV Templates can Be Uploaded Directly Into SLEIS



CSV FILE UPLOAD

- Begin by downloading the CSV file templates



- A ZIP file will be downloaded

CSV FILE UPLOAD

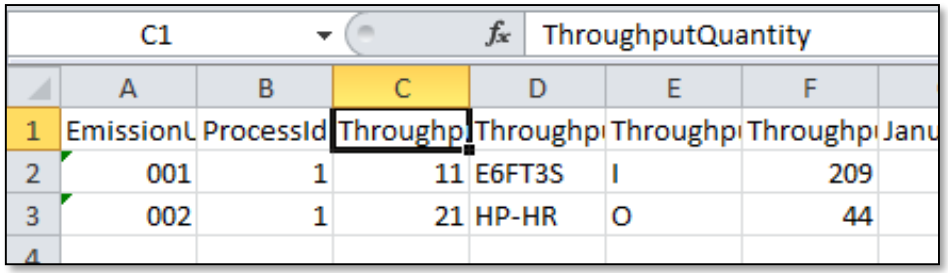
- The ZIP file contains three CSV files
  - Processes.csv
  - ProcessEmissions.csv
  - ReferenceDataValues.csv
- You will need to unzip these files and save them to your computer

Processes.csv

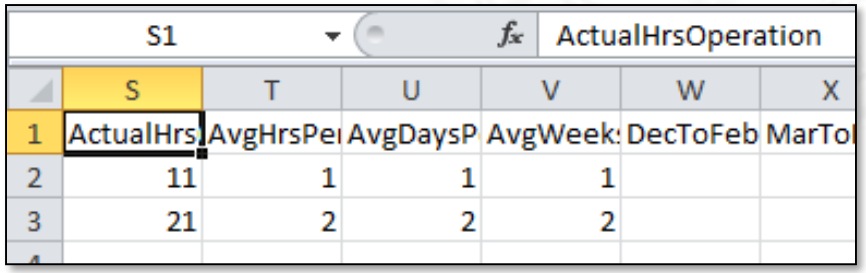
- Contains throughput and activity level information for each emission process
- Required data
  - Throughput
    - Quantity (Column C)
    - Unit (Column D)
    - Type (Column E)
    - Material (Column F)
  - Activity Level
    - Actual hours of operation (Column S)
    - Average hours/day (Column T)
    - Average days/week (Column U)
    - Average weeks/year (Column V)

Processes.csv

- Required data



C1	fx ThroughputQuantity					
	A	B	C	D	E	F
1	EmissionU	ProcessId	Throughp	Throughp	Throughp	Throughp
2	001	1	11	E6FT3S	I	209
3	002	1	21	HP-HR	O	44
4						



S1	fx ActualHrsOperation					
	S	T	U	V	W	X
1	ActualHrs	AvgHrsPe	AvgDaysP	AvgWeek	DecToFeb	MarTo
2	11	1	1	1		
3	21	2	2	2		
4						

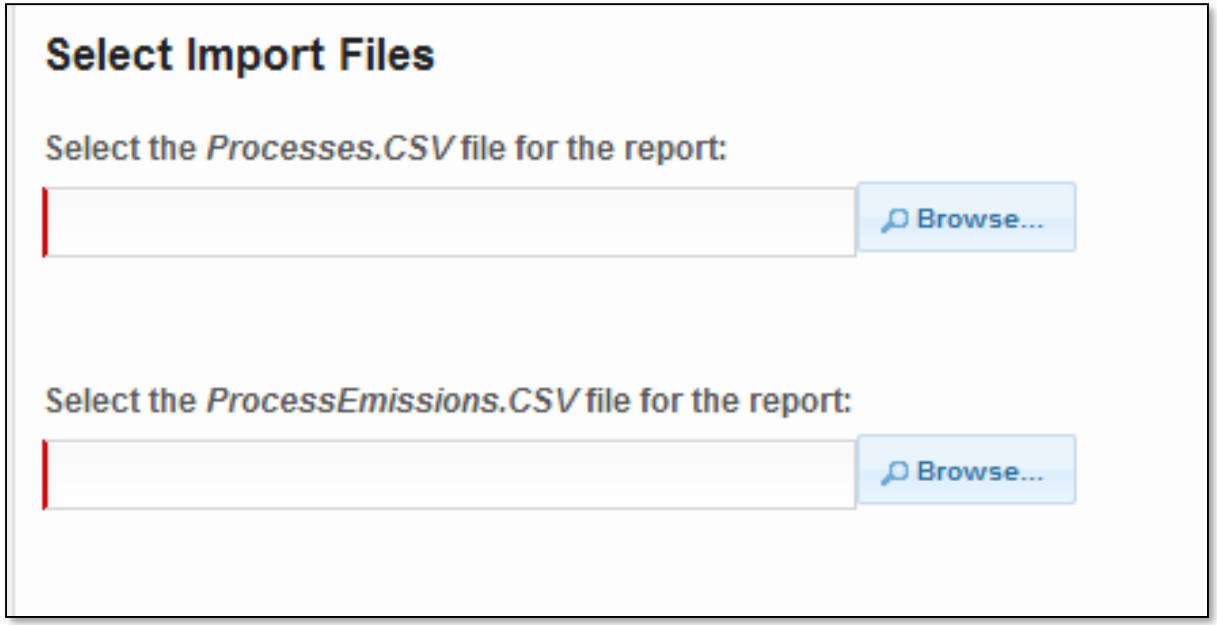
  - Throughput
    - Quantity (Column C)
    - Unit (Column D)
    - Type (Column E)
    - Material (Column F)
  - Activity Level
    - Actual hours of operation (Column S)
    - Average hours/day (Column T)
    - Average days/week (Column U)
    - Average weeks/year (Column V)

ProcessEmissions.csv

- Contains pollutant name, emission factor, and pollutant quantity
- Required data
  - All fields are required
    - Emission totals will auto-calculate based on throughput and emission factors
    - If using CEMS or other source for emission totals, you will need to enter the actual amount of pollutant
  - Unless you are changing or adding pollutant or emission factor data, none of this information needs to be edited

Importing Data

- Once you have updated the CSV files, upload them to SLEIS by clicking the 'Import Data' button
  - You will be prompted to select both the Processes.csv and ProcessEmissions.csv files.



Importing Data

- If the upload was successful, a blue status bar will appear.

- If the upload was unsuccessful, you will see a list of errors.

Importing Data - Errors

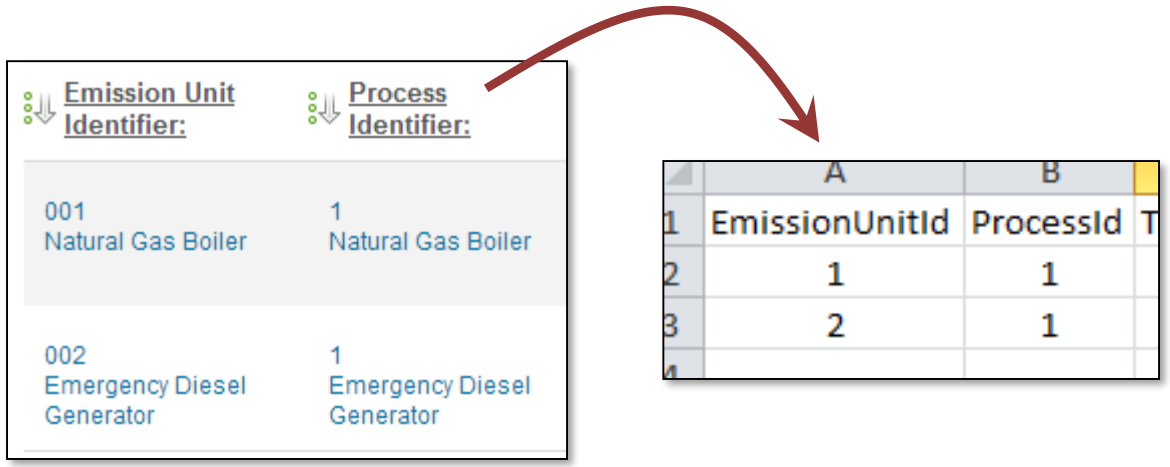
- The ‘Error’ column will tell you the row contains the error.
- The ‘Context’ column will tell you the file (Processes or ProcessEmissions) and line #

Error	Context
ProcessId or EmissionUnitId is invalid.	Processes Line 2
ProcessId or EmissionUnitId is invalid.	Processes Line 3

- In this example, there is an error in either the ‘ProcessId’ or ‘EmissionUnitId’ of lines 2 and 3 of the Processes.csv file.

Importing Data - Errors

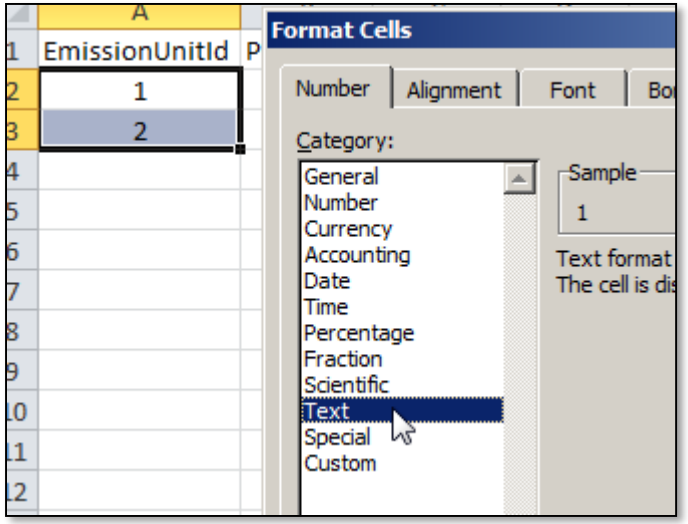
- An error will occur if your Process or Emission Unit ID #'s contain leading zeroes.



- Excel will disregard these leading zeroes and convert it into a number

Importing Data - Errors

- To correct this error, you will need to force Excel to treat the ID #'s as **Text**



	A	B	
1	EmissionUnitId	ProcessId	Thr
2	001	1	
3	002	1	
4			

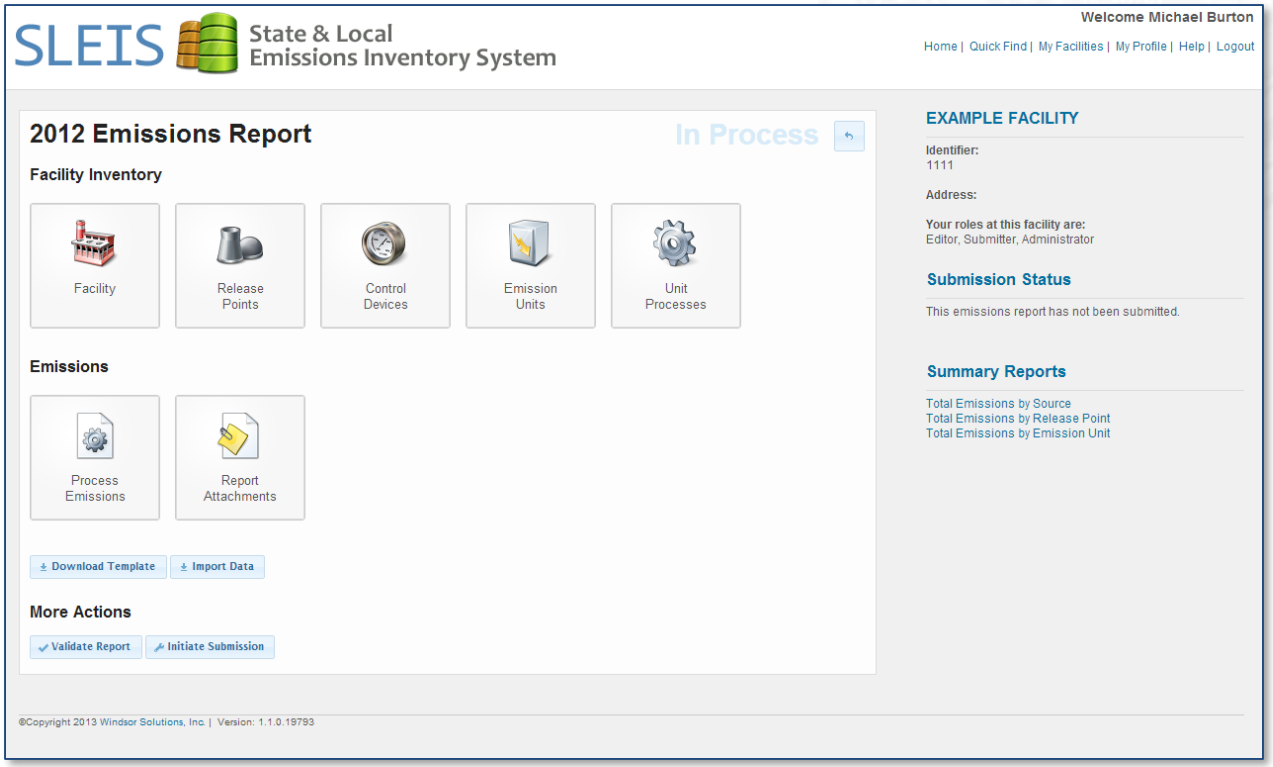
- Then change the ID #'s so that they exactly match what's in SLEIS

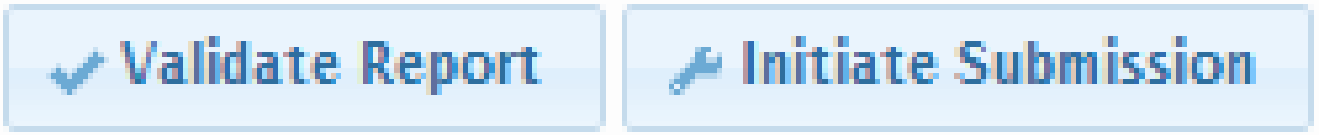
Attachments, Validate Report and Initiate Submission

- Users May Attach Any Required Supporting Document
  - If using Material Balance or Engineering Judgment you *must* provide supporting documentation

More Actions

- Validate Report
- Initiate Submission





SUBMITTING YOUR EMISSION REPORT

Validate Report

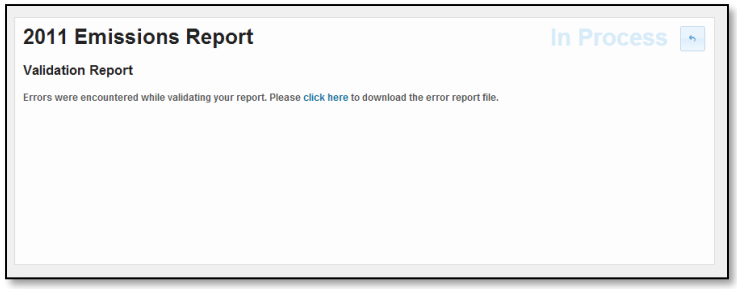
- Validate report will run automated quality assurance checks on your current emission report

- Can be run at any time…you don’t need to wait until report is complete to check for errors

- Once clicked you will be taken to the Validate Report screen…

Validation Report

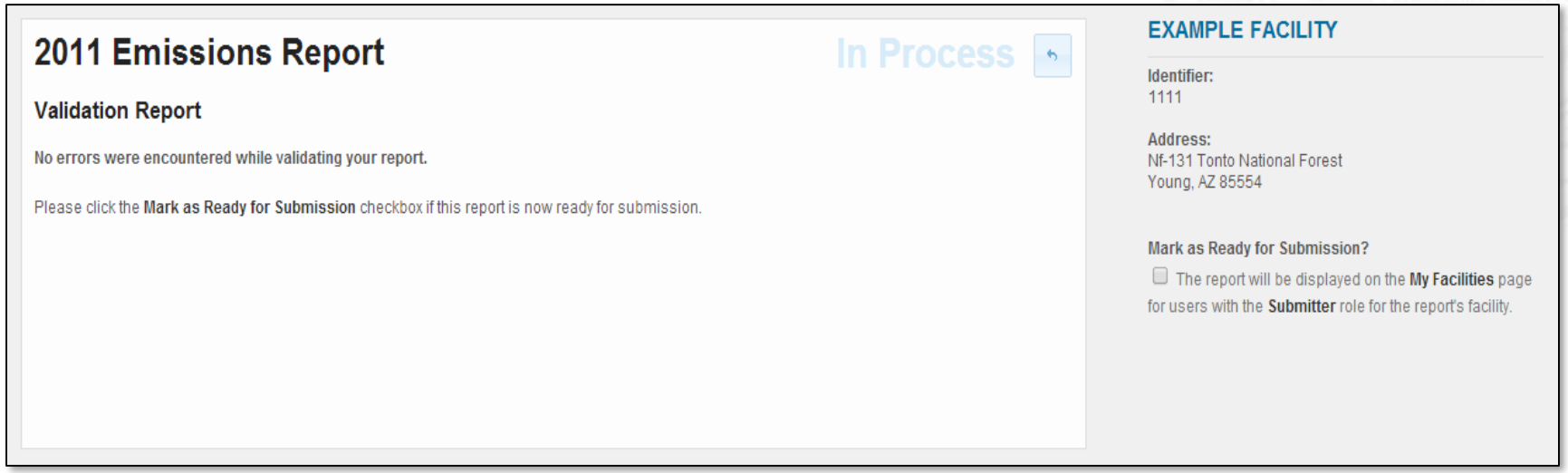
- If there are errors:



- The error report will be downloaded as a CSV file:

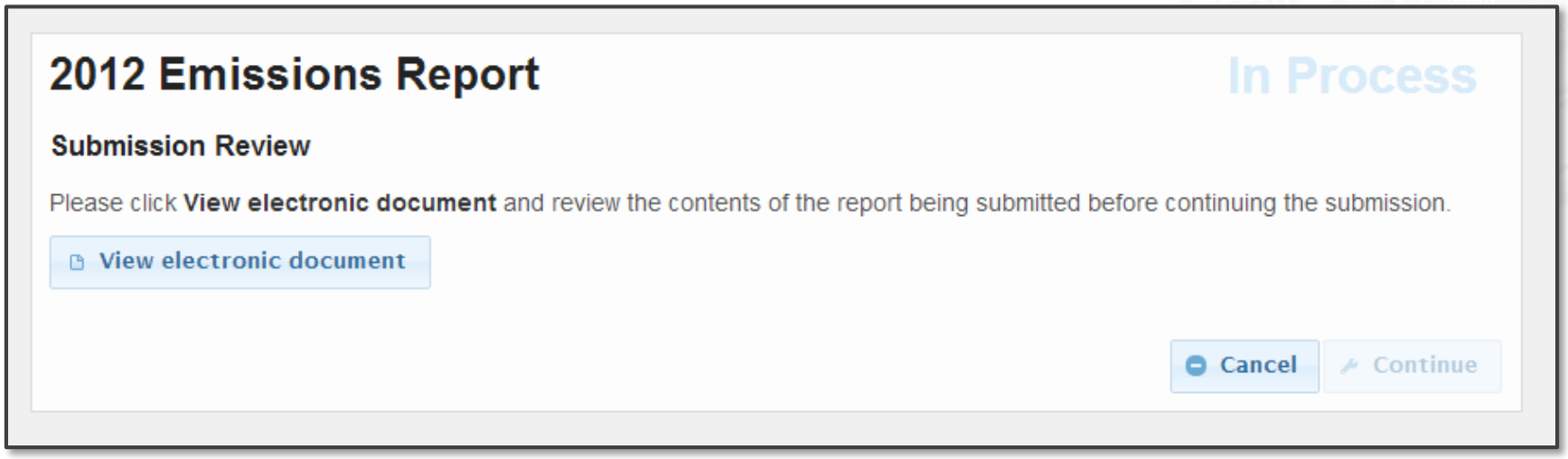
	A	B	C	D
1	Error	Context		
2	Process Emission Operations Average Hours/Day is r	Emission Unit: 003, Process: 3		
3	Process Emission Operations Average Days Per Weel	Emission Unit: 003, Process: 3		
4	Process Emission Throughput Material Type is requir	Emission Unit: 003, Process: 3		
5	Process Emission Annual Throughput is required	Emission Unit: 003, Process: 3		
6	Process Emission Throughout Unit of Measure is requ	Emission Unit: 003, Process: 3		
7	Process Emission Operations Average Weeks/Year is	Emission Unit: 003, Process: 3		
8	Process Emission Throughput Type is required	Emission Unit: 003, Process: 3		
9	Process Emission requires at least one Pollutant	Emission Unit: 003, Process: 3		
10				

Validation Report Cont'd



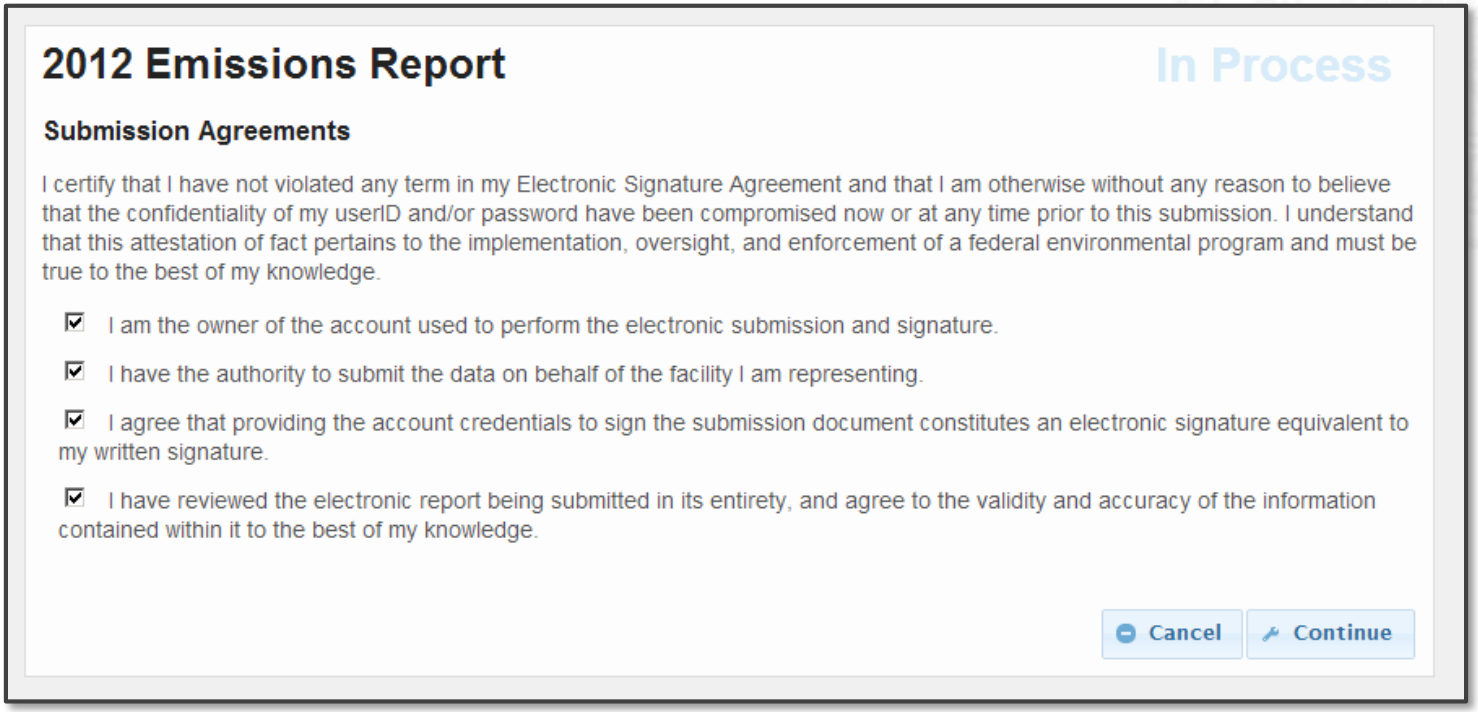
- Once all errors have been corrected the report is ready to submit

Report Submission



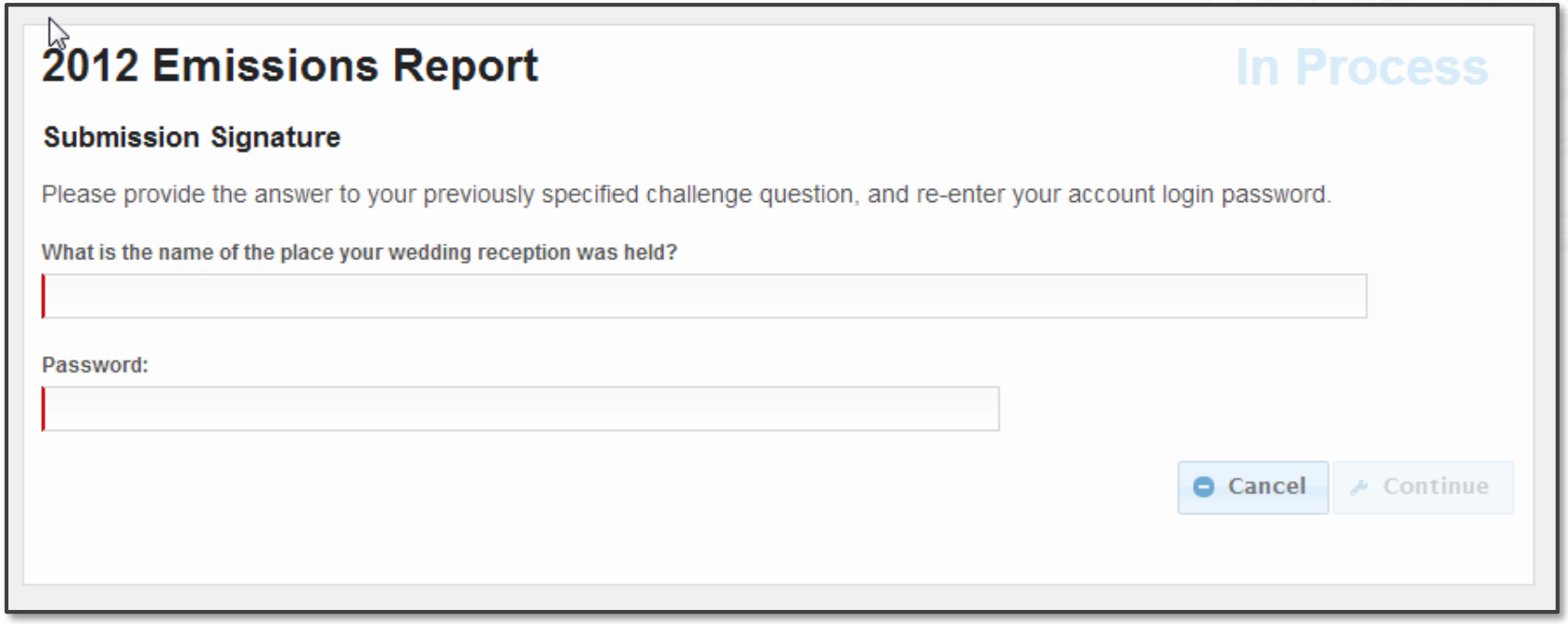
- An electronic (PDF) version of your emission report will be created
- You can't continue until you click on the "View electronic document" button

Report Submission Cont'd



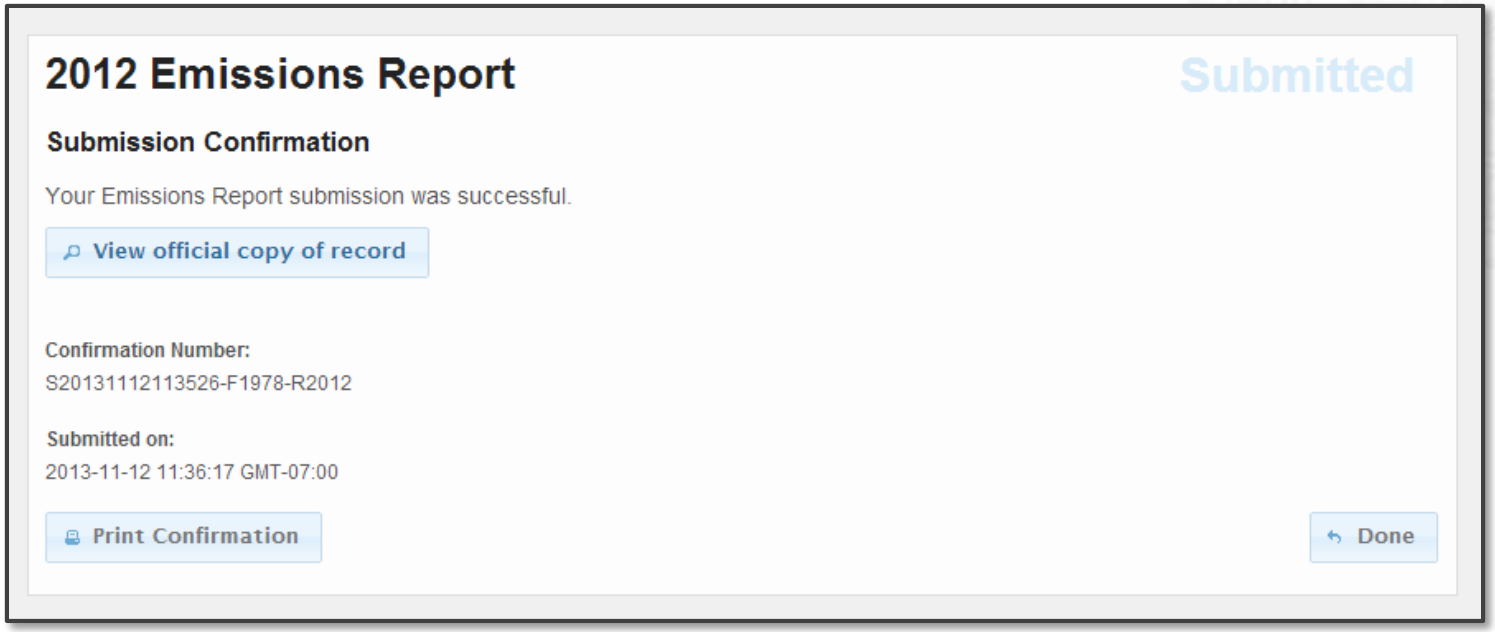
- You'll need to check all of the boxes under the Submission Agreement

Report Submission Cont'd



- You'll need to answer one of your challenge questions and your password

Report Submission Cont'd



- When you see this page your report has been successfully submitted
- The "Official Copy of Record" and "Confirmation" documents are for your records. No need to mail them to ADEQ.

USEFUL LINKS

- EPA's Emission Inventory Trainings:
  - https://www.epa.gov/air-emissions-inventories/air-emissions-inventory-training
- ADEQ Emission Inventory Website:
  - http://www.azdeq.gov/emissions-inventories
- GovDelievery - EI Updates:
  - https://public.govdelivery.com/accounts/AZDEQ/subscriber/new

MINOR SOURCE REPORTING

FINDING THE FORMS

Visit www.azdeq.gov/emissions-inventories

Scroll down to the bottom of the page and select the form you would like to use:

Minor Sources: Reporting Form (XLS) | Download >

Alternative PDF forms for Minor Sources:

- Air Curtain Incinerator | Download >
- Cotton Gins | Download >
- Perc Dry Cleaners | Download >
- Rock Products | Download >
- Soil Vapor Extraction | Download >
- Misc. Sources | Download >

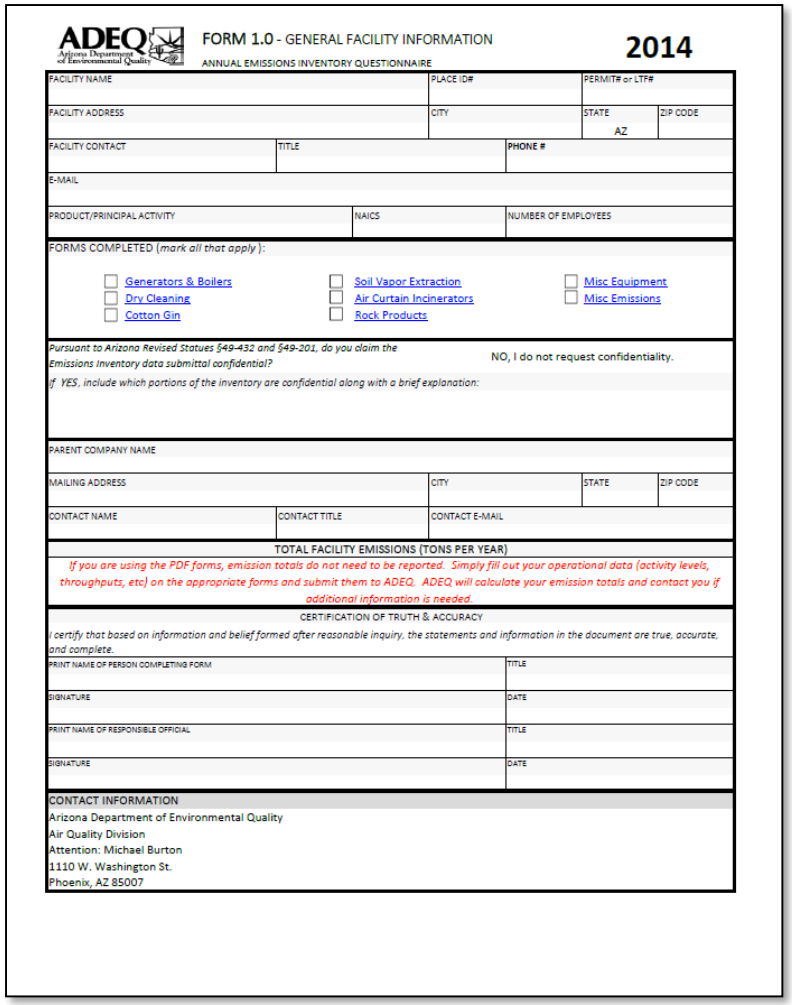
QUESTIONNAIRE FORMAT

- All necessary forms are contained in a single workbook
- This workbook contains various forms used to report emissions:
  - FORM 1.0 – General Facility Information
  - FORM 2.1 – Generators & Boilers
  - FORM 2.2 – PERC Dry Cleaners
  - FORM 2.3 – Cotton Gin
  - FORM 2.4 – Soil Vapor Extraction
  - FORM 2.5 – Air Curtain Incinerator
  - FORM 2.6 – Rock Products
  - FORM 3.0 – Misc. Equipment
  - FORM 3.1 – Misc. Emissions

QUESTIONNAIRE FORMAT

- Two versions available: Excel and PDF
- Excel version will auto-calculate emissions based on activity levels (throughput, hours of operation, etc)
- PDF versions will not auto-calculate
  - Only report activity levels
  - No need to manually calculate emissions
  - ADEQ will use these levels to calculate your facilities emission totals

FORM 1.0: GENERAL FACILITY INFO



ADEQ Arizona Department of Environmental Quality

FORM 1.0 - GENERAL FACILITY INFORMATION **2014**

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME		PLACE ID#	PERMIT# or LTF#	
FACILITY ADDRESS		CITY	STATE: AZ	ZIP CODE
FACILITY CONTACT	TITLE		PHONE #	
E-MAIL				
PRODUCT/PRINCIPAL ACTIVITY		NAICS	NUMBER OF EMPLOYEES	

FORMS COMPLETED (*mark all that apply*):

- ☐ Generators & Boilers
- ☐ Dry Cleaning
- ☐ Cotton Gin
- ☐ Soil Vapor Extraction
- ☐ Air Curtain Incinerators
- ☐ Rock Products
- ☐ Misc Equipment
- ☐ Misc Emissions

Pursuant to Arizona Revised Statues §49-432 and §49-201, do you claim the Emissions Inventory data submittal confidential? NO, I do not request confidentiality.

If YES, include which portions of the inventory are confidential along with a brief explanation:

PARENT COMPANY NAME				
MAILING ADDRESS		CITY	STATE	ZIP CODE
CONTACT NAME	CONTACT TITLE	CONTACT E-MAIL		

TOTAL FACILITY EMISSIONS (TONS PER YEAR)

If you are using the PDF forms, emission totals do not need to be reported. Simply fill out your operational data (activity levels, throughputs, etc) on the appropriate forms and submit them to ADEQ. ADEQ will calculate your emission totals and contact you if additional information is needed.

CERTIFICATION OF TRUTH & ACCURACY

I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

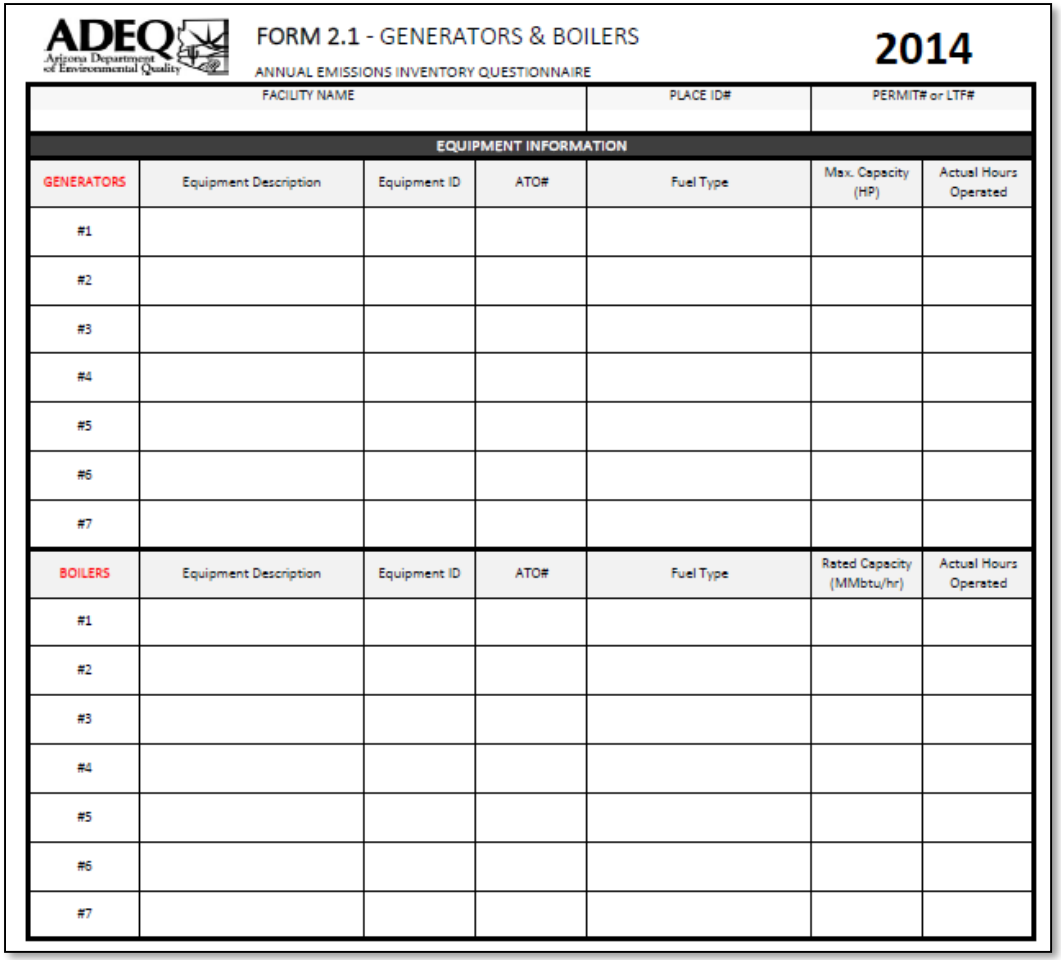
PRINT NAME OF PERSON COMPLETING FORM	TITLE
SIGNATURE	DATE
PRINT NAME OF RESPONSIBLE OFFICIAL	TITLE
SIGNATURE	DATE

CONTACT INFORMATION

Arizona Department of Environmental Quality
Air Quality Division
Attention: Michael Burton
1110 W. Washington St.
Phoenix, AZ 85007

- Enter general facility information
- Should be filled out with every questionnaire

FORM 2.1 – GENERATORS & BOILERS



ADEQ Arizona Department of Environmental Quality

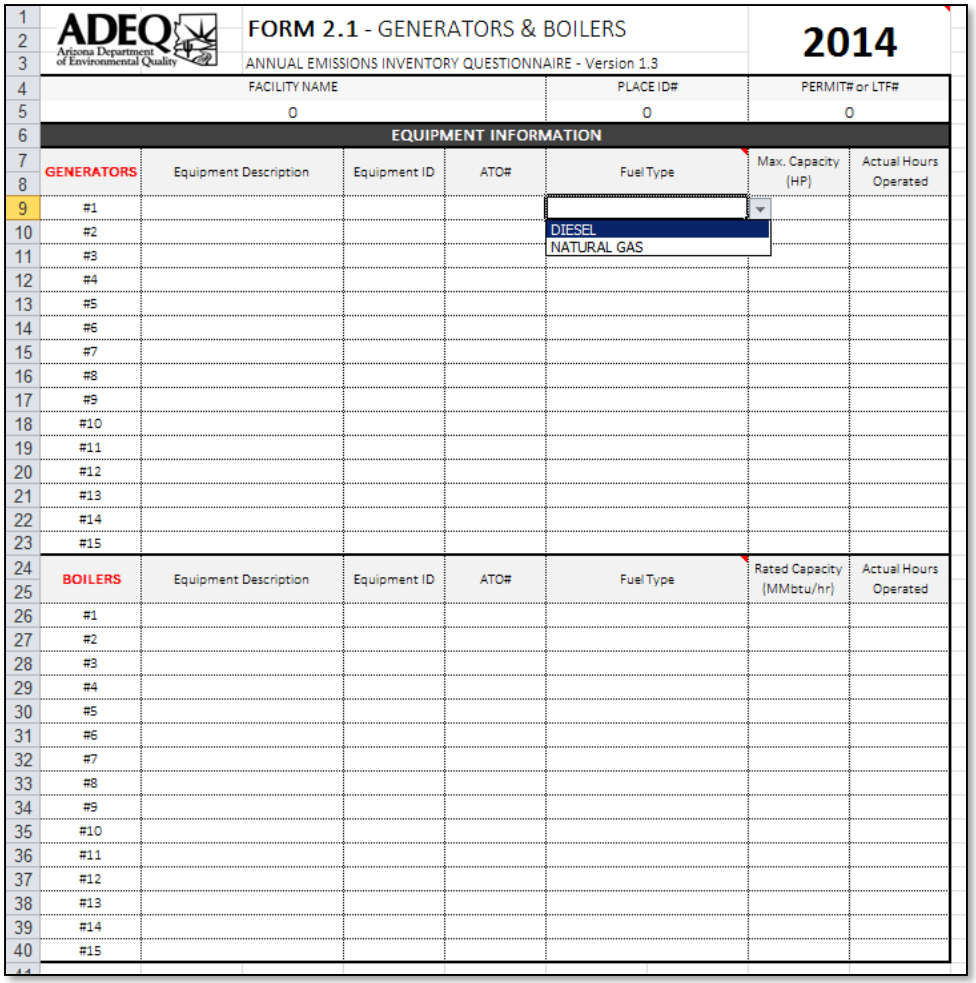
FORM 2.1 - GENERATORS & BOILERS 2014

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME				PLACE ID#	PERMIT# or LTF#	
EQUIPMENT INFORMATION						
GENERATORS	Equipment Description	Equipment ID	ATO#	Fuel Type	Max. Capacity (HP)	Actual Hours Operated
#1						
#2						
#3						
#4						
#5						
#6						
#7						
BOILERS	Equipment Description	Equipment ID	ATO#	Fuel Type	Rated Capacity (MMbtu/hr)	Actual Hours Operated
#1						
#2						
#3						
#4						
#5						
#6						
#7						

- Used to capture emissions from any generators or boilers at a facility
- The form will auto-calculate emission totals based on fuel type, capacity, and hours of operation.

FORM 2.1 – GENERATORS & BOILERS



FORM 2.1 - GENERATORS & BOILERS

2014

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE - Version 1.3

FACILITY NAME	PLACE ID#	PERMIT# or LTF#
0	0	0

EQUIPMENT INFORMATION

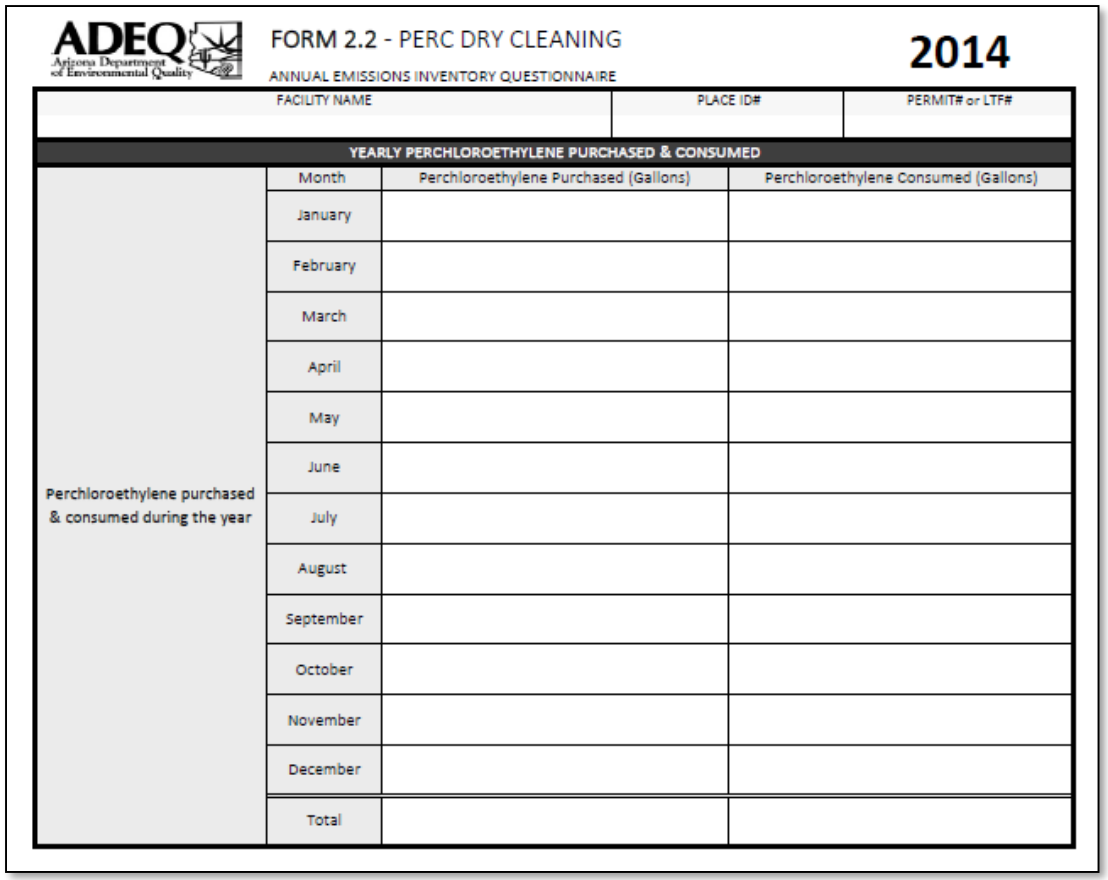
GENERATORS	Equipment Description	Equipment ID	ATO#	Fuel Type	Max. Capacity (HP)	Actual Hours Operated
#1						
#2						
#3						
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						
#15						

DIESEL
NATURAL GAS

BOILERS	Equipment Description	Equipment ID	ATO#	Fuel Type	Rated Capacity (MMbtu/hr)	Actual Hours Operated
#1						
#2						
#3						
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						
#15						

- In the Excel version, you need to use the drop down list to select your fuel type.
- To do this, select the cell and a down arrow will appear. Click this arrow and select the appropriate fuel.

FORM 2.2 – PERC DRY CLEANING



ADEQ Arizona Department of Environmental Quality

FORM 2.2 - PERC DRY CLEANING **2014**

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

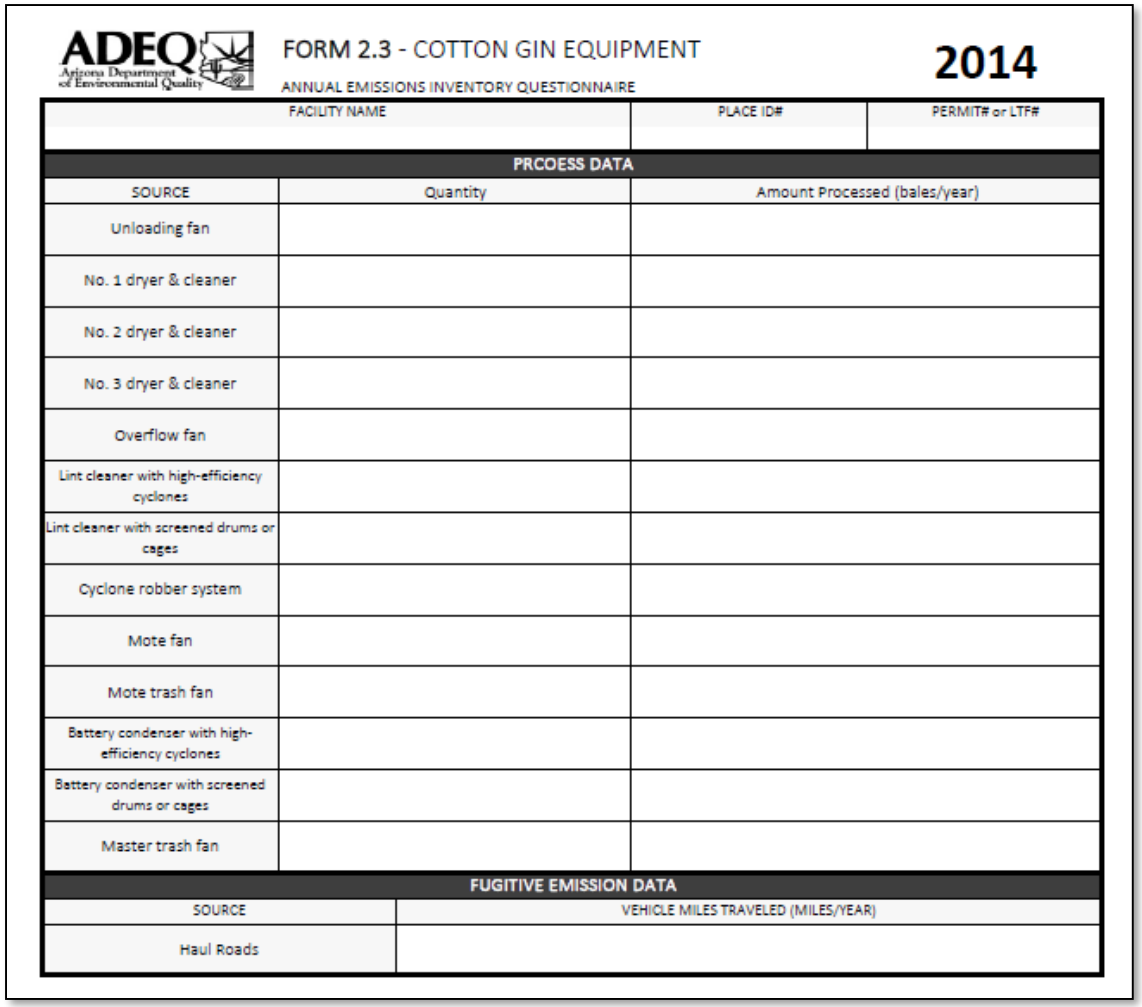
FACILITY NAME	PLACE ID#	PERMIT# or LTF#

YEARLY PERCHLOROETHYLENE PURCHASED & CONSUMED

	Month	Perchloroethylene Purchased (Gallons)	Perchloroethylene Consumed (Gallons)
Perchloroethylene purchased & consumed during the year	January		
	February		
	March		
	April		
	May		
	June		
	July		
	August		
	September		
	October		
	November		
	December		
	Total		

- Used to capture emissions from use of PERC at dry cleaning facilities
- Boiler information will need to be entered into FORM 2.1

FORM 2.3 – COTTON GIN



ADEQ Arizona Department of Environmental Quality

FORM 2.3 - COTTON GIN EQUIPMENT **2014**

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME	PLACE ID#	PERMIT# or LTF#

PRCOESS DATA

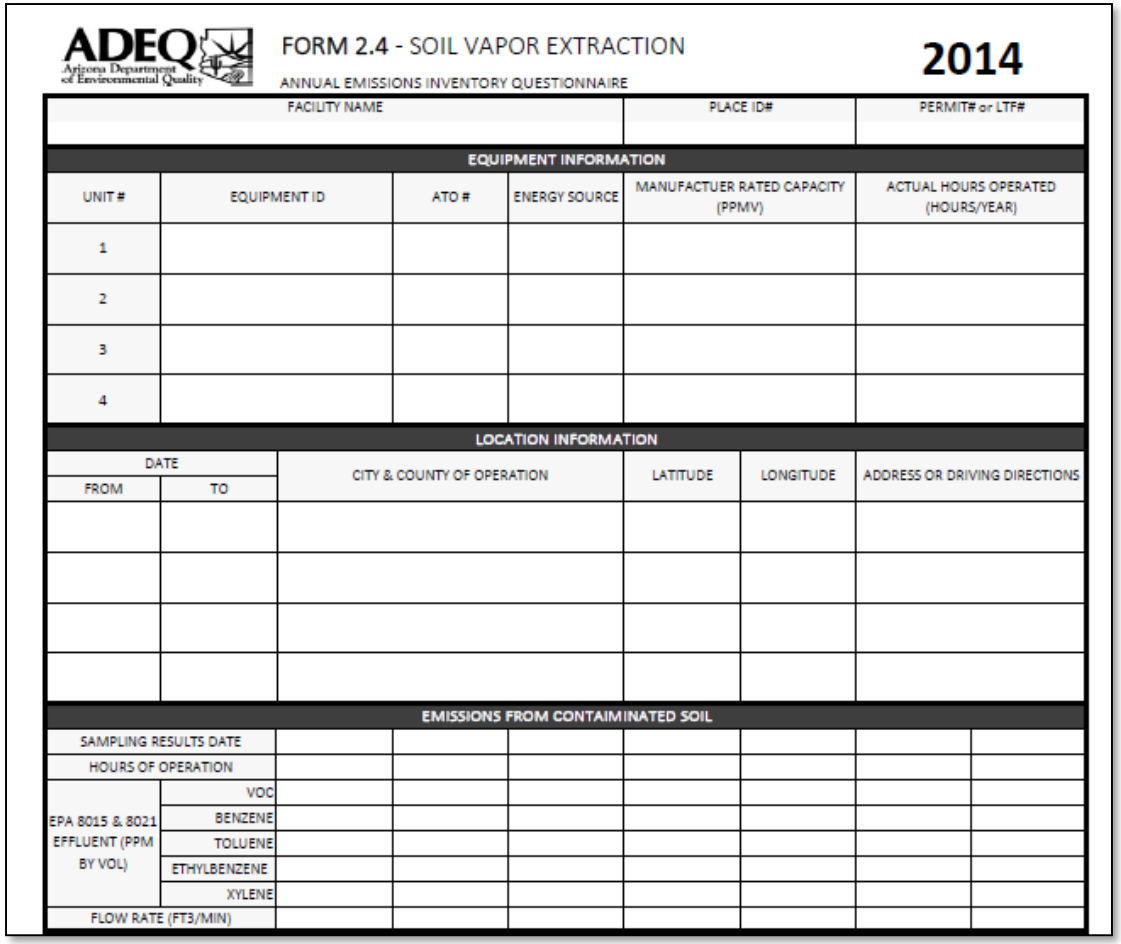
SOURCE	Quantity	Amount Processed (bales/year)
Unloading fan		
No. 1 dryer & cleaner		
No. 2 dryer & cleaner		
No. 3 dryer & cleaner		
Overflow fan		
Lint cleaner with high-efficiency cyclones		
Lint cleaner with screened drums or cages		
Cyclone robber system		
Mote fan		
Mote trash fan		
Battery condenser with high-efficiency cyclones		
Battery condenser with screened drums or cages		
Master trash fan		

FUGITIVE EMISSION DATA

SOURCE	VEHICLE MILES TRAVELED (MILES/YEAR)
Haul Roads	

- Enter number of each source in the ‘Quantity’ field and the total amount of material processed
- Also captures emission from unpaved haul roads

FORM 2.4 – SOIL VAPOR EXTRACTION



ADEQ Arizona Department of Environmental Quality

FORM 2.4 - SOIL VAPOR EXTRACTION **2014**

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME	PLACE ID#	PERMIT# or LTF#

EQUIPMENT INFORMATION

UNIT #	EQUIPMENT ID	ATO #	ENERGY SOURCE	MANUFACTUER RATED CAPACITY (PPMV)	ACTUAL HOURS OPERATED (HOURS/YEAR)
1					
2					
3					
4					

LOCATION INFORMATION

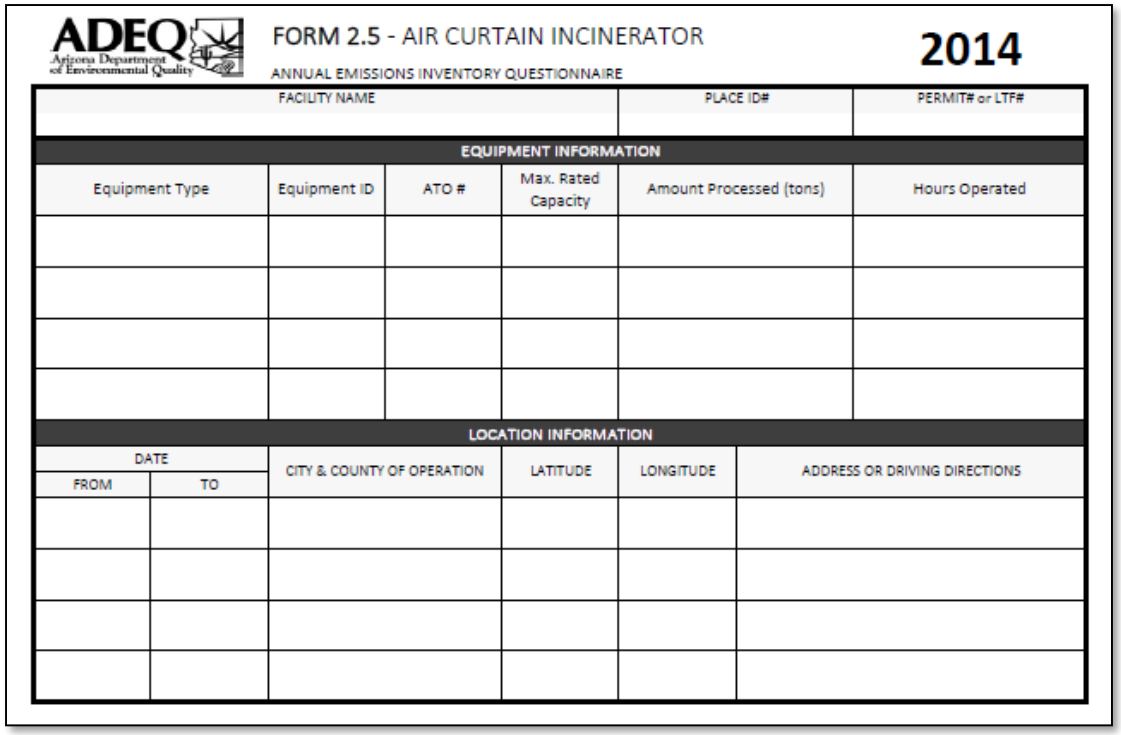
DATE		CITY & COUNTY OF OPERATION	LATITUDE	LONGITUDE	ADDRESS OR DRIVING DIRECTIONS
FROM	TO				

EMISSIONS FROM CONTAIMINATED SOIL

SAMPLING RESULTS DATE								
HOURS OF OPERATION								
EPA 8015 & 8021 EFFLUENT (PPM BY VOL)	VOC							
	BENZENE							
	TOLUENE							
	ETHYLBENZENE							
	XYLENE							
FLOW RATE (FT3/MIN)								

- Equipment info for the soil vapor extractor units
- Location info if the units have moved during the year
- Sampling results along with hours of operation

FORM 2.5 – Air Curtain Incinerator



ADEQ Arizona Department of Environmental Quality

FORM 2.5 - AIR CURTAIN INCINERATOR **2014**

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME	PLACE ID#	PERMIT# or LTF#

EQUIPMENT INFORMATION

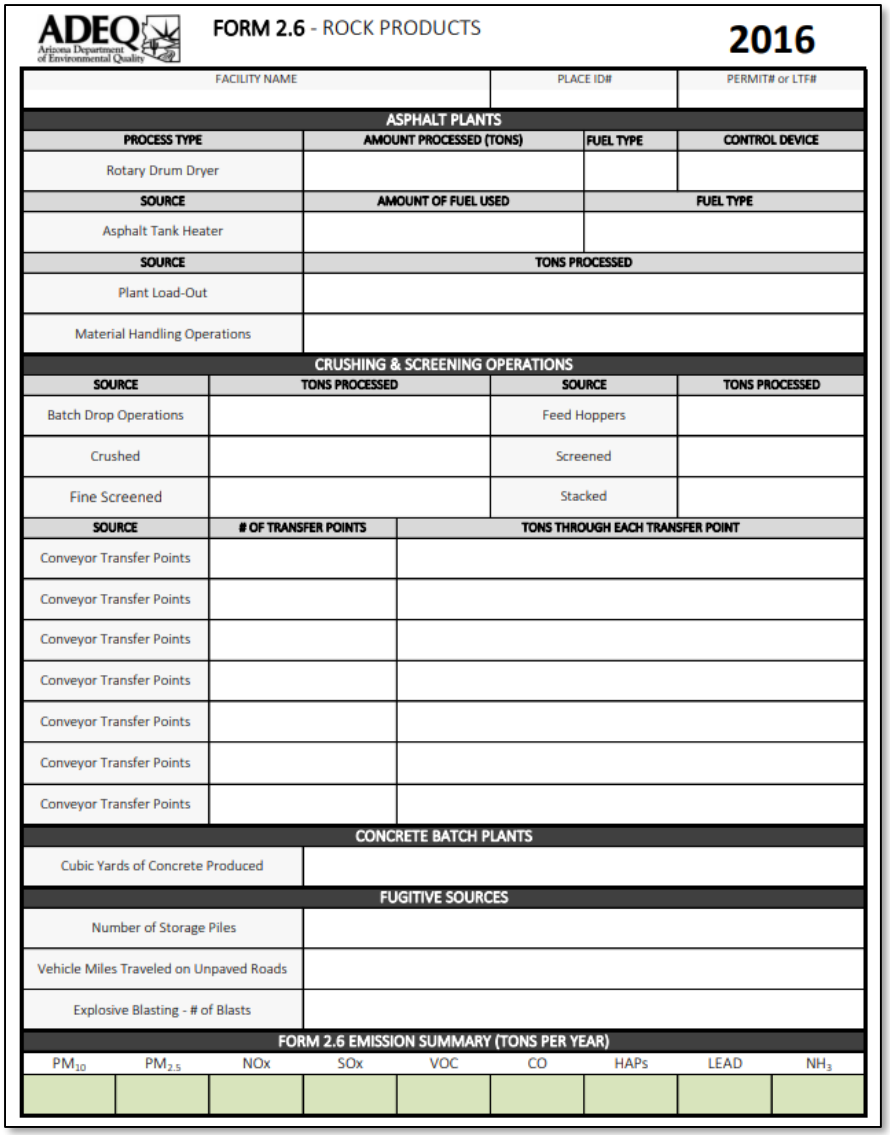
Equipment Type	Equipment ID	ATO #	Max. Rated Capacity	Amount Processed (tons)	Hours Operated

LOCATION INFORMATION

DATE		CITY & COUNTY OF OPERATION	LATITUDE	LONGITUDE	ADDRESS OR DRIVING DIRECTIONS
FROM	TO				

- Equipment info for the air curtain incinerator unit(s) along with hours of operation
- Location information if the units have moved during the year

FORM 2.6 – ROCK PRODUCTS



FORM 2.6 - ROCK PRODUCTS **2016**

FACILITY NAME	PLACE ID#	PERMIT# or LTF#

ASPHALT PLANTS

PROCESS TYPE	AMOUNT PROCESSED (TONS)	FUEL TYPE	CONTROL DEVICE
Rotary Drum Dryer			

SOURCE	AMOUNT OF FUEL USED	FUEL TYPE
Asphalt Tank Heater		

SOURCE	TONS PROCESSED
Plant Load-Out	
Material Handling Operations	

CRUSHING & SCREENING OPERATIONS

SOURCE	TONS PROCESSED	SOURCE	TONS PROCESSED
Batch Drop Operations		Feed Hoppers	
Crushed		Screened	
Fine Screened		Stacked	

SOURCE	# OF TRANSFER POINTS	TONS THROUGH EACH TRANSFER POINT
Conveyor Transfer Points		
Conveyor Transfer Points		
Conveyor Transfer Points		
Conveyor Transfer Points		
Conveyor Transfer Points		
Conveyor Transfer Points		
Conveyor Transfer Points		

CONCRETE BATCH PLANTS

Cubic Yards of Concrete Produced	

FUGITIVE SOURCES

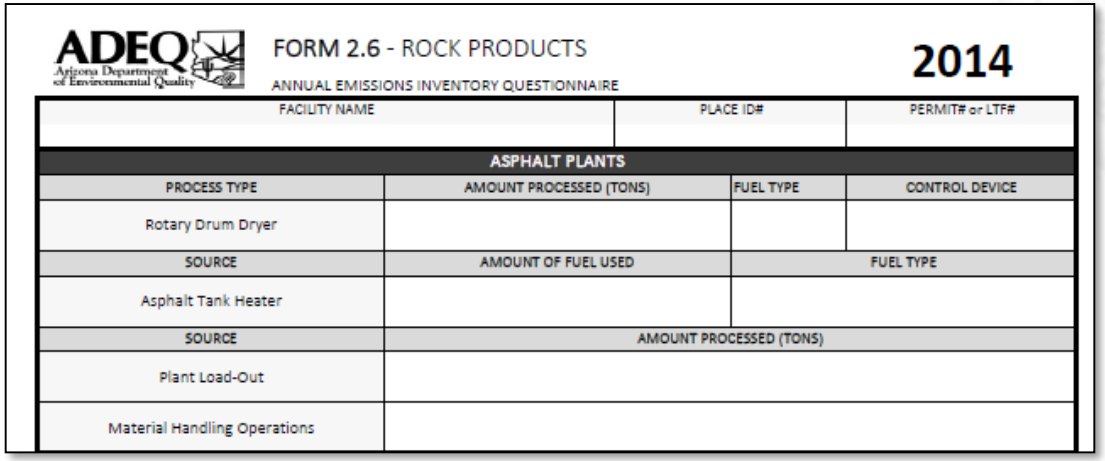
Number of Storage Piles	
Vehicle Miles Traveled on Unpaved Roads	
Explosive Blasting - # of Blasts	

FORM 2.6 EMISSION SUMMARY (TONS PER YEAR)

PM_{10}	$PM_{2.5}$	NOx	SOx	VOC	CO	HAPs	LEAD	NH_3

- FORM 2.6 covers emission from the rock products industry, including hot mix asphalt plants, concrete batch (ready mix) plants and crushing & screening operations.
- FORM 2.6 contains four sections
  - Asphalt Plants
  - Crushing & Screening Operations
  - Concrete Batch Plants
  - Fugitive Sources

FORM 2.6 – Asphalt Plants



ADEQ Arizona Department of Environmental Quality

FORM 2.6 - ROCK PRODUCTS — 2014

ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

FACILITY NAME	PLACE ID#	PERMIT# or LTF#

ASPHALT PLANTS

PROCESS TYPE	AMOUNT PROCESSED (TONS)	FUEL TYPE	CONTROL DEVICE
Rotary Drum Dryer			

SOURCE	AMOUNT OF FUEL USED	FUEL TYPE
Asphalt Tank Heater		

SOURCE	AMOUNT PROCESSED (TONS)
Plant Load-Out	
Material Handling Operations	

- Rotary Drum Dryer – Enter amount of material (in tons) processed in the drum dryer along with fuel type and control device
- Asphalt Tank Heater – Enter the amount of fuel consumed in the asphalt cement heater along with fuel type
- Plant Load-Out – Enter the amount (in tons) of material loaded into trucks from the asphalt plant
- Material Handling Operations – Enter the amount (in tons) of material handled at the asphalt plant (aggregate loaded into hoppers, etc)

FORM 2.6 – CRUSHING & SCREENING (1)

CRUSHING & SCREENING OPERATIONS			
SOURCE	**TONS PROCESSED**	**SOURCE**	**TONS PROCESSED**
Batch Drop Operations		Feed Hoppers	
Crushed		Screened	
Fine Screened		Stacked	
SOURCE	**# OF TRANSFER POINTS**	**TONS THROUGH EACH TRANSFER POINT**	
Conveyor Transfer Points			

For example, under 'Crushed' you should report the total amount of material crushed at your facility. If you have multiple crushers, it will be necessary to add their individual throughputs together and report the grand total. This applies to all sources in this category.

- **Batch Drop Operations** - Enter the total amount (in tons) of material that went through a batch drop process.
- **Feed Hoppers** - Enter the total amount (in tons) of material that went through a feed hopper

FORM 2.6 – CRUSHING & SCREENING (2)

CRUSHING & SCREENING OPERATIONS			
SOURCE	**TONS PROCESSED**	**SOURCE**	**TONS PROCESSED**
Batch Drop Operations		Feed Hoppers	
Crushed		Screened	
Fine Screened		Stacked	
SOURCE	**# OF TRANSFER POINTS**	**TONS THROUGH EACH TRANSFER POINT**	
Conveyor Transfer Points			

- **Crushed** – Enter the total amount (in tons) of material crushed at your facility.
- **Screened** – Enter the total amount (in tons) of material screened at your facility.
- **Fine Screened** – Enter the total amount (in tons) of material fine screened at your facility.
- **Stacked** – Enter the total amount (in tons) of material that was stacked at your facility.
- **Conveyor Transfer Points** – Enter the total number of conveyor transfer points

FORM 2.6 – CONCRETE BATCH PLANTS

- The only information needed for concrete batch plants is the total cubic yards of concrete produced.

CONCRETE BATCH PLANTS	
Cubic Yards of Concrete Produced	

FORM 2.6 – FUGITIVE SOURCES

FUGITIVE SOURCES	
Number of Storage Piles	
Vehicle Miles Traveled on Unpaved Roads	
Explosive Blasting - # of Blasts	

- **Number of Storage Piles** – Enter the total number of storage piles at your facility. If storage piles are created and removed throughout the year, provide an estimate on the average number that existed during the year.
- **Vehicle Miles Traveled on Unpaved Roads** – Enter the total vehicle miles traveled (VMT) on unpaved roads. This is for all vehicle types.
- **Explosive Blasting** – Enter the number of blasts that occurred during the reporting year.

FORM 3.0 – MISC EQUIPMENT LIST

- The ‘Misc.’ forms should only be used if your facility utilizes equipment that’s not covered under another form.
- There are no emission factors or emission sources in the Misc. forms…you will need to enter all of the data and perform the emission calculations yourself.

FORM 3.0 – MISC EQUIPMENT LIST

- FORM 3.0: Misc. Equipment List

FORM 2: EQUIPMENT DATA						2013
Equipment Type	Equipment ID	Design Capacity	Units	Hours of Operation	Fuel Type	Control Device
EXAMPLE - Boiler	*B-101*	*10*	*Mmbtu/hr*	*8760*	*Natural Gas*	*None*

FORM 3.1 – MISC. EMISSIONS

- FORM 3.1 - Emissions Data

FORM 4: EMISSIONS DATA 2013

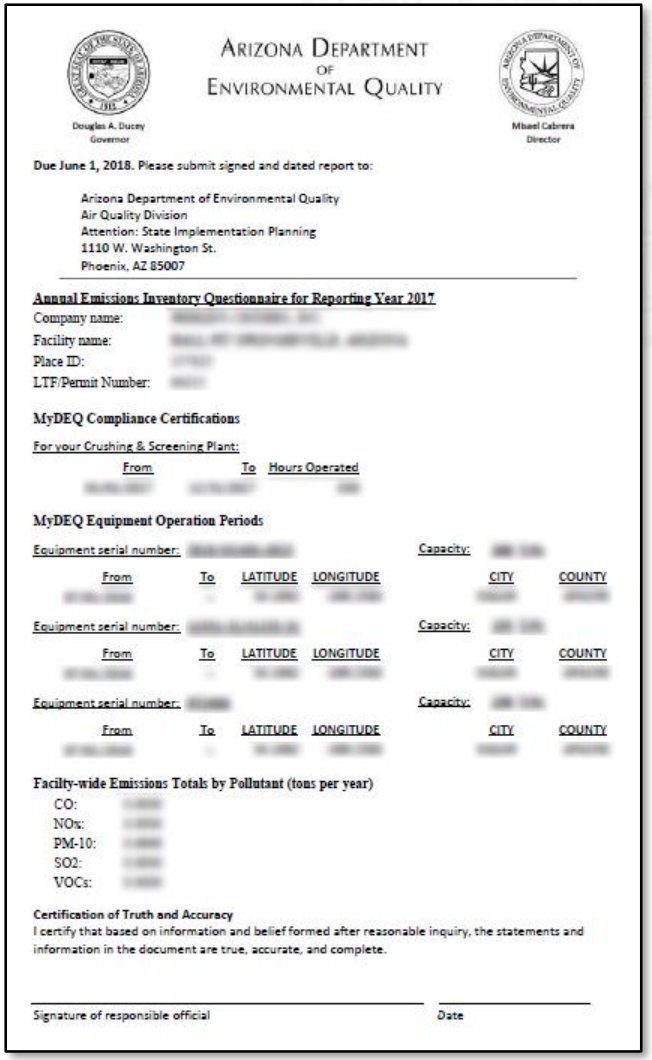
EQUIPMENT TYPE	EQUIPMENT ID	ANNUAL PROCESS RATE	UNITS	HOURS OF OPERATION	POLLUTANT	EMISSION FACTOR	UNITS	EMISSION FACTOR REFERENCE	POLLUTANT CONTROL DEVICE	CONTROL EFFICIENCY (%)	ACTUAL EMISSIONS (TONS/YEAR)
EXAMPLE - Boiler	*B-101*	*10*	*MMBtu/hr*	*8760*	*NOx*	*0.098*	*lbs/MMBtu*	*AP-42*	*None*	*0*	*4.2924*
EXAMPLE - Boiler	*B-101*	*10*	*MMBtu/hr*	*8760*	*PM10*	*0.0075*	*lbs/MMBtu*	*AP-42*	*None*	*0*	*0.3285*

QUESTIONNAIRE

- Live Demo of AEIQ

Pre-generated Inventory Reports

- ADEQ will automatically generate inventory reports for eligible myDEQ users:
  - Rock product operations general permits only
  - Compliance certifications for the reporting year, plus any equipment moved/added/deleted, must be up-to-date in myDEQ
- If you qualify, ADEQ will mail your pre-generated report for your review



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Douglas A. Ducey
Governor

Misael Cabrera
Director

Due June 1, 2018. Please submit signed and dated report to:

Arizona Department of Environmental Quality
Air Quality Division
Attention: State Implementation Planning
1110 W. Washington St.
Phoenix, AZ 85007

Annual Emissions Inventory Questionnaire for Reporting Year 2017

Company name:
Facility name:
Place ID:
LTF/Permit Number:

MyDEQ Compliance Certifications

For your Crushing & Screening Plant:

From	To	Hours Operated

MyDEQ Equipment Operation Periods

Equipment serial number: Capacity:

From	To	LATITUDE	LONGITUDE	CITY	COUNTY

Equipment serial number: Capacity:

From	To	LATITUDE	LONGITUDE	CITY	COUNTY

Equipment serial number: Capacity:

From	To	LATITUDE	LONGITUDE	CITY	COUNTY

Facilty-wide Emissions Totals by Pollutant (tons per year)

CO:
NOx:
PM-10:
SO2:
VOCs:

Certification of Truth and Accuracy

I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature of responsible official

Date

Q&A

Thank You!

EmissionInventory@AZDEQ.gov
(602) 771-2373