

**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, Subpart Db; 2D .1109 Case by Case MACT]	CS-1	Calcium carbonate injection system, Bagfilter with 36,614 square feet of filter surface area	CD-004.1, 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, Subpart Db; 2D .1109 Case by Case MACT]	CS-2	Calcium carbonate injection system, Bagfilter with 36,614 square feet of filter surface area	CD-005.1, 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, Subpart Db; 2D .1109 Case by Case [MACT; 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, Subpart Db; 2D .1109 Case by Case MACT; 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, Subpart Db; 2D .1109 Case by Case MACT; 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]	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 (1750 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 (1250 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 (2000 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 (2000 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 (2000 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 (1000 kW) located at the Brinkhous-Bullitt Building [MACT ZZZZ, NSP III]			
ES-EG#18	One diesel-fired emergency generator (1000 kW) located at Venable Hall [MACT ZZZZ, NSPS III]			
ES-EG#19	One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building [MACT ZZZZ, NSPS III]			
ES-EG#2	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building [MACT ZZZZ]			
ES-EG#20	One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building [MACT ZZZZ, NSPS III]			
ES-EG#21	One diesel-fired emergency generator (1,250 kW) located at the Dental Research Building. [MACT ZZZZ, NSPS III]			
ES-EG#3	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building [MACT]			
ES-EG#4	One diesel-fired emergency generator (1000 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 (1500 kW) located at the Medical Biomolecular Research Building [MACT]			
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 (1000 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 III]			
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 III]			
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	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	Emergency generator (250 kW, diesel-fired), located at the McGavran Greenberg Building [MACT ZZZZ]			
ES-Gen-32	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	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 (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 III]			
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 Building [MACT ZZZZ]			
ES-Gen-71	Emergency generator (110 kW, diesel-fired) located at the Global Education Building [MACT ZZZZ, NSPS III]			
ES-Gen-72	Emergency generator (30 kW, diesel-fired) located at the Hamilton Hall [MACT ZZZZ, NSPS III]			
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 III]			

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 III]			
ES-Gen-81	Emergency generator (250 kW, diesel-fired) located at the Physicians Office Building [MACT ZZZZ, NSPS III]			
ES-Gen-84	Emergency generator (250 kW, diesel-fired), located at Bell Tower Parking Deck [MACT ZZZZ, NSPS III]			
ES-Gen-9	Emergency generator (60 kW, diesel-fired), located at Carolina Inn [MACT ZZZZ]			
ES-SB-6	One natural gas-fired boiler at Davie Hall; 2.52 million Btu per hour heat input capacity [2D .1109 Case by Case MACT]			
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-SB-1	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-10	Water heater (0.750 MMBtu/hr; natural gas-fired), located at Henry Stadium			
IES-SB-11	Water heater (0.450 MMBtu/hr; natural gas-fired), located at Hickerson House			
IES-SB-12	Water heater (0.595 MMBtu/hr; natural gas-fired), located at Hill Commercial			
IES-SB-13	Water heater (0.270 MMBtu/hr; natural gas-fired), located at Hill Annex			
IES-SB-14	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Medical Research Building B			
IES-SB-16	Water heater (0.900 MMBtu/hr; natural gas-fired), located at McCaskill Soccer			
IES-SB-17	Water heater (0.900 MMBtu/hr; natural gas-fired), located at 135.5 East Franklin			

IES-SB-2	Water heater (0.726 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-3	Water heater (0.300 MMBtu/hr; natural gas-fired), located at Aycock Family Medical Center			
IES-SB-4	Water heater (0.399 MMBtu/hr; natural gas-fired), located at Brooks Hall			
IES-SB-5	Water heater (1.442 MMBtu/hr; natural gas-fired), located at Cheek Clark Building			
IES-SB-7	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building			
IES-SB-8	Water heater (0.420 MMBtu/hr; natural gas-fired), located at Graham Memorial Building			
IES-SB-9	Water heater (0.500 MMBtu/hr; natural gas-fired), located at Henry Stadium			



**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

**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-9, 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-26, ES-Gen-27, ES-Gen-28, ES-Gen-3, ES-Gen-31, ES-Gen-33, ES-Gen-35, ES-Gen-37, ES-Gen-39, ES-Gen-4, ES-Gen-41, ES-Gen-42, 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	124	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
		6	[NSPS] One No. 6 fuel oil-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
		9	[NSPS] One No. 6 fuel oil-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
		111	OS-111/[NSPS] One wood-pellet-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-Bullitt 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	NONE	NONE
	ES-Gen-30	84	One 535 kW diesel-fired emergency generator located at the Lineberger Building Addition
	ES-Gen-32	NONE	NONE
	ES-Gen-36	65	One natural gas-fired emergency generator (30 kW) located at the Morehead Planetarium
	ES-Gen-38	NONE	NONE
	ES-Gen-40	87	One 500 kW diesel-fired emergency generator located at Phillips Hall

	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
	ES-SB-6	119	2.52 MMBtu/hr Natural Gas-Fired Boiler at Davie Hall
	IES-51	25	Sterilizers - Dental School
	IES-53	17	Enclosed sorbent railcar dump pit, located in the Railcar Unloading Building
	IES-SB-10	NONE	NONE
	IES-SB-9	NONE	NONE

**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 2019**

- 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 2019:**      6750 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0427	%Ash		Heat Content (Btu/units)	140635 Btu/gallon
---------	--------	------	--	-----------------------------	-------------------

  
 (If fuel is used)
- 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 2019)

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 2019	28%	March-May 2019	9%	June-Aug. 2019	10%	Sept.-Nov. 2019	53%
--------------------	-----	----------------	----	----------------	-----	-----------------	-----

**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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	77.4	08			
Methane (CH4)	74-82-8	0.0031	08			
Nitrous Oxide (N2O)	10024972	0.0006	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
		<b>2019</b>				
CO	CO	0.12	08			
NOx	NOx	0.9	08			
TSP	TSP	0.05	08			
PM10	PM10	0.05	08			
PM2.5	PM2.5	0.05	08			
SO2	SO2	0	08			
VOC	VOC	0.04	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0239	08			
Acrolein	107-02-8	0.00748	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0038	08			
Benzene	71-43-2	0.737	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00024	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00285	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00285	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00285	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0749	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00854	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0057	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00285	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.123	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00285	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.201	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0142	08			
<b>Toluene</b>	<b>108-88-3</b>	0.267	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.183	08			

**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 2019**

- 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 2019:**      6750 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

- 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 2019:**      13093    E3FT3/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**

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

  
(If fuel is used)
- 
- 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 2019)

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 2019	33%	March-May 2019	23%	June-Aug. 2019	20%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	785.49	08			
Methane (CH4)	74-82-8	0.0148	08			
Nitrous Oxide (N2O)	10024972	0.0015	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
		<b>2019</b>				
CO	CO	0.55	08			
NOx	NOx	0.65	08			
TSP	TSP	0.05	08			
PM10	PM10	0.04	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2		08			
VOC	VOC	0.04	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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	41.8976	08		0.0032	
Benzene	71-43-2	0.0275	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.0011	08			
Formaldehyde	50-00-0	0.982	08			
Hexane, n-	110-54-3	23.6	08			
Naphthalene (Component of POMTV)	91-20-3	0.00798	08			
Selenium Compounds	SEC	0.00031	08			
Toluene	108-88-3	0.0445	08			


**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 2019**

**1. Emission Source ID (from permit) or Emission Source Group ID**      Group G-80 consisting of ES-Gen-9, 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-26, ES-Gen-27, ES-Gen-28, ES-Gen-3, ES-Gen-31, ES-Gen-33, ES-Gen-35, ES-Gen-37, ES-Gen-39, ES-Gen-4, ES-Gen-41, ES-Gen-42, 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

**2. Emission Source Description :**      Small Emergency Generators

**3. Operating Scenario ID/Description:**      OS - 124/Grouped small emergency generators

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

**5. Throughput/units in 2019:**      7962 GAL/yr  
(e.g. production or fuel use):

**6. Fuel Information**  
(If fuel is used)

%Sulfur	0.05	%Ash		Heat Content (Btu/units)	135000 Btu/gallon
---------	------	------	--	-----------------------------	-------------------

**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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	87.63	08			
Methane (CH4)	74-82-8	0.0036	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
		<b>2019</b>				
CO	CO	0.51	08			
NOx	NOx	2.37	08			
TSP	TSP	0.17	08			
PM10	PM10	0.17	08			
PM2.5	PM2.5	0.17	08			
SO2	SO2	0.03	08			
VOC	VOC	0.19	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.824	08			
Acrolein	107-02-8	0.0994	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0043	08			
Benzene	71-43-2	1	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.0002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00322	08			
Butadiene, 1,3-	106-99-0	0.042	08			

<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.00322	08			
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00322	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	1.27	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00967	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00645	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00322	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0911	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00322	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.181	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0161	08			
<b>Toluene</b>	<b>108-88-3</b>	0.44	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.306	08			

**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 2019**

**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 2019:**      58085 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):      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 gal per min. 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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
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
		<b>2019</b>				

**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 2019**

**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 2019:**      58085 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):      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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

**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 2019:**      58085 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):      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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
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
		<b>2019</b>				

**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 2019**

- 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 2019:**      9225 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
CO	CO		08			
NOx	NOx		08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC	0.22	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
		2019				

**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 2019**

**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 2019:**      9225 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
CO	CO		08			
NOx	NOx		08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC	0.22	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
		2019				

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**      32717 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |      |                             |              |
|---------|------|------|------|-----------------------------|--------------|
| %Sulfur | 2.03 | %Ash | 10.6 | Heat Content<br>(Btu/units) | 12296 Btu/lb |
|---------|------|------|------|-----------------------------|--------------|
- 
- 7. Capture Efficiency**      100  
(% of Emissions from this Process Vented to Control Device or Stack):
- 

**8. Control Device Information :**

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-1	CD-004.1	Calcium carbonate injection system
2	CS-1	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

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	39%	March-May 2019	38%	June-Aug. 2019	4%	Sept.-Nov. 2019	19%
--------------------	-----	----------------	-----	----------------	----	-----------------	-----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	100593.5	01	0		
Methane (CH4)	74-82-8	9.76	08	0		
Nitrous Oxide (N2O)	10024972	1.42	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
		<b>2019</b>				
CO	CO	13.72	08	0		
NOx	NOx	72.75	01	0		
TSP	TSP	3.4	04	99.8		
PM10	PM10	3.4	04	99.6		
PM2.5	PM2.5	1.96	04	97.9		
SO2	SO2	157.1	01	90		
VOC	VOC	0.19	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
		<b>2019</b>				
Acetaldehyde	75-07-0	18.64869	09	0	0.00057	AFTER
Acetophenone	98-86-2	0.49076	09	0	0.000015	AFTER
Acrolein	107-02-8	9.48793	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.26174	04	99.8	0.000008	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.24211	04	99.8	0.0000074	AFTER
Benzene	71-43-2	42.5321	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00124	09	0	3.8E-8	AFTER
Benzyl chloride	100-44-7	22.9019	09	0	0.0007	AFTER

<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.04253	04	99.8	0.0000013	AFTER
<b>Biphenyl (Component of POMTV)</b>	<b>92-52-4</b>	0.05562	09	0	0.0000017	AFTER
<b>Bromine</b>	<b>7726-95-6</b>	6.60873	09	99.8	0.101	BEFORE
<b>Bromoform</b>	<b>75-25-2</b>	1.27596	09	0	0.000039	AFTER
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.11189	04	99.8	0.00000342	AFTER
<b>Carbon disulfide</b>	<b>75-15-0</b>	4.25321	09	0	0.00013	AFTER
<b>Chlorine</b>	<b>7782-50-5</b>	87.02722	04	0	0.00266	AFTER
<b>Chloroacetophenone, 2-</b>	<b>532-27-4</b>	0.22902	09	0	0.000007	AFTER
<b>Chlorobenzene</b>	<b>108-90-7</b>	0.71977	09	0	0.000022	AFTER
<b>Chloroform</b>	<b>67-66-3</b>	1.9303	09	0	0.000059	AFTER
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0	08	0	0	
<b>Chromium (VI) &amp; compounds</b>	<b>CHROM6 CPDS</b>	0.00772	08	99.8	0.000118	BEFORE
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.22215	04	99.8	0.00000679	AFTER
<b>Cumene</b>	<b>98-82-8</b>	0.1734	09	0	0.0000053	AFTER
<b>Cyanide Unlisted Compounds (Specify &amp; Component of CNC)</b>	<b>CNC-Other</b>	81.7925	09	0	0.0025	AFTER
<b>Di(2-ethylhexyl)phthalate (DEHP)</b>	<b>117-81-7</b>	2.38834	09	0	0.000073	AFTER
<b>Dimethyl sulfate</b>	<b>77-78-1</b>	1.57042	09	0	0.000048	AFTER
<b>Dinitrotoluene, 2,4-</b>	<b>121-14-2</b>	0.00916	09	0	2.8E-7	AFTER
<b>Ethyl benzene</b>	<b>100-41-4</b>	3.0754	09	0	0.000094	AFTER
<b>Ethyl chloride (chloroethane)</b>	<b>75-00-3</b>	1.37411	09	0	0.000042	AFTER
<b>Ethylene dibromide</b>	<b>106-93-4</b>	0.03926	09	0	0.0000012	AFTER
<b>Ethylene dichloride (1,2-dichloroethane)</b>	<b>107-06-2</b>	1.30868	09	0	0.00004	AFTER
<b>Fluorides (sum of all fluoride compounds)</b>	<b>16984-48-8</b>	191.72162	08	0	0.00586	AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	52.94265	04	0	0.0016182	AFTER
<b>Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)</b>	<b>132-64-9</b>	0.00658	09	0	2.01E-7	AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	2.19204	09	0	0.000067	AFTER
<b>Hydrogen chloride (hydrochloric acid)</b>	<b>7647-01-0</b>	16091.52928	04	0	0.49184	AFTER
<b>Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)</b>	<b>7664-39-3</b>	185.17822	04	0	0.00566	AFTER
<b>Isophorone</b>	<b>78-59-1</b>	18.97586	09	0	0.00058	AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	1.41665	04	99.8	0.0000433	AFTER

<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	9.65152	04	99.8	0.000295	AFTER
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.67397	04	99.8	0.0000206	AFTER
<b>Methyl bromide</b>	<b>74-83-9</b>	5.23472	09	0	0.00016	AFTER
<b>Methyl chloride</b>	<b>74-87-3</b>	17.34001	09	0	0.00053	AFTER
<b>Methyl chloroform</b>	<b>71-55-6</b>	0	09	0	0	AFTER
<b>Methyl ethyl ketone</b>	<b>78-93-3</b>	12.75963	09	0	0.00039	AFTER
<b>Methyl hydrazine</b>	<b>60-34-4</b>	5.56189	09	0	0.00017	AFTER
<b>Methyl methacrylate</b>	<b>80-62-6</b>	0.65434	09	0	0.00002	AFTER
<b>Methyl tertiary butyl ether (MTBE)</b>	<b>1634-04-4</b>	1.1451	09	0	0.000035	AFTER
<b>Methylene chloride</b>	<b>75-09-2</b>	9.48793	09	0	0.00029	AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.42532	09	0	0.000013	AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	7.85208	04	99.8	0.00024	AFTER
<b>Phenol</b>	<b>108-95-2</b>	0.52347	09	0	0.000016	AFTER
<b>Phosphorus Metal, Yellow or White</b>	<b>7723-14-0</b>	1.17454	04	0	0.0000359	AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	1.8616	09	0	0.0000569	AFTER
<b>Propionaldehyde</b>	<b>123-38-6</b>	12.43246	09	0	0.00038	AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.17307	04	0	0.00000529	AFTER
<b>Styrene</b>	<b>100-42-5</b>	0.81793	09	0	0.000025	AFTER
<b>Tetrachloroethane, 1,1,2,2-</b>	<b>79-34-5</b>	1.40683	08	0	0.000043	AFTER
<b>Toluene</b>	<b>108-88-3</b>	7.85208	09	0	0.00024	AFTER
<b>Trichloroethane, 1,1,2-</b>	<b>79-00-5</b>	0.65434	08	0	0.00002	AFTER
<b>Trichloroethylene</b>	<b>79-01-6</b>	1.40683	09	0	0.000043	AFTER
<b>Vinyl acetate</b>	<b>108-05-4</b>	0.24865	09	0	0.0000076	AFTER
<b>Xylene</b>	<b>1330-20-7</b>	1.21053	09	0	0.000037	AFTER

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**      378725 E3FT3/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**

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

  
(If fuel is used)
- 
- 7. Capture Efficiency**      100  
(% of Emissions from this Process Vented to Control Device or Stack):
- 

**8. Control Device Information :**

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-1	CD-004.1	Calcium carbonate injection system
2	CS-1	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

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	24%	March-May 2019	25%	June-Aug. 2019	32%	Sept.-Nov. 2019	19%
--------------------	-----	----------------	-----	----------------	-----	-----------------	-----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	27634.5	08	0		
Methane (CH4)	74-82-8	0.428	08	0		
Nitrous Oxide (N2O)	10024972	0.0428	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
		<b>2019</b>				
CO	CO	15.91	08	0		
NOx	NOx	35.13	08	0		
TSP	TSP	1.44	08	99.8		
PM10	PM10	1.44	08	99.6		
PM2.5	PM2.5	1.44	08	97.9		
SO2	SO2		08	0		
VOC	VOC	1.04	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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	1211.92	08	99.8	0.0032	AFTER
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0757	08	0		
Benzene	71-43-2	0.8	08	0		
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00447	08	99.8	1.18E-8	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.417	08	0		
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.53	08	0		

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.03121	08	99.8	8.24E-8	AFTER
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.454	08	0		
<b>Formaldehyde</b>	<b>50-00-0</b>	28.4	08	0		
<b>Hexane, n-</b>	<b>110-54-3</b>	681.7	08	0		
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.189	08	0		
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.144	08	0		
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0985	08	0		
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.231	08	0		
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.8	08	0		
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.251	08	0		
<b>Selenium Compounds</b>	<b>SEC</b>	0.0089	08	0	2.35E-8	AFTER
<b>Toluene</b>	<b>108-88-3</b>	1.29	08	0		



**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 2019**

- 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, Subpart Db; 112]
- 
- 3. Operating Scenario ID/Description:**      OS - 6/[NSPS] One No. 6 fuel oil-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
- 
- 4. SCC Number/Description:**      10200401/Residual Oil (No. 6) ; Grade 6 Oil
- 
- 5. Throughput/units in 2019:**  
 (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-1	CD-004.1	Calcium carbonate injection system
2	CS-1	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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
CO	CO		08			
NO <sub>x</sub>	NO <sub>x</sub>		08			
TSP	TSP		08			
PM <sub>10</sub>	PM <sub>10</sub>		08			
PM <sub>2.5</sub>	PM <sub>2.5</sub>		08			
SO <sub>2</sub>	SO <sub>2</sub>		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
		2019				

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**  
 (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-1	CD-004.1	Calcium carbonate injection system
2	CS-1	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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**  
(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-1	CD-004.1	Calcium carbonate injection system
2	CS-1	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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
CO	CO		08			
NO <sub>x</sub>	NO <sub>x</sub>		08			
TSP	TSP		08			
PM <sub>10</sub>	PM <sub>10</sub>		08			
PM <sub>2.5</sub>	PM <sub>2.5</sub>		08			
SO <sub>2</sub>	SO <sub>2</sub>		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
		<b>2019</b>				

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**      25368 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |   |      |       |                             |              |
|---------|---|------|-------|-----------------------------|--------------|
| %Sulfur | 2 | %Ash | 10.65 | Heat Content<br>(Btu/units) | 12336 Btu/lb |
|---------|---|------|-------|-----------------------------|--------------|
- 
- 7. Capture Efficiency**      100  
(% of Emissions from this Process Vented to Control Device or Stack):
- 

**8. Control Device Information :**

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-2	CD-005.1	Calcium carbonate injection system
2	CS-2	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

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	45%	March-May 2019	22%	June-Aug. 2019	2%	Sept.-Nov. 2019	31%
--------------------	-----	----------------	-----	----------------	----	-----------------	-----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	78652	08	0		
Methane (CH4)	74-82-8	7.59	04	0		
Nitrous Oxide (N2O)	10024972	1.1	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
		<b>2019</b>				
CO	CO	10.67	04	0		
NOx	NOx	75.11	01	0		
TSP	TSP	2.64	04	99.8		
PM10	PM10	2.64	04	99.6		
PM2.5	PM2.5	1.52	04	97.9		
SO2	SO2	118.05	01	90		
VOC	VOC	0.14	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
		<b>2019</b>				
Acetaldehyde	75-07-0	14.45976	09	0	0.00057	AFTER
Acetophenone	98-86-2	0.38052	09	0	0.000015	AFTER
Acrolein	107-02-8	7.35672	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.20218	04	0	0.00000797	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.18848	04	99.8	0.00000743	AFTER
Benzene	71-43-2	32.9784	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00096	09	0	3.8E-8	AFTER
Benzyl chloride	100-44-7	17.7576	09	0	0.0007	AFTER



<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.03298	04	99.8	0.0000013	AFTER
<b>Biphenyl (Component of POMTV)</b>	<b>92-52-4</b>	0.04313	09	0	0.0000017	AFTER
<b>Bromine</b>	<b>7726-95-6</b>	5.3272	09	99.8	0.105	BEFORE
<b>Bromoform</b>	<b>75-25-2</b>	0.98935	09	0	0.000039	AFTER
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.08701	04	99.8	0.00000343	AFTER
<b>Carbon disulfide</b>	<b>75-15-0</b>	3.29784	09	0	0.00013	AFTER
<b>Chlorine</b>	<b>7782-50-5</b>	67.47888	04	0	0.00266	AFTER
<b>Chloroacetophenone, 2-</b>	<b>532-27-4</b>	0.17758	09	0	0.000007	AFTER
<b>Chlorobenzene</b>	<b>108-90-7</b>	0.5581	09	0	0.000022	AFTER
<b>Chloroform</b>	<b>67-66-3</b>	1.49671	09	0	0.000059	AFTER
<b>Chromium (VI) &amp; compounds</b>	<b>CHROM6 CPDS</b>	0.00601	08	99.8	0.0001184	BEFORE
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.17276	04	0	0.00000681	AFTER
<b>Cumene</b>	<b>98-82-8</b>	0.13445	09	0	0.0000053	AFTER
<b>Cyanide Unlisted Compounds (Specify &amp; Component of CNC)</b>	<b>CNC-Other</b>	63.42	09	0	0.0025	AFTER
<b>Di(2-ethylhexyl)phthalate (DEHP)</b>	<b>117-81-7</b>	1.85186	09	0	0.000073	AFTER
<b>Dimethyl sulfate</b>	<b>77-78-1</b>	1.21766	09	0	0.000048	AFTER
<b>Dinitrotoluene, 2,4-</b>	<b>121-14-2</b>	0.0071	09	0	2.8E-7	AFTER
<b>Ethyl benzene</b>	<b>100-41-4</b>	2.38459	09	0	0.000094	AFTER
<b>Ethyl chloride (chloroethane)</b>	<b>75-00-3</b>	1.06546	09	0	0.000042	AFTER
<b>Ethylene dibromide</b>	<b>106-93-4</b>	0.03044	09	0	0.0000012	AFTER
<b>Ethylene dichloride (1,2-dichloroethane)</b>	<b>107-06-2</b>	1.01472	09	0	0.00004	AFTER
<b>Fluorides (sum of all fluoride compounds)</b>	<b>16984-48-8</b>	147.64176	08	0	0.00582	AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	41.17226	04	0	0.001623	AFTER
<b>Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)</b>	<b>132-64-9</b>	0.0051	09	0	2.01E-7	AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	1.69966	09	0	0.000067	AFTER
<b>Hydrogen chloride (hydrochloric acid)</b>	<b>7647-01-0</b>	12642.65016	04	0	0.49837	AFTER
<b>Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)</b>	<b>7664-39-3</b>	143.83656	04	0	0.00567	AFTER
<b>Isophorone</b>	<b>78-59-1</b>	14.71344	09	0	0.00058	AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	1.10097	04	99.8	0.0000434	AFTER
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	7.50893	04	99.8	0.000296	AFTER

<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.52512	04	0	0.0000207	AFTER
<b>Methyl bromide</b>	<b>74-83-9</b>	4.05888	08	0	0.00016	AFTER
<b>Methyl chloride</b>	<b>74-87-3</b>	13.44504	09	0	0.00053	AFTER
<b>Methyl chloroform</b>	<b>71-55-6</b>	0	08	0	0	AFTER
<b>Methyl ethyl ketone</b>	<b>78-93-3</b>	9.89352	09	0	0.00039	AFTER
<b>Methyl hydrazine</b>	<b>60-34-4</b>	4.31256	09	0	0.00017	AFTER
<b>Methyl methacrylate</b>	<b>80-62-6</b>	0.50736	09	0	0.00002	AFTER
<b>Methyl tertiary butyl ether (MTBE)</b>	<b>1634-04-4</b>	0.88788	09	0	0.000035	AFTER
<b>Methylene chloride</b>	<b>75-09-2</b>	7.35672	09	0	0.00029	AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.32978	09	0	0.000013	AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	6.11369	04	99.8	0.000241	AFTER
<b>Phenol</b>	<b>108-95-2</b>	0.40589	09	0	0.000016	AFTER
<b>Phosphorus Metal, Yellow or White</b>	<b>7723-14-0</b>	0.91325	04	0	0.000036	AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	1.45612	09	0	0.0000574	AFTER
<b>Propionaldehyde</b>	<b>123-38-6</b>	9.63984	09	0	0.00038	AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.13445	04	0	0.0000053	AFTER
<b>Styrene</b>	<b>100-42-5</b>	0.6342	09	0	0.000025	AFTER
<b>Tetrachloroethane, 1,1,2,2-</b>	<b>79-34-5</b>	1.09082	08	0	0.000043	AFTER
<b>Toluene</b>	<b>108-88-3</b>	6.08832	09	0	0.00024	AFTER
<b>Trichloroethane, 1,1,2-</b>	<b>79-00-5</b>	0.50736	08	0	0.00002	
<b>Trichloroethylene</b>	<b>79-01-6</b>	1.09082	08	0	0.000043	AFTER
<b>Vinyl acetate</b>	<b>108-05-4</b>	0.1928	09	0	0.0000076	AFTER
<b>Xylene</b>	<b>1330-20-7</b>	0.93862	09	0	0.000037	AFTER

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**      307420 E3FT3/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |  |      |  |                             |             |
|---------|--|------|--|-----------------------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content<br>(Btu/units) | 1026 Btu/CF |
|---------|--|------|--|-----------------------------|-------------|
- 
- 7. Capture Efficiency**      100  
(% of Emissions from this Process Vented to Control Device or Stack):
- 

**8. Control Device Information :**

Order	CS-ID	CD ID (as listed in permit)	Control Device Description
1	CS-2	CD-005.1	Calcium carbonate injection system
2	CS-2	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

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	38%	March-May 2019	17%	June-Aug. 2019	2%	Sept.-Nov. 2019	43%
--------------------	-----	----------------	-----	----------------	----	-----------------	-----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	22546.1	08	0		
Methane (CH4)	74-82-8	0.348	08	0		
Nitrous Oxide (N2O)	10024972	0.0348	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
		<b>2019</b>				
CO	CO	12.91	08	0		
NOx	NOx	37.85	01	0		
TSP	TSP	1.17	08	99.8		
PM10	PM10	1.17	08	99.6		
PM2.5	PM2.5	1.17	08	97.9		
SO2	SO2		08	0		
VOC	VOC	0.85	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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	983.744	08	0	0.0032	AFTER
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0615	08	0		AFTER
Benzene	71-43-2	0.65	08	0		AFTER
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00363	08	0	1.18E-8	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.338	08	0		AFTER
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.43	08	0		AFTER

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.02533	08	0	8.24E-8	AFTER
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.369	08	0		AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	23.06	08	0		AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	553	08	0		AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.154	08	0		AFTER
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.117	08	0		AFTER
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0799	08	0		AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.188	08	0		AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.65	08	0		AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.203	08	0		AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.00722	08	0	2.35E-8	AFTER
<b>Toluene</b>	<b>108-88-3</b>	1.05	08	0		AFTER

**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 2019**

- 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, Subpart Db; 112]
- 
- 3. Operating Scenario ID/Description:**      OS - 9/[NSPS] One No. 6 fuel oil-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
- 
- 4. SCC Number/Description:**      10200401/Residual Oil (No. 6) ; Grade 6 Oil
- 
- 5. Throughput/units in 2019:**  
(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-2	CD-005.1	Calcium carbonate injection system
2	CS-2	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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

- 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, Subpart Db; 112]
- 
- 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 2019:**  
 (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-2	CD-005.1	Calcium carbonate injection system
2	CS-2	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



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

- 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, Subpart Db; 112
- 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:**      Not required by facility, will be completed by DAQ
- 5. Throughput/units in 2019:**  
 (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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				

**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:**      58688 E3FT3/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

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

  
(If fuel is used)
- 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

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	22%	March-May 2019	20%	June-Aug. 2019	51%	Sept.-Nov. 2019	7%
--------------------	-----	----------------	-----	----------------	-----	-----------------	----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	1505.18	08			
Methane (CH4)	74-82-8	0.0664	08			
Nitrous Oxide (N2O)	10024972	0.0066	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
		<b>2019</b>				
CO	CO	2.46	08			
NOx	NOx	1.63	08			
TSP	TSP	0.22	08			
PM10	PM10	0.22	08			
PM2.5	PM2.5	0.22	08			
SO2	SO2	0.02	08			
VOC	VOC	0.16	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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	187.8016	08		0.0032	
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.01174	08		2E-7	
Benzene	71-43-2	0.12324	08		0.0000021	
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00007	08		1.2E-9	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0007	08		1.2E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.06456	08		0.0000011	

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.08216	08		0.0000014	
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC- Other</b>	0.00493	08		8.4E-8	
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.07043	08		0.0000012	
<b>Formaldehyde</b>	<b>50-00-0</b>	4.4016	08		0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	105.6384	08		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.02934	08		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0223	08		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.01526	08		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0358	08		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.12324	08		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.03885	08		6.62E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.00141	08		2.4E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.19954	08		0.0000034	

**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:**  
(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

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				



**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:**  
 (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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
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
		<b>2019</b>				

**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:** 144470 E3FT3/yr  
(e.g. production or fuel use):
- 6. Fuel Information**  
(If fuel is used)
- |         |  |      |  |                             |             |
|---------|--|------|--|-----------------------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content<br>(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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	6%	March-May 2019	12%	June-Aug. 2019	57%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	10346.3	08			
Methane (CH4)	74-82-8	0.163	08			
Nitrous Oxide (N2O)	10024972	0.0163	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
		<b>2019</b>				
CO	CO	6.07	08		0.084	
NOx	NOx	3.03	01			
TSP	TSP	0.55	08		0.0076	
PM10	PM10	0.55	08		0.0076	
PM2.5	PM2.5	0.55	08		0.0076	
SO2	SO2	0.04	08			
VOC	VOC	0.4	08		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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	462.304	08		0.0032	
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.02889	09		2E-7	
Benzene	71-43-2	0.30339	09		0.0000021	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0017	08		1.18E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.15892	08		0.0000011	
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.20226	08		0.0000014	

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.0119	08		8.24E-8	
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.17336	09		0.0000012	
<b>Formaldehyde</b>	<b>50-00-0</b>	10.83525	08		0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	260.046	09		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.07223	09		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.0549	09		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.03756	08		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.08813	09		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.30339	08		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.09535	09		6.6E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.0034	08		2.35E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.4912	09		0.0000034	

**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:**  
 (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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
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
		<b>2019</b>				

**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 2019**

- 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, Subpart Db; 112(j); PSD]
- 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 2019:**      103970 E3FT3/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

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

  
 (If fuel is used)
- 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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack



10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	5%	March-May 2019	5%	June-Aug. 2019	78%	Sept.-Nov. 2019	12%
--------------------	----	----------------	----	----------------	-----	-----------------	-----

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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	7572.72	08			
Methane (CH4)	74-82-8	0.118	08			
Nitrous Oxide (N2O)	10024972	0.0118	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
		<b>2019</b>				
CO	CO	4.37	08		0.084	
NOx	NOx	2.53	08			
TSP	TSP	0.4	08		0.0076	
PM10	PM10	0.4	08		0.0076	
PM2.5	PM2.5	0.4	08		0.0076	
SO2	SO2	0.03	08		0.0006	
VOC	VOC	0.29	08		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
		<b>2019</b>				
Ammonia (as NH3)	7664-41-7	332.704	08		0.0032	
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.02079	08		2E-7	
Benzene	71-43-2	0.21834	08		0.0000021	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00123	08		1.18E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.11437	08		0.0000011	
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.14556	08		0.0000014	

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.00857	08		8.24E-8	
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.12476	08		0.0000012	
<b>Formaldehyde</b>	<b>50-00-0</b>	7.79775	08		0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	187.146	08		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.05199	08		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.03951	08		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.02703	08		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.06342	08		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.21834	08		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.06862	08		6.6E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.00244	08		2.35E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.3535	08		0.0000034	

**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 2019**

**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 2019:** 58085 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): 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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
CO	CO		08	0		
NOx	NOx		08	0		
TSP	TSP	0.41	08	99.8		
PM10	PM10	0.41	08	99.6		
PM2.5	PM2.5	0.39	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
		<b>2019</b>				

**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 2019**

**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 2019:** 16942 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): 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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
CO	CO		08	0		
NOx	NOx		08	0		
TSP	TSP	1.14	08	99.8		
PM10	PM10	1.14	08	99.6		
PM2.5	PM2.5	1.08	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
		<b>2019</b>				

**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 2019**

**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 2019:**  
 (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-9	CD-032	Water injection system (8.64 gal per min. 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				



**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 2019**

- 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 2019:**      182 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	2	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
		<b>2019</b>				
CO	CO	0.01	08			
NOx	NOx	0.02	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00062	08			
Acrolein	107-02-8	0.00019	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0001	08			
Benzene	71-43-2	0.0191	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00007	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00194	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00022	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00015	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00007	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00319	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00007	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00521	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00037	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0069	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00474	08			

**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 2019**

- 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 2019:**      1141 GAL/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	12.56	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
		<b>2019</b>				
CO	CO	0.07	08			
NOx	NOx	0.15	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00388	08			
Acrolein	107-02-8	0.00121	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00062	08			
Benzene	71-43-2	0.12	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00004	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00046	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00046	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00046	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0122	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00139	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00092	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00046	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.02	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00046	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0327	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00231	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0433	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0297	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#11
- 
- 2. Emission Source Description :**      [PSD] One diesel-fired emergency generator (1750 kW) located at Burnett-Womack Building [MACT]
- 
- 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 2019:**      2081 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	22.9	08			
Methane (CH4)	74-82-8	0.0009	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
		<b>2019</b>				
CO	CO	0.12	08			
NOx	NOx	0.27	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00708	08			
Acrolein	107-02-8	0.00221	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00112	08			
Benzene	71-43-2	0.218	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00007	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00084	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00084	08			



<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00084	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0222	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00253	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00169	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00084	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0365	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00084	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0595	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00421	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0789	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0542	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#12
- 
- 2. Emission Source Description :**      [PSD] One diesel-fired emergency generator (1250 kW) located at the Mary Ellen Jones Building [MACT]
- 
- 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 2019:**      1982 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	21.81	08			
Methane (CH4)	74-82-8	0.0009	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
		<b>2019</b>				
CO	CO	0.11	08			
NOx	NOx	0.25	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00674	08			
Acrolein	107-02-8	0.00211	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00107	08			
Benzene	71-43-2	0.208	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00007	08			
Beryllium Compound, Unlisted (Specify & Component of BEC)	BEC-Other	0.0008	08			
Cadmium Unlisted Compounds (Specify & Component of CDC)	CDC-Other	0.0008	08			

<b>Chromium Unlisted Compounds (Specify &amp; Component of CRC)</b>	<b>CRC-Other</b>	0.0008	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0211	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00241	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00161	08			
<b>Mercury Unlisted Compounds (Specify &amp; Component of HGC)</b>	<b>HGC-Other</b>	0.0008	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0348	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0008	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0567	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00401	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0752	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0516	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID** ES-EG#13
- 2. Emission Source Description :** [PSD] One diesel-fired emergency generator (2000 kW) located at the Genetic Medicine Building [MACT]
- 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 2019:** 2219 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**  
(If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	24.43	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00755	08			
Acrolein	107-02-8	0.00236	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0012	08			
Benzene	71-43-2	0.232	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0009	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0236	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0027	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0018	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0009	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0389	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0009	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0635	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00449	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0842	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0578	08			

**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 2019**

- 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 2019:**      2775 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	30.54	08			
Methane (CH4)	74-82-8	0.0012	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
		<b>2019</b>				
CO	CO	0.16	08			
NOx	NOx	0.36	08			
TSP	TSP	0.02	08			
PM10	PM10	0.02	08			
PM2.5	PM2.5	0.02	08			
SO2	SO2	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00944	08			
Acrolein	107-02-8	0.00295	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0015	08			
Benzene	71-43-2	0.291	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00112	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00112	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00112	08			
Formaldehyde	50-00-0	0.0296	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00337	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00225	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00112	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0487	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00112	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0794	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00562	08			
<b>Toluene</b>	<b>108-88-3</b>	0.105	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0723	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID** ES-EG#15
- 2. Emission Source Description :** One diesel-fired emergency generator (2000 kW) located at the Rams Head Center [MACT]
- 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 2019:** 1918 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**  
(If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	21.11	08			
Methane (CH4)	74-82-8	0.0009	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
		<b>2019</b>				
CO	CO	0.11	08			
NOx	NOx	0.25	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00653	08			
Acrolein	107-02-8	0.00204	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00104	08			
Benzene	71-43-2	0.201	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00007	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00078	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00078	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00078	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0204	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00233	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00155	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00078	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0337	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00078	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0549	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00388	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0728	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.05	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#16
- 
- 2. Emission Source Description :**      One diesel-fired emergency generator (2000 kW) located at the ITS Building [MACT]
- 
- 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 2019:**      2663 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	29.31	08			
Methane (CH4)	74-82-8	0.0012	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
		<b>2019</b>				
CO	CO	0.15	08			
NOx	NOx	0.34	08			
TSP	TSP	0.02	08			
PM10	PM10	0.02	08			
PM2.5	PM2.5	0.02	08			
SO2	SO2	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00906	08			
Acrolein	107-02-8	0.00283	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00144	08			
Benzene	71-43-2	0.279	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00009	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00108	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00108	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00108	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00028	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00324	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00216	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00108	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0467	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00108	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0762	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00539	08			
<b>Toluene</b>	<b>108-88-3</b>	0.101	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0694	08			



**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#17
- 
- 2. Emission Source Description :**      One diesel-fired emergency generator (1000 kW) located at the Brinkhous-Bullitt Building [MACT ZZZZ, NSP 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 2019:**      1141 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	12.56	08			
Methane (CH4)	74-82-8	0	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
		<b>2019</b>				
CO	CO	0.07	08			
NOx	NOx	0.15	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00388	08			
Acrolein	107-02-8	0.00121	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00062	08			
Benzene	71-43-2	0.12	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00004	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00046	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00046	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00046	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0122	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00139	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00092	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00046	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.02	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00046	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0327	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00231	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0433	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0297	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#18
- 2. Emission Source Description :**      One diesel-fired emergency generator (1000 kW) located at Venable Hall [MACT, NSPS]
- 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 2019:**      1633 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0015	%Ash		Heat Content (Btu/units)	135000 Btu/gallon
---------	--------	------	--	-----------------------------	-------------------

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	17.97	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
CO	CO	0.09	08			
NOx	NOx	0.21	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00555	08			
Acrolein	107-02-8	0.00174	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00088	08			
Benzene	71-43-2	0.171	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00006	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00066	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00066	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00066	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0174	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00198	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00132	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00066	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0287	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00066	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0467	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00331	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0619	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0425	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID** ES-EG#19
- 2. Emission Source Description :** One diesel-fired emergency generator (2500 kW) located at the Imaging Research Building [MACT, NSPS]
- 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 2019:** 2814 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	30.97	08			
Methane (CH4)	74-82-8	0.0013	08			
Nitrous Oxide (N2O)	10024972	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
		<b>2019</b>				
CO	CO	0.16	08			
NOx	NOx	0.36	08			
TSP	TSP	0.02	08			
PM10	PM10	0.02	08			
PM2.5	PM2.5	0.02	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00957	08			
Acrolein	107-02-8	0.00299	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00152	08			
Benzene	71-43-2	0.295	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.0001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00114	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00114	08			



<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00114	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.03	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00342	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00228	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00114	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0494	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00114	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0805	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0057	08			
<b>Toluene</b>	<b>108-88-3</b>	0.107	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0733	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#2
- 2. Emission Source Description :**      One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building [MACT]
- 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 2019:**      1649 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	18.14	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
CO	CO	0.09	08			
NOx	NOx	0.21	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00561	08			
Acrolein	107-02-8	0.00175	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00089	08			
Benzene	71-43-2	0.173	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00006	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00067	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00067	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00067	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0176	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.002	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00134	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00067	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0289	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00067	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0472	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00334	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0625	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.043	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#20
- 
- 2. Emission Source Description :**      One diesel-fired emergency generator (2000 kW) located at the Genomic Science Building [MACT, NSPS]
- 
- 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 2019:**      2219 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	24.43	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00755	08			
Acrolein	107-02-8	0.00236	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0012	08			
Benzene	71-43-2	0.232	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0009	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0236	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00027	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0018	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0009	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0389	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0009	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0635	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00449	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0842	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0578	08			

**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 2019**

- 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 2019:**      1626 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0015	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	17.9	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
CO	CO	0.09	08			
NOx	NOx	0.21	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00553	08			
Acrolein	107-02-8	0.00173	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00088	08			
Benzene	71-43-2	0.17	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00006	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00066	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00066	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00066	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0173	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00198	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0132	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00066	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0285	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00066	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0465	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00329	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0617	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0424	08			

**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 2019**

- 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]
- 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 2019:**      1016 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	11.18	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
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		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
		<b>2019</b>				
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	0.106	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00041	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0108	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00123	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00082	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00041	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0178	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00041	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0291	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00206	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0385	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0265	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#4
- 2. Emission Source Description :**      One diesel-fired emergency generator (1000 kW) located at Taylor Hall [MACT]
- 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 2019:**      1030 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

<b>%Sulfur</b>	0.05	<b>%Ash</b>		<b>Heat Content</b>	135000 Btu/gallon
				(Btu/units)	

 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	11.34	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00351	08			
Acrolein	107-02-8	0.0011	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00056	08			
Benzene	71-43-2	0.108	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00004	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00042	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00042	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00042	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.011	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00125	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00084	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00042	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0181	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00042	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0295	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00209	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0391	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0268	08			



**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 2019**

- 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 2019:**      1010 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
(If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	11.11	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00344	08			
Acrolein	107-02-8	0.00107	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00055	08			
Benzene	71-43-2	0.106	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00041	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0108	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00123	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00082	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00041	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0177	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00041	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0289	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00204	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0383	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0263	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#6
- 2. Emission Source Description :**      One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building [MACT]
- 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 2019:**      2140 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
(If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	23.55	08			
Methane (CH4)	74-82-8	0.001	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
		<b>2019</b>				
CO	CO	0.12	08			
NOx	NOx	0.27	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00728	08			
Acrolein	107-02-8	0.00228	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00116	08			
Benzene	71-43-2	0.224	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00007	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00087	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00087	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00087	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0228	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00026	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00173	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00087	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0376	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00087	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0612	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00433	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0812	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0558	08			

**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 2019**

- 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 2019:**      793 GAL/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	8.72	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
		<b>2019</b>				
CO	CO	0.05	08			
NOx	NOx	0.1	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0027	08			
Acrolein	107-02-8	0.00084	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00043	08			
Benzene	71-43-2	0.083	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00032	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00032	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00032	08			
Formaldehyde	50-00-0	0.00084	08			



<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00096	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00064	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00032	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0139	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00032	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0227	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00016	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0301	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0207	08			

**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 2019**

- 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 2019:**      1015 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	11.17	08			
Methane (CH4)	74-82-8	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
		<b>2019</b>				
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		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
		<b>2019</b>				
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	0.106	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00041	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0108	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00123	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00082	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00041	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0178	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00041	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.029	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00205	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0385	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0264	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-EG#9
- 
- 2. Emission Source Description :**      [PSD] One diesel-fired emergency generator (1000 kW) located at the Wilson-Dey Building [MACT]
- 
- 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 2019:**      1347 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	14.83	08			
Methane (CH4)	74-82-8	0.0006	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
		<b>2019</b>				
CO	CO	0.08	08			
NOx	NOx	0.17	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00458	08			
Acrolein	107-02-8	0.00143	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00073	08			
Benzene	71-43-2	0.141	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00005	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00055	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00055	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00055	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0144	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00164	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00109	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00055	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0236	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00055	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0386	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00273	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0511	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0351	08			

**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 2019**

- 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
- 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 2019:** 91 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**  
 (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	1	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00942	08			
Acrolein	107-02-8	0.00114	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00005	08			
Benzene	71-43-2	0.0115	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00004	08			
Butadiene, 1,3-	106-99-0	0.00048	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	0.0145	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00011	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00007	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00004	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00104	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00004	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00206	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00018	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00503	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0035	08			

**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 2019**

- 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 2019:** 48 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	0.53	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
		<b>2019</b>				
CO	CO		08			
NOx	NOx	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00498	08			
Acrolein	107-02-8	0.0006	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00003	08			
Benzene	71-43-2	0.00606	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00002	08			
Butadiene, 1,3-	106-99-0	0.00025	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	0.00766	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00006	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00004	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00002	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00055	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00002	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00109	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0001	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00266	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00185	08			

**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 2019**

- 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 III]
- 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 2019:** 36 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	0.39	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
		<b>2019</b>				
CO	CO	0	08			
NOx	NOx	0.01	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0037	08			
Acrolein	107-02-8	0.00045	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00002	08			
Benzene	71-43-2	0.0045	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00001	08			
Butadiene, 1,3-	106-99-0	0.00019	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	0.0057	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00004	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00003	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00001	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00041	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00001	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00081	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00007	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00197	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00138	08			



**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 2019**

- 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 2019:**      359 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      %Sulfur      0.0015      %Ash           Heat Content      135000 Btu/gallon  
 (If fuel is used)                          (Btu/units)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	3.95	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
		<b>2019</b>				
CO	CO	0.02	08			
NOx	NOx	0.05	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00122	08			
Acrolein	107-02-8	0.00038	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00019	08			
Benzene	71-43-2	0.0376	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00015	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00382	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00044	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00029	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00015	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0063	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00015	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0103	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00073	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0136	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00936	08			

**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 2019**

- 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 2019:**      927 GAL/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |              |                   |
|---------|--------|------|--|--------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |        |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	10.21	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
		<b>2019</b>				
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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00315	08			
Acrolein	107-02-8	0.00099	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0005	08			
Benzene	71-43-2	0.0971	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	0.00988	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00113	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00075	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00038	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0163	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00038	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0265	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00188	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0352	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0242	08			

**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 2019**

- 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 2019:** 772 KW-HR/yr  
(e.g. production or fuel use):
- 6. Fuel Information**  
(If fuel is used)
- |         |  |      |  |                             |             |
|---------|--|------|--|-----------------------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content<br>(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-IS21	VERTICAL STACK	6	0.25	850	152.79	450	emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	0.482	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
		<b>2019</b>				
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		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
		<b>2019</b>				



**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 2019**

- 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 2019:**      755 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	8.31	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
		<b>2019</b>				
CO	CO	0.04	08			
NOx	NOx	0.1	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00257	08			
Acrolein	107-02-8	0.0008	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00041	08			
Benzene	71-43-2	0.0791	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00031	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00804	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00092	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00061	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00031	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0132	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00031	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0216	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00153	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0286	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0197	08			

**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 2019**

- 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
- 
- 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 2019:**      915 KW-HR/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |  |      |  |              |             |
|---------|--|------|--|--------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content | 1026 Btu/CF |
|         |  |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	0.571	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
		<b>2019</b>				
CO	CO		08			
NOx	NOx	0.01	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
		<b>2019</b>				

**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 2019**

- 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 2019:**      793 GAL/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	8.72	08			
Methane (CH4)	74-82-8	0.0004	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
		<b>2019</b>				
CO	CO	0.05	08			
NOx	NOx	0.1	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0027	08			
Acrolein	107-02-8	0.00084	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00043	08			
Benzene	71-43-2	0.083	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00032	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00032	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00032	08			
Formaldehyde	50-00-0	0.00844	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00096	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00064	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00032	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0139	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00032	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0227	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00161	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0301	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0207	08			



**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 2019**

- 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 2019:**      107 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |              |                   |
|---------|--------|------|--|--------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |        |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	1.18	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
		<b>2019</b>				
CO	CO	0.01	08			
NOx	NOx	0.03	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0111	08			
Acrolein	107-02-8	0.00134	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00006	08			
Benzene	71-43-2	0.0135	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00004	08			
Butadiene, 1,3-	106-99-0	0.00057	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	0.017	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00013	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00009	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00004	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00122	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00243	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00022	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00591	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00412	08			

**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 2019**

- 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 2019:**      519 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |              |                   |
|---------|--------|------|--|--------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |        |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	5.71	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
		<b>2019</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00177	08			
Acrolein	107-02-8	0.00055	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00028	08			
Benzene	71-43-2	0.0544	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00021	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00553	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00063	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00042	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00021	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00911	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00021	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0149	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00105	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0197	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0135	08			

**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 2019**

- 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 2019:** 761 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**  
 (If fuel is used)
- |         |      |      |  |                             |                   |
|---------|------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	8.37	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
		<b>2019</b>				
CO	CO	0.04	08			
NOx	NOx	0.1	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00259	08			
Acrolein	107-02-8	0.00081	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00041	08			
Benzene	71-43-2	0.0797	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			



<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00031	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0081	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00092	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00062	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00031	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0134	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00031	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0218	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00154	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0289	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0198	08			

**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 2019**

- 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]
- 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 2019:**      571 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash		Heat Content	135000 Btu/gallon
				(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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	6.28	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
		<b>2019</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00194	08			
Acrolein	107-02-8	0.00061	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00031	08			
Benzene	71-43-2	0.0598	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00023	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00023	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00023	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00608	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00069	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00046	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00023	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.01	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00023	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0163	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00116	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0216	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0149	08			

**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 2019**

- 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]
- 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 2019:**      515 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.05	%Ash	Heat Content
			(Btu/units)
			135000 Btu/gallon

  
 (If fuel is used)
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	5.67	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
		<b>2019</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.00175	08			
Acrolein	107-02-8	0.00055	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00028	08			
Benzene	71-43-2	0.054	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			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00021	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00549	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00063	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00042	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00021	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00904	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00021	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0147	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00104	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0195	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0134	08			

**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 2019**

- 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 2019:**      555 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |              |                   |
|---------|------|------|--|--------------|-------------------|
| %Sulfur | 0.05 | %Ash |  | Heat Content | 135000 Btu/gallon |
|         |      |      |  | (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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	6.11	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
		<b>2019</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	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
		<b>2019</b>				
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	0.0581	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00023	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00023	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00023	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00591	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00067	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00045	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00023	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00974	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00023	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0159	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00112	08			
<b>Toluene</b>	<b>108-88-3</b>	0.021	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0145	08			

**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 2019**

- 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 2019:**      399 GAL/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	4.4	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
		<b>2019</b>				
CO	CO	0.03	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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0414	08			
Acrolein	107-02-8	0.00499	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00022	08			
Benzene	71-43-2	0.0503	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00016	08			
Butadiene, 1,3-	106-99-0	0.00211	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00016	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00016	08			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0636	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00049	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00032	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00016	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00457	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00016	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00906	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00081	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0221	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0154	08			

**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 2019**

- 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 2019:**      333 GAL/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	3.66	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
		<b>2019</b>				
CO	CO	0.02	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		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0345	08			
Acrolein	107-02-8	0.00416	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00018	08			
Benzene	71-43-2	0.0419	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00013	08			
Butadiene, 1,3-	106-99-0	0.00176	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	0.053	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0004	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00027	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00013	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00381	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00013	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00755	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00067	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0184	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0128	08			



**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 2019**

- 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]
- 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 2019:** 250 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**  
(If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	2.75	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
		<b>2019</b>				
CO	CO	0.02	08			
NOx	NOx	0.07	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0259	08			
Acrolein	107-02-8	0.00312	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00013	08			
Benzene	71-43-2	0.0314	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0001	08			
Butadiene, 1,3-	106-99-0	0.00132	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			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0398	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0003	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.0002	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0001	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00286	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0001	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00566	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00051	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0138	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00961	08			

**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 2019**

- 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 2019:** 250 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |        |      |  |                             |                   |
|---------|--------|------|--|-----------------------------|-------------------|
| %Sulfur | 0.0015 | %Ash |  | Heat Content<br>(Btu/units) | 135000 Btu/gallon |
|---------|--------|------|--|-----------------------------|-------------------|
- 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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	2.75	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
		<b>2019</b>				
CO	CO	0.02	08			
NOx	NOx	0.07	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2		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
		<b>2019</b>				
Acetaldehyde	75-07-0	0.0259	08			
Acrolein	107-02-8	0.00312	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00013	08			
Benzene	71-43-2	0.0314	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0001	08			
Butadiene, 1,3-	106-99-0	0.00132	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			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0398	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0003	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.0002	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0001	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00286	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0001	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00566	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00051	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0138	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00961	08			

**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 2019**

- 1. Emission Source ID (from permit) or Emission Source Group ID**      ES-SB-6
- 2. Emission Source Description :**      One natural gas-fired boiler at Davie Hall; 2.52 million Btu per hour heat input capacity [2D .1109 Case by Case MACT]
- 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 2019:**      1000 E3FT3/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

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

  
 (If fuel is used)
- 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 2019)

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 2019	29%	March-May 2019	23%	June-Aug. 2019	25%	Sept.-Nov. 2019	23%
--------------------	-----	----------------	-----	----------------	-----	-----------------	-----

**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
		<b>2019</b>				
Carbon Dioxide (CO2)	124389	58.02	08			
Methane (CH4)	74-82-8	0.0011	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
		<b>2019</b>				
CO	CO	0.04	08			
NOx	NOx	0.05	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
		<b>2019</b>				
Benzene	71-43-2	0.00203	08			
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.00008	08			
Formaldehyde	50-00-0	0.0724	08			
Hexane, n-	110-54-3	1.74	08			
Naphthalene (Component of POMTV)	91-20-3	0.00059	08			
Selenium Compounds	SEC	0.00002	08			
Toluene	108-88-3	0.00328	08			





**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 2019**

- 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 2019:** 9.1 LB/yr  
 (e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |  |      |  |                             |  |
|---------|--|------|--|-----------------------------|--|
| %Sulfur |  | %Ash |  | Heat Content<br>(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 2019)

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 2019	25%	March-May 2019	25%	June-Aug. 2019	25%	Sept.-Nov. 2019	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
		2019				
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
		2019				
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
		2019				
Ethylene oxide	75-21-8	9.1	03			

**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 2019**

- 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 2019:** 11806.8 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 2019)

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 2019	42%	March-May 2019	30%	June-Aug. 2019	3%	Sept.-Nov. 2019	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
		<b>2019</b>				
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
		<b>2019</b>				
CO	CO		08			
NOx	NOx		08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	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
		<b>2019</b>				

**COPY of RECORD Date Submitted: 6/19/2020 13:06:43**

**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 2019**

**Record Facility-Wide Totals From all Permitted and Non-Permitted AirPollutant Emission Sources**

**Green House Gases Pollutants(GHG)**

Pollutant	CAS	Actual Emissions (Tons/Year)		% Change
		2019	2018	
Carbon Dioxide (CO2)	124389	250318.4	273986.299	-8.638353%
Methane (CH4)	74-82-8	18.5126	22.2542	-16.813005%
Nitrous Oxide (N2O)	10024972	2.6365	3.2027	-17.678835%

**Criteria Pollutants**

Pollutant	CAS	Actual Emissions (Tons/Year)		% Change
		2019	2018	
CO	CO	69.74	64.8486	7.542793%
NOx	NOx	237.63	320.2827	-25.806173%
PM(TSP)	TSP	11.91	12.80879	-7.0169806%
PM10	PM10	11.9	12.75798	-6.7250514%
PM2.5	PM2.5	9.22	9.50944	-3.0437138%
SO2	SO2	275.32	303.6096	-9.317749%
VOC	VOC	4.0	3.27	22.32416%

**Hazardous Air Pollutants(HAPS) and/or Toxic Air Pollutants(TAPs)**

Pollutant	CAS	Actual Emissions (Pounds/Year)		% Change
		2019	2018	
<b>Pollutant Group:Antimony &amp; Compounds (total mass, inc elemental SB) Group Sum:.46392</b>				
Antimony Metal - add to SBC	7440-36-0	0.0	Not reported	N/A
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.46392	.56801	-18.325378%
<b>Pollutant Group:Arsenic &amp; Compounds (total mass of elemental AS, arsine and all inorganic compounds) Group Sum:.65985</b>				
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.65985	.7432	-11.215016%
<b>Pollutant Group:Beryllium &amp; compounds (Total mass) Group Sum:.11019</b>				
Beryllium Compound, Unlisted (Specify & Component of BEC)	BEC-Other	8.0E-4	Not reported	N/A
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.10939	.15257	-28.301764%
<b>Pollutant Group:Cadmium &amp; compounds (total mass inc elemental metal) Group Sum:1.3147</b>				

Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	1.3139	1.09536	19.951427%
Cadmium Unlisted Compounds (Specify & Component of CDC)	CDC-Other	8.0E-4	Not reported	N/A
<b>Pollutant Group:Chlorinated Dioxin Compounds of interest as HAP or TAP Group Sum:0.0</b>				
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8 (Component of CLDC)	57653-85-7	0.0	Not reported	N/A
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	1746-01-6	0.0	Not reported	N/A
<b>Pollutant Group:Chromium (VI) Soluble Chromate Compounds (Component of CRC) Group Sum:1.41213</b>				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.41213	5.47102	-74.18891%
<b>Pollutant Group:Chromium - All/Total (Inc Chromium (VI) categories, metal and Others) Group Sum:1.41293</b>				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.41213	5.47102	-74.18891%
Chromium Unlisted Compounds (Specify & Component of CRC)	CRC-Other	8.0E-4	Not reported	N/A
<b>Pollutant Group:Cobalt compounds Group Sum:.47803</b>				
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.47803	.54745	-12.680612%
<b>Pollutant Group:Cyanide compounds (see also hydrogen cyanide) Group Sum:145.2125</b>				
Cyanide Unlisted Compounds (Specify & Component of CNC)	CNC-Other	145.2125	176.93	-17.926582%
<b>Pollutant Group:Lead and Lead compounds Group Sum:3.07824</b>				
Lead Unlisted Compounds (Specify and Component of PBC)	PBC-Other	3.07824	3.61624	-14.877334%
<b>Pollutant Group:Manganese &amp; compounds Group Sum:17.59594</b>				
Manganese Unlisted Compounds (Specify & Component of MNC)	MNC-Other	17.59594	21.50454	-18.175697%
<b>Pollutant Group:Mercury &amp; Compounds - all total mass, inc Hg Vapor Group Sum:1.48029</b>				
Mercury Unlisted Compounds (Specify & Component of HGC)	HGC-Other	8.0E-4	Not reported	N/A
Mercury, vapor (Component of HGC)	7439-97-6	1.47949	1.71578	-13.771578%
<b>Pollutant Group:Nickel &amp; Compounds, sum total mass, inc elemental Group Sum:16.08365</b>				
Nickel metal (Component of NIC)	7440-02-0	16.08365	18.77424	-14.3312845%
<b>Pollutant Group:Polycyclic Organic Matter (7 PAH Compounds for NIF) Group Sum:.00399</b>				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00399	.00545	-26.78899%
<b>Pollutant Group:Polycyclic Organic Matter (Specific Compounds from OAQPS for TV) Group Sum:2.42024</b>				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00399	.00545	-26.78899%
Biphenyl (Component of POMTV)	92-52-4	0.09875	.12031	-17.920372%
Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)	132-64-9	0.01168	.01423	-17.919884%
Naphthalene (Component of POMTV)	91-20-3	2.30582	2.82987	-18.518518%
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	1746-01-6	0.0	Not reported	N/A
Acetaldehyde	75-07-0	34.24983	41.54329	-17.556292%
Acetophenone	98-86-2	0.87128	1.06158	-17.926105%
Acrolein	107-02-8	17.01313	20.71887	-17.88582%
Ammonia (as NH3)	7664-41-7	3220.371	2372.5376	35.735302%
Benzene	71-43-2	83.76846	102.80724	-18.51891%

Benzyl chloride	100-44-7	40.6595	49.5404	-17.926584%
Bromine	7726-95-6	11.93593	14.79368	-19.31737%
Bromoform	75-25-2	2.26531	2.76011	-17.926817%
Butadiene, 1,3-	106-99-0	0.05	.04814	3.8637311%
Carbon disulfide	75-15-0	7.55105	9.20036	-17.926582%
Carbon tetrachloride	56-23-5	0.0	Not reported	N/A
Chlorine	7782-50-5	154.5061	190.37668	-18.841896%
Chloroacetophenone, 2-	532-27-4	0.4066	.49541	-17.926565%
Chlorobenzene	108-90-7	1.27787	1.55699	-17.926895%
Chloroform	67-66-3	3.42701	4.17555	-17.926737%
Chromium (VI) & compounds	CHROM6CPDS	0.01373	Not reported	N/A
Cumene	98-82-8	0.30785	.37509	-17.926365%
Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	4.2402	5.16635	-17.92658%
Dichlorobenzene(p), 1,4-	106-46-7	1.19155	.87302	36.485996%
Dimethyl sulfate	77-78-1	2.78808	3.39705	-17.926434%
Dinitrophenol, 2,4-	51-28-5	0.0	Not reported	N/A
Dinitrotoluene, 2,4-	121-14-2	0.01626	.01982	-17.96165%
Ethyl benzene	100-41-4	5.45999	6.68409	-18.313639%
Ethyl chloride (chloroethane)	75-00-3	2.43957	2.97243	-17.926748%
Ethylene dibromide	106-93-4	0.0697	.08493	-17.932415%
Ethylene dichloride (1,2-dichloroethane)	107-06-2	2.3234	2.83088	-17.926579%
Ethylene oxide	75-21-8	9.1	9.1	0.0%
Fluorides (sum of all fluoride compounds)	16984-48-8	339.36337	414.68736	-18.16404%
Formaldehyde	50-00-0	171.64201	175.85399	-2.3951547%
Hexane, n-	110-54-3	1816.7621	1340.76113	35.502296%
Hydrogen chloride (hydrochloric acid)	7647-01-0	28734.18	22542.16	27.468616%
Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)	7664-39-3	329.01477	405.18248	-18.798374%
Isophorone	78-59-1	33.6893	41.04776	-17.92658%
Methyl bromide	74-83-9	9.2936	11.32352	-17.926579%
Methyl chloride	74-87-3	30.78505	37.50916	-17.92658%
Methyl chloroform	71-55-6	0.0	1.42453	-100.0%
Methyl ethyl ketone	78-93-3	22.65315	27.60108	-17.926579%
Methyl hydrazine	60-34-4	9.87445	12.03124	-17.926586%
Methyl methacrylate	80-62-6	1.1617	1.41544	-17.926579%
Methyl tertiary butyl ether (MTBE)	1634-04-4	2.03298	2.47702	-17.926382%
Methylene chloride	75-09-2	16.84465	20.52388	-17.92658%
Nitrophenol, 4-	100-02-7	0.0	Not reported	N/A
Pentachlorophenol	87-86-5	0.0	Not reported	N/A
Perchloroethylene (tetrachloroethylene)	127-18-4	0.0	Not reported	N/A
Phenol	108-95-2	0.92936	1.13235	-17.926437%
Phosphorus Metal, Yellow or White	7723-14-0	2.08779	2.57269	-18.847975%
Polychlorinated biphenyls (PCB)	1336-36-3	0.0	Not reported	N/A
Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC & AP 42 historic amorphous glob)	POM	5.53977	7.03935	-21.302818%
Propionaldehyde	123-38-6	22.0723	26.89336	-17.926582%
Propylene dichloride	78-87-5	0.0	Not reported	N/A



Selenium Compounds	SEC	0.44443	.64636	-31.241104%
Styrene	100-42-5	1.45213	1.7693	-17.9263%
Tetrachloroethane, 1,1,2,2-	79-34-5	2.49765	Not reported	N/A
Toluene	108-88-3	19.68599	25.97214	-24.203436%
Trichloroethane, 1,1,2-	79-00-5	1.1617	1.41544	-17.926579%
Trichloroethylene	79-01-6	2.49765	3.04319	-17.926586%
Trichlorophenol, 2,4,5-	95-95-4	0.0	Not reported	N/A
Vinyl acetate	108-05-4	0.44145	.53787	-17.926264%
Vinyl chloride	75-01-4	0.0	Not reported	N/A
Xylene	1330-20-7	3.74252	5.0107	-25.30944%

**COPY of RECORD Date Submitted: 6/19/2020 13:06:43**

**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:**

**6/9/2020 - Operating Scenario Comments**

OS OS95 : These generators are Non-Emergency generators.OS OS95 : They also have their own stack now and no longer emit through B#8 stack.