2020 Emissions Inventory Report

Emissions Summary for University of Louisville, Belknap Campus (0852)

CRITERIA AIR POLLUTANT (CAP) EMISSIONS TOTALS

Pollutant Code/CAS #	Pollutant Name	Total Emissions (tons)*
NH3	Ammonia	0.36514
CO	Carbon Monoxide	9.63846
NOX	Nitrogen Oxides	6.82841
PM-CON	PM Condensible	0.03704
PM10-FIL	PM10 Filterable	2.93341
PM25-FIL	PM2.5 Filterable	2.92304
SO2	Sulfur Dioxide	0.07008
VOC	Volatile Organic Compounds	1.20492

HAZARDOUS AIR POLLUTANT (HAP) and/or OTHER POLLUTANT EMISSIONS TOTALS

Pollutant Code/CAS #	Pollutant Name	Is VOC/PM?	Total Emissions (tons)*
83329	Acenaphthene (HAP)	VOC	<.00001
208968	Acenaphthylene (HAP)	VOC	<.00001
75070	Acetaldehyde (HAP)	VOC	0.00005
107028	Acrolein (HAP)	VOC	0.00003
120127	Anthracene (HAP)	VOC	<.00001
7440382	Arsenic (HAP)	PM	0.00002
56553	Benz[a]Anthracene (HAP)	VOC	<.00001
71432	Benzene (HAP)	VOC	0.00107
50328	Benzo[a]Pyrene (HAP)	VOC	<.00001
205992	Benzo[b]Fluoranthene (HAP)	VOC	<.00001
191242	Benzo[g,h,i,]Perylene (HAP)	VOC	<.00001
207089	Benzo[k]Fluoranthene (HAP)	VOC	<.00001
7440417	Beryllium (HAP)	PM	<.00001
7440439	Cadmium (HAP)	PM	0.00013
16065831	Chromium (III) (HAP)	PM	0.00015
18540299	Chromium (VI) (HAP)	PM	0.00001
218019	Chrysene (HAP)	VOC	<.00001
7440484	Cobalt (HAP)	PM	0.00001
53703	Dibenz[a,h]anthracene (HAP)	VOC	<.00001
106467	1,4-Dichlorobenzene (HAP)	VOC	0.00014
57976	7,12-Dimethylbenz[a]Anthracene (HAP)	VOC	<.00001
100414	Ethyl Benzene (HAP)	VOC	0.00009
206440	Fluoranthene (HAP)	VOC	<.00001
86737	Fluorene (HAP)	VOC	<.00001
50000	Formaldehyde (HAP)	VOC	0.00889
110543	Hexane (HAP)	VOC	0.20678
193395	Indeno[1,2,3-c,d]Pyrene (HAP)	VOC	<.00001
7439921	Lead (CAP/HAP)	PM	0.00006
7439965	Manganese (HAP)	PM	0.00004
7439976	Mercury (HAP)	PM	0.00003
67561	Methanol (HAP)	VOC	0.00002
56495	3-Methylcholanthrene (HAP)	VOC	<.00001
91576	2-Methylnaphthalene (HAP)	VOC	<.00001
91203	Naphthalene (HAP)	VOC	0.00008
7440020	Nickel (HAP)	PM	0.00024

Pollutant Code/CAS #	Pollutant Name	Is VOC/PM?	Total Emissions (tons)*
85018	Phenanthrene (HAP)	VOC	<.00001
129000	Pyrene (HAP)	VOC	<.00001
7782492	Selenium (HAP)	PM	<.00001
108883	Toluene (HAP)	VOC	0.00155
540841	2,2,4-Trimethylpentane (HAP)	VOC	0.00069
1330207	Xylenes (Mixed Isomers) (HAP)	VOC	0.00044

EMISSIONS TOTALS

Total CAP Emissions (tons)*	Total HAP/OTHER Emissions (tons)*	Total Emissions (tons)*
24.0005	0.22052	24.22102

***Rounded to 5 digits past the decimal point. Note that where rounding results in 0, <.00001 is indicated.**

2020 Emissions Inventory Report

University of Louisville, Belknap Campus (0852)

FACILITY

Facility Identifier:	0852
Facility Name:	University of Louisville, Belknap Campus
Description:	Steam and chilled water plant of the University of Louisville, Belknap Campus.
Status:	OP - Operating **Status Date:**
NAICS:	611310 - Colleges, Universities, and Professional Schools
Comments:	

FACILITY - CONTACTS

Emissions Contact:	Cathy Price
Email	cathy.price@louisville.edu
Other	ENV. CONTACT
Permit Contact:	Cathy Price
Email	cathy.price@louisville.edu
Other	BILLING CONTACT

FACILITY - ADDRESS

Location Address:	1800 ARTHUR ST LOUISVILLE, KY 40208	**Mailing Address:**	UofL DEHS, 1800 Arthur Street Louisville, KY 40292

FACILITY - LOCATION

Latitude (decimal degress):	38.21432	**Longitude (decimal degress):**	-85.75667

FACILITY - ADDITIONAL INFORMATION

Field Name	Field Value
Boolean Example	No
Date Example	
List Example	

RELEASE POINT			
Identifier:	850		
Description:	F1: Parts Washer		
Release Point Type:	1 - Fugitive		
Status:	OP - Operating	**Status Date:**	
Fugitive Height:	3.0	**Fugitive Height UOM:**	FEET - Feet
Fugitive Width:		**Fugitive Width UOM:**	
Fugitive Length:		**Fugitive Length UOM:**	
Fugitive Angle:			
Comments:			

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21422	**Longitude (decimal degress):**	-85.75652

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	4211		
Description:	F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities		
Release Point Type:	1 - Fugitive		
Status:	OP - Operating	**Status Date:**	
Fugitive Height:	12.0	**Fugitive Height UOM:**	FEET - Feet
Fugitive Width:		**Fugitive Width UOM:**	
Fugitive Length:		**Fugitive Length UOM:**	
Fugitive Angle:			
Comments:	Campus-wide consolidation per LMAPCD Agreement		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21565	**Longitude (decimal degress):**	-85.75818

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	4212		
Description:	S-IA: Fine Arts Spray Booth		
Release Point Type:	3 - Horizontal		
Status:	OP - Operating	**Status Date:**	01/01/2016
Stack Shape:	C - Circular		
Stack Height:	5.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	2.0	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	77°F		
Exit Gas Flow Rate:	150.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:	47.74648	**Exit Gas Velocity UOM:**	FPM - FEET PER MINUTE
Fence Line Distance:		**Fence Line Distance UOM:**	
Comments:			

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.215460	**Longitude (decimal degress):**	-85.759303

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	164		
Description:	S1: Boiler 1		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	65.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	3.5	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	499°F		
Exit Gas Flow Rate:	40,424.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	1,041.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	from revised mdf specs		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21334	**Longitude (decimal degress):**	-85.75663

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	600		
Description:	S2: Boiler 2		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	107.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	8.0	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	463°F		
Exit Gas Flow Rate:	20,592.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	1,041.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	backup for fuel oil only, ACFMs		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21404	**Longitude (decimal degress):**	-85.75673

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	165		
Description:	S4: Lithographic Presses		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	25.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	2.0	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	77°F		
Exit Gas Flow Rate:	2,500.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	231.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	ACFMs calculated		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21412	**Longitude (decimal degress):**	-85.75857

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	602		
Description:	S5: Portable Gasoline Tank		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	12.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	0.2	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	77°F		
Exit Gas Flow Rate:	4.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	311.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	ACFMs calculated		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.22012	**Longitude (decimal degress):**	-85.75329

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	847		
Description:	S6: Boiler 3		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	57.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	3.5	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	300°F		
Exit Gas Flow Rate:	40,424.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	163.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	temp from mfr specs		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21417	**Longitude (decimal degress):**	-85.75681

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	849		
Description:	S7: Groundwater Remediation System		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	10.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	6.25	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	77°F		
Exit Gas Flow Rate:	120.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	150.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	Capacity of 120 ACFMs		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21539	**Longitude (decimal degress):**	-85.75631

RELEASE POINT - ADDITIONAL INFORMATION

RELEASE POINT			
Identifier:	3458		
Description:	S8: Theatre Arts Spray Booth		
Release Point Type:	2 - Vertical		
Status:	OP - Operating	**Status Date:**	
Stack Shape:	C - Circular		
Stack Height:	15.0	**Stack Height UOM:**	FEET - Feet
Stack Diameter:	2.5	**Stack Diameter UOM:**	FEET - Feet
Exit Gas Temperature:	77°F		
Exit Gas Flow Rate:	150.0	**Exit Gas Flow Rate UOM:**	ACFM - ACTUAL CUBIC FEET PER MINUTE
Exit Gas Velocity:		**Exit Gas Velocity UOM:**	
Fence Line Distance:	100.0	**Fence Line Distance UOM:**	FEET - Feet
Comments:	Manufacturer Specs		

RELEASE POINT - LOCATION			
Latitude (decimal degress):	38.21471	**Longitude (decimal degress):**	-85.75555

RELEASE POINT - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	77		
Description:	C1: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	121 - Cyclones (Multiple)		
Comments:	Multiclones control boiler 2 only as of 2010, control efficiency from AP-42 for spreader-stocker w/o flyash reinjection.		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
PM10-FIL - PM10 Filterable	80.0%
PM25-FIL - PM2.5 Filterable	80.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	948		
Description:	C10: U10		
Status:	OP - Operating	**Status Date:**	
Control Measure:	48 - Adsorption - Activated Carbon or other		
Comments:	Groundwater remediation; Service Complex		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
VOC - Volatile Organic Compounds	99.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	1339		
Description:	C11		
Status:	OP - Operating	**Status Date:**	
Control Measure:	127 - Fabric Filter / Baghouse		
Comments:			

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
PM10-FIL - PM10 Filterable	95.0%
PM25-FIL - PM2.5 Filterable	95.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	918		
Description:	C2: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	121 - Cyclones (Multiple)		
Comments:	Multiclones control boiler 2 only as of 2010, control efficiency from AP-42 for spreader-stocker w/o flyash reinjection.		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
PM10-FIL - PM10 Filterable	80.0%
PM25-FIL - PM2.5 Filterable	80.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	357		
Description:	C4: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	205 - Low NOx Burner (LNB)		
Comments:	Natural Gas Boiler 1		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
NOX - Nitrogen Oxides	50.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	358		
Description:	C5: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	26 - Flue Gas Recirculation		
Comments:	Natural Gas Boiler 1		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
NOX - Nitrogen Oxides	36.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	359		
Description:	C6: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	205 - Low NOx Burner (LNB)		
Comments:	Natural Gas Boiler 3		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
NOX - Nitrogen Oxides	50.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	360		
Description:	C7: U1/U2		
Status:	OP - Operating	**Status Date:**	
Control Measure:	26 - Flue Gas Recirculation		
Comments:	Natural Gas Boiler 3		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
NOX - Nitrogen Oxides	36.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	361		
Description:	C8: U7		
Status:	OP - Operating	**Status Date:**	
Control Measure:	93 - Submerged Filling		
Comments:	For Gasoline Tank		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
VOC - Volatile Organic Compounds	36.2%

CONTROL DEVICE - ADDITIONAL INFORMATION

CONTROL DEVICE

Identifier:	362		
Description:	C9: U7		
Status:	OP - Operating	**Status Date:**	
Control Measure:	96 - Vapor Lock Balance Recovery System		
Comments:	Gasoline Tanks		

CONTROL DEVICE - CONTROLLED POLLUTANTS

Pollutant	Reduction Efficiency %
VOC - Volatile Organic Compounds	90.0%

CONTROL DEVICE - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	405		
Description:	U-IA-Cooling Towers		
Status:	OP - Operating	**Status Date:**	
Type:	680 - Cooling Tower		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	10/16/2010		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	749		
Description:	U-IA-Fine Arts Spray Booth		
Status:	OP - Operating	**Status Date:**	01/01/2016
Type:	450 - Spray Booth or Coating Line		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	02/01/2016		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	747		
Description:	U-IA-Various		
Status:	OP - Operating	**Status Date:**	
Type:	490 - Other evaporative sources		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	01/01/2016		
Comments:	Silver stream coler+ negative maker; Digitial dry toner printers; Residential/Domestic Equipment; Emergency relief vents and ventilating; Academic Labs for R&D; Diesel Fuel Storage Tanks; Used oil and cooking grease tanks; Lab ventilating exhausting		

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	199		
Description:	U-IA2-Cold Solvent Metal Cleaner		
Status:	OP - Operating	**Status Date:**	
Type:	430 - Degreaser		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:			
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	196		
Description:	U01/U02-03 Boilers		
Status:	OP - Operating	**Status Date:**	
Type:	100 - Boiler		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:			
Comments:	99.9% space heating		

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	197		
Description:	U05-3 Printing Presses: E6, E7, E8 lithographic sheet fed presses		
Status:	OP - Operating	**Status Date:**	
Type:	470 - Printing Line		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:			
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	402		
Description:	U07-Gasoline Tank		
Status:	OP - Operating	**Status Date:**	
Type:	400 - Storage Tank		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	11/16/2010		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	404		
Description:	U08-Emergency generators & IA E.G.s		
Status:	OP - Operating	**Status Date:**	
Type:	290 - Other combustion		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	10/16/2010		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	406		
Description:	U09-Various hot water boilers and steam heaters		
Status:	OP - Operating	**Status Date:**	
Type:	100 - Boiler		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	10/16/2010		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	534		
Description:	U10-Groundwater remediation system		
Status:	OP - Operating	**Status Date:**	
Type:	490 - Other evaporative sources		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	01/01/2011		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

EMISSION UNIT			
Identifier:	748		
Description:	U11-Theatre Arts Spray Booth		
Status:	OP - Operating	**Status Date:**	
Type:	450 - Spray Booth or Coating Line		
Design Capacity:		**Design Capacity UOM:**	
Operation Start Date:	01/01/2016		
Comments:			

EMISSION UNIT - ADDITIONAL INFORMATION

UNIT PROCESS

Unit Process Identifier: 2330

Unit Process Description: IA-Cooling Towers

Emission Unit Identifier: 405

Emission Unit Description: U-IA-Cooling Towers

SCC: 38500110 - Industrial Processes-Cooling Tower-Process Cooling-Other Not Classified

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 11,819.4 **Throughput UOM:** E6GAL - MILLION GALLONS

Throughput Type: I - Input

Throughput Material: 733 - Cooling Water

Throughput (Monthly)

January:	984.95	**February:**	984.95	**March:**	984.95	**April:**	984.95
May:	984.95	**June:**	984.95	**July:**	984.95	**August:**	984.95
September:	984.95	**October:**	984.95	**November:**	984.95	**December:**	984.95

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 8,760.0

Seasonal Operations

Spring (Mar-May):	25.0%	**Summer (Jun-Aug):**	25.0%	**Fall (Sep-Nov):**	25.0%	**Winter (Dec-Feb):**	25.0%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
PM-CON - PM Condensible			2 - Engineering Judgment	0.0
PM10-FIL - PM10 Filterable	0.492	E6GAL - MILLION GALLONS	9 - APCD or KY EF (post-control)	2.9075724
PM25-FIL - PM2.5 Filterable	0.492	E6GAL - MILLION GALLONS	9 - APCD or KY EF (post-control)	2.9075724

UNIT PROCESS

Unit Process Identifier: 4342

Unit Process Description: Fine Arts Spray Booth

Emission Unit Identifier: 749

Emission Unit Description: U-IA-Fine Arts Spray Booth

SCC: 40299998 - Chemical Evaporation-Surface Coating Operations-Miscellaneous-Miscellaneous

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description:

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4212 - S-IA: Fine Arts Spray Booth	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 0.0 **Throughput UOM:** GAL - GALLONS

Throughput Type: I - Input

Throughput Material: 720 - Coating

Throughput (Monthly)

January:	**February:**	**March:**	**April:**
May:	**June:**	**July:**	**August:**
September:	**October:**	**November:**	**December:**

Comments: Process did not operate in 2020.

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 1.0

Seasonal Operations

Spring (Mar-May):	0.0%	**Summer (Jun-Aug):**	0.0%	**Fall (Sep-Nov):**	0.0%	**Winter (Dec-Feb):**	0.0%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
PM10-FIL - PM10 Filterable			3_0 - Material Balance (no EF)	0.0
VOC - Volatile Organic Compounds			3_0 - Material Balance (no EF)	0.0
100414 - Ethyl Benzene			3_0 - Material Balance (no EF)	0.0
1330207 - Xylenes (Mixed Isomers)			3_0 - Material Balance (no EF)	0.0

UNIT PROCESS

Unit Process Identifier: 4223

Unit Process Description: IA: Silver stream color+ negative maker; Digitial dry toner printers; Resid/Dom. Equip; Emer. relief vents & vent. systems; R&D Acad. Labs; Diesel Tanks; Used oil/cooking grease; Lab vent. exhaust

Emission Unit Identifier: 747

Emission Unit Description: U-IA-Various

SCC: 49099998 - Chemical Evaporation-Organic Solvent Evaporation-Miscellaneous Volatile Organic Compound Evaporation-Miscellaneous

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 8,784.0 **Throughput UOM:** HR - HOUR

Throughput Type: O - Output

Throughput Material: 945 - Work

Throughput (Monthly)

January:	744.0	**February:**	696.0	**March:**	744.0	**April:**	720.0
May:	744.0	**June:**	720.0	**July:**	744.0	**August:**	744.0
September:	720.0	**October:**	744.0	**November:**	720.0	**December:**	744.0

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 8,784.0

Seasonal Operations

Spring (Mar-May):	25.1%	**Summer (Jun-Aug):**	25.1%	**Fall (Sep-Nov):**	24.9%	**Winter (Dec-Feb):**	24.9%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
VOC - Volatile Organic Compounds			2 - Engineering Judgment	0.483
	Ozone Season Emissions (Tons): 0.2019098424			

UNIT PROCESS

Unit Process Identifier: 2326

Unit Process Description: E5-Parts Cleaner

Emission Unit Identifier: 199

Emission Unit Description: U-IA2-Cold Solvent Metal Cleaner

SCC: 40100399 - Chemical Evaporation-Organic Solvent Evaporation-Cold Solvent Cleaning/Stripping-Other Not Classified

Last/Final Emissions Year:

Comments: non-halogenated cold solvent parts cleaner

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
850 - F1: Parts Washer	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 0.0 **Throughput UOM:** GAL - GALLONS

Throughput Type: I - Input

Throughput Material: 305 - Solvent

Throughput (Monthly)

January:	**February:**	**March:**	**April:**
May:	**June:**	**July:**	**August:**
September:	**October:**	**November:**	**December:**

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 8,784.0

Seasonal Operations

Spring (Mar-May):	0.0%	**Summer (Jun-Aug):**	0.0%	**Fall (Sep-Nov):**	0.0%	**Winter (Dec-Feb):**	0.0%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
VOC - Volatile Organic Compounds	4.0	EACH - EACH	13 - Other EF (post-control)	0.002

UNIT PROCESS

Unit Process Identifier: 2027

Unit Process Description: U1-E1-Natural Gas Boiler 1

Emission Unit Identifier: 196

Emission Unit Description: U01/U02-03 Boilers

SCC: 10300602 - External Combustion-Commercial/Institutional: Boilers-Natural Gas-10-100 Million BTU/hr

Last/Final Emissions Year:

Comments: 99.9 MMBtu/hr, installed in 2010

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C4-Low Nox Burner, then C5-Flue Gas Recirculation (FGD) to control Nox

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
357 - C4: U1/U2	1	100.0%	100.0%
358 - C5: U1/U2	2	100.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
164 - S1: Boiler 1	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 101.7 **Throughput UOM:** E6FT3 - MILLION CUBIC FEET

Throughput Type: I - Input

Throughput Material: 209 - Natural Gas

Throughput (Monthly)

January:	13.91	**February:**	17.8	**March:**	21.31	**April:**	
May:		**June:**		**July:**		**August:**	
September:		**October:**	8.37	**November:**	22.54	**December:**	17.77

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 3,792.0

Seasonal Operations

Spring (Mar-May):	21.0%	**Summer (Jun-Aug):**	0.0%	**Fall (Sep-Nov):**	30.4%	**Winter (Dec-Feb):**	48.7%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
NH3 - Ammonia	3.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.16272
		E6FT3 - MILLION CUBIC	8 - USEPA EF (post-	

CO - Carbon Monoxide	84.0	FEET	control)	4.2714
NOX - Nitrogen Oxides	32.0	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	1.6272
PM-CON - PM Condensible	0.32	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.016272
PM10-FIL - PM10 Filterable	0.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.01017
PM25-FIL - PM2.5 Filterable	0.11	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0055935
SO2 - Sulfur Dioxide	0.6	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.03051
VOC - Volatile Organic Compounds	5.5	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.279675
83329 - Acenaphthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
208968 - Acenaphthylene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
120127 - Anthracene	0.0000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000012204
7440382 - Arsenic	0.0002	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00001017
56553 - Benz[a]Anthracene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
71432 - Benzene	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000106784999999
50328 - Benzo[a]Pyrene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000006102
205992 - Benzo[b]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
191242 - Benzo[g,h,i,]Perylene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000006102
207089 - Benzo[k]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
7440417 - Beryllium	0.000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000006102
7440439 - Cadmium	0.0011	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000055935
16065831 - Chromium (III)	0.001344	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.000068342399999
18540299 - Chromium (VI)	0.000056	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.0000028476
218019 - Chrysene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
7440484 - Cobalt	0.000084	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000004271399999
53703 - Dibenz[a,h]anthracene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000006102
106467 - 1,4-Dichlorobenzene	0.0012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000061019999999
57976 - 7,12-Dimethylbenz[a]Anthracen	0.000016	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000813599999
206440 - Fluoranthene	0.000003	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000015255
86737 - Fluorene	0.0000028	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000014238
50000 - Formaldehyde	0.075	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00381375
110543 - Hexane	1.8	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.09153
193395 - Indeno[1,2,3-c,d]Pyrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153

7439921 - Lead	0.0005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000025425
7439965 - Manganese	0.00038	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000019323
7439976 - Mercury	0.00026	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000013220999999
56495 - 3-Methylcholanthrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009153
91576 - 2-Methylnaphthalene	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000012204
91203 - Naphthalene	0.00061	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000310185
7440020 - Nickel	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000106784999999
85018 - Phenanthrene	0.000017	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000086445
129000 - Pyrene	0.000005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000025425
7782492 - Selenium	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000012204
108883 - Toluene	0.0034	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000172889999999

UNIT PROCESS

Unit Process Identifier: 2321

Unit Process Description: U2-E2-Fuel Oil Boiler (coal fired boiler with #2 fuel oil backup)

Emission Unit Identifier: 196

Emission Unit Description: U01/U02-03 Boilers

SCC: 10300502 - External Combustion-Commercial/Institutional: Boilers-Distillate Oil-10-100 Million BTU/hr

Last/Final Emissions Year:

Comments: Rated heat input capacity 100 MMBtu/hr, make Henry Vogt, model Class VS.

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C1 and C2: multiple cyclones (U1/U2)

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
77 - C1: U1/U2	1	50.0%	100.0%
918 - C2: U1/U2	1	50.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
600 - S2: Boiler 2	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: No

Comments:

UNIT PROCESS

Unit Process Identifier: 2839

Unit Process Description: U2-E3-Natural Gas Boiler 3

Emission Unit Identifier: 196

Emission Unit Description: U01/U02-03 Boilers

SCC: 10300602 - External Combustion-Commercial/Institutional: Boilers-Natural Gas-10-100 Million BTU/hr

Last/Final Emissions Year:

Comments: Coal Boiler 3 was converted into NG/FO Boiler

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C6: Low NOx Burner, then C7: Flue Gas Recirculation FGD to control Nox

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
359 - C6: U1/U2	1	100.0%	100.0%
360 - C7: U1/U2	2	100.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
847 - S6: Boiler 3	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 39.54 **Throughput UOM:** E6FT3 - MILLION CUBIC FEET

Throughput Type: I - Input

Throughput Material: 209 - Natural Gas

Throughput (Monthly)

January:	14.09	**February:**	9.01	**March:**	0.24	**April:**	
May:		**June:**		**July:**		**August:**	
September:		**October:**	0.02	**November:**	2.44	**December:**	13.74

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 2,232.0

Seasonal Operations

Spring (Mar-May):	0.6%	**Summer (Jun-Aug):**	0.0%	**Fall (Sep-Nov):**	6.2%	**Winter (Dec-Feb):**	93.2%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
NH3 - Ammonia	3.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.063264
		E6FT3 - MILLION CUBIC	8 - USEPA EF (post-	

CO - Carbon Monoxide	84.0	FEET	control)	1.66068
NOX - Nitrogen Oxides	32.0	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.63264
PM-CON - PM Condensible	0.32	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.006326399999999
PM10-FIL - PM10 Filterable	0.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.003954
PM25-FIL - PM2.5 Filterable	0.11	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0021747
SO2 - Sulfur Dioxide	0.6	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.011862
VOC - Volatile Organic Compounds	5.5	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.108735
83329 - Acenaphthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
208968 - Acenaphthylene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
120127 - Anthracene	0.0000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000047447999
7440382 - Arsenic	0.0002	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000003953999999
56553 - Benz[a]Anthracene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
71432 - Benzene	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000041516999999
50328 - Benzo[a]Pyrene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000023723999
205992 - Benzo[b]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
191242 - Benzo[g,h,i,]Perylene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000023723999
207089 - Benzo[k]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
7440417 - Beryllium	0.000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000023724
7440439 - Cadmium	0.0011	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000021747
16065831 - Chromium (III)	0.001344	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.00002657088
18540299 - Chromium (VI)	0.000056	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.00000110712
218019 - Chrysene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
7440484 - Cobalt	0.000084	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000166068
53703 - Dibenz[a,h]anthracene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000023723999
106467 - 1,4-Dichlorobenzene	0.0012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000023724
57976 - 7,12-Dimethylbenz[a]Anthracen	0.000016	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000316319999
206440 - Fluoranthene	0.000003	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000005931
86737 - Fluorene	0.0000028	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000055355999
50000 - Formaldehyde	0.075	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00148275
110543 - Hexane	1.8	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.035586
193395 - Indeno[1,2,3-c,d]Pyrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999

7439921 - Lead	0.0005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000009885
7439965 - Manganese	0.00038	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000075126
7439976 - Mercury	0.00026	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000005140199999
56495 - 3-Methylcholanthrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000035585999
91576 - 2-Methylnaphthalene	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000047448
91203 - Naphthalene	0.00061	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000120597
7440020 - Nickel	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000041516999999
85018 - Phenanthrene	0.000017	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000033609
129000 - Pyrene	0.000005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000009885
7782492 - Selenium	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00000047448
108883 - Toluene	0.0034	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000067218

UNIT PROCESS

Unit Process Identifier: 2029

Unit Process Description: E6, E7, E8 lithographic sheet fed presses (3)

Emission Unit Identifier: 197

Emission Unit Description: U05-3 Printing Presses: E6, E7, E8 lithographic sheet fed presses

SCC: 40500403 - Chemical Evaporation-Printing/Publishing-Lithographic-Other non-dryer printing

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
165 - S4: Lithographic Presses	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: No

Comments:

UNIT PROCESS

Unit Process Identifier: 2324

Unit Process Description: E10-Gasoline Tank

Emission Unit Identifier: 402

Emission Unit Description: U07-Gasoline Tank

SCC: 40688801 - Chemical Evaporation-Transportation and Marketing of Petroleum Products-Fugitive Emissions-All Not Elsewhere Classified

Last/Final Emissions Year:

Comments: 550 gallon portable gasoline storage tank equipped with a dual point vapor balance system

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C8-Submerged filling then C9-Vapor Lock Balance Recovery System (U7)

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
361 - C8: U7	1	100.0%	100.0%
362 - C9: U7	2	100.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
602 - S5: Portable Gasoline Tank	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 179.0 **Throughput UOM:** GAL - GALLONS

Throughput Type: I - Input

Throughput Material: 127 - Gasoline

Throughput (Monthly)

January:	**February:**	**March:**	**April:**	
May:	**June:**	**July:**	**August:**	179.0
September:	**October:**	**November:**	**December:**	

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 8,784.0

Seasonal Operations

Spring (Mar-May):	0.0%	**Summer (Jun-Aug):**	100.0%	**Fall (Sep-Nov):**	0.0%	**Winter (Dec-Feb):**	0.0%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
VOC - Volatile Organic Compounds			2 - Engineering Judgment	0.086

	Ozone Season Emissions (Tons): 0.086			
71432 - Benzene			3_0 - Material Balance (no EF)	0.000776
100414 - Ethyl Benzene			3_0 - Material Balance (no EF)	0.0000863
110543 - Hexane			3_0 - Material Balance (no EF)	0.00138
108883 - Toluene			3_0 - Material Balance (no EF)	0.00112
540841 - 2,2,4-Trimethylpentane			3_0 - Material Balance (no EF)	0.00069
1330207 - Xylenes (Mixed Isomers)			3_0 - Material Balance (no EF)	0.000431

UNIT PROCESS

Unit Process Identifier: 4343

Unit Process Description: Diesel Emergency Generators

Emission Unit Identifier: 404

Emission Unit Description: U08-Emergency generators & IA E.G.s

SCC: 20100102 - Internal Combustion Engines-Electric Generation-Distillate Oil (Diesel)-Reciprocating

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description:

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 81.62 **Throughput UOM:** E6BTU - MILLION BTUS

Throughput Type: I - Input

Throughput Material: 142 - Heat

Throughput (Monthly)

January:	7.09	**February:**	6.97	**March:**	7.86	**April:**	6.45
May:	6.59	**June:**	6.77	**July:**	5.3	**August:**	6.14
September:	7.02	**October:**	7.52	**November:**	7.48	**December:**	6.43

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

%Sulfur: 0.015

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 89.8

Seasonal Operations

Spring (Mar-May):	25.6%	**Summer (Jun-Aug):**	22.3%	**Fall (Sep-Nov):**	27.0%	**Winter (Dec-Feb):**	25.1%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
CO - Carbon Monoxide	0.85	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.034688499999999
	Overall Control Efficiency: 0.0%			
	Ozone Season Emissions (Tons): 0.0135234990428996			
NOX - Nitrogen Oxides	3.2	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.130592

	Overall Control Efficiency: 0.0%			
	Ozone Season Emissions (Tons): 0.0509119963968			
PM-CON - PM Condensible	0.0077	E6BTU - MILLION BTUS	33 - Other EF (pre-control)	0.000314237
	Overall Control Efficiency: 0.0%			
PM10-FIL - PM10 Filterable	0.0496	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.002024176
	Overall Control Efficiency: 0.0%			
PM25-FIL - PM2.5 Filterable	0.0479	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.001954799
	Overall Control Efficiency: 0.0%			
SO2 - Sulfur Dioxide	0.01515	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0006182715
	Overall Control Efficiency: 0.0%			
VOC - Volatile Organic Compounds	0.09	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0036729
	Overall Control Efficiency: 0.0%			
	Ozone Season Emissions (Tons): 0.00143189989866			
83329 - Acenaphthene	0.00000468	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000001909908
	Overall Control Efficiency: 0.0%			
208968 - Acenaphthylene	0.00000923	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000003766763
	Overall Control Efficiency: 0.0%			
75070 - Acetaldehyde	0.0000252	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.000001028412
	Overall Control Efficiency: 0.0%			
107028 - Acrolein	0.00000788	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000003215828
	Overall Control Efficiency: 0.0%			
71432 - Benzene	0.000776	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.00003166856
	Overall Control Efficiency: 0.0%			
206440 - Fluoranthene	0.00000403	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000001644643
	Overall Control Efficiency: 0.0%			
86737 - Fluorene	0.0000128	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.000000522368
	Overall Control Efficiency: 0.0%			
50000 - Formaldehyde	0.0000789	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.000003219909
	Overall Control Efficiency: 0.0%			
91203 - Naphthalene	0.00013	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000053053

	Overall Control Efficiency: 0.0%			
85018 - Phenanthrene	0.0000408	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.000001665048
	Overall Control Efficiency: 0.0%			
129000 - Pyrene	0.00000371	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.0000001514051
	Overall Control Efficiency: 0.0%			
108883 - Toluene	0.000281	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.00001146761
	Overall Control Efficiency: 0.0%			
1330207 - Xylenes (Mixed Isomers)	0.000193	E6BTU - MILLION BTUS	28 - USEPA EF (pre-control)	0.00000787633
	Overall Control Efficiency: 0.0%			

UNIT PROCESS

Unit Process Identifier: 2327

Unit Process Description: E12 & E15- Diesel Emergency Generators

Emission Unit Identifier: 404

Emission Unit Description: U08-Emergency generators & IA E.G.s

SCC: 20100102 - Internal Combustion Engines-Electric Generation-Distillate Oil (Diesel)-Reciprocating

Last/Final Emissions Year:

Comments: 2 emergency generators greater than 800 HP, plus other diesel emerg. generators (IA)

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 39.91 **Throughput UOM:** E6BTU - MILLION BTUS

Throughput Type: I - Input

Throughput Material: 142 - Heat

Throughput (Monthly)

January:	4.78	**February:**	2.94	**March:**	3.24	**April:**	3.24
May:	3.24	**June:**	4.44	**July:**	2.9	**August:**	1.54
September:	3.59	**October:**	3.24	**November:**	3.24	**December:**	3.52

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 12.4

Seasonal Operations

Spring (Mar-May):	24.4%	**Summer (Jun-Aug):**	22.3%	**Fall (Sep-Nov):**	25.2%	**Winter (Dec-Feb):**	28.2%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
CO - Carbon Monoxide	0.85	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.016961749999999
	Ozone Season Emissions (Tons): 0.0066767503344746			
NOX - Nitrogen Oxides	3.2	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.063856
	Ozone Season Emissions (Tons): 0.0251360012592			
PM-CON - PM	0.0077	E6BTU - MILLION BTUS	13 - Other EF (post-	0.0001536535

Condensible			control)	
PM10-FIL - PM10 Filterable	0.0496	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000989767999999
PM25-FIL - PM2.5 Filterable	0.0479	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000955844499999
SO2 - Sulfur Dioxide	0.05	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00099775
VOC - Volatile Organic Compounds	0.09	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.001795949999999
	Ozone Season Emissions (Tons): 0.000706950035414606			
83329 - Acenaphthene	0.00000468	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000000933894
208968 - Acenaphthylene	0.00000923	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000184184649
75070 - Acetaldehyde	0.0000252	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000502865999
107028 - Acrolein	0.00000788	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000001572454
71432 - Benzene	0.000776	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000015485079999
206440 - Fluoranthene	0.00000403	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00000008041865
86737 - Fluorene	0.0000128	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000255424
50000 - Formaldehyde	0.0000789	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000001574449499
91203 - Naphthalene	0.00013	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000002594149999
85018 - Phenanthrene	0.0000408	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000814163999
129000 - Pyrene	0.00000371	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00000007403305
108883 - Toluene	0.000281	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000005607354999
1330207 - Xylenes (Mixed Isomers)	0.000193	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000003851315

UNIT PROCESS

Unit Process Identifier: 4341

Unit Process Description: Natural gas generators

Emission Unit Identifier: 404

Emission Unit Description: U08-Emergency generators & IA E.G.s

SCC: 20300201 - Internal Combustion Engines-Commercial/Institutional-Natural Gas-Reciprocating

Last/Final Emissions Year:

Comments: Life Sciences (W end), Louisville Hall (E side), Unitas Tower (E end), Ekstrom Library-addition (N side), Natatorium (W side), Yum Center (W side), Student Rec (W side), Lynn Soccer Stadium (E side)

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 12.56 **Throughput UOM:** E6BTU - MILLION BTUS

Throughput Type: I - Input

Throughput Material: 142 - Heat

Throughput (Monthly)

January:	1.4	**February:**	0.91	**March:**	1.3	**April:**	0.8
May:	1.25	**June:**	1.2	**July:**	0.66	**August:**	1.18
September:	1.13	**October:**	1.2	**November:**	1.11	**December:**	0.42

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 43.0

Seasonal Operations

Spring (Mar-May):	26.7%	**Summer (Jun-Aug):**	24.2%	**Fall (Sep-Nov):**	27.4%	**Winter (Dec-Feb):**	21.7%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
CO - Carbon Monoxide	0.317	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00199076
	Ozone Season Emissions (Tons): 0.000859070074812			
NOX - Nitrogen Oxides	4.08	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0256224
	Ozone Season Emissions (Tons): 0.01105680096288			

PM-CON - PM Condensible	0.00991	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000622348
PM10-FIL - PM10 Filterable	0.0000771	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000484188
PM25-FIL - PM2.5 Filterable	0.0000771	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000000484188
SO2 - Sulfur Dioxide	0.000588	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00000369264
VOC - Volatile Organic Compounds	0.118	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00074104
	Ozone Season Emissions (Tons): 0.000319780027848			
208968 - Acenaphthylene	0.00000553	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000000347284
75070 - Acetaldehyde	0.00836	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000525008
107028 - Acrolein	0.00514	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000322792
71432 - Benzene	0.00044	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000027632
86737 - Fluorene	0.00000567	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000000356076
50000 - Formaldehyde	0.0528	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.000331584
110543 - Hexane	0.00111	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000069708
67561 - Methanol	0.0025	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.0000157
108883 - Toluene	0.000408	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00000256224
1330207 - Xylenes (Mixed Isomers)	0.000184	E6BTU - MILLION BTUS	8 - USEPA EF (post-control)	0.00000115552

UNIT PROCESS

Unit Process Identifier: 2332

Unit Process Description: E16-E38-Natural gas hot water & steam boilers

Emission Unit Identifier: 406

Emission Unit Description: U09-Various hot water boilers and steam heaters

SCC: 10300603 - External Combustion-Commercial/Institutional: Boilers-Natural Gas-< 10 Million BTU/hr

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: No

Approach Description: Control approach not specified. Assumes not controlled.

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
4211 - F2: Emergency Generators, Cooling Towers, Water Boilers, Insignificant Activities	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 86.97 **Throughput UOM:** E6FT3 - MILLION CUBIC FEET

Throughput Type: I - Input

Throughput Material: 209 - Natural Gas

Throughput (Monthly)

January:	7.8	**February:**	8.4	**March:**	6.8	**April:**	7.2
May:	8.9	**June:**	6.5	**July:**	6.03	**August:**	5.29
September:	6.59	**October:**	8.45	**November:**	6.94	**December:**	8.07

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 8,784.0

Seasonal Operations

Spring (Mar-May):	26.3%	**Summer (Jun-Aug):**	20.5%	**Fall (Sep-Nov):**	25.3%	**Winter (Dec-Feb):**	27.9%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
NH3 - Ammonia	3.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.139152
CO - Carbon Monoxide	84.0	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	3.65274
	Ozone Season Emissions (Tons): 1.399019875344			
NOX - Nitrogen Oxides	100.0	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	4.3485
	Ozone Season Emissions (Tons):			

	1.6654998516			
PM-CON - PM Condensible	0.32	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0139152
PM10-FIL - PM10 Filterable	0.2	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.008697
PM25-FIL - PM2.5 Filterable	0.11	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00478335
SO2 - Sulfur Dioxide	0.6	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.026090999999999
VOC - Volatile Organic Compounds	5.5	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.239167499999999
	Ozone Season Emissions (Tons): 0.0916024918379996			
83329 - Acenaphthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
208968 - Acenaphthylene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
120127 - Anthracene	0.0000024	E6FT3 - MILLION CUBIC FEET	12 - Trade Group EF (post-control)	0.000000104364
7440382 - Arsenic	0.0002	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000008697
56553 - Benz[a]Anthracene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
71432 - Benzene	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000913185
50328 - Benzo[a]Pyrene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000052182
205992 - Benzo[b]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
207089 - Benzo[k]Fluoranthene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
7440417 - Beryllium	0.000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000521819999
7440439 - Cadmium	0.0011	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000478335
16065831 - Chromium (III)	0.001344	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.000058443839999
18540299 - Chromium (VI)	0.000056	E6FT3 - MILLION CUBIC FEET	13 - Other EF (post-control)	0.00000243516
218019 - Chrysene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
7440484 - Cobalt	0.000084	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000003652739999
53703 - Dibenz[a,h]anthracene	0.0000012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000052182
106467 - 1,4-Dichlorobenzene	0.0012	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000052181999999
57976 - 7,12-Dimethylbenz[a]Anthracen	0.000016	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000695759999
206440 - Fluoranthene	0.000003	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000130454999
86737 - Fluorene	0.0000028	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000121758
50000 - Formaldehyde	0.075	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.003261374999999
110543 - Hexane	1.8	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.078273
193395 - Indeno[1,2,3-c,d]Pyrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
7439921 - Lead	0.0005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000217425

7439965 - Manganese	0.00038	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000165243
7439976 - Mercury	0.00026	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000113061
56495 - 3-Methylcholanthrene	0.0000018	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000078273
91576 - 2-Methylnaphthalene	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000001043639999
91203 - Naphthalene	0.00061	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.00002652585
7440020 - Nickel	0.0021	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.0000913185
85018 - Phenanthrene	0.000017	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000739245
129000 - Pyrene	0.000005	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000000217425
7782492 - Selenium	0.000024	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000001043639999
108883 - Toluene	0.0034	E6FT3 - MILLION CUBIC FEET	8 - USEPA EF (post-control)	0.000147848999999

UNIT PROCESS

Unit Process Identifier: 2974

Unit Process Description: E39-Ground water remediation system

Emission Unit Identifier: 534

Emission Unit Description: U10-Groundwater remediation system

SCC: 49099998 - Chemical Evaporation-Organic Solvent Evaporation-Miscellaneous Volatile Organic Compound Evaporation-Miscellaneous

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C10 (U10)

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
948 - C10: U10	1	99.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
849 - S7: Groundwater Remediation System	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: No

Comments:

UNIT PROCESS

Unit Process Identifier: 4224

Unit Process Description: E40-Theatre Arts Spray Booth

Emission Unit Identifier: 748

Emission Unit Description: U11-Theatre Arts Spray Booth

SCC: 40299998 - Chemical Evaporation-Surface Coating Operations-Miscellaneous-Miscellaneous

Last/Final Emissions Year:

Comments:

UNIT PROCESS - CONTROL APPROACH

Controlled?: Yes

Approach Description: C11

UNIT PROCESS - CONTROL APPROACH - CONTROL DEVICES

Control Device	Sequence #	Capture Efficiency %	Uptime/Effectiveness %
1339 - C11	1	100.0%	100.0%

UNIT PROCESS - RELEASE POINT APPORTIONMENT

Release Point	Apportionment %
3458 - S8: Theatre Arts Spray Booth	100.0%

UNIT PROCESS - ADDITIONAL INFORMATION

PROCESS EMISSIONS - THROUGHPUT

Process is Reported?: Yes

Throughput (Annual): 0.58 **Throughput UOM:** GAL - GALLONS

Throughput Type: I - Input

Throughput Material: 720 - Coating

Throughput (Monthly)

January: **February:** **March:** **April:**

May: **June:** **July:** **August:**

September: **October:** **November:** 0.58 **December:**

Comments:

PROCESS EMISSIONS - SUPPLEMENTAL CALCULATION PARAMETERS

PROCESS EMISSIONS - OPERATIONS

Actual Hours/Year: 9.0

Seasonal Operations

Spring (Mar-May): 0.0% **Summer (Jun-Aug):** 0.0% **Fall (Sep-Nov):** 100.0% **Winter (Dec-Feb):** 0.0%

PROCESS EMISSIONS - EMISSIONS

Pollutant	Emis. Factor (Lbs/UOM)	Emis. Factor UOM	Calculation Method	Estimated Emis. (Tons)
VOC - Volatile Organic Compounds			3_0 - Material Balance (no EF)	0.000131
100414 - Ethyl Benzene			3_0 - Material Balance (no EF)	0.0

108883 - Toluene			3_0 - Material Balance (no EF)	0.000026
1330207 - Xylenes (Mixed Isomers)			3_0 - Material Balance (no EF)	0.0