COPY of RECORD Date Submitted: 6/23/2022 13:06:07

As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

Listing of Emission Sources and Control Devices on Permit. See instructions

*ES ID on Air Permit	*ES Description	*CS ID	*CS Description	* CD ID's
ES-001-Boiler #6	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]	CS-11	Calcium carbonate injection system , Dry Sorbent Injection System , One bagfilter with 36,614 square feet of filter surface area	CD-004.1, CD-005.3, CD-004.2
ES-002-Boiler #7	One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]	CS-12	Calcium carbonate injection system , Dry Sorbent Injection System , One bagfilter with 36,614 square feet of filter surface area	CD-005.1, CD-005.3, CD-005.2
ES-003-Boiler #8	One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]			
ES-004-Boiler #9	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]			
ES-005-Boiler #10	One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]			
ES-006	One No. 2 fuel oil-fired, compression ignition generator (2000 kW) located at the Cogeneration Facility [MACT ZZZZ, PSD {51.1666 (a) through (i) and (s)}]			
ES-007	One No. 2 fuel oil-fired, compression ignition generator (2000 kW) located at the Cogeneration Facility [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-010.1	One enclosed railcar dump pit [NSPS Y]	CS-3	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)	CD-018
ES-010.2	One enclosed railcar dump pit [NSPS Y]	CS-3	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)	CD-018
ES-010.3	One enclosed railcar dump pit [NSPS Y]	CS-3	Wet spray dust suppression systems (100 gal per min. injection rate in each hopper)	CD-018

ES-010A	One coal crusher building [NSPS Y]	CS-7	Bagfilter with 1330 square feet of filter surface area	CD-013
ES-030	One ash storage silo equipped with dry loadout system	CS-8	Bagfilter with 577 square feet of filter surface area	CD-031
ES-030A	Enclosed wet ash loadout system	CS-9	Water injection system (8.64 gal per min. injection rate)	CD-032
ES-1	One coal silo [NSPS Y]	CS-10	Bagfilter with 533 square feet of filter surface area , Bagfilter with 533 square feet of filter surface area	CD-011, CD-012
ES-2	One coal silo [NSPS Y]	CS-10	Bagfilter with 533 square feet of filter surface area , Bagfilter with 533 square feet of filter surface area	CD-011, CD-012
ES-3.1	One silo feed conveyor [NSPS Y]	CS-6	Bagfilter with 1598 square feet of filter surface area	CD-019
ES-3.2	One silo feed conveyor [NSPS Y]	CS-6	Bagfilter with 1598 square feet of filter surface area	CD-019
ES-3.3	One silo feed conveyor [NSPS Y]	CS-6	Bagfilter with 1598 square feet of filter surface area	CD-019
ES-3.4	One silo feed conveyor [NSPS Y]	CS-6	Bagfilter with 1598 square feet of filter surface area	CD-019
ES-3.5	One silo feed conveyor [NSPS Y]	CS-6	Bagfilter with 1598 square feet of filter surface area	CD-019
ES-EG#1	One diesel-fired emergency generator (900 kW), located at the EPA Building [MACT ZZZZ]			
ES-EG#10	One diesel-fired emergency generator (800 kW) located at Bondurant Hall [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-EG#11	One diesel-fired emergency generator (1,750 kW) located at Burnett-Womack Building [MACT ZZZZ, PSD {40 CFR 51.116 (a) though (i) and (s)}]			
ES-EG#12	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building [MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}]			
ES-EG#13	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building [MACT ZZZZ, NSPS IIII]			
ES-EG#14	One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building [MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}]			
ES-EG#15	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center [MACT ZZZZ, PSD {40 CFR 51.666 (a) through (i) and (s)}]			
ES-EG#16	One diesel-fired emergency generator (2,000 kW) located at the ITS Building [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-EG#17	One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building [MACT ZZZZ, NSPS IIII]			

ES-EG#18	One diesel-fired emergency generator (1,000 kW) located at Venable Hall [MACT ZZZZ, NSPS III]			
ES-EG#19	One diesel-fired emergency generator (2,500 kW) located at the Imaging Research Building [MACT ZZZZ, NSPS IIII]			
ES-EG#2	One diesel-fired emergency generator (1,600 kW), located at the Thurston Bowles Building [MACT ZZZZ]			
ES-EG#20	One diesel-fired emergency generator (2,000 kW) located at the Genomic Science Building [MACT ZZZZ, NSPS IIII]			
ES-EG#21	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building. [MACT ZZZZ, NSPS IIII]			
ES-EG#3	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building [MACT ZZZZ]			
ES-EG#4	One diesel-fired emergency generator (1,000 kW) located at Taylor Hall [MACT ZZZZ]			
ES-EG#5	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building [MACT ZZZZ]			
ES-EG#6	One diesel-fired emergency generator (1,500 kW) located at the Medical Biomolecular Research Building [MACT ZZZZ]			
ES-EG#7	One diesel-fired emergency generator (1,250 kW) located at the Michael Hooker Research Center [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-EG#8	One diesel-fired emergency generator (800 kW) located at Chapman Hall [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-EG#9	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]			
ES-FP-1	Fire water pump (77 hp, diesel-fired), located at Kenan Stadium [MACT ZZZZ, NSPS IIII]			
ES-FP-2	Fire water pump (110 hp, diesel-fired), located at McColl Building [MACT ZZZZ]			
ES-FP-3	Fire water pump (123 hp, diesel-fired), located at Davis Library [MACT ZZZZ, NSPS IIII]			
ES-Gen-1	Emergency generator (25 kW, diesel-fired), located at Ackland Art Museum [MACT ZZZZ]			
ES-Gen-10	Emergency generator (25 kW, diesel-fired), located at the Center for Dramatic Art [MACT ZZZZ]			

ES-Gen-11	Emergency generator (250 kW, diesel-fired), located at Craige Dorm [MACT ZZZZ]			
ES-Gen-12	Emergency generator (150 kW, diesel-fired), located at Craige Parking Deck [MACT ZZZZ, NSPS III]			
ES-Gen-13	Emergency generator (300 kW, diesel-fired), located at the Davie Hall [MACT ZZZZ, NSPS IIII]			
ES-Gen-14	Emergency generator (210 kW, diesel-fired), located at the Davis Library [MACT ZZZZ]			
ES-Gen-15	Emergency generator (250 kW, diesel-fired), located at the Ehringhaus Dorm [MACT ZZZZ]			
ES-Gen-18	Emergency generator (150 kW, diesel-fired), located at Fetzer Gym [MACT ZZZZ]			
ES-Gen-19	Emergency generator (125 kW, diesel-fired), located at Fordham Hall [MACT ZZZZ]			
ES-Gen-2	Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center [MACT ZZZZ]			
ES-Gen-20	Emergency generator (150 kW, diesel-fired), located at Cardinal Deck [MACT ZZZZ]			
ES-Gen-21	Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building [MACT ZZZZ]			
ES-Gen-22	Emergency generator (100 kW, diesel-fired), located at Hill Alumni Center [MACT ZZZZ]			
ES-Gen-23	Emergency generator (250 kW, diesel-fired), located at Hinton James Dorm [MACT ZZZZ]			
ES-Gen-24	Emergency generator (80 kW, diesel-fired), located at Kenan Center [MACT ZZZZ]			
ES-Gen-25	Emergency generator (25 kW, diesel-fired), located at Kenan Field (North) [MACT ZZZZ]			
ES-Gen-26	Emergency generator (30 kW, diesel-fired), located at the Kenan Field (North-new) [MACT ZZZZ]			
ES-Gen-27	Emergency generator (25 kW, diesel-fired), located at Kenan Field (South) [MACT ZZZZ]			
ES-Gen-28	Emergency generator (100 kW, diesel-fired), located at Kenan Football Center [MACT ZZZZ]			
ES-Gen-29.15B	Emergency generator (45 kW, diesel-fired), located at the Kenan Chemistry Lab [MACT ZZZZ]			
ES-Gen-3	Emergency generator (30 kW, diesel-fired), located at Avery Dorm [MACT ZZZZ]			
ES-Gen-30	Emergency generator (535 kW, diesel-fired) located at the Lineberger Building Addition [MACT ZZZZ]			

ES-Gen-31.15B	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building [MACT ZZZZ]			
ES-Gen-32.15B	Emergency generator (500 kW, diesel-fired), located at the MacNider Hall [MACT ZZZZ]			
ES-Gen-33	Emergency generator (175 kW, diesel-fired), located at the McColl Building [MACT ZZZZ]			
ES-Gen-35	Emergency generator (125 kW, diesel-fired), located at the Morehead Chemistry Lab [MACT ZZZZ]			
ES-Gen-36	Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium [MACT ZZZZ]			
ES-Gen-37	Emergency generator (250 kW, diesel-fired), located at Morrison Dorm [MACT ZZZZ]			
ES-Gen-38.15B	Emergency generator (400 kW, diesel-fired) located at the Northside Chiller [MACT ZZZZ]			
ES-Gen-39	Emergency generator (60 kW, diesel-fired), located at Parker Dorm [MACT ZZZZ]			
ES-Gen-4	Emergency generator (20 kW, diesel-fired), located at the Cheek/Clark Building [MACT ZZZZ]			
ES-Gen-40	Emergency generator (500 kW, diesel-fired), located at Phillips Hall [MACT ZZZZ]			
ES-Gen-41	Emergency generator (20 kW, diesel-fired), located at Security Services Building [mact zzzz]			
ES-Gen-42	Emergency generator (400kW, diesel-fired), located at the Dean Smith Center [MACT ZZZZ, NSPS IIII]			
ES-Gen-42.15B	Emergency generator (125 kW, diesel-fired), located at the Dean Smith Center [MACT ZZZZ]			
ES-Gen-43	Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B [MACT ZZZZ, NSPS IIII]			
ES-Gen-44	Emergency generator (275 kW, diesel-fired), located at Tarrson Hall [MACT ZZZZ]			
ES-Gen-45	Emergency generator (150 kW, diesel-fired), located at Tate-Turner-Kuralt Building [MACT ZZZZ]			
ES-Gen-46	Emergency generator (260 kW, diesel-fired), located at Taylor Student Health Services [MACT ZZZZ]			
ES-Gen-47	Emergency generator (50 kW, diesel-fired), located at Van Hecke-Wettach Hall [MACT ZZZZ]			
ES-Gen-48	Emergency generator (500 kW, diesel-fired), located at Kenan Stadium [MACT ZZZZ, NSPS IIII]			

ES-Gen-49	Emergency generator (230 kW, diesel-fired), located at the Wilson Library Stacks [MACT ZZZZ, NSPS IIII]			
ES-Gen-50	Emergency generator (600 kW, diesel-fired) located at Beard Hall [MACT ZZZZ]			
ES-Gen-57	Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building [MACT ZZZZ]			
ES-Gen-58	Emergency generator (230 kW, diesel-fired), located at the Carrington Building [MACT ZZZZ]			
ES-Gen-59	Emergency generator (500 kW, diesel-fired) located at the Glaxo Building [MACT ZZZZ]			
ES-Gen-60	Emergency generator (148 kW, diesel-fired), located at the Health Sciences Library [MACT ZZZZ]			
ES-Gen-61	Emergency generator (60 kW, diesel-fired), located at the Knapp Building [MACT ZZZZ]			
ES-Gen-62	Emergency generator (300 kW, diesel-fired), located at the RB House Library [MACT ZZZZ]			
ES-Gen-67	Emergency generator (125 kW, diesel-fired), located at Memorial Hall [MACT ZZZZ]			
ES-Gen-68	Emergency generator (105 kW, diesel-fired), located at the Dogwood Deck [MACT ZZZZ]			
ES-Gen-7	Emergency generator (35 kW, diesel-fired), located at Security Services Buildling [MACT ZZZZ]			
ES-Gen-71	Emergency generator (110 kW, diesel-fired), located at the Global Education Building [MACT ZZZZ, NSPS IIII]			
ES-Gen-72	Emergency generator (30 kW, diesel-fired), located at the Hamilton Hall [MACT ZZZZ, NSPS IIII]			
ES-Gen-74	Emergency generator (250 kW, diesel-fired), located at the Joyner, Alexander Dorms [MACT ZZZZ]			
ES-Gen-75	Emergency generator (250 kW, diesel-fired), located at the McIver, Kenan, Alderman Dorms [MACT ZZZZ]			
ES-Gen-76	Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller [MACT ZZZZ]			
ES-Gen-77	Emergency generator (100 kW, diesel-fired), located at the Jackson Circle Parking Deck [MACT ZZZZ]			
ES-Gen-79	Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium [MACT ZZZZ, NSPS IIII]			

ES-Gen-8	Emergency generator (350 kW, diesel-fired), located at Carmichael Dorm [MACT ZZZZ]			
ES-Gen-80	Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm [MACT ZZZZ, NSPS IIII]			
ES-Gen-81	Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building [MACT ZZZZ, NSPS IIII]			
ES-Gen-84	Emergency generator (250 kW, diesel-fired), located at Bell Tower Parking Deck [MACT ZZZZ, NSPS IIII]			
ES-Gen-9	Emergency generator (60 kW, diesel-fired), located at Carolina Inn [MACT ZZZZ]			
ES-T-001	One No. 2 fuel oil storage tank (500,000 gallon capacity)			
ES-T-002	One No. 2 fuel oil storage tank (500,000 gallon capacity)			
ES-T-003	One No. 2 fuel oil storage tank (184,900 gallon capacity) located at the Manning Drive Steam Plant			
ES-T-004	One No. 2 fuel oil storage tank (184,900 gallon capacity) located at the Manning Drive Steam Plant			
IES-51	Sterilizers - Dental School			
IES-53	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)			
IES-Gen-31	Emergency generator (500kW, diesel-fired), located at the McGavran Greenberg Building [MACT ZZZZ]			
IES-SB-1	Water heater (0.726 million Btu per hour; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-10.15B	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium			
IES-SB-11	Water heater (0.450 million Btu per hour; natural gas-fired), located at Hickerson House			
IES-SB-12	Water heater (0.595 million Btu per hour; natural gas-fired), located at Hill Commercial			
IES-SB-13	Water heater (0.270 million Btu per hour; natural gas-fired), located at Hill Annex			
IES-SB-14	Water heater (0.500 million Btu per hour; natural gas-fired), located at Medical Research Building B			
IES-SB-16	Water heater (0.900 million Btu per hour; natural gas-fired), located at McCaskill Soccer			
IES-SB-17	Water heater (0.900 million Btu per hour; natural gas-fired), located at 135.5 East Franklin			
IES-SB-19	Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility			

IES-SB-2	Water heater (0.726 million Btu per hour; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-20	Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility			
IES-SB-21	Weigh/Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility			
IES-SB-3	Water heater (0.300 million Btu per hour; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-4	Water heater (0.399 million Btu per hour; natural gas-fired), located at Brooks Hall			
IES-SB-5	Water heater (1.442 million Btu per hour; natural gas-fired), located at Cheek Clark Building			
IES-SB-6	One natural gas-fired boiler at Davie Hall; 2.52 million Btu per hour heat input capacity [MACT DDDDD]			
IES-SB-7	Water heater (0.420 million Btu per hour; natural gas-fired), located at Graham Memorial Building			
IES-SB-8	Water heater (0.420 million Btu per hour; natural gas-fired), located at Graham Memorial Building			
IES-SB-9.15B	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium			

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Emission Source & Operating Scenario List - See Instructions

*ES Group ID	*ES ID	*OS ID	*OS Description
GR17	ES-006, ES-007	95	Two No.2 Fuel Oil-Fired 2,000 kW Generators at the Cogeneration Facility
GR19	ES-T-003, ES-T-004	97	Two 184,200 gallon No.2 fuel oil storage tanks at the Manning Drive Steam Plant
GR20	IES-SB-1, IES-SB-11, IES-SB-12, IES-SB-13, IES-SB-14, IES-SB-16, IES-SB-17, IES-SB-2, IES-SB-3, IES-SB-4, IES-SB-5, IES-SB-7, IES-SB-8	123	13 Insignificant Natural Gas-Fired Boilers/Hotwater Heaters
G-80	ES-Gen-26, ES-Gen-27, ES-Gen-28, ES-Gen-3, ES-Gen-1, ES-Gen-10, ES-Gen-11, ES-Gen-12, ES-Gen-14, ES-Gen-15, ES-Gen-18, ES-Gen-19, ES-Gen-20, ES-Gen-22, ES-Gen-23, ES-Gen-24, ES-Gen-25, ES-Gen-31.15B, ES-Gen-33, ES-Gen-35, ES-Gen-37, ES-Gen-39, ES-Gen-4, ES-Gen-41, ES-Gen-42.15B, ES-Gen-44, ES-Gen-45, ES-Gen-46, ES-Gen-47, ES-Gen-49, ES-Gen-58, ES-Gen-60, ES-Gen-61, ES-Gen-62, ES-Gen-67, ES-Gen-68, ES-Gen-7, ES-Gen-71, ES-Gen-72, ES-Gen-74, ES-Gen-75, ES-Gen-77, ES-Gen-8, ES-Gen-9	125	Grouped small emergency generators
G-81	ES-010.1, ES-010.2, ES-010.3	12	Three enclosed railcar dump pits
G-82	ES-1, ES-2	13	Two Coal Storage Silos
G-83	ES-3.1, ES-3.2, ES-3.3, ES-3.4, ES-3.5	27	Silo Conveyors
G-84	ES-T-001, ES-T-002	28	T-001 500,000 gal. Fuel Oil Storage Tank
		29	T-002 500,000 gal. Fuel Oil Storage Tank
	ES-001-Boiler #6	4	[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		5	[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		30	[NSPS] One No. 2 fuel oil-fired,

			circulating fluidized combustion boiler, 323.17 million Btu heat input capacity.
		110	OS-110[NSPS] One wood pellet-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
	ES-002-Boiler #7	7	[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		8	[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		111	OS-111/[NSPS] One wood-pellet-fired circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		31	[NSPS] One No. 2 fuel oil-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
	ES-003-Boiler #8	10	[NSPS/PSD] One natural gas-fired boiler, 338 million Btu per hour heat input capacity
		11	[NSPS/PSD] One No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity
	ES-004-Boiler #9	49	One No.2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity
		78	One natural gas-fired boiler, 249 million Btu per hour heat capacity
	ES-005-Boiler #10	50	One No.2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity
		77	One natural gas-fired boiler, 249 million Btu per hour heat input capacity
	ES-010A	14	[NSPS] One coal crusher building
	ES-030	15	One ash storage silo equipped with dry loadout system
	ES-030A	16	Enclosed wet ash loadout system
	ES-EG#1	18	One diesel-fired emergency generator (900 kW), located at the EPA Building
	ES-EG#10	41	One diesel-fired emergency generator (800 kW) located at Bondurant Hall
	ES-EG#11	42	One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building
	ES-EG#12	55	One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building
	ES-EG#13	56	One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building
	ES-EG#14	57	One diesel-fired emergency generator (900 kW) located at the 440 W. Franklin Building
	ES-EG#15	71	One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center
	ES-EG#16	72	One diesel-fired emergency generator (2,000 kW) located at the ITS Building
	ES-EG#17	98	One diesel-fired emergency generator (1000KW) located at the Brinkhous-Bullit Building.

	ES-EG#18	104	1,000 kW Diesel-fired Emergency Generator at Venable Hall
	ES-EG#19	105	one diesel-fired emergency generator (2,500 kW) located at Imaging Research
	ES-EG#2	19	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building
	ES-EG#20	106	One diesel-fire emergency generator (2,000 kW) located at the Genomic Science Building
	ES-EG#21	113	1,350 kW Emergency Generator at the Dental Research Building
	ES-EG#3	20	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building
	ES-EG#4	21	One diesel-fired emergency generator (1000 kW) located at Taylor Hall
	ES-EG#5	22	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building
	ES-EG#6	23	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building
	ES-EG#7	43	One diesel-fired emergency generator (1250 kW) located at the Michael Hooker Research Center
	ES-EG#8	44	One diesel-fired emergency generator (800 kW) located at Chapman Hall
	ES-EG#9	45	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs
	ES-FP-1	107	77 Hp Fire Pump at Kenan Stadium
	ES-FP-2	114	110 Hp Diesel Fire Pump at the McColl Building
	ES-FP-3	115	123 Hp Diesel Fire Pump at the Davis Library
	ES-Gen-13	122	300 kW diesel-fired emergency generator at Davie Hall
	ES-Gen-2	108	OS-108/[NSPS] One diesel-fired emergency generator (450 kW) located at the Ambulatory Care Center
	ES-Gen-21	82	One 40 kW natural gas-fired emergency generator located at the Old Dental School Building
	ES-Gen-29.15B	NONE	NONE
	ES-Gen-30	84	One 535 kW diesel-fired emergency generator located at the Lineberger Building Addition
	ES-Gen-32.15B	NONE	NONE
	ES-Gen-36	65	One natural gas-fired emergency generator (30 kW) located at the Morehead Planetarium
	ES-Gen-38.15B	NONE	NONE
	ES-Gen-40	87	One 500 kW diesel-fired emergency generator located at Phillips Hall
	ES-Gen-42	126	One 400KW, diesel-fired generator located at the Dean Smith Center
	ES-Gen-43	116	125 kW Diesel-Fired Emergency Generator at Medical Research Building B

	ES-Gen-48	117	500 kW Diesel-Fired EFP Emergency Generator at Kenan Stadium
	ES-Gen-50	89	One 600 kW diesel-fired emergency generator located at Beard Hall
	ES-Gen-57	90	One 600 kW diesel-fired emergency generator located at the Bioinformatics Building
	ES-Gen-59	91	One 500 kW diesel-fired emergency generator located at the Glaxo Building
	ES-Gen-76	92	One 500 kW diesel-fired emergency generator located at the Northeast Chiller
	ES-Gen-79	99	One 400 kW diesel-fired emergency generator located at Carmichael Auditorium
	ES-Gen-80	100	One 350 kW diesel-fired emergency generator located at the Hinton James Dorm
	ES-Gen-81	101	One 250KW, diesel-fired generator located at the Physicians Office Building
	ES-Gen-84	109	250 kW Diesel-fired Emergency Generator at Bell Tower Parking Deck
	IES-51	25	Sterilizers - Dental School
	IES-53	17	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building
	IES-Gen-31	130	500 kW Diesel-Fired Emergency Generator at McGavran Greenberg Building
	IES-SB-10.15B	NONE	NONE
	IES-SB-19	127	Two Hydrated Lime Storage Silos
	IES-SB-20	128	Weigh Hopper with bin filters
	IES-SB-21	129	Weigh Hopper with bin filters
	IES-SB-6	119	2.52 MMBtu/hr Natural Gas-Fired Boiler at Davie Hall
	IES-SB-9.15B	NONE	NONE

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Permit : 03069
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DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group GR17 consisting of ES-006, ES-007

2. Emission Source Description : Two 2,000 kW Generators at Cogen

3. Operating Scenario ID/ Description: OS - 95/Two No.2 Fuel Oil-Fired 2,000 kW Generators at the Cogeneration Facility

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 5508.68 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0397	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
Gen1/2	VERTICAL STACK	49	1.67	890	120.78	15873.36	2 Gen Stacks

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (5) Days per Week (2) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**50%**	**March-May 2021**	**14%**	**June-Aug. 2021**	**20%**	**Sept.-Nov. 2021**	**16%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	60.1928	08			
Methane (CH4)	**74-82-8**	0.0024	08			
Nitrous Oxide (N2O)	**10024972**	0.0005	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.09	24			
NOx	**NOx**	0.7	08			
TSP	**TSP**	0.04	08			
PM10	**PM10**	0.04	08			
PM2.5	**PM2.5**	0.04	08			
SO2	**SO2**	0.01	08			
VOC	**VOC**	0.03	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	0.01861	08			
Acrolein	**107-02-8**	0.00582	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00295	08			
Benzene	**71-43-2**	0.57294	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00019	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00221	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00221	08			

Formaldehyde	**50-00-0**	0.05825	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00664	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00443	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00221	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.09598	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00221	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.15653	08			
Selenium Compounds	**SEC**	0.01107	08			
Toluene	**108-88-3**	0.20747	08			
Xylene	**1330-20-7**	0.1425	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group GR19 consisting of ES-T-003, ES-T-004

2. Emission Source Description : Two 184,200 gallon No.2 oil tanks

3. Operating Scenario ID/ Description: OS - 97/Two 184,200 gallon No.2 fuel oil storage tanks at the Manning Drive Steam Plant

4. SCC Number/Description: 39090003/Fuel Storage - Fixed Roof Tanks ; Distillate Oil (No. 2): Breathing Loss

5. Throughput/units in 2021: 0 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Tk3&4	VERTICAL STACK	40	0.25	100	4.64	13.67	Two storage tank vents

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**	0.02	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID: Group GR20 consisting of IES-SB-1, IES-SB-11, IES-SB-12, IES-SB-13, IES-SB-14, IES-SB-16, IES-SB-17, IES-SB-2, IES-SB-3, IES-SB-4, IES-SB-5, IES-SB-7, IES-SB-8

2. Emission Source Description : 13 Small Boilers/Hotwater Heaters

3. Operating Scenario ID/ Description: OS - 123/13 Insignificant Natural Gas-Fired Boilers/Hotwater Heaters

4. SCC Number/Description: 10300602/Natural Gas ; 10-100 Million Btu/hr

5. Throughput/units in 2021: (e.g. production or fuel use): 11512.3433 E3FT3/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1026 Btu/CF

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-ISBs	VERTICAL STACK	4	0.667	200	4.86	102	Representative Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**29%**	**June-Aug. 2021**	**24%**	**Sept.-Nov. 2021**	**22%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	690.8411	08			
Methane (CH4)	**74-82-8**	0.013	08			
Nitrous Oxide (N2O)	**10024972**	0.0013	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.48	08			
NOx	**NOx**	0.58	08			
TSP	**TSP**	0.04	08			
PM10	**PM10**	0.04	08			
PM2.5	**PM2.5**	0.04	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.03	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Benzene	**71-43-2**	0.02418	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.00097	08			
Formaldehyde	**50-00-0**	0.86343	08			
Hexane, n-	**110-54-3**	20.72222	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00702	08			
Selenium Compounds	**SEC**	0.00028	08			
Toluene	**108-88-3**	0.03914	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
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County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID

Group G-80 consisting of ES-Gen-26, ES-Gen-27, ES-Gen-28, ES-Gen-3, ES-Gen-1, ES-Gen-10, ES-Gen-11, ES-Gen-12, ES-Gen-14, ES-Gen-15, ES-Gen-18, ES-Gen-19, ES-Gen-20, ES-Gen-22, ES-Gen-23, ES-Gen-24, ES-Gen-25, ES-Gen-31.15B, ES-Gen-33, ES-Gen-35, ES-Gen-37, ES-Gen-39, ES-Gen-4, ES-Gen-41, ES-Gen-42.15B, ES-Gen-44, ES-Gen-45, ES-Gen-46, ES-Gen-47, ES-Gen-49, ES-Gen-58, ES-Gen-60, ES-Gen-61, ES-Gen-62, ES-Gen-67, ES-Gen-68, ES-Gen-7, ES-Gen-71, ES-Gen-72, ES-Gen-74, ES-Gen-75, ES-Gen-77, ES-Gen-8, ES-Gen-9

2. Emission Source Description : Small Emergency Generators

3. Operating Scenario ID/ Description: OS - 125/Grouped small emergency generators

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: (e.g. production or fuel use): 7200.3 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
F1	FUGITIVE (NO STACK)		1	72		Area = 1	Emergency Generator Stacks

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	285.3	08		79.2466919	
Methane (CH4)	**74-82-8**	0.0007	08			
Nitrous Oxide (N2O)	**10024972**	0.0007	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.46	08			
NOx	**NOx**	2.14	08			
TSP	**TSP**	0.15	08			
PM10	**PM10**	0.15	08			
PM2.5	**PM2.5**	0.15	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.17	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.74556	08			
Acrolein	**107-02-8**	0.08991	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00389	08			
Benzene	**71-43-2**	0.90691	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00018	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00292	08			
Butadiene, 1,3-	**106-99-0**	0.03801	08			

Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00292	08			
Formaldehyde	**50-00-0**	1.14701	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00875	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00583	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00292	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.08243	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00292	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.1633	08			
Selenium Compounds	**SEC**	0.01458	08			
Toluene	**108-88-3**	0.39756	08			
Xylene	**1330-20-7**	0.27703	08			

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group G-81 consisting of ES-010.1, ES-010.2, ES-010.3

2. Emission Source Description : Three enclosed railcar dump pits

3. Operating Scenario ID/ Description: OS - 12/Three enclosed railcar dump pits

4. SCC Number/Description: 30501011/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Coal Transfer

5. Throughput/units in 2021: (e.g. production or fuel use): 46387.6 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-3	CD-018	Wet spray dust suppression systems (100 gallon per minute injection rate in each hopper)

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
erp-rdp	DOWNWARD-FACING VENT	3	3	72	5	2121	erp for railcar dump pits

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (2) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**32%**	**March-May 2021**	**28%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**15%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	67		
PM10	**PM10**	0	08	63		
PM2.5	**PM2.5**	0	08	40		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group G-82 consisting of ES-1, ES-2

2. Emission Source Description : Two Coal Storage Silos

3. Operating Scenario ID/ Description: OS - 13/Two Coal Storage Silos

4. SCC Number/Description: 30501014/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Cleaned Coal Storage

5. Throughput/units in 2021: (e.g. production or fuel use): 46387.6 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-10	CD-011	One bagfilter with 533 square feet of filter surface area
2	CS-10	CD-012	One bagfilter with 533 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
12-028	HORIZONTAL STACK	140	0.9	72	61	2328.39	Coal Storage Emissions
12-036	HORIZONTAL STACK	140	0.9	72	61	2328.39	Coal Storage Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (2) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**32%**	**March-May 2021**	**28%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**15%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.9		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group G-83 consisting of ES-3.1, ES-3.2, ES-3.3, ES-3.4, ES-3.5

2. Emission Source Description : Silo Conveyors

3. Operating Scenario ID/ Description: OS - 27/Silo Conveyors

4. SCC Number/Description: 30501011/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Coal Transfer

5. Throughput/units in 2021: (e.g. production or fuel use): 46387.6 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-6	CD-019	One bagfilter with 1598 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
SC-1	VERTICAL STACK	200	2	72	45	8482.3	Silo Conveyor

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**32%**	**March-May 2021**	**28%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**15%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.9		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group G-84 consisting of ES-T-001, ES-T-002

2. Emission Source Description : Fuel Oil Storage Tanks

3. Operating Scenario ID/ Description: OS - 28/T-001 500,000 gal. Fuel Oil Storage Tank

4. SCC Number/Description: 39090003/Fuel Storage - Fixed Roof Tanks ; Distillate Oil (No. 2): Breathing Loss

5. Throughput/units in 2021: 2754.34 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
F2	FUGITIVE (NO STACK)		1	72		Area = 1	Insignificant Fugitive Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**50%**	**March-May 2021**	**14%**	**June-Aug. 2021**	**20%**	**Sept.-Nov. 2021**	**16%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**	0.11	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID Group G-84 consisting of ES-T-001, ES-T-002

2. Emission Source Description : Fuel Oil Storage Tanks

3. Operating Scenario ID/ Description: OS - 29/T-002 500,000 gal. Fuel Oil Storage Tank

4. SCC Number/Description: 39090003/Fuel Storage - Fixed Roof Tanks ; Distillate Oil (No. 2): Breathing Loss

5. Throughput/units in 2021: 2754.34 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
F2	FUGITIVE (NO STACK)		1	72		Area = 1	Insignificant Fugitive Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**50%**	**March-May 2021**	**14%**	**June-Aug. 2021**	**20%**	**Sept.-Nov. 2021**	**16%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**	0.11	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID: ES-001-Boiler #6

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 4/[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10200218/Bituminous Coal ; Atmospheric Fluidized Bed Combustion: Circulating Bed (Bitum. Coal)

5. Throughput/units in 2021: (e.g. production or fuel use): 22932.33 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur	2.03	%Ash	10.6	Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-11	CD-004.1	Calcium carbonate injection system
2	CS-11	CD-005.3	Dry Sorbent Injection System
3	CS-11	CD-004.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 4

Emission Source/Group ID: ES-001-Boiler #6

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**34%**	**March-May 2021**	**30%**	**June-Aug. 2021**	**23%**	**Sept.-Nov. 2021**	**13%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	0.9996	08	0		
Methane (CH4)	**74-82-8**	0.9996	08	0		
Nitrous Oxide (N2O)	**10024972**	0.9996	08	0		

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	9.04	04	0		
NOx	**NOx**	33.72	01	0		
TSP	**TSP**	0.94	04	99.8		
PM10	**PM10**	0.94	04	99.6		
PM2.5	**PM2.5**	0.94	04	97.9		
SO2	**SO2**	99.83	01	90		
VOC	**VOC**	0.13	04	0		

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	13.07143	09	0	0.00057	AFTER
Acetophenone	**98-86-2**	0.34398	09	0	0.000015	AFTER
Acrolein	**107-02-8**	6.65038	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	**SBC-Other**	0.18346	04	99.8	0.000008	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.17429	04	99.8	0.0000076	AFTER
Benzene	**71-43-2**	29.81203	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00087	09	0	3.8E-8	AFTER
Benzyl chloride	**100-44-7**	16.05263	09	0	0.0007	AFTER

Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.02981	04	99.8	0.0000013	AFTER
Biphenyl (Component of POMTV)	**92-52-4**	0.03898	09	0	0.0000017	AFTER
Bromine	**7726-95-6**	4.64767	09	99.8	0.101336	BEFORE
Bromoform	**75-25-2**	0.89436	09	0	0.000039	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.08049	04	99.8	0.00000351	AFTER
Carbon disulfide	**75-15-0**	2.9812	09	0	0.00013	AFTER
Chlorine	**7782-50-5**	61.21396	04	0	0.00266933	AFTER
Chloroacetophenone, 2-	**532-27-4**	0.16053	09	0	0.000007	AFTER
Chlorobenzene	**108-90-7**	0.50451	09	0	0.000022	AFTER
Chloroform	**67-66-3**	1.35301	09	0	0.000059	AFTER
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00555	09	99.8	0.000121	BEFORE
Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.15984	04	99.8	0.00000697	AFTER
Cumene	**98-82-8**	0.12154	09	0	0.0000053	AFTER
Cyanide Unlisted Compounds (Specify & Component of CNC)	**CNC-Other**	57.33083	09	0	0.0025	AFTER
Di(2-ethylhexyl)phthalate (DEHP)	**117-81-7**	1.67406	09	0	0.000073	AFTER
Dimethyl sulfate	**77-78-1**	1.10075	09	0	0.000048	AFTER
Dinitrotoluene, 2,4-	**121-14-2**	0.00642	09	0	2.8E-7	AFTER
Ethyl benzene	**100-41-4**	2.15564	09	0	0.000094	AFTER
Ethyl chloride (chloroethane)	**75-00-3**	0.96316	09	0	0.000042	AFTER
Ethylene dibromide	**106-93-4**	0.02752	09	0	0.0000012	AFTER
Ethylene dichloride (1,2-dichloroethane)	**107-06-2**	0.91729	09	0	0.00004	AFTER
Fluorides (sum of all fluoride compounds)	**16984-48-8**	130.36342	08	0	0.0056847	AFTER
Formaldehyde	**50-00-0**	37.29531	04	0	0.00162632	AFTER
Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)	**132-64-9**	0.00461	09	0	2.01E-7	AFTER
Hexane, n-	**110-54-3**	1.53647	09	0	0.000067	AFTER
Hydrogen chloride (hydrochloric acid)	**7647-01-0**	10032.29817	04	0	0.437474	AFTER
Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)	**7664-39-3**	130.36342	04	0	0.0056847	AFTER
Isophorone	**78-59-1**	13.30075	09	0	0.00058	AFTER
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	1.02049	04	99.8	0.0000445	AFTER
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	6.8015	04	99.8	0.00029659	AFTER

Mercury, vapor (Component of HGC)	**7439-97-6**	0.03761	04	99.8	0.00000164	AFTER
Methyl bromide	**74-83-9**	3.66917	09	0	0.00016	AFTER
Methyl chloride	**74-87-3**	12.15413	09	0	0.00053	AFTER
Methyl chloroform	**71-55-6**	0.45865	08	0	0.00002	AFTER
Methyl ethyl ketone	**78-93-3**	8.94361	09	0	0.00039	AFTER
Methyl hydrazine	**60-34-4**	3.8985	09	0	0.00017	AFTER
Methyl methacrylate	**80-62-6**	0.45865	09	0	0.00002	AFTER
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	0.80263	09	0	0.000035	AFTER
Methylene chloride	**75-09-2**	6.65038	09	0	0.00029	AFTER
Naphthalene (Component of POMTV)	**91-20-3**	0.29812	09	0	0.000013	AFTER
Nickel metal (Component of NIC)	**7440-02-0**	5.53761	04	99.8	0.000241476	AFTER
Perchloroethylene (tetrachloroethylene)	**127-18-4**	0.98609	09	0	0.000043	AFTER
Phenol	**108-95-2**	0.36692	09	0	0.000016	AFTER
Phosphorus Metal, Yellow or White	**7723-14-0**	0.84597	04	0	0.00003689	AFTER
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	1.26962	09	0	0.0000553639	AFTER
Propionaldehyde	**123-38-6**	8.71429	09	0	0.00038	AFTER
Selenium Compounds	**SEC**	0.12452	04	0	0.00000543	AFTER
Styrene	**100-42-5**	0.57331	09	0	0.000025	AFTER
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	**1746-01-6**	0	09	0	1.43E-11	AFTER
Toluene	**108-88-3**	5.50376	09	0	0.00024	AFTER
Vinyl acetate	**108-05-4**	0.17429	09	0	0.0000076	AFTER
Xylene	**1330-20-7**	0.8485	09	0	0.000037	AFTER

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-001-Boiler #6

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 5/[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10200602/Natural Gas ; 10-100 Million Btu/hr

5. Throughput/units in 2021: 592442.45 E3FT3/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-11	CD-004.1	Calcium carbonate injection system
2	CS-11	CD-005.3	Dry Sorbent Injection System
3	CS-11	CD-004.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 5

Emission Source/Group ID: ES-001-Boiler #6

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**33%**	**March-May 2021**	**20%**	**June-Aug. 2021**	**18%**	**Sept.-Nov. 2021**	**29%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	38965.3	09	0		
Methane (CH4)	**74-82-8**	0.0675	09	0		
Nitrous Oxide (N2O)	**10024972**	0.0675	09	0		

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	24.88	09	0		
NOx	**NOx**	36.41	01	0		
TSP	**TSP**	2.25	09	99.8		
PM10	**PM10**	2.25	09	99.6		
PM2.5	**PM2.5**	2.25	09	97.9		
SO2	**SO2**	0	08	0		
VOC	**VOC**	1.63	09	0		

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Ammonia (as NH3)	**7664-41-7**	1895.8158	09	99.8	0.0032	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.11849	09	0		
Benzene	**71-43-2**	1.24413	09	0		
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00699	09	99.8	1.18E-8	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.65169	09	0		
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.82942	09	0		

Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.04882	09	99.8	8.24E-8	AFTER
Dichlorobenzene(p), 1,4-	**106-46-7**	0.71093	09	0		
Formaldehyde	**50-00-0**	44.43318	09	0		
Hexane, n-	**110-54-3**	1066.39641	09	0		
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.29622	09	0		
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.22513	09	0		
Mercury, vapor (Component of HGC)	**7439-97-6**	0.15404	09	0		
Naphthalene (Component of POMTV)	**91-20-3**	0.36139	09	0		
Nickel metal (Component of NIC)	**7440-02-0**	1.24413	09	0		
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.39208	09	0		
Selenium Compounds	**SEC**	0.01392	09	0	2.35E-8	AFTER
Toluene	**108-88-3**	2.0143	09	0		

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DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-001-Boiler #6

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 30/[NSPS] One No. 2 fuel oil-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity.

4. SCC Number/Description: 10300501/Distillate Oil (No. 1 & 2) ; Normal Firing

5. Throughput/units in 2021: (e.g. production or fuel use): 0 E3GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-11	CD-004.1	Calcium carbonate injection system
2	CS-11	CD-005.3	Dry Sorbent Injection System
3	CS-11	CD-004.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 30

Emission Source/Group ID: ES-001-Boiler #6

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.9		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-001-Boiler #6

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 110/OS-110[NSPS] One wood pellet-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10200907/Wood ; Wood Cogeneration

5. Throughput/units in 2021: (e.g. production or fuel use): 0 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-11	CD-004.1	Calcium carbonate injection system
2	CS-11	CD-005.3	Dry Sorbent Injection System
3	CS-11	CD-004.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 110

Emission Source/Group ID: ES-001-Boiler #6

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.6		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID: ES-002-Boiler #7

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 7/[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10200218/Bituminous Coal ; Atmospheric Fluidized Bed Combustion: Circulating Bed (Bitum. Coal)

5. Throughput/units in 2021: (e.g. production or fuel use): 23455.27 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur	2	%Ash	10.65	Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-12	CD-005.1	Calcium carbonate injection system
2	CS-12	CD-005.3	Dry Sorbent Injection System
3	CS-12	CD-005.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 7

Emission Source/Group ID: ES-002-Boiler #7

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**30%**	**March-May 2021**	**27%**	**June-Aug. 2021**	**27%**	**Sept.-Nov. 2021**	**16%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	1.022	09	0		
Methane (CH4)	**74-82-8**	1.022	09	0		
Nitrous Oxide (N2O)	**10024972**	1.022	09	0		

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	11.79	04	0		
NOx	**NOx**	38.74	01	0		
TSP	**TSP**	0.6	04	99.8		
PM10	**PM10**	0.6	04	99.6		
PM2.5	**PM2.5**	0.6	04	97.9		
SO2	**SO2**	104.14	01	90		
VOC	**VOC**	0.13	09	0		

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	13.3695	09	0	0.00057	AFTER
Acetophenone	**98-86-2**	0.35183	09	0	0.000015	AFTER
Acrolein	**107-02-8**	6.80203	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	**SBC-Other**	0.18975	04	0	0.00000809	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.17685	04	99.8	0.00000754	AFTER
Benzene	**71-43-2**	30.49185	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00089	09	0	3.8E-8	AFTER
Benzyl chloride	**100-44-7**	16.41869	09	0	0.0007	AFTER

Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.03096	04	99.8	0.00000132	AFTER
Biphenyl (Component of POMTV)	**92-52-4**	0.03987	09	0	0.0000017	AFTER
Bromine	**7726-95-6**	4.75151	09	99.8	0.1012904	BEFORE
Bromoform	**75-25-2**	0.91476	09	0	0.000039	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.08162	04	99.8	0.00000348	AFTER
Carbon disulfide	**75-15-0**	3.04919	09	0	0.00013	AFTER
Chlorine	**7782-50-5**	62.5819	04	0	0.002668138	AFTER
Chloroacetophenone, 2-	**532-27-4**	0.16419	09	0	0.000007	AFTER
Chlorobenzene	**108-90-7**	0.51602	09	0	0.000022	AFTER
Chloroform	**67-66-3**	1.38386	09	0	0.000059	AFTER
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00564	04	99.8	0.00012019	BEFORE
Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.16208	04	0	0.00000691	AFTER
Cumene	**98-82-8**	0.12431	09	0	0.0000053	AFTER
Cyanide Unlisted Compounds (Specify & Component of CNC)	**CNC-Other**	58.63817	09	0	0.0025	AFTER
Di(2-ethylhexyl)phthalate (DEHP)	**117-81-7**	1.71223	09	0	0.000073	AFTER
Dimethyl sulfate	**77-78-1**	1.12585	09	0	0.000048	AFTER
Dinitrotoluene, 2,4-	**121-14-2**	0.00657	09	0	2.8E-7	AFTER
Ethyl benzene	**100-41-4**	2.2048	09	0	0.000094	AFTER
Ethyl chloride (chloroethane)	**75-00-3**	0.98512	09	0	0.000042	AFTER
Ethylene dibromide	**106-93-4**	0.02815	09	0	0.0000012	AFTER
Ethylene dichloride (1,2-dichloroethane)	**107-06-2**	0.93821	09	0	0.00004	AFTER
Fluorides (sum of all fluoride compounds)	**16984-48-8**	135.08359	08	0	0.0057592	AFTER
Formaldehyde	**50-00-0**	38.1286	04	0	0.001625588	AFTER
Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)	**132-64-9**	0.00471	09	0	2.01E-7	AFTER
Hexane, n-	**110-54-3**	1.5715	09	0	0.000067	AFTER
Hydrogen chloride (hydrochloric acid)	**7647-01-0**	10082.63931	04	0	0.4298667	AFTER
Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)	**7664-39-3**	133.27519	04	0	0.0056821	AFTER
Isophorone	**78-59-1**	13.60406	09	0	0.00058	AFTER
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	1.03367	04	99.8	0.00004407	AFTER

Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	6.95355	04	99.8	0.00029646	AFTER
Mercury, vapor (Component of HGC)	**7439-97-6**	0.0394	04	0	0.00000168	AFTER
Methyl bromide	**74-83-9**	3.75284	09	0	0.00016	AFTER
Methyl chloride	**74-87-3**	12.43129	09	0	0.00053	AFTER
Methyl chloroform	**71-55-6**	0.46911	09	0	0.00002	AFTER
Methyl ethyl ketone	**78-93-3**	9.14756	09	0	0.00039	AFTER
Methyl hydrazine	**60-34-4**	3.9874	09	0	0.00017	AFTER
Methyl methacrylate	**80-62-6**	0.46911	09	0	0.00002	AFTER
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	0.82093	09	0	0.000035	AFTER
Methylene chloride	**75-09-2**	6.80203	09	0	0.00029	AFTER
Naphthalene (Component of POMTV)	**91-20-3**	0.30492	09	0	0.000013	AFTER
Nickel metal (Component of NIC)	**7440-02-0**	5.6621	04	99.8	0.0002414	AFTER
Perchloroethylene (tetrachloroethylene)	**127-18-4**	1.00858	09	0	0.000043	AFTER
Phenol	**108-95-2**	0.37528	09	0	0.000016	AFTER
Phosphorus Metal, Yellow or White	**7723-14-0**	0.85752	04	0	0.00003656	AFTER
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	1.29799	09	0	0.000055339	AFTER
Propionaldehyde	**123-38-6**	8.913	09	0	0.00038	AFTER
Selenium Compounds	**SEC**	0.12619	04	0	0.00000538	AFTER
Styrene	**100-42-5**	0.58638	09	0	0.000025	AFTER
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	**1746-01-6**	0	09	0	1.43E-11	AFTER
Toluene	**108-88-3**	5.62926	09	0	0.00024	AFTER
Vinyl acetate	**108-05-4**	0.17826	09	0	0.0000076	AFTER
Xylene	**1330-20-7**	0.86784	09	0	0.000037	AFTER

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Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID: ES-002-Boiler #7

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 8/[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10200601/Natural Gas ; > 100 Million Btu/hr

5. Throughput/units in 2021: (e.g. production or fuel use): 578101.66 E3FT3/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1033 Btu/CF

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-12	CD-005.1	Calcium carbonate injection system
2	CS-12	CD-005.3	Dry Sorbent Injection System
3	CS-12	CD-005.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 8

Emission Source/Group ID: ES-002-Boiler #7

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**33%**	**March-May 2021**	**17%**	**June-Aug. 2021**	**23%**	**Sept.-Nov. 2021**	**27%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	39533.7	08	0		

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	24.28	09	0		
NOx	**NOx**	39.92	01	0		
TSP	**TSP**	2.2	09	99.8		
PM10	**PM10**	2.2	09	99.6		
PM2.5	**PM2.5**	2.2	09	97.9		
SO2	**SO2**	0	08	0		
VOC	**VOC**	1.59	09	0		

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Ammonia (as NH3)	**7664-41-7**	1849.9254	09	0	0.0032	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.11562	09	0		AFTER
Benzene	**71-43-2**	1.21401	09	0		AFTER
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00682	09	0	1.18E-8	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.63591	09	0		AFTER
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.80934	09	0		AFTER

Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.04764	09	0	8.24E-8	AFTER
Dichlorobenzene(p), 1,4-	**106-46-7**	0.69372	09	0		AFTER
Formaldehyde	**50-00-0**	43.35762	09	0		AFTER
Hexane, n-	**110-54-3**	1040.58299	09	0		AFTER
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.28905	09	0		AFTER
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.21968	09	0		AFTER
Mercury, vapor (Component of HGC)	**7439-97-6**	0.15031	09	0		AFTER
Naphthalene (Component of POMTV)	**91-20-3**	0.35264	09	0		AFTER
Nickel metal (Component of NIC)	**7440-02-0**	1.21401	09	0		AFTER
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.38259	09	0		AFTER
Selenium Compounds	**SEC**	0.01359	09	0	2.35E-8	AFTER
Toluene	**108-88-3**	1.96555	09	0		AFTER

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-002-Boiler #7

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 111/OS-111/[NSPS] One wood-pellet-fired circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10300903/Wood ; Wood-fired Boiler

5. Throughput/units in 2021: (e.g. production or fuel use): 0 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-12	CD-005.1	Calcium carbonate injection system
2	CS-12	CD-005.3	Dry Sorbent Injection System
3	CS-12	CD-005.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 111

Emission Source/Group ID: ES-002-Boiler #7

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.6		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-002-Boiler #7

2. Emission Source Description : One coal/natural gas/No. 2 fuel oil/wood (non-CISWI)/torrified wood (non-CISWI)-fired, circulating fluidized combustion boiler, 323.17 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 31/[NSPS] One No. 2 fuel oil-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity

4. SCC Number/Description: 10300501/Distillate Oil (No. 1 & 2) ; Normal Firing

5. Throughput/units in 2021: (e.g. production or fuel use): 0 E3GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-12	CD-005.1	Calcium carbonate injection system
2	CS-12	CD-005.3	Dry Sorbent Injection System
3	CS-12	CD-005.2	One bagfilter with 36,614 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
14-136	VERTICAL STACK	220	9	305	56.1	214135.66	Boiler Stack

Operating Scenario: OS - 31

Emission Source/Group ID: ES-002-Boiler #7

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.8		
PM10	**PM10**	0	08	99.6		
PM2.5	**PM2.5**	0	08	97.6		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-003-Boiler #8

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 10/[NSPS/PSD] One natural gas-fired boiler, 338 million Btu per hour heat input capacity

4. SCC Number/Description: 10200601/Natural Gas ; > 100 Million Btu/hr

5. Throughput/units in 2021: 31915 E3FT3/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1033 Btu/CF

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-4	VERTICAL STACK	208	6	300	47.2	80072.91	Boiler Stack

Operating Scenario: OS - 10

Emission Source/Group ID: ES-003-Boiler #8

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**39%**	**March-May 2021**	**39%**	**June-Aug. 2021**	**2%**	**Sept.-Nov. 2021**	**20%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	608.79	01			
Methane (CH4)	**74-82-8**	0.0363	09			
Nitrous Oxide (N2O)	**10024972**	0.0036	09			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	1.34	09			
NOx	**NOx**	0.94	01			
TSP	**TSP**	0.12	09			
PM10	**PM10**	0.12	09			
PM2.5	**PM2.5**	0.12	09			
SO2	**SO2**	0.01	09			
VOC	**VOC**	0.09	09			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Ammonia (as NH3)	**7664-41-7**	102.128	09		0.0032	
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00638	09		2E-7	
Benzene	**71-43-2**	0.06702	09		0.0000021	
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00004	09		1.2E-9	
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00038	09		1.2E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.03511	09		0.0000011	

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.04468	09		0.0000014	
Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.00268	09		8.4E-8	
Dichlorobenzene(p), 1,4-	**106-46-7**	0.0383	09		0.0000012	
Formaldehyde	**50-00-0**	2.39362	09		0.000075	
Hexane, n-	**110-54-3**	57.447	09		0.0018	
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.01596	09		5E-7	
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.01213	09		3.8E-7	
Mercury, vapor (Component of HGC)	**7439-97-6**	0.0083	09		2.6E-7	
Naphthalene (Component of POMTV)	**91-20-3**	0.01947	09		6.1E-7	
Nickel metal (Component of NIC)	**7440-02-0**	0.06702	09		0.0000021	
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02113	09		6.62E-7	
Selenium Compounds	**SEC**	0.00077	09		2.4E-8	
Toluene	**108-88-3**	0.10851	09		0.0000034	

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-003-Boiler #8

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 11/[NSPS/PSD] One No. 2 fuel oil-fired boiler, 338 million Btu per hour heat input capacity

4. SCC Number/Description: 10300501/Distillate Oil (No. 1 & 2) ; Normal Firing

5. Throughput/units in 2021: 0 E3GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-4	VERTICAL STACK	208	6	300	47.2	80072.91	Boiler Stack

Operating Scenario: OS - 11

Emission Source/Group ID: ES-003-Boiler #8

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0	08			
NOx	**NOx**		08			
TSP	**TSP**	0	08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**		08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-004-Boiler #9

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 49/One No.2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity

4. SCC Number/Description: 10300501/Distillate Oil (No. 1 & 2) ; Normal Firing

5. Throughput/units in 2021: 0 E3GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
Manning	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

Operating Scenario: OS - 49

Emission Source/Group ID: ES-004-Boiler #9

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**	0	08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**		08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-004-Boiler #9

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 78/One natural gas-fired boiler, 249 million Btu per hour heat capacity

4. SCC Number/Description: 10300601/Natural Gas ; > 100 Million Btu/hr

5. Throughput/units in 2021: (e.g. production or fuel use): 87884 E3FT3/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1033 Btu/CF

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
Manning	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

Operating Scenario: OS - 78

Emission Source/Group ID: ES-004-Boiler #9

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**40%**	**March-May 2021**	**31%**	**June-Aug. 2021**	**1%**	**Sept.-Nov. 2021**	**28%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	124389	6818.87	01			
Methane (CH4)	74-82-8	0.1001	09			
Nitrous Oxide (N2O)	10024972	0.01	09			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	CO	3.69	09		0.084	
NOx	NOx	1.97	01			
TSP	TSP	0.33	09		0.0076	
PM10	PM10	0.33	09		0.0076	
PM2.5	PM2.5	0.33	09		0.0076	
SO2	SO2	0.03	09			
VOC	VOC	0.24	09		0.0055	

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Ammonia (as NH3)	7664-41-7	281.2288	09		0.0032	
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.01758	09		2E-7	
Benzene	71-43-2	0.18456	09		0.0000021	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00104	09		1.18E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.09667	09		0.0000011	
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.12304	09		0.0000014	

Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.00724	09		8.24E-8	
Dichlorobenzene(p), 1,4-	**106-46-7**	0.10546	09		0.0000012	
Formaldehyde	**50-00-0**	6.5913	09		0.000075	
Hexane, n-	**110-54-3**	158.1912	09		0.0018	
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.04394	09		5E-7	
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.0334	09		3.8E-7	
Mercury, vapor (Component of HGC)	**7439-97-6**	0.02285	09		2.6E-7	
Naphthalene (Component of POMTV)	**91-20-3**	0.05361	09		6.1E-7	
Nickel metal (Component of NIC)	**7440-02-0**	0.18456	09		0.0000021	
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.058	09		6.6E-7	
Selenium Compounds	**SEC**	0.00207	09		2.35E-8	
Toluene	**108-88-3**	0.29881	09		0.0000034	

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-005-Boiler #10

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 50/One No.2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity

4. SCC Number/Description: 10300501/Distillate Oil (No. 1 & 2) ; Normal Firing

5. Throughput/units in 2021: 0 E3GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
Manning	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

Operating Scenario: OS - 50

Emission Source/Group ID: ES-005-Boiler #10

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)

Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :

Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**		08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-005-Boiler #10

2. Emission Source Description : One natural gas/No. 2 fuel oil-fired boiler, 249 million Btu per hour heat input capacity [NSPS Db, MACT DDDDD, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 77/One natural gas-fired boiler, 249 million Btu per hour heat input capacity

4. SCC Number/Description: 10300601/Natural Gas ; > 100 Million Btu/hr

5. Throughput/units in 2021: 37789 E3FT3/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1033 Btu/CF

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
Manning	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

Operating Scenario: OS - 77

Emission Source/Group ID: ES-005-Boiler #10

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (50)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**19%**	**March-May 2021**	**50%**	**June-Aug. 2021**	**1%**	**Sept.-Nov. 2021**	**30%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	3105.14	01			
Methane (CH4)	**74-82-8**	0.043	09			
Nitrous Oxide (N2O)	**10024972**	0.0043	09			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	1.59	09		0.084	
NOx	**NOx**	0.94	01			
TSP	**TSP**	0.14	09		0.0076	
PM10	**PM10**	0.14	09		0.0076	
PM2.5	**PM2.5**	0.14	09		0.0076	
SO2	**SO2**	0.01	09		0.0006	
VOC	**VOC**	0.1	09		0.0055	

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Ammonia (as NH3)	**7664-41-7**	120.9248	09		0.0032	
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00756	09		2E-7	
Benzene	**71-43-2**	0.07936	09		0.0000021	
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00045	09		1.18E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.04157	09		0.0000011	
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.0529	09		0.0000014	

Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.00311	09		8.24E-8	
Dichlorobenzene(p), 1,4-	**106-46-7**	0.04535	09		0.0000012	
Formaldehyde	**50-00-0**	2.83417	09		0.000075	
Hexane, n-	**110-54-3**	68.0202	09		0.0018	
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.01889	09		5E-7	
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.01436	09		3.8E-7	
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00983	09		2.6E-7	
Naphthalene (Component of POMTV)	**91-20-3**	0.02305	09		6.1E-7	
Nickel metal (Component of NIC)	**7440-02-0**	0.07936	09		0.0000021	
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02494	09		6.6E-7	
Selenium Compounds	**SEC**	0.00089	09		2.35E-8	
Toluene	**108-88-3**	0.12848	09		0.0000034	

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-010A

2. Emission Source Description : [NSPS] One coal crusher building

3. Operating Scenario ID/ Description: OS - 14/[NSPS] One coal crusher building

4. SCC Number/Description: 30501011/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Coal Transfer

5. Throughput/units in 2021: (e.g. production or fuel use): 46387.6 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-7	CD-013	One bagfilter with 1330 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
12-053	VERTICAL STACK	47	1.8	72	44	6717.98	Coal Crusher/Conveyor Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (6) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**32%**	**March-May 2021**	**28%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**15%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0.33	08	99.8		
PM10	**PM10**	0.33	08	99.6		
PM2.5	**PM2.5**	0.31	08	97.9		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-030

2. Emission Source Description : One ash storage silo equipped with dry loadout system

3. Operating Scenario ID/ Description: OS - 15/One ash storage silo equipped with dry loadout system

4. SCC Number/Description: 30501011/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Coal Transfer

5. Throughput/units in 2021: (e.g. production or fuel use): 11760.84 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-8	CD-031	One bagfilter with 577 square feet of filter surface area

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
V1	DOWNWARD-FACING VENT	5	3	72	5	2121	Vent for baghouse

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (10) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	1.07	08	99.8		
PM10	**PM10**	1.07	08	99.6		
PM2.5	**PM2.5**	1.01	08	97.9		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-030A

2. Emission Source Description : Enclosed wet ash loadout system

3. Operating Scenario ID/ Description: OS - 16/Enclosed wet ash loadout system

4. SCC Number/Description: 30501011/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Coal Transfer

5. Throughput/units in 2021: (e.g. production or fuel use): 0 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack): 100

8. Control Device Information :

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-9	CD-032	Water injection system (8.64 gallon per minute injection rate)

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-WALS	VERTICAL STACK	1	1	70	1	47.12	WET ASH LOADOUT SYSTEM

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08	0		
NOx	**NOx**		08	0		
TSP	**TSP**	0	08	99.5		
PM10	**PM10**		08	0		
PM2.5	**PM2.5**		08	0		
SO2	**SO2**		08	0		
VOC	**VOC**		08	0		

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#1

2. Emission Source Description : One diesel-fired emergency generator (900 kW), located at the EPA Building [MACT]

3. Operating Scenario ID/ Description: OS - 18/One diesel-fired emergency generator (900 kW), located at the EPA Building

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 194.03 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG1	VERTICAL STACK	3	2.26	817	30.7	7389.18	Emergency Generator #1

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.1355	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.02	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00066	08			
Acrolein	**107-02-8**	0.00021	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0001	08			
Benzene	**71-43-2**	0.02033	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00008	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00008	08			
Formaldehyde	**50-00-0**	0.00207	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00024	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00016	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00008	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00341	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00008	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00555	08			
Selenium Compounds	**SEC**	0.00039	08			
Toluene	**108-88-3**	0.00736	08			
Xylene	**1330-20-7**	0.00506	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#10

2. Emission Source Description : [PSD] One diesel-fired emergency generator (800 kW) located at Medical Sciences Research Building [MACT]

3. Operating Scenario ID/ Description: OS - 41/One diesel-fired emergency generator (800 kW) located at Bondurant Hall

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 355.086 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#10	VERTICAL STACK	54	1	950	125.2	5899.91	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	3.9081	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.05	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**		08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00121	08			
Acrolein	**107-02-8**	0.00038	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00019	08			
Benzene	**71-43-2**	0.0372	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00014	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00014	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00014	08			
Formaldehyde	**50-00-0**	0.00378	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00043	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00029	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00014	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00623	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00014	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01016	08			
Selenium Compounds	**SEC**	0.00072	08			
Toluene	**108-88-3**	0.01347	08			
Xylene	**1330-20-7**	0.00925	08			

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Facility ID : 6800043
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County : Orange
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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#11

2. Emission Source Description : One diesel-fired emergency generator (1,750 kW) located at Burnett-Womack Building [MACT ZZZZ, PSD {40 CFR 51.116 (a) though (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 42/One diesel-fired emergency generator (1,750 kW) located at the Burnett-Womack Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 721.27 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#11	VERTICAL STACK	106	1.3	944	135.35	10779.18	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	7.9383	08			
Methane (CH4)	**74-82-8**	0.0003	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.04	08			
NOx	**NOx**	0.09	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00245	08			
Acrolein	**107-02-8**	0.00077	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00039	08			
Benzene	**71-43-2**	0.07556	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00029	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00029	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00029	08			
Formaldehyde	**50-00-0**	0.00768	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00088	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00058	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00029	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01266	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00029	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02064	08			
Selenium Compounds	**SEC**	0.00146	08			
Toluene	**108-88-3**	0.02736	08			
Xylene	**1330-20-7**	0.01879	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#12

2. Emission Source Description : One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building [MACT ZZZZ, PSD {40 CFR 51.166 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 55/One diesel-fired emergency generator (1,250 kW) located at the Mary Ellen Jones Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 756.94 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#12	VERTICAL STACK	2	6.67	851	4.33	9077.8	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	8.3308	08			
Methane (CH4)	**74-82-8**	0.0003	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.04	08			
NOx	**NOx**	0.1	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00258	08			
Acrolein	**107-02-8**	0.00081	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00041	08			
Benzene	**71-43-2**	0.0793	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00031	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00031	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00031	08			
Formaldehyde	**50-00-0**	0.00806	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00092	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00061	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00031	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01328	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00031	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02166	08			
Selenium Compounds	**SEC**	0.00153	08			
Toluene	**108-88-3**	0.02871	08			
Xylene	**1330-20-7**	0.01972	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#13

2. Emission Source Description : One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 56/One diesel-fired emergency generator (2,000 kW) located at the Genetic Medicine Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 1394.98 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#13	VERTICAL STACK	65	1.5	847	145.91	15470.65	emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	15.3532	08			
Methane (CH4)	**74-82-8**	0.0006	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.08	08			
NOx	**NOx**	0.18	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.01	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00475	08			
Acrolein	**107-02-8**	0.00148	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00075	08			
Benzene	**71-43-2**	0.14614	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00005	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00056	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00056	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00056	08			
Formaldehyde	**50-00-0**	0.01486	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00169	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00113	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00056	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.02448	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00056	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.03992	08			
Selenium Compounds	**SEC**	0.00282	08			
Toluene	**108-88-3**	0.05292	08			
Xylene	**1330-20-7**	0.03635	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#14

2. Emission Source Description : [PSD] One diesel-fired emergency generator (900 kW) located at the 440 West Franklin Building [MACT]

3. Operating Scenario ID/ Description: OS - 57/One diesel-fired emergency generator (900 kW) located at the 440 W. Franklin Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 456.539 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#14	VERTICAL STACK	12	1	806	159.12	7498.35	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	5.0247	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.06	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00155	08			
Acrolein	**107-02-8**	0.00049	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00025	08			
Benzene	**71-43-2**	0.04783	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00018	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00018	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00018	08			
Formaldehyde	**50-00-0**	0.00486	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00055	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00037	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00018	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00801	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00018	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01307	08			
Selenium Compounds	**SEC**	0.00092	08			
Toluene	**108-88-3**	0.01732	08			
Xylene	**1330-20-7**	0.0119	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#15

2. Emission Source Description : One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center [MACT ZZZZ, PSD {40 CFR 51.666 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 71/One diesel-fired emergency generator (2,000 kW) located at the Rams Head Center

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 938.441 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#15	VERTICAL STACK	14	1.5	847	145.91	15470.65	emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	10.3285	08			
Methane (CH4)	**74-82-8**	0.0004	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.05	08			
NOx	**NOx**	0.12	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.01	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00319	08			
Acrolein	**107-02-8**	0.001	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00051	08			
Benzene	**71-43-2**	0.09831	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00038	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00038	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00038	08			
Formaldehyde	**50-00-0**	0.01	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00114	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00076	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00038	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01647	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00038	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02686	08			
Selenium Compounds	**SEC**	0.0019	08			
Toluene	**108-88-3**	0.0356	08			
Xylene	**1330-20-7**	0.02445	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#16

2. Emission Source Description : One diesel-fired emergency generator (2,000 kW) located at the ITS Building [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 72/One diesel-fired emergency generator (2,000 kW) located at the ITS Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 900.396 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#16	VERTICAL STACK	78	1.5	847	145.91	15470.65	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	9.9098	08			
Methane (CH4)	**74-82-8**	0.0004	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.05	08			
NOx	**NOx**	0.12	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00306	08			
Acrolein	**107-02-8**	0.00096	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00049	08			
Benzene	**71-43-2**	0.09433	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00036	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00036	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00036	08			
Formaldehyde	**50-00-0**	0.00959	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00109	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00073	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00036	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.0158	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00036	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02577	08			
Selenium Compounds	**SEC**	0.00182	08			
Toluene	**108-88-3**	0.03416	08			
Xylene	**1330-20-7**	0.02346	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#17

2. Emission Source Description : One diesel-fired emergency generator (1,000 kW) located at the Brinkhous-Bullitt Building [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 98/One diesel-fired emergency generator (1000KW) located at the Brinkhous-Bullit Building.

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 833.818 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#17	VERTICAL STACK	10	1	835	173.2	8161.85	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	9.177	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.05	08			
NOx	**NOx**	0.11	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00284	08			
Acrolein	**107-02-8**	0.00089	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00045	08			
Benzene	**71-43-2**	0.08735	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00034	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00034	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00034	08			
Formaldehyde	**50-00-0**	0.00888	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00101	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00068	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00034	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01463	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00034	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02386	08			
Selenium Compounds	**SEC**	0.00169	08			
Toluene	**108-88-3**	0.03163	08			
Xylene	**1330-20-7**	0.02173	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#18

2. Emission Source Description : One diesel-fired emergency generator (1,000 kW) located at Venable Hall [MACT ZZZZ, NSPS III]

3. Operating Scenario ID/ Description: OS - 104/1,000 kW Diesel-fired Emergency Generator at Venable Hall

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 516.78 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#18	VERTICAL STACK	45	1	835	173.2	8161.85	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	5.6877	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.07	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00176	08			
Acrolein	**107-02-8**	0.00055	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00028	08			
Benzene	**71-43-2**	0.05414	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00021	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00021	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00021	08			
Formaldehyde	**50-00-0**	0.0055	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00063	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00042	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00021	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00907	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00021	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01479	08			
Selenium Compounds	**SEC**	0.00105	08			
Toluene	**108-88-3**	0.0196	08			
Xylene	**1330-20-7**	0.01346	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#19

2. Emission Source Description : One diesel-fired emergency generator (2,500 kW) located at the Imaging Research Building [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 105/one diesel-fired emergency generator (2,500 kW) located at Imaging Research

4. SCC Number/Description: 20200401/Diesel ; Diesel

5. Throughput/units in 2021: (e.g. production or fuel use): 2227.21 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#19	VERTICAL STACK	75	1.8	921	120.25	18359.93	Emergency Generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	24.5128	08			
Methane (CH4)	**74-82-8**	0.001	08			
Nitrous Oxide (N2O)	**10024972**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.13	08			
NOx	**NOx**	0.29	08			
TSP	**TSP**	0.02	08			
PM10	**PM10**	0.02	08			
PM2.5	**PM2.5**	0.02	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.01	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00758	08			
Acrolein	**107-02-8**	0.00237	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0012	08			
Benzene	**71-43-2**	0.23332	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00008	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.0009	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.0009	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.0009	08			
Formaldehyde	**50-00-0**	0.02372	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00271	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.0018	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.0009	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.03909	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.0009	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.06374	08			
Selenium Compounds	**SEC**	0.00451	08			
Toluene	**108-88-3**	0.08449	08			
Xylene	**1330-20-7**	0.05803	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#2

2. Emission Source Description : One diesel-fired emergency generator (1,600 kW), located at the Thurston Bowles Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 19/One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 710.17 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG2	VERTICAL STACK	95	1.167	900	199	12771.32	Emergency Generator #2

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	7.8162	08			
Methane (CH4)	**74-82-8**	0.0003	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.04	08			
NOx	**NOx**	0.09	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00242	08			
Acrolein	**107-02-8**	0.00076	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00038	08			
Benzene	**71-43-2**	0.0744	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00029	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00029	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00029	08			
Formaldehyde	**50-00-0**	0.00756	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00086	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00058	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00029	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01246	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00029	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02033	08			
Selenium Compounds	**SEC**	0.00144	08			
Toluene	**108-88-3**	0.02694	08			
Xylene	**1330-20-7**	0.0185	08			

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County : Orange
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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#20

2. Emission Source Description : One diesel-fired emergency generator (2,000 kW) located at the Genomic Science Building [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 106/One diesel-fire emergency generator (2,000 kW) located at the Genomic Science Building

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 1014.53 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#20	VERTICAL STACK	20	1.5	762	142.75	15135.6	emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	11.166	08			
Methane (CH4)	**74-82-8**	0.0005	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.06	08			
NOx	**NOx**	0.13	08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0.01	08			
PM2.5	**PM2.5**	0.01	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.01	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00345	08			
Acrolein	**107-02-8**	0.00108	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00055	08			
Benzene	**71-43-2**	0.10628	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00004	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00041	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00041	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00041	08			
Formaldehyde	**50-00-0**	0.01081	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00123	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00082	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00041	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01781	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00041	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02904	08			
Selenium Compounds	**SEC**	0.00205	08			
Toluene	**108-88-3**	0.03849	08			
Xylene	**1330-20-7**	0.02643	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#21

2. Emission Source Description : One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building. [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 113/1,350 kW Emergency Generator at the Dental Research Building

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 503.3 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#21	VERTICAL STACK	127	1.25	950	155.61	11458	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	5.5394	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.06	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00171	08			
Acrolein	**107-02-8**	0.00054	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00027	08			
Benzene	**71-43-2**	0.05273	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.0002	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.0002	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.0002	08			
Formaldehyde	**50-00-0**	0.00536	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00061	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00041	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.0002	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00883	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.0002	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.0144	08			
Selenium Compounds	**SEC**	0.00102	08			
Toluene	**108-88-3**	0.01909	08			
Xylene	**1330-20-7**	0.01311	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#3

2. Emission Source Description : One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 20/One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 327.744 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG3	VERTICAL STACK	45	1	825	116	5466.37	Emergency Generator #3

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	3.6072	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00111	08			
Acrolein	**107-02-8**	0.00035	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00018	08			
Benzene	**71-43-2**	0.03433	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00013	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00013	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00013	08			
Formaldehyde	**50-00-0**	0.00349	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.0004	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00027	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00013	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00575	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00013	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00938	08			
Selenium Compounds	**SEC**	0.00066	08			
Toluene	**108-88-3**	0.01243	08			
Xylene	**1330-20-7**	0.00854	08			

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As entered in AERO

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#4

2. Emission Source Description : One diesel-fired emergency generator (1,000 kW) located at Taylor Hall [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 21/One diesel-fired emergency generator (1000 kW) located at Taylor Hall

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 443.857 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG4	VERTICAL STACK	79	1	806	159	7492.69	Emergency Generator #4

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	4.8851	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.06	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00151	08			
Acrolein	**107-02-8**	0.00047	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00024	08			
Benzene	**71-43-2**	0.0465	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00018	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00018	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00018	08			
Formaldehyde	**50-00-0**	0.00473	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00054	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00036	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00018	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00779	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00018	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.0127	08			
Selenium Compounds	**SEC**	0.0009	08			
Toluene	**108-88-3**	0.01684	08			
Xylene	**1330-20-7**	0.01156	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#5

2. Emission Source Description : One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building [MACT]

3. Operating Scenario ID/ Description: OS - 22/One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 375.059 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG5	VERTICAL STACK	130	1	847	162.9	7676.48	Emergency Generator #5

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	4.1279	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.05	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00128	08			
Acrolein	**107-02-8**	0.0004	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0002	08			
Benzene	**71-43-2**	0.03929	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00015	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00015	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00015	08			
Formaldehyde	**50-00-0**	0.00399	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00046	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.0003	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00015	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00658	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00015	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01073	08			
Selenium Compounds	**SEC**	0.00076	08			
Toluene	**108-88-3**	0.01423	08			
Xylene	**1330-20-7**	0.00977	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#6

2. Emission Source Description : One diesel-fired emergency generator (1,500 kW) located at the Medical Biomolecular Research Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 23/One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 713.34 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG6	VERTICAL STACK	55	1	944	258.5	12181.52	Emergency Generator #6

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	7.8511	08			
Methane (CH4)	**74-82-8**	0.0003	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.04	08			
NOx	**NOx**	0.09	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00243	08			
Acrolein	**107-02-8**	0.00076	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00039	08			
Benzene	**71-43-2**	0.07473	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00029	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00029	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00029	08			
Formaldehyde	**50-00-0**	0.0076	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00087	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00058	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00029	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.01252	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00029	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.02042	08			
Selenium Compounds	**SEC**	0.00144	08			
Toluene	**108-88-3**	0.02706	08			
Xylene	**1330-20-7**	0.01859	08			

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200 East Cameron Avenue, CB#1000
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DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#7

2. Emission Source Description : [PSD] One diesel-fired emergency generator (1,250 kW) located at the School of Public Health [MACT]

3. Operating Scenario ID/ Description: OS - 43/One diesel-fired emergency generator (1250 kW) located at the Michael Hooker Research Center

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 554.82 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG7	VERTICAL STACK	57	1	650	210	9896.01	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	6.1064	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.07	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00189	08			
Acrolein	**107-02-8**	0.00059	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0003	08			
Benzene	**71-43-2**	0.05812	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00022	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00022	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00022	08			
Formaldehyde	**50-00-0**	0.00591	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00067	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00045	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00022	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00974	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00022	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01588	08			
Selenium Compounds	**SEC**	0.00112	08			
Toluene	**108-88-3**	0.02105	08			
Xylene	**1330-20-7**	0.01446	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#8

2. Emission Source Description : [PSD] One diesel-fired emergency generator (800 kW) located at the Phillips Addition [MACT]

3. Operating Scenario ID/ Description: OS - 44/One diesel-fired emergency generator (800 kW) located at Chapman Hall

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 329.723 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#8	VERTICAL STACK	41	1.3	944	165.35	13168.37	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	3.6289	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00112	08			
Acrolein	**107-02-8**	0.00035	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00018	08			
Benzene	**71-43-2**	0.03454	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00013	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00013	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00013	08			
Formaldehyde	**50-00-0**	0.00351	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.0004	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00027	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00013	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00579	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00013	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00944	08			
Selenium Compounds	**SEC**	0.00067	08			
Toluene	**108-88-3**	0.01251	08			
Xylene	**1330-20-7**	0.00859	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-EG#9

2. Emission Source Description : One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs [MACT ZZZZ, PSD {40 CFR 51.1666 (a) through (i) and (s)}]

3. Operating Scenario ID/ Description: OS - 45/One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 475.56 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG#9	VERTICAL STACK	57	1.3	944	165.35	13168.37	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	5.234	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.03	08			
NOx	**NOx**	0.06	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00162	08			
Acrolein	**107-02-8**	0.00051	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00026	08			
Benzene	**71-43-2**	0.04982	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00019	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00019	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00019	08			
Formaldehyde	**50-00-0**	0.00507	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00058	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00039	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00019	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00835	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00019	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01361	08			
Selenium Compounds	**SEC**	0.00096	08			
Toluene	**108-88-3**	0.01804	08			
Xylene	**1330-20-7**	0.01239	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-FP-1

2. Emission Source Description : Fire water pump (77 hp, diesel-fired), located at Kenan Stadium [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 107/77 Hp Fire Pump at Kenan Stadium

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 11.469 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-FP1	VERTICAL STACK	10	0.5	1075	40.31	475	Diesel Fire Pump Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	0.1262	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00119	08			
Acrolein	**107-02-8**	0.00014	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00001	08			
Benzene	**71-43-2**	0.00144	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0	08			
Butadiene, 1,3-	**106-99-0**	0.00006	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0	08			
Formaldehyde	**50-00-0**	0.00183	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00001	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00001	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00013	08			
Nickel metal (Component of NIC)	**7440-02-0**	0	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00026	08			
Selenium Compounds	**SEC**	0.00002	08			
Toluene	**108-88-3**	0.00063	08			
Xylene	**1330-20-7**	0.00044	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-FP-2

2. Emission Source Description : Fire water pump (110 hp, diesel-fired), located at McColl Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 114/110 Hp Diesel Fire Pump at the McColl Building

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 24.4 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-FP2	VERTICAL STACK	1	0.5	950	57.63	679	Diesel Fire Pump Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	0.269	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0.01	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00253	08			
Acrolein	**107-02-8**	0.00031	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00001	08			
Benzene	**71-43-2**	0.00308	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00001	08			
Butadiene, 1,3-	**106-99-0**	0.00013	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00001	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00001	08			
Formaldehyde	**50-00-0**	0.00389	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00003	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00002	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00001	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00028	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00001	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00055	08			
Selenium Compounds	**SEC**	0.00005	08			
Toluene	**108-88-3**	0.00135	08			
Xylene	**1330-20-7**	0.00094	08			

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-FP-3

2. Emission Source Description : Fire water pump (123 hp, diesel-fired), located at Davis Library [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 115/123 Hp Diesel Fire Pump at the Davis Library

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 12.2 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-FP3	VERTICAL STACK	45	1	950	14.4	679	Diesel Fire Pump Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	0.1344	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00126	08			
Acrolein	**107-02-8**	0.00015	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00001	08			
Benzene	**71-43-2**	0.00154	08			
Butadiene, 1,3-	**106-99-0**	0.00006	08			
Formaldehyde	**50-00-0**	0.00195	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00001	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00001	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00014	08			

Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00028	08			
Selenium Compounds	**SEC**	0.00002	08			
Toluene	**108-88-3**	0.00067	08			
Xylene	**1330-20-7**	0.00047	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-13

2. Emission Source Description : Emergency generator (300 kW, diesel-fired), located at the Davie Hall [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 122/300 kW diesel-fired emergency generator at Davie Hall

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 116.99 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Gen13	VERTICAL STACK	56.56	0.667	927	117.38	2461	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	1.2876	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.01211	08			
Acrolein	**107-02-8**	0.00146	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00006	08			
Benzene	**71-43-2**	0.01474	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00005	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00005	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00005	08			
Formaldehyde	**50-00-0**	0.01864	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00014	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00009	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00005	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00134	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00005	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00265	08			
Selenium Compounds	**SEC**	0.00024	08			
Toluene	**108-88-3**	0.00646	08			
Xylene	**1330-20-7**	0.0045	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-2

2. Emission Source Description : Emergency generator (500 kW, diesel-fired), located at Ambulatory Care Center [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 108/OS-108/[NSPS] One diesel-fired emergency generator (450 kW) located at the Ambulatory Care Center

4. SCC Number/Description: 20200102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 428.01 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-EG02	VERTICAL STACK	5	0.83	918	120.75	3919.98	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	4.7106	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.05	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00146	08			
Acrolein	**107-02-8**	0.00046	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00023	08			
Benzene	**71-43-2**	0.04484	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00017	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00017	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00017	08			
Formaldehyde	**50-00-0**	0.00456	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00052	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00035	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00017	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00751	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00017	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.01225	08			
Selenium Compounds	**SEC**	0.00087	08			
Toluene	**108-88-3**	0.01624	08			
Xylene	**1330-20-7**	0.01115	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-21

2. Emission Source Description : Emergency generator (40 kW, natural gas-fired), located at the Old Dental School Building

3. Operating Scenario ID/ Description: OS - 82/One 40 kW natural gas-fired emergency generator located at the Old Dental School Building

4. SCC Number/Description: 20300201/Natural Gas ; Reciprocating

5. Throughput/units in 2021: 440 KW-HR/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS21	VERTICAL STACK	6	0.25	850	152.79	450	emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	0.2746	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0.01	08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-30

2. Emission Source Description : Emergency generator (535 kW, diesel-fired) located at the Lineburger Building Addition [MACT]

3. Operating Scenario ID/ Description: OS - 84/One 535 kW diesel-fired emergency generator located at the Lineberger Building Addition

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: 347.715 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS30	VERTICAL STACK	48	0.833	1139	125.81	4113.82	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	3.827	08			
Methane (CH4)	**74-82-8**	0.0002	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00118	08			
Acrolein	**107-02-8**	0.00037	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00019	08			
Benzene	**71-43-2**	0.03643	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00014	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00014	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00014	08			
Formaldehyde	**50-00-0**	0.0037	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00042	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00028	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00014	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.0061	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00014	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00995	08			
Selenium Compounds	**SEC**	0.0007	08			
Toluene	**108-88-3**	0.01319	08			
Xylene	**1330-20-7**	0.00906	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-36

2. Emission Source Description : Emergency generator (30 kW, natural gas-fired), located at the Morehead Planetarium [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 65/One natural gas-fired emergency generator (30 kW) located at the Morehead Planetarium

4. SCC Number/Description: 20300201/Natural Gas ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 405 KW-HR/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS36	VERTICAL STACK	10	0.33	1000	73	374.62	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	0.2527	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0.01	08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-40

2. Emission Source Description : Emergency generator (500 kW, diesel-fired), located at Phillips Hall [MACT]

3. Operating Scenario ID/ Description: OS - 87/One 500 kW diesel-fired emergency generator located at Phillips Hall

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 206.08 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS40	VERTICAL STACK	55	0.75	1139	155.2	4113.91	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.2681	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.0007	08			
Acrolein	**107-02-8**	0.00022	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00011	08			
Benzene	**71-43-2**	0.02159	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00008	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00008	08			
Formaldehyde	**50-00-0**	0.0022	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00025	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00017	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00008	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00362	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00008	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.0059	08			
Selenium Compounds	**SEC**	0.00042	08			
Toluene	**108-88-3**	0.00782	08			
Xylene	**1330-20-7**	0.00537	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-42

2. Emission Source Description : Emergency generator (400kW, diesel-fired), located at the Dean Smith Center [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 126/One 400KW, diesel-fired generator located at the Dean Smith Center

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: 233.34 GAL/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Gen42	VERTICAL STACK	12	0.75	950	162.5	4307.41	Emergency engine exhaust

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	2.5682	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.07	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0.01	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	0.02416	08			
Acrolein	**107-02-8**	0.00291	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00013	08			
Benzene	**71-43-2**	0.02939	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.0001	08			
Butadiene, 1,3-	**106-99-0**	0.00123	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.0001	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.0001	08			
Formaldehyde	**50-00-0**	0.03717	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00028	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00019	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.0001	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00267	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.0001	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00529	08			
Selenium Compounds	**SEC**	0.00047	08			
Toluene	**108-88-3**	0.01288	08			
Xylene	**1330-20-7**	0.00898	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-43

2. Emission Source Description : Emergency generator (125 kW, diesel-fired), located at the Medical Research Building B [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 116/125 kW Diesel-Fired Emergency Generator at Medical Research Building B

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 43.99 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Gen43	VERTICAL STACK	7	0.38	950	156.21	1063	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	0.4841	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0	08			
NOx	**NOx**	0.01	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	0.00455	08			
Acrolein	**107-02-8**	0.00055	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00002	08			
Benzene	**71-43-2**	0.00554	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00002	08			
Butadiene, 1,3-	**106-99-0**	0.00023	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00002	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00002	08			
Formaldehyde	**50-00-0**	0.00701	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00005	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00004	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00002	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.0005	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.001	08			
Selenium Compounds	**SEC**	0.00009	08			
Toluene	**108-88-3**	0.00243	08			
Xylene	**1330-20-7**	0.00169	08			

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As entered in AERO

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-48

2. Emission Source Description : Emergency generator (500 kW, diesel-fired), located at Kenan Stadium [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 117/500 kW Diesel-Fired EFP Emergency Generator at Kenan Stadium

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 177.543 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Gen48	VERTICAL STACK	9	0.667	1100	196.23	4114	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	1.954	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.02	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.0006	08			
Acrolein	**107-02-8**	0.00019	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0001	08			
Benzene	**71-43-2**	0.0186	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00007	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00007	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00007	08			
Formaldehyde	**50-00-0**	0.00189	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00022	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00014	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00007	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00312	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00007	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00508	08			
Selenium Compounds	**SEC**	0.00036	08			
Toluene	**108-88-3**	0.00674	08			
Xylene	**1330-20-7**	0.00463	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-50

2. Emission Source Description : Emergency generator (600 kW, diesel-fired) located at Beard Hall [MACT]

3. Operating Scenario ID/ Description: OS - 89/One 600 kW diesel-fired emergency generator located at Beard Hall

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 266.314 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS50	VERTICAL STACK	70	1	906	105.64	4978.16	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.9311	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00091	08			
Acrolein	**107-02-8**	0.00028	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00014	08			
Benzene	**71-43-2**	0.0279	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00011	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00011	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00011	08			
Formaldehyde	**50-00-0**	0.00284	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00032	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00022	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00011	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00467	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00011	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00762	08			
Selenium Compounds	**SEC**	0.00054	08			
Toluene	**108-88-3**	0.0101	08			
Xylene	**1330-20-7**	0.00694	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-57

2. Emission Source Description : Emergency generator (600 kW, diesel-fired), located at the Bioinformatics Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 90/One 600 kW diesel-fired emergency generator located at the Bioinformatics Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 266.31 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS57	HORIZONTAL STACK	82	0.8	906	159.81	4820	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.9311	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.02	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00091	08			
Acrolein	**107-02-8**	0.00028	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00014	08			
Benzene	**71-43-2**	0.0279	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00011	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00011	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00011	08			
Formaldehyde	**50-00-0**	0.00284	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00032	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00022	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00011	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00467	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00011	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00762	08			
Selenium Compounds	**SEC**	0.00054	08			
Toluene	**108-88-3**	0.0101	08			
Xylene	**1330-20-7**	0.00694	08			

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-59

2. Emission Source Description : Emergency generator (500 kW, diesel-fired) located at the Glaxo Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 91/One 500 kW diesel-fired emergency generator located at the Glaxo Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 221.929 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS59	VERTICAL STACK	14	0.67	906	190.8	4036.16	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.4426	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00076	08			
Acrolein	**107-02-8**	0.00024	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00012	08			
Benzene	**71-43-2**	0.02325	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00009	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00009	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00009	08			
Formaldehyde	**50-00-0**	0.00236	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00027	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00018	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00009	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00389	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00009	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00635	08			
Selenium Compounds	**SEC**	0.00045	08			
Toluene	**108-88-3**	0.00842	08			
Xylene	**1330-20-7**	0.00578	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-76

2. Emission Source Description : Emergency generator (500 kW, diesel-fired), located at the Northeast Chiller [MACT]

3. Operating Scenario ID/ Description: OS - 92/One 500 kW diesel-fired emergency generator located at the Northeast Chiller

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 190.22 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS76	VERTICAL STACK	45	1	1100	87.3	4113.91	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	2.0936	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.02	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.00065	08			
Acrolein	**107-02-8**	0.0002	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.0001	08			
Benzene	**71-43-2**	0.01993	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00008	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00008	08			
Formaldehyde	**50-00-0**	0.00203	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00023	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00015	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00008	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00334	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00008	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00544	08			
Selenium Compounds	**SEC**	0.00039	08			
Toluene	**108-88-3**	0.00722	08			
Xylene	**1330-20-7**	0.00496	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-79

2. Emission Source Description : Emergency generator (300 kW, diesel-fired), located at the Carmichael Auditorium [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 99/One 400 kW diesel-fired emergency generator located at Carmichael Auditorium

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 133.16 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS79	VERTICAL STACK	14	0.833	914	114.68	3750	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	1.4655	08			
Methane (CH4)	**74-82-8**	0.0001	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.01379	08			
Acrolein	**107-02-8**	0.00166	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00007	08			
Benzene	**71-43-2**	0.01677	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00005	08			
Butadiene, 1,3-	**106-99-0**	0.0007	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00005	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00005	08			

Formaldehyde	**50-00-0**	0.02121	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00016	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00011	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00005	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00152	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00005	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00302	08			
Selenium Compounds	**SEC**	0.00027	08			
Toluene	**108-88-3**	0.00735	08			
Xylene	**1330-20-7**	0.00512	08			

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200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-80

2. Emission Source Description : Emergency generator (300 kW, diesel-fired), located at the Hinton James Dorm [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 100/One 350 kW diesel-fired emergency generator located at the Hinton James Dorm

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 142.668 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS80	VERTICAL STACK	14	0.75	925.9	126.97	3365.61	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	1.5702	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.01477	08			
Acrolein	**107-02-8**	0.00178	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00008	08			
Benzene	**71-43-2**	0.01797	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00006	08			
Butadiene, 1,3-	**106-99-0**	0.00075	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00006	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00006	08			
Formaldehyde	**50-00-0**	0.02273	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00017	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00012	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00006	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00163	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00006	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00324	08			
Selenium Compounds	**SEC**	0.00029	08			
Toluene	**108-88-3**	0.00788	08			
Xylene	**1330-20-7**	0.00549	08			

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Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-81

2. Emission Source Description : Emergency generator (250 kW, diesel-fired), located at the Physicians Office Building [MACT ZZZZ, NSPS IIII]

3. Operating Scenario ID/ Description: OS - 101/One 250KW, diesel-fired generator located at the Physicians Office Building

4. SCC Number/Description: 20100102/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 126.024 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS81	VERTICAL STACK	92	0.8	1000	61.65	1859.32	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	1.387	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.04	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	0.01305	08			
Acrolein	**107-02-8**	0.00157	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00007	08			
Benzene	**71-43-2**	0.01587	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00005	08			
Butadiene, 1,3-	**106-99-0**	0.00067	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00005	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00005	08			
Formaldehyde	**50-00-0**	0.02008	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00015	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.0001	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00005	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00144	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00005	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00286	08			
Selenium Compounds	**SEC**	0.00026	08			
Toluene	**108-88-3**	0.00696	08			
Xylene	**1330-20-7**	0.00485	08			

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200 East Cameron Avenue, CB#1000
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Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID ES-Gen-84

2. Emission Source Description : Emergency generator (250 kW, diesel-fired), located at Bell Tower Parking Deck

3. Operating Scenario ID/ Description: OS - 109/250 kW Diesel-fired Emergency Generator at Bell Tower Parking Deck

4. SCC Number/Description: 20300101/Distillate Oil (Diesel) ; Reciprocating

5. Throughput/units in 2021: (e.g. production or fuel use): 102.25 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS84	VERTICAL STACK	10	0.583	854	140.03	2243	Emergency Generator Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Carbon Dioxide (CO2)	**124389**	1.1253	08			
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.03	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Acetaldehyde	**75-07-0**	0.01059	08			
Acrolein	**107-02-8**	0.00128	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00006	08			
Benzene	**71-43-2**	0.01288	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00004	08			
Butadiene, 1,3-	**106-99-0**	0.00054	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00004	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00004	08			
Formaldehyde	**50-00-0**	0.01629	08			

Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00012	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00008	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00004	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00117	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00004	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00232	08			
Selenium Compounds	**SEC**	0.00021	08			
Toluene	**108-88-3**	0.00565	08			
Xylene	**1330-20-7**	0.00393	08			

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-51

2. Emission Source Description : Sterilizers - Dental School

3. Operating Scenario ID/ Description: OS - 25/Sterilizers - Dental School

4. SCC Number/Description: 49099998/Miscellaneous Volatile Organic Compound Evaporation ; Identify the Process and Solvent in Comments

5. Throughput/units in 2021: (e.g. production or fuel use): 2.13 LB/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
F2	FUGITIVE (NO STACK)		1	72		Area = 1	Insignificant Fugitive Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (8) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**		08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**		08			
VOC	**VOC**		08			

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				
Ethylene oxide	**75-21-8**	2.13	03			

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DAQ Region : RRO

North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-53

2. Emission Source Description : Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building (ID No. 020)

3. Operating Scenario ID/ Description: OS - 17/Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building

4. SCC Number/Description: 30501040/Coal Mining, Cleaning, and Material Handling (See 305010) ; *Truck Unloading: End Dump - Coal

5. Throughput/units in 2021: 9839.39 TON/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
F2	FUGITIVE (NO STACK)		1	72		Area = 1	Insignificant Fugitive Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (3) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**42%**	**March-May 2021**	**20%**	**June-Aug. 2021**	**24%**	**Sept.-Nov. 2021**	**14%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**	0.01	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**		08			
VOC	**VOC**		08			

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-Gen-31

2. Emission Source Description : Emergency generator (500kW, diesel-fired), located at the McGavran Greenberg Building [MACT ZZZZ]

3. Operating Scenario ID/ Description: OS - 130/500 kW Diesel-Fired Emergency Generator at McGavran Greenberg Building

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: (e.g. production or fuel use): 110.96 GAL/yr

6. Fuel Information (If fuel is used)

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-Gen31	VERTICAL STACK	10	0.75	847	237.3	6290.15	Emergency engine exhaust

Operating Scenario: OS - 130

Emission Source/Group ID: IES-Gen-31

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (1) Days per Week (1) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.01	08			
NOx	**NOx**	0.01	08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Acetaldehyde	**75-07-0**	0.00038	08			
Acrolein	**107-02-8**	0.00012	08			
Arsenic Unlisted Compounds (Specify & Component of ASC)	**ASC-Other**	0.00006	08			
Benzene	**71-43-2**	0.01162	08			
Benzo(a)pyrene (Component of POMTV & POM7)	**50-32-8**	0	08			
Beryllium metal (unreacted) (Component of BEC)	**7440-41-7**	0.00004	08			
Cadmium Metal (elemental unreacted, Component of CDC)	**7440-43-9**	0.00004	08			

Chromic acid (VI) (Component of SolCR6 & CRC)	**7738-94-5**	0.00004	08			
Formaldehyde	**50-00-0**	0.00118	08			
Lead Unlisted Compounds (Specify and Component of PBC)	**PBC-Other**	0.00013	08			
Manganese Unlisted Compounds (Specify & Component of MNC)	**MNC-Other**	0.00009	08			
Mercury, vapor (Component of HGC)	**7439-97-6**	0.00004	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00195	08			
Nickel metal (Component of NIC)	**7440-02-0**	0.00004	08			
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	**POM**	0.00318	08			
Selenium Compounds	**SEC**	0.00022	08			
Toluene	**108-88-3**	0.00421	08			
Xylene	**1330-20-7**	0.00289	08			

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County : Orange
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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-SB-19

2. Emission Source Description : Sorbent Storage Silo with a bin vent filter, located at Cogeneration Facility

3. Operating Scenario ID/ Description: OS - 127/Two Hydrated Lime Storage Silos

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: (e.g. production or fuel use): 7795.48 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-SB19	HORIZONTAL STACK	60	0.9	72	61	2328.39	Sorbent Storage Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (2) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**		08			
VOC	**VOC**		08			
HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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North Carolina Department of Environmental Quality
Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-SB-20

2. Emission Source Description : Weigh/Feed Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility

3. Operating Scenario ID/ Description: OS - 128/Weigh Hopper with bin filters

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: 7795.48 TON/yr
(e.g. production or fuel use):

6. Fuel Information
(If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency
(% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-SB20	HORIZONTAL STACK	30	0.9	72	61	2328.39	Filter Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (2) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**		08			
VOC	**VOC**		08			

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-SB-21

2. Emission Source Description : Weigh/Hopper with bin vent filters, blowers, piping and injection nozzles, located at Cogeneration Facility

3. Operating Scenario ID/ Description: OS - 129/Weigh Hopper with bin filters

4. SCC Number/Description: Not required by facility, will be completed by DAQ

5. Throughput/units in 2021: (e.g. production or fuel use): 7795.48 TON/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-SB21	HORIZONTAL STACK	30	0.9	72	61	2328.39	Filter Emissions

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (2) Days per Week (5) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**25%**	**June-Aug. 2021**	**25%**	**Sept.-Nov. 2021**	**25%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	**CAS**	**Emissions-GHG Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				

Criteria (NAAQS) Pollutants	**Pollutant Code**	**Emissions-Criteria Pollutants** (Tons/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**Ef Control**
		2021				
CO	**CO**		08			
NOx	**NOx**		08			
TSP	**TSP**	0	08			
PM10	**PM10**	0	08			
PM2.5	**PM2.5**	0	08			
SO2	**SO2**		08			
VOC	**VOC**		08			

HAP/TAP Pollutants (In Alphabetical Order)	**CAS** (see instructions)	**Emissions HAP/TAPS** (Pounds/Year)	**Emission Estimation Method Code** (See Instructions)	**Control Efficiency** (Net after all controls)	**Emission Factor**	**EF Control**
		2021				

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Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

1. Emission Source ID (from permit) or Emission Source Group ID IES-SB-6

2. Emission Source Description : One natural gas-fired boiler at Davie Hall; 2.52 million Btu per hour heat input capacity [MACT DDDDD]

3. Operating Scenario ID/ Description: OS - 119/2.52 MMBtu/hr Natural Gas-Fired Boiler at Davie Hall

4. SCC Number/Description: 10300603/Natural Gas ; < 10 Million Btu/hr

5. Throughput/units in 2021: (e.g. production or fuel use): 1222.661524 E3FT3/yr

6. Fuel Information (If fuel is used)

%Sulfur		%Ash		Heat Content (Btu/units)	1026 Btu/CF

7. Capture Efficiency (% of Emissions from this Process Vented to Control Device or Stack):

8. Control Device Information :None

Order	CS-ID	CD ID (as listed in permit)	Control Device Description

9. Emission Release Point (ERP) Information: (Sources vented to more than one ERP use additional entry lines):

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-SB6	VERTICAL STACK	55	1	300	14.89	702	Small Boiler Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2021)
Hours per Day (24) Days per Week (7) Weeks per Year (52)

11. Typical Start & End Times For Operating Scenario: Start: 0 End: 2359

12. Seasonal Periods Percent Annual Throughput:

Jan-Feb + Dec 2021	**25%**	**March-May 2021**	**28%**	**June-Aug. 2021**	**23%**	**Sept.-Nov. 2021**	**24%**

13. Actual Emissions per Pollutant Listed :
Attach calculations and documentation of emission factors or other estimation methods used.

GHG Pollutants	CAS	Emissions-GHG Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
Carbon Dioxide (CO2)	**124389**	73.3704	08			
Methane (CH4)	**74-82-8**	0.0014	08			
Nitrous Oxide (N2O)	**10024972**	0.0001	08			

Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2021				
CO	**CO**	0.05	08			
NOx	**NOx**	0.06	08			
TSP	**TSP**	0	08			
PM10	**PM10**		08			
PM2.5	**PM2.5**		08			
SO2	**SO2**	0	08			
VOC	**VOC**	0	08			

HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2021				
Benzene	**71-43-2**	0.00257	08			
Cobalt Unlisted Compound (Specify & Component of COC)	**COC-Other**	0.0001	08			
Formaldehyde	**50-00-0**	0.0917	08			
Hexane, n-	**110-54-3**	2.20079	08			
Naphthalene (Component of POMTV)	**91-20-3**	0.00075	08			
Selenium Compounds	**SEC**	0.00003	08			
Toluene	**108-88-3**	0.00416	08			

Facility Total CY 2021 Emissions Summary

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Division of Air Quality
Air Pollutant Point Source Emissions Inventory - Calendar Year 2021

Record Facility-Wide Totals From all Permitted and Non-Permitted AirPollutant Emission Sources

Green House Gases Pollutants(GHG)

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2021**	**2020**	**% Change**
Carbon Dioxide (CO2)	124389	90339.9	216873.912	-58.344505%
Methane (CH4)	74-82-8	2.2927	16.2489	-85.89012%
Nitrous Oxide (N2O)	10024972	2.1103	2.2995	-8.227873%

Criteria Pollutants

		Actual Emissions (Tons/Year)		
Pollutant	**CAS**	**2021**	**2020**	**% Change**
CO	CO	78.73	76.9	2.3797162%
NOx	NOx	158.57	205.99	-23.020535%
PM(TSP)	TSP	8.3	7.53	10.225763%
PM10	PM10	8.29	7.47	10.977244%
PM2.5	PM2.5	8.21	7.42	10.6469%
SO2	SO2	204.03	191.41	6.5931745%
VOC	VOC	4.43	4.36	1.6054975%

Hazardous Air Pollutants(HAPS) and/or Toxic Air Pollutants(TAPs)

		Actual Emissions (Pounds/Year)		
Pollutant	**CAS**	**2021**	**2020**	**% Change**
Pollutant Group: Antimony & Compounds (total mass, inc elemental SB) **Group Sum:**.37321				
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.37321	.3887	-3.9850771%
Pollutant Group: Arsenic & Compounds (total mass of elemental AS, arsine and all inorganic compounds) **Group Sum:**.63329				
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.63329	.63872	-0.85013515%
Pollutant Group: Beryllium & compounds (Total mass) **Group Sum:**.08879				
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.08879	.09093	-2.3534591%
Pollutant Group: Cadmium & compounds (total mass inc elemental metal) **Group Sum:**1.6354				
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	1.6354	1.59145	2.7616377%
Pollutant Group: Chlorinated Dioxin Compounds of interest as HAP or TAP **Group Sum:**0				

Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	1746-01-6	0.0	Not reported	N/A
Pollutant Group: Chromium (VI) Soluble Chromate Compounds (Component of CRC) **Group Sum:**1.87778				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.87778	1.81773	3.3035717%
Pollutant Group: Chromium - All/Total (Inc Chromium (VI) categories, metal and Others) **Group Sum:**1.87778				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.87778	1.81773	3.3035717%
Pollutant Group: Cobalt compounds **Group Sum:**.43248				
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.43248	.44289	-2.3504665%
Pollutant Group: Cyanide compounds (see also hydrogen cyanide) **Group Sum:**115.969				
Cyanide Unlisted Compounds (Specify & Component of CNC)	CNC-Other	115.969	120.91	-4.086512%
Pollutant Group: Lead and Lead compounds **Group Sum:**2.75532				
Lead Unlisted Compounds (Specify and Component of PBC)	PBC-Other	2.75532	2.82286	-2.3926065%
Pollutant Group: Manganese & compounds **Group Sum:**14.28454				
Manganese Unlisted Compounds (Specify & Component of MNC)	MNC-Other	14.28454	15.12133	-5.533839%
Pollutant Group: Mercury & Compounds - all total mass, inc Hg Vapor **Group Sum:**.43468				
Mercury, vapor (Component of HGC)	7439-97-6	0.43468	.42511	2.2511826%
Pollutant Group: Nickel & Compounds, sum total mass, inc elemental **Group Sum:**14.00111				
Nickel metal (Component of NIC)	7440-02-0	14.00111	14.63475	-4.3296967%
Pollutant Group: Polycyclic Organic Matter (7 PAH Compounds for NIF) **Group Sum:**.00273				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00273	.00281	-2.846972%
Pollutant Group: Polycyclic Organic Matter (Specific Compounds from OAQPS for TV) **Group Sum:**1.99872				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00273	.00281	-2.846972%
Biphenyl (Component of POMTV)	92-52-4	0.07885	.08222	-4.0987616%
Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)	132-64-9	0.00932	.00972	-4.1152287%
Naphthalene (Component of POMTV)	91-20-3	1.90782	1.90053	0.38357753%
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	1746-01-6	0.0	Not reported	N/A
Acetaldehyde	75-07-0	27.36082	28.61853	-4.394738%
Acetophenone	98-86-2	0.69581	.72546	-4.0870585%
Acrolein	107-02-8	13.57803	14.16668	-4.1551776%
Ammonia (as NH3)	7664-41-7	4250.023	4108.5728	3.4428062%
Benzene	71-43-2	66.49539	69.0591	-3.7123356%
Benzyl chloride	100-44-7	32.47132	33.8548	-4.0865107%
Bromine	7726-95-6	9.39918	9.98268	-5.845123%
Bromoform	75-25-2	1.80912	1.8862	-4.0865173%
Butadiene, 1,3-	106-99-0	0.04238	.04982	-14.933757%
Carbon disulfide	75-15-0	6.03039	6.28732	-4.0864844%
Chlorine	7782-50-5	123.79586	131.48901	-5.8507953%
Chloroacetophenone, 2-	532-27-4	0.32472	.33855	-4.0850706%
Chlorobenzene	108-90-7	1.02053	1.06401	-4.0864315%
Chloroform	67-66-3	2.73687	2.85348	-4.086591%
Cumene	98-82-8	0.24585	.25633	-4.0884857%

Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	3.38629	3.53057	-4.086591%
Dichlorobenzene(p), 1,4-	106-46-7	1.59376	1.53612	3.7523081%
Dimethyl sulfate	77-78-1	2.2266	2.32147	-4.0866385%
Dinitrotoluene, 2,4-	121-14-2	0.01299	.01354	-4.0620384%
Ethyl benzene	100-41-4	4.36044	4.54622	-4.086473%
Ethyl chloride (chloroethane)	75-00-3	1.94828	2.03129	-4.08657%
Ethylene dibromide	106-93-4	0.05567	.05803	-4.066864%
Ethylene dichloride (1,2-dichloroethane)	107-06-2	1.8555	1.93456	-4.086715%
Ethylene oxide	75-21-8	2.13	4.22	-49.526062%
Fluorides (sum of all fluoride compounds)	16984-48-8	265.44702	280.01477	-5.202493%
Formaldehyde	50-00-0	177.52562	179.09832	-0.8781171%
Hexane, n-	110-54-3	2416.6687	2338.72833	3.3325987%
Hydrogen chloride (hydrochloric acid)	7647-01-0	20114.938	21502.55688	-6.4532747%
Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)	7664-39-3	263.6386	280.01477	-5.84832%
Isophorone	78-59-1	26.90481	28.05112	-4.0865064%
Methyl bromide	74-83-9	7.42201	7.73824	-4.086586%
Methyl chloride	74-87-3	24.58542	25.63292	-4.086537%
Methyl chloroform	71-55-6	0.92776	.96728	-4.08568%
Methyl ethyl ketone	78-93-3	18.09117	18.86196	-4.0864797%
Methyl hydrazine	60-34-4	7.8859	8.22188	-4.0864124%
Methyl methacrylate	80-62-6	0.92776	.96728	-4.08568%
Methyl tertiary butyl ether (MTBE)	1634-04-4	1.62356	1.69274	-4.086866%
Methylene chloride	75-09-2	13.45241	14.02556	-4.086472%
Perchloroethylene (tetrachloroethylene)	127-18-4	1.99467	2.07965	-4.08626%
Phenol	108-95-2	0.7422	.77382	-4.0862174%
Phosphorus Metal, Yellow or White	7723-14-0	1.70349	1.77759	-4.168566%
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	POM	4.27299	4.40996	-3.105914%
Propionaldehyde	123-38-6	17.62729	18.37832	-4.086499%
Selenium Compounds	SEC	0.34415	.35463	-2.955189%
Styrene	100-42-5	1.15969	1.2091	-4.086509%
Toluene	108-88-3	16.9926	17.34139	-2.0113215%
Vinyl acetate	108-05-4	0.35255	.36757	-4.0863%
Xylene	1330-20-7	2.61414	2.71112	-3.5771143%

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As entered in AERO

Facility Name: The University of North Carolina at Chapel Hill
200 East Cameron Avenue, CB#1000
Chapel Hill, NC 27599-1000

Facility ID : 6800043
Permit : 03069
County : Orange
DAQ Region : RRO

Comments From Facility: