



Connecticut Department of Energy and Environmental Protection



2012 Emission Statement Reporting

1/10/2013

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SIPRAC / DEEP HQ



Connecticut Department of Energy and Environmental Protection

2012 Emission Statement Reporting

- Emission Statements are Due on Friday March 1, 2013.
- Please review your editor and submitter authorizations for accessing EMIT and as needed, provide updated authorizations for EMIT users; please send this information to the technical services group of the Bureau of Air Management.
- We also need up to date e-mail contacts for system users.
- [Link to: electronic signature authorization forms](#)



Items to Remember for 2012

1. Fix stacks that have missing data
2. Report the Stack Test Date when emission factors are based upon a stack test
3. Identify control devices and efficiencies even if not used to estimate emissions
4. How to report PM_{2.5} primary emissions when PM₁₀ primary emissions are greater than zero and the PM_{2.5} primary emission factor is not known.
5. Account for Controls when estimating HAP emissions
6. Ensure that summer day activity is correct (i.e. it should not be greater than annual activity).



Fixing Stacks That Have Missing Data

https://stg-depapps.ct.gov/Inventory/SiteDetails.aspx?Username=Mulcahych - Microsoft Internet Explorer provided by State of Con

https://stg-depapps.ct.gov/Inventory/SiteDetails.aspx?Username=Mulcahych

File Edit View Favorites Tools Help

https://stg-depapps.ct.gov/Inventory/SiteDetails.asp...

CT.gov STATE OF CONNECTICUT

Department of Energy & Environmental Protection EMIT

EMIT HOME

Logged in as: Mulcahych

Home > Inventory > Site Details

Site Details

Department of Energy and Environmental Protection

Site: DEEP - Example Site
79 Elm Street

Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal U
Period: 2012

Reports Action Bookmarks

Site Information Site Ownership Site Contacts Site Emissions Sources

Filter Criteria

Source Type: [Dropdown]
Function: [Dropdown]
Source Name: [Text Box]
Show Inactive:
Filter

Source List - (3 items)

Point ID	EU ID	Source Type	Source Name	Status	Options
P0393		Gasoline Loading Rack	Truck Load Rack Gasoline and Etanol	Active	Select
P0394		Combustion Unit	Turbine #1	Active	Select
P0395		Boiler	Boiler #1	Active	Select

Add New Source

*New Source Name: [Text Box]
*New Source Type: [Dropdown]
*Permit Type: [Dropdown]
*Point ID Number: [Text Box]
Add Cancel

Logout

Home | CT.gov Home | Send Feedback

Internet 100%

To edit Stack data first select a source to which the stack is assigned on the Sources tab.



Fixing Stacks With Missing Data

Then select the Source to Stack Tab.

To edit the stack parameters click on the **select** link on the Source to Stack tab

Source: (P0395) Boiler #1

Stack ID	Stack Name	Percent Flow	Options
2	Stack # 2	100.00	Select Edit

Stack Details - View or Add an Existing Stack at this Site to the above listed Source

Stack Name:

Stack Number:



Fixing Stacks With Missing Data

Links

- » DEP Home
- » DEP Contacts

Point ID	Source Name
P0395	Boiler #1

Control Equipment

Stack

Stack ID	Stack Name
2	Stack # 2

Stack Details - View or Add an Existing Stack

Stack Name: Stack # 2
Stack Number: 2

Stack Assignment

Point ID
P0394
P0395

Stack Information

*Stack Name:

*Stack Number:

*Stack Height: Feet

*Diameter: Feet

*Minimum Flow at Maximum Capacity: ACFM

*Elevation at Base: Feet

*Lining:

*Exit Direction:

*Rain Hat:

*Stack Temperature: Fahrenheit

Maximum Exhaust Flow Rate: ACFM

Stack Test Date:

*Latitude:

*Longitude:

[Deactivate Stack for this Source](#)
[Delete this Stack from this Site](#)

Never deactivate or delete a stack

Never change the stack number. Call DEEP, (860) 424-4152, if you think the stack number is incorrect.

Data must be provided for all fields with asterisks.



Fixing Stacks With Missing Data

The screenshot shows a web browser window displaying a page titled "Source Details" for a stack. The page includes a table of stack information and a form for editing it. The form fields are as follows:

Field	Value
*Stack Name:	Stack # 2
*Stack Number:	2
*Stack Height:	1 Feet
*Diameter:	1 Feet
*Minimum Flow at Maximum Capacity:	1 ACFM
*Elevation at Base:	15.0 Feet
*Lining:	Other
*Exit Direction:	Fugitive
*Rain Hat:	No
*Stack Temperature:	86 Fahrenheit
Maximum Exhaust Flow Rate:	1 ACFM
Stack Test Date:	
*Latitude:	41.552666
*Longitude:	-72.598265

At the bottom of the form, there are two buttons: "Update" and "Cancel".

Never Change the Stack Number. Call DEEP, (860) 424-4152, if you think the stack number is incorrect.

Never deactivate or delete a stack

If Stack Exit Direction is Fugitive then the following defaults can be used if not known

- Stack Height=1
- Diameter=1
- Minimum Flow at Maximum Capacity = 1
- Lining=Other
- Rain Hat = No
- Stack Temperature=86

Select Update to save data



Stack Test Date

- If you reported emission factors based upon a stack test then please remember to fill in the stack test date on the Stack Information panel located on the Source to Stack tab.
- Do not assign emission factor origins “Stack Test –After Control” and “Stack Test –Prior Control” when emission factors are based upon stack tests that have **not** been approved by the DEEP. Instead use “Engineering Judgment” and provide supporting documentation (i.e. stack test results).



Stack Test Date

https://stg-depapps.ct.gov/Inventory/SCCDetails.aspx?Username=Mulcahych - Microsoft Internet Explorer provided by State of Conn

Energy & Environmental Protection
EMIT

STATE OF CONNECTICUT

Home > Inventory > Site Details > Source Details > Fuel & Material (SCC) Details

Logged in as: Mulcahych

Tasks

- » Inventory
- » Fees
- » Reporting Period
- » Administration
- » SLOP

Help

- » General Help
- » User Manual

Links

- » DEP Home
- » DEP Contacts

SCC Details

Department of Energy and Environmental Protection

Site: DEEP - Example Site Client Number: 81
79 Elm Street Town-Prm: 75
Status: In Period: 20

Source: (P0394) Turbine #1
SCC: 2-01-002-01 Natural Gas - Turbine

Reports Action Bookmarks

Fuel & Materials Details **Emission Information** Permit Limits

Annual Usage: (7000.0) E6FT3 Natural Gas/Year *Emission factor
Daily Usage: (35.0) E6FT3 Natural Gas/Day

Criteria Air Pollutants (CAP)

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (tons/yr)	Options
Volatile organic compounds (VOC):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0	0	0.8	Edit
Nitrogen oxides (NOx):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0	0	25.0	Edit
Carbon monoxide (CO):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0	0	8.0	Edit
PM10, primary:	STACK TEST - AFTER CONTROL	6.0	0	21.0	Edit
PM10, filterable:	EPA EMISSION FACTOR	0.0	0	0.0	Edit
PM2.5, primary:	EPA EMISSION FACTOR	0.0	0	0.0	Edit
PM2.5, filterable:	EPA EMISSION FACTOR	0.0	0	0.0	Edit
PM, condensable:	EPA EMISSION FACTOR	0.0	0	0.0	Edit
Sulfur Dioxide (SO2):	EPA EMISSION FACTOR	(9.4E-1*) * 1000	0	1.974	Edit
Lead:	EPA EMISSION FACTOR	0.0	0	0.0	Edit
Ammonia:	STACK TEST - AFTER CONTROL	0.5	0	1.75	Edit

Summer Day Pollutants

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (lbs/day)	Options
Volatile organic compounds (VOC):	EPA EMISSION FACTOR	2.1	0	73.5	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	320.0	0	11200.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	82.0	0	2870.0	Edit

Non-Photo Chemically Reactive VOC HAPS (No Pollutants)

Other HAPS (No Pollutants)



Stack Test Date

https://stg-depapps.ct.gov/Inventory/SourceDetails.aspx?Username=Mulcahy - Microsoft Internet Explorer provided by State of C

https://stg-depapps.ct.gov/Inventory/SourceDetails.aspx?Username=Mulcahy

File Edit View Favorites Tools Help

https://stg-depapps.ct.gov/Inventory/SourceDetails...

Tasks

- » Inventory
- » Fees
- » Reporting Period
- » Administration
- » SLOP

Help

- » General Help
- » User Manual

Links

- » DEP Home
- » DEP Contacts

Department of Energy and Environmental Protection

Site: DEEP -Example Site Client Number: 8710
79 Elm Street Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0394) Turbine #1

Reports Action Bookmarks Documents Notes Inventory

Source Information Fuel & Materials **Source to Stack** Control Banks Permit Data Permit Limits Source Emissions

Source To Stack

Source

Point ID	Source Name
P0394	Turbine #1

Control Equipment

Stack

Stack Details - View or Add an Existing Stack at this Site to the above listed Source

Stack Name:

Stack Number:

Stack Information

*Stack Name: [View Map](#)

*Stack Number:

*Stack Height: Feet

*Diameter: Feet

*Minimum Flow at Maximum Capacity: ACFM

*Elevation at Base: Feet

*Lining:

*Exit Direction:

*Rain Hat:

*Stack Temperature: Fahrenheit

Maximum Exhaust Flow Rate: ACFM

Stack Test Date:

*Latitude:

*Longitude:

Add Cancel

Internet 100%



Connecticut Department of Energy and Environmental Protection

Identifying Control Devices

The screenshot shows a web browser window displaying the DEEP inventory system. The page title is "Department of Energy and Environmental Protection". The site information is "DEEP - Example Site, 79 Elm Street". The client number is 8710, town-prem is 75-875, and the status is "In Process Internal Update (Locked) - Chris Mulcahy". The source is identified as "(P0394) Turbine #1".

The "Source To Stack" section contains a table with the following data:

Point ID	Source Name
P0394	Turbine #1

The "Control Equipment" section is highlighted with an orange arrow and a yellow callout box. The callout box contains the text: "Control Equipment should be reported even though not used to calculate emissions at this source (Emission factor origins -Stack Test After Control and CEM)".

The "Stack Information" section contains the following fields:

- *Stack Name: Stack # 2
- *Stack Number: 2
- *Stack Height: 200 Feet
- *Diameter: 15 Feet
- *Minimum Flow at Maximum Capacity: 1,000,000 ACFM
- *Elevation at Base: 15 Feet
- *Lining: Other
- *Exit Direction: Vertical
- *Rain Hat: No
- *Stack Temperature: 200 Fahrenheit
- Maximum Exhaust Flow Rate: 1,000,000 ACFM
- Stack Test Date: [Empty]
- *Latitude: 41.552666
- *Longitude: -72.598265



Control Devices Identified

https://stg-depapps.ct.gov/Inventory/SourceDetails.aspx?Username=Mulcahych - Microsoft Internet Explorer provided by State of C

https://stg-depapps.ct.gov/Inventory/SourceDetails.aspx?Username=Mulcahych

File Edit View Favorites Tools Help

https://stg-depapps.ct.gov/Inventory/SourceDetails...

CT.gov STATE OF CONNECTICUT

Department of Energy & Environmental Protection
EMIT

EMIT HOME

Logged in as: Mulcahych

Home > Inventory > Site Details > Source Details

Source Details

Department of Energy and Environmental Protection

Site: DEEP -Example Site Client Number: 8710
79 Elm Street Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0394) Turbine #1

Reports Action Bookmarks Documents Notes Inventory

Source Information Fuel & Materials **Source to Stack** Control Banks Permit Data Permit Limits Source Emissions

Source To Stack

Source

Point ID	Source Name
P0394	Turbine #1

Control Equipment

Flow Order	Control Name	Control Type	Move Up/Down	Options
1	CO Control	CATALYTIC REDUCTION (65)	⬆️⬆️	Select
2	NOx Control	SELECTIVE CATALYTIC REDUCTION (139)	⬆️⬆️	Select

Add

Stack

Stack ID	Stack Name	Percent Flow	Options
2	Stack # 2	100.00	Select Edit

Add New Stack to This Site

Stack Details - View or Add an Existing Stack at this Site to the above listed Source

Stack Name:

Stack Number:

Logout

Home | CT.gov Home | Send Feedback

Internet 100%

Control Equipment Identified



Reporting Control Efficiencies

STATE OF CONNECTICUT

Logged in as: Mulcahyh

Home > Inventory > Site Details > Source Details

Source Details

Department of Energy and Environmental Protection

Site: DEEP -Example Site
79 Elm Street

Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0394) Turbine #1

Reports | Action | Bookmarks | Documents | Notes | Inventory

Source Information | Fuel & Materials | Source to Stack | **Control Banks** | Permit Data | Permit Limits | Source Emissions

- Volatle organic compounds (VOC) (No Controls)
- Nitrogen oxides (NOx) (No Controls)
- Carbon monoxide (CO) (No Controls)
- PM10, primary (No Controls)
- PM10, filterable (No Controls)
- PM2.5, primary (No Controls)
- PM2.5, filterable (No Controls)
- PM, condensable (No Controls)
- Sulfur Dioxide (SO2) (No Controls)
- Lead (No Controls)
- Ammonia (No Controls)

No Control Efficiencies have been assigned



Connecticut Department of Energy and Environmental Protection

Reporting Control Efficiencies

https://stg-depapps.ct.gov/Inventory/SourceDetails.aspx?Username=Mulcahych - Microsoft Internet Explorer provided by State of C

Home > Inventory > Site Details > Source Details

Source Details

Department of Energy and Environmental Protection

Site: DEEP - Example Site
79 Elm Street

Client Number: 8710
Tour-Prmi: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0394) Turbine #1

Notes

View All Notes

Source Information | Fuel & Materials | Source to Stack | **Control Banks** | Permit Data | Permit Limits | Source Emissions

Volatile organic compounds (VOC) (No Controls)

Actual Efficiency: 90.21%

Control Name	Control Type	Options
NOx Control	139 - SELECTIVE CATALYTIC REDUCTION	Delete

Rated Efficiency | Captured Efficiency | Adjustment for Malfunction (Effectiveness) | Actual Efficiency | Options

93.0 % | 100.0 % | 97.0 % | 90.21% | Edit

Nitrogen oxides (NOx)

Actual Efficiency: 90.21%

Control Name	Control Type	Options
NOx Control	139 - SELECTIVE CATALYTIC REDUCTION	Delete

Rated Efficiency | Captured Efficiency | Adjustment for Malfunction (Effectiveness) | Actual Efficiency | Options

93.0 % | 100.0 % | 97.0 % | 90.21% | Edit

Carbon monoxide (CO)

Actual Efficiency: 83.3%

Control Name	Control Type	Options
CO Control	65 - CATALYTIC REDUCTION	Delete

Rated Efficiency | Captured Efficiency | Adjustment for Malfunction (Effectiveness) | Actual Efficiency | Options

85.0 % | 100.0 % | 98.0 % | 83.3% | Edit

Control efficiencies identified



Reporting PM2.5 primary emissions

- If the emission factor origin for PM2.5, primary is “EPA Emission Factor” and the PM2.5 primary emission factor is zero and you are reporting PM10, primary emissions greater than zero then you must change the PM2.5 primary’s emission factor origin to another value such as “Engineering Judgment” and enter in the emission factor.



Reporting PM2.5 primary emissions

PM10, primary emissions are greater than zero and no PM2.5, primary emissions are being reported (PM2.5, primary emission factor origin defaults to “EPA Emission Factor” and the emission factor defaults to zero)

Tasks

- » Inventory
- » Fees
- » Reporting Period
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Help

- » General Help
- » User Manual

Links

- » DEP Home
- » DEP Contacts

SCC Details

Department of Energy and Environmental Protection

Site: DEEP -Example Site 79 Elm Street Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0394) Turbine #1
SCC: 2-01-002-01 Natural Gas - Turbine

Reports Action Bookmarks Documents Notes Inventory

Fuel & Materials Details **Emission Information** Permit Limits

Annual Usage: (7000.0) E6FT3 Natural Gas/Year *Emission factors are uncontrolled except for CEM,TANKS and Stack Test-After Controls.
Daily Usage: (35.0) E6FT3 Natural Gas/Day

Criteria Air Pollutants (CAP)

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (tons/yr)	Options
Volatile organic compounds (VOC):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		0.8	Edit
Nitrogen oxides (NOx):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		25.0	Edit
Carbon monoxide (CO):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		8.0	Edit
PM10, primary:	STACK TEST - AFTER CONTROL	6.0	→	21.0	Edit
PM10, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM2.5, primary:	EPA EMISSION FACTOR ←	0.0	→	0.0	Edit
PM2.5, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM, condensable:	EPA EMISSION FACTOR	0.0		0.0	Edit
Sulfur Dioxide (SO2):	EPA EMISSION FACTOR	(9.4E-1*5) * 1000		1.974	Edit
Lead:	EPA EMISSION FACTOR	0.0		0.0	Edit
Ammonia:	STACK TEST - AFTER CONTROL	0.5		1.75	Edit

Summer Day Pollutants

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (lbs/day)	Options
Volatile organic compounds (VOC):	EPA EMISSION FACTOR	2.1		73.5	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	320.0		11200.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	82.0		2870.0	Edit

Non-Photo Chemically Reactive VOC HAPS (No Pollutants)



Reporting PM2.5 primary emissions

Two approaches for reporting PM2.5 emissions when a specific emission factor is not known, is to sum PM, Condensable and PM2.5, Filterable emissions if they are known or to set the PM2.5 primary emissions equal to the PM10 primary emissions by setting PM2.5 emission factor equal to the PM10, primary emission factor. Updated EMIT FAQ document on the DEEP website outlines other options, see

http://www.ct.gov/dep/lib/dep/air/emit/frequently_asked_questions_emit.pdf

Criteria Air Pollutants (CAP)

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (tons/yr)	Options
Volatile organic compounds (VOC):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		0.8	Edit
Nitrogen oxides (NOx):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		25.0	Edit
Carbon monoxide (CO):	CEMS - CONTINUOUS EMISSION MONITORING SYSTEM	0		8.0	Edit
PM10, primary:	STACK TEST - AFTER CONTROL	6.0	← →	21.0	Edit
PM10, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM2.5, primary:	ENGINEERING JUDGMENT	6.0	← →	21.0	Edit
PM2.5, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM, condensable:	EPA EMISSION FACTOR	0.0		0.0	Edit
Sulfur Dioxide (SO2):	EPA EMISSION FACTOR	(9.4E-1 * S) * 1000		1.974	Edit
Lead:	EPA EMISSION FACTOR	0.0		0.0	Edit
Ammonia:	STACK TEST - AFTER CONTROL	0.5		1.75	Edit

Summer Day Pollutants

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E6FT3)	Actual Control % Efficiency	Actual Emission Amt (lbs/day)	Options
Volatile organic compounds (VOC):	EPA EMISSION FACTOR	2.1		73.5	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	320.0		11200.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	82.0		2870.0	Edit

Non-Photo Chemically Reactive VOC HAPS (No Pollutants)



Accounting for Controls when estimating HAP Emissions

The screenshot displays the 'SCC Details' page for a site named 'DEEP -Example Site'. The page is divided into several sections: 'Criteria Air Pollutants (CAP)', 'Summer Day Pollutants', 'Non-Photo Chemically Reactive VOC HAPS (No Pollutants)', 'Other HAPS (No Pollutants)', 'Photo Chemically Reactive VOC HAPS', and 'PM - VOC HAPS (No Pollutants)'. Each section contains a table with columns for Pollutant, Emission Factor Origin, Emission Factor* (lbs/E3GAL), Actual Control % Efficiency, and Actual Emission Amt (tons/yr or lbs/day). An orange arrow points to the 'Actual Control % Efficiency' column for VOCs, which is set to 98.21%. Another orange arrow points to the 'Actual Control % Efficiency' column for Benzene, which is set to 0.0718. A callout box on the right states: 'Control efficiency entered and applied to VOC emissions but not to Benzene'.

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E3GAL)	Actual Control % Efficiency	Actual Emission Amt (tons/yr)	Options
Volatile organic compounds (VOC):	ENGINEERING JUDGMENT	8.0	98.21	35.8	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
PM10, primary:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
PM10, filterable:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
PM2.5, primary:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
PM2.5, filterable:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
PM, condensable:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
Sulfur Dioxide (SO2):	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
Lead:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
Ammonia:	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E3GAL)	Actual Control % Efficiency	Actual Emission Amt (lbs/day)	Options
Volatile organic compounds (VOC):	ENGINEERING JUDGMENT	9.0	98.21	221.3514	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	0.0	0.0	0.0	Edit

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E3GAL)	Actual Control % Efficiency	Actual Emission Amt (lbs/yr)	Options
Benzene:	EPA EMISSION FACTOR	0.0718	0.0718	35900.0	Edit



Accounting for Controls when estimating HAP Emissions

Logged in as: Mulcahyh

Home > Inventory > Site Details > Source Details

Source Details

Department of Energy and Environmental Protection

Site: DEEP - Example Site
79 Elm Street

Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0393) Truck Load Rack Gasoline and Etanol

Reports | Action | Bookmarks | Documents | Notes | Inventory

Source Information | Fuel & Materials | Source to Stack | **Control Banks** | Permit Data | Permit Limits | Source Emissions

Volatile organic compounds (VOC)

Actual Efficiency: 98.208%

Control Name	Control Type	Options
VOC Control System	48 - ACTIVATED CARBON ADSORPTION	Delete

Add

Rated Efficiency	Captured Efficiency	Adjustment for Malfunction (Effectiveness)	Actual Efficiency	Options
99.2 %	99.0 %	100.0 %	98.208%	Edit

Nitrogen oxides (NOx) (No Controls)

Carbon monoxide (CO) (No Controls)

PM10, primary (No Controls)

PM10, filterable (No Controls)

PM2.5, primary (No Controls)

PM2.5, filterable (No Controls)

PM, condensable (No Controls)

Sulfur Dioxide (SO2) (No Controls)

Lead (No Controls)

Ammonia (No Controls)

Benzene (No Controls)

Add

No Controls associated to Benzene



Accounting for Controls when estimating HAP Emissions

Assigned the VOC related controls to Benzene as well. In this example, it was assumed that the Rated and Capture Efficiencies for VOC are the same for Benzene. Determining the Rated and Capture Efficiencies for each HAP is the site's responsibility.

Rated Efficiency	Captured Efficiency	Adjustment for Malfunction (Effectiveness)	Actual Efficiency	Options
99.2 %	99.0 %	100.0 %	98.208 %	Edit

Rated Efficiency	Captured Efficiency	Adjustment for Malfunction (Effectiveness)	Actual Efficiency	Options
99.2 %	99.0 %	100.0 %	98.208 %	Edit



Accounting for Controls when estimating HAP Emissions

https://stg-depapps.ct.gov/Inventory/SCCDetails.aspx?Username=Mulcahych - Microsoft Internet Explorer provided by State of Conn

https://stg-depapps.ct.gov/Inventory/SCCDetails.aspx?Username=Mulcahych

Logged in as: Mulcahych

Home > Inventory > Site Details > Source Details > Fuel & Material (SCC) Details

SCC Details

Department of Energy and Environmental Protection

Site: DEEP -Example Site
79 Elm Street

Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0393) Truck Load Rack Gasoline and Ethanol
SCC: 4-06-001-31 Tank Cars and Trucks - Gasoline: Submerged Loading (Normal Service)

Reports Action Bookmarks Documents Notes Inventory

Fuel & Materials Details Emission Information Permit Limits

Annual Usage: (500000.0) E3GAL GASOLINE/Year
Daily Usage: (1374.0) E3GAL GASOLINE/Day

*Emission factors are uncontrolled except for CEM,TANKS and Stack Test-After Controls.

Criteria Air Pollutants (CAP)

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E3GAL)	Actual Control % Efficiency	Actual Emission Amt (tons/yr)	Options
Volatile organic compounds (VOC):	ENGINEERING JUDGMENT	8.0	98.21	35.8	Edit
Nitrogen oxides (NOx):	EPA EMISSION FACTOR	0.0		0.0	Edit
Carbon monoxide (CO):	EPA EMISSION FACTOR	0.0		0.0	Edit
PM10, primary:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM10, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM2.5, primary:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM2.5, filterable:	EPA EMISSION FACTOR	0.0		0.0	Edit
PM, condensable:	EPA EMISSION FACTOR	0.0		0.0	Edit
Sulfur Dioxide (SO2):	EPA EMISSION FACTOR	0.0		0.0	Edit
Lead:	EPA EMISSION FACTOR	0.0		0.0	Edit
Ammonia:	EPA EMISSION FACTOR	0.0		0.0	Edit

Summer Day Pollutants

Pollutant	Emission Factor Origin
Volatile organic compounds (VOC):	ENGINEERING JUDGMENT
Nitrogen oxides (NOx):	EPA EMISSION FACTOR
Carbon monoxide (CO):	EPA EMISSION FACTOR

Non-Photo Chemically Reactive VOC HAPS (No Pollutants)

Other HAPS (No Pollutants)

Photo Chemically Reactive VOC HAPS

Pollutant	Emission Factor Origin	Emission Factor* (lbs/E3GAL)	Actual Control % Efficiency	Actual Emission Amt (lbs/yr)	Options
Benzene:	EPA EMISSION FACTOR	0.0718	98.21	642.61	Edit

Done

Internet 100%

Benzene Emissions now account for reductions due to the Activated Carbon Adsorption unit.



It appears that the site incorrectly reported their summer usage instead of their summer day usage. The summer day usage is the average daily use on days the source is operated during the period of June 1 through August 31, inclusive. It should **not** be the entire summer usage, unless the source operated for only 1 day in the summer. It is expected that the summer day usage will be calculated as follows:

$$\text{Annual Usage} * (\text{Jun-Aug} / 100) / (\text{DaysPerWeekOperatedInSummer} * \text{WeeksOperatedInSummer})$$

Assuming the site operated 5 days per week for all 13 weeks in the summer then
 The expected summer day use = 1,000 E3GAL/Year * 0.25 / (5 * 13)
 = 3.85 E3GAL/Day



Calculating Summer Day Use

In this example, the summer day use of 250 E3Gal/Day results in NOx summer day emissions of 6,000 pounds, while the summer day use of 3.85 E3Gal/Day results in NOx summer day emissions of 92.4 pounds.

The screenshot shows a web application interface for fuel and material data. The main content area is titled "Fuel & Material Data" and contains several input fields. An orange arrow points to the "Summer Day Use" field, which is highlighted with a yellow callout box containing the text "Expected Summer Day Use". The "Summer Day Use" field is set to 3.85 E3Gal Distillate Oil (No. 2)/Day. Other fields include "Max Burner Rating" (150.0 GAL/Hour), "Design Capacity" (21.0 MMBTU/Hour), "Annual Usage" (1,000.0 E3Gal Distillate Oil (No. 2)/Year), "Sulfur Content" (0.05 Percent), "Percent Ash" (0.0 Percent), "Heat Content" (140.0 MMBTUs per E3Gal Distillate Oil (No. 2)), and "Actual Hours Per Year Fuel Use" (3,500.0 Hours/Year). Below the "Fuel & Material Data" section is the "Hours of Operation" section, which includes fields for "Actual Hours Per Day" (12.00), "Actual Days Per Week" (5.0), "Actual Weeks Per Year" (52), "Process Start Time" (6:00), and "Process End Time" (18:00). At the bottom of the form, there are "Seasonal Use" fields for "Dec-Feb", "Mar-May", "Jun-Aug", and "Sep-Nov", each set to 25.0%. The interface also includes a "Save" button and a "Cancel" button.

Field	Value	Unit
*Max Burner Rating:	150.0	GAL/Hour
*Design Capacity:	21.0	MMBTU/Hour
*Summer Day Use:	3.85	E3Gal Distillate Oil (No. 2)/Day
*Annual Usage:	1,000.0	E3Gal Distillate Oil (No. 2)/Year
Sulfur Content:	0.05	Percent
Percent Ash:	0.0	Percent
Heat Content:	140.0	MMBTUs per E3Gal Distillate Oil (No. 2)
Actual Hours Per Year Fuel Use:	3,500.0	Hours/Year

Field	Value
Actual Hours Per Day:	12.00
Actual Days Per Week:	5.0
Actual Weeks Per Year:	52
Process Start Time:	6:00
Process End Time:	18:00

Seasonal Use	Value
Dec-Feb:	25.0%
Mar-May:	25.0%
Jun-Aug:	25.0%
Sep-Nov:	25.0%



Remember to Zero Out Summer Day Use When Unit Was Not Used.

Logged in as: Mulcahyh

Home > Inventory > Site Details > Source Details > Fuel & Material (SCC) Details

SCC Details

Department of Energy and Environmental Protection

Site: DEEP - Example Site
79 Elm Street

Client Number: 8710
Town-Prem: 75-875
Status: In Process Internal Update (Locked) - Chris Mulcahy
Period: 2012

Source: (P0395) Boiler #1
SCC: 1-03-005-01 Distillate Oil - Grades 1 and 2 Oil

Reports | Action | Bookmarks | Documents | Notes | Inventory

Fuel & Materials Details | Emission Information | Permit Limits

Fuel & Material Data

SCC: 1-03-005-01
Industry Group: External Combustion Boilers - Commercial/Institutional
Fuel / Process: Distillate Oil - Grades 1 and 2 Oil

*Max Burner Rating:	<input type="text" value="150.0"/>	GAL/Hour
*Design Capacity:	<input type="text" value="21.0"/>	MMBTU/Hour
*Summer Day Use:	<input type="text" value="0.0"/>	EGAL Distillate Oil (No. 2)/Day
*Annual Usage:	<input type="text" value="0.0"/>	EGAL Distillate Oil (No. 2)/Year
Sulfur Content:	<input type="text" value="0.05"/>	Percent
Percent Ash:	<input type="text" value="0.0"/>	Percent
Heat Content:	<input type="text" value="140.0"/>	MMBTUs per EGAL Distillate Oil (No. 2)
Actual Hours Per Year Fuel Use:	<input type="text" value="0.0"/>	Hours/Year

Hours of Operation

Actual Hours Per Day:	<input type="text" value="0.00"/>
Actual Days Per Week:	<input type="text" value="0.0"/>
Actual Weeks Per Year:	<input type="text" value="52"/>



Questions?

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Air Pollution Control Engineer III

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