

**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**

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200 East Cameron Avenue, CB#1000  
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**County :** Orange  
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**Emission Source & Operating Scenario List - See Instructions**

*ES Group ID	*ES ID	*OS ID	*OS Description
GR17	ES-006, ES-007	95	Two No.2 Fuel Oil-Fired 2,000 kW Generators at the Cogeneration Facility
GR19	ES-T-003, ES-T-004	97	Two 184,200 gallon No.2 fuel oil storage tanks at the Manning Drive Steam Plant
GR20	IES-SB-1, IES-SB-11, IES-SB-12, IES-SB-13, IES-SB-14, IES-SB-16, IES-SB-17, IES-SB-2, IES-SB-3, IES-SB-4, IES-SB-5, IES-SB-7, IES-SB-8	123	13 Insignificant Natural Gas-Fired Boilers/Hotwater Heaters
G-80	ES-Gen-1, ES-Gen-10, ES-Gen-11, 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-7, ES-Gen-9, ES-Gen-8, ES-Gen-67, ES-Gen-68, ES-Gen-12, ES-Gen-14, ES-Gen-58, ES-Gen-60, ES-Gen-61, ES-Gen-62, ES-Gen-71, ES-Gen-72, ES-Gen-74, ES-Gen-75, ES-Gen-77	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-002, ES-T-001	28	T-001 500,000 gal. Fuel Oil Storage Tank
		29	T-002 500,000 gal. Fuel Oil Storage Tank
	ES-001-Boiler #6	4	[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		5	[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		30	[NSPS] One No. 2 fuel oil-fired,

			circulating fluidized combustion boiler, 323.17 million Btu heat input capacity.
		110	OS-110[NSPS] One wood pellet-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
	ES-002-Boiler #7	7	[NSPS] One coal-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		8	[NSPS] One natural gas-fired, circulating fluidized combustion boiler, 323.17 million Btu heat input capacity
		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-Bullit Building.

	ES-EG#18	104	1,000 kW Diesel-fired Emergency Generator at Venable Hall
	ES-EG#19	105	one diesel-fired emergency generator (2,500 kW) located at Imaging Research
	ES-EG#2	19	One diesel-fired emergency generator (1600 kW), located at the Thurston Bowles Building
	ES-EG#20	106	One diesel-fire emergency generator (2,000 kW) located at the Genomic Science Building
	ES-EG#21	113	1,350 kW Emergency Generator at the Dental Research Building
	ES-EG#3	20	One diesel-fired emergency generator (728 kW), located at the Lineberger Cancer Research Building
	ES-EG#4	21	One diesel-fired emergency generator (1000 kW) located at Taylor Hall
	ES-EG#5	22	One diesel-fired emergency generator (910 kW) located at the Neuroscience Research Building
	ES-EG#6	23	One diesel-fired emergency generator (1500 kW) located at the Medical Biomolecular Research Building
	ES-EG#7	43	One diesel-fired emergency generator (1250 kW) located at the Michael Hooker Research Center
	ES-EG#8	44	One diesel-fired emergency generator (800 kW) located at Chapman Hall
	ES-EG#9	45	One diesel-fired emergency generator (1,000 kW) located at the Caudill Labs
	ES-FP-1	107	77 Hp Fire Pump at Kenan Stadium
	ES-FP-2	114	110 Hp Diesel Fire Pump at the McColl Building
	ES-FP-3	115	123 Hp Diesel Fire Pump at the Davis Library
	ES-Gen-13	122	300 kW diesel-fired emergency generator at Davie Hall
	ES-Gen-2	108	OS-108/[NSPS] One diesel-fired emergency generator (450 kW) located at the Ambulatory Care Center
	ES-Gen-21	82	One 40 kW natural gas-fired emergency generator located at the Old Dental School Building
	ES-Gen-29	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**

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200 East Cameron Avenue, CB#1000  
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**North Carolina Department of Environmental Quality  
Division of Air Quality  
Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

- 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 2020:**      4197 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0397	%Ash		Heat Content (Btu/units)	134030 Btu/gallon
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(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 2020)

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 2020	44%	March-May 2020	18%	June-Aug. 2020	24%	Sept.-Nov. 2020	14%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	45.86	08			
Methane (CH4)	74-82-8	0.0019	08			
Nitrous Oxide (N2O)	10024972	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>2020</b>				
CO	CO	0.07	24			
NOx	NOx	0.53	08			
TSP	TSP	0.03	08			
PM10	PM10	0.03	08			
PM2.5	PM2.5	0.03	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>2020</b>				
Acetaldehyde	75-07-0	0.0142	08			
Acrolein	107-02-8	0.00443	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00225	08			
Benzene	71-43-2	0.436	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00015	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00169	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00169	08			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0444	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00506	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00337	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00169	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0731	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00169	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.119	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00844	08			
<b>Toluene</b>	<b>108-88-3</b>	0.158	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.109	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 2020**

- 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 2020:**      0 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
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
		2020				

**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 2020**

**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 2020:**      12382.7 E3FT3/yr  
 (e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	1026 Btu/CF
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**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 2020)

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 2020	31%	March-May 2020	22%	June-Aug. 2020	23%	Sept.-Nov. 2020	24%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	743.07	08			
Methane (CH4)	74-82-8	0.014	08			
Nitrous Oxide (N2O)	10024972	0.0014	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>2020</b>				
CO	CO	0.52	08			
NOx	NOx	0.62	08			
TSP	TSP	0.05	08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2	0	08			
VOC	VOC	0.03	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Benzene	71-43-2	0.026	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.00104	08			
Formaldehyde	50-00-0	0.929	08			
Hexane, n-	110-54-3	22.3	08			
Naphthalene (Component of POMTV)	91-20-3	0.00755	08			
Selenium Compounds	SEC	0.0003	08			
Toluene	108-88-3	0.0421	08			

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**As entered in AERO**

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

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

**North Carolina Department of Environmental Quality  
Division of Air Quality  
Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

**1. Emission Source ID (from permit) or Emission Source Group ID**      Group G-80 consisting of ES-Gen-1, ES-Gen-10, ES-Gen-11, 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-7, ES-Gen-9, ES-Gen-8, ES-Gen-67, ES-Gen-68, ES-Gen-12, ES-Gen-14, ES-Gen-58, ES-Gen-60, ES-Gen-61, ES-Gen-62, ES-Gen-71, ES-Gen-72, ES-Gen-74, ES-Gen-75, ES-Gen-77

**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 2020:**      8781 GAL/yr  
(e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	135000 Btu/gallon
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**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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	96.64	08			
Methane (CH4)	74-82-8	0.0039	08			
Nitrous Oxide (N2O)	10024972	0.0008	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>2020</b>				
CO	CO	0.56	08			
NOx	NOx	2.61	08			
TSP	TSP	0.18	08			
PM10	PM10	0.18	08			
PM2.5	PM2.5	0.18	08			
SO2	SO2	0.03	08			
VOC	VOC	0.21	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>2020</b>				
Acetaldehyde	75-07-0	0.909	08			
Acrolein	107-02-8	0.11	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00474	08			
Benzene	71-43-2	1.11	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00022	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00356	08			
Butadiene, 1,3-	106-99-0	0.0463	08			

<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.00356	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	1.4	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0107	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00711	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00356	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.101	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00356	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.199	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0178	08			
<b>Toluene</b>	<b>108-88-3</b>	0.485	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.338	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 2020**

**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 2020:**      48364 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 2020)

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 2020	35%	March-May 2020	24%	June-Aug. 2020	20%	Sept.-Nov. 2020	21%
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**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
		2020				
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
		2020				
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
		2020				

**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 2020**

**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 2020:**      48364 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 2020)

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 2020	35%	March-May 2020	24%	June-Aug. 2020	20%	Sept.-Nov. 2020	21%
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**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
		2020				
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
		2020				
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
		2020				

**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 2020**

**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 2020:** 48364 TON/yr  
(e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	
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**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 2020)

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 2020	35%	March-May 2020	24%	June-Aug. 2020	20%	Sept.-Nov. 2020	21%
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**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
		2020				
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
		2020				
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
		2020				

**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 2020**

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

**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 2020:**      4197 GAL/yr  
 (e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	
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**7. Capture Efficiency**  
 (% of Emissions from this Process Vented to Control Device or Stack):

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**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 2020)

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 2020	44%	March-May 2020	18%	June-Aug. 2020	24%	Sept.-Nov. 2020	14%
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**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
		2020				
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
		2020				
CO	CO		08			
NOx	NOx		08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC	0.11	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				



**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 2020**

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

**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 2020:**      4197 GAL/yr  
 (e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	
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**7. Capture Efficiency**  
 (% of Emissions from this Process Vented to Control Device or Stack):

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**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 2020)

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 2020	44%	March-May 2020	18%	June-Aug. 2020	24%	Sept.-Nov. 2020	14%
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**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
		2020				
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
		2020				
CO	CO		08			
NOx	NOx		08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2		08			
VOC	VOC	0.11	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				

**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 2020**

- 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 2020:**      28510 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |      |      |  |                             |              |
|---------|------|------|--|-----------------------------|--------------|
| %Sulfur | 2.03 | %Ash |  | Heat Content<br>(Btu/units) | 12632 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 2020)

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 2020	31%	March-May 2020	38%	June-Aug. 2020	14%	Sept.-Nov. 2020	17%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	78443.1	01	0		
Methane (CH4)	74-82-8	8.73	08	0		
Nitrous Oxide (N2O)	10024972	1.27	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>2020</b>				
CO	CO	12.28	04	0		
NOx	NOx	59.12	01	0		
TSP	TSP	0.73	04	99.8		
PM10	PM10	0.73	04	99.6		
PM2.5	PM2.5	0.73	04	97.9		
SO2	SO2	127.86	01	90		
VOC	VOC	0.17	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>2020</b>				
Acetaldehyde	75-07-0	16.2507	09	0	0.00057	AFTER
Acetophenone	98-86-2	0.42765	09	0	0.000015	AFTER
Acrolein	107-02-8	8.2679	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.22808	04	99.8	0.000008	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.21668	04	99.8	0.0000076	AFTER
Benzene	71-43-2	37.063	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00108	09	0	3.8E-8	AFTER
Benzyl chloride	100-44-7	19.957	09	0	0.0007	AFTER

<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.03706	04	99.8	0.0000013	AFTER
<b>Biphenyl (Component of POMTV)</b>	<b>92-52-4</b>	0.04847	09	0	0.0000017	AFTER
<b>Bromine</b>	<b>7726-95-6</b>	5.90616	09	99.8	0.103582	BEFORE
<b>Bromoform</b>	<b>75-25-2</b>	1.11189	09	0	0.000039	AFTER
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.10007	04	99.8	0.00000351	AFTER
<b>Carbon disulfide</b>	<b>75-15-0</b>	3.7063	09	0	0.00013	AFTER
<b>Chlorine</b>	<b>7782-50-5</b>	77.80379	04	0	0.002729	AFTER
<b>Chloroacetophenone, 2-</b>	<b>532-27-4</b>	0.19957	09	0	0.000007	AFTER
<b>Chlorobenzene</b>	<b>108-90-7</b>	0.62722	09	0	0.000022	AFTER
<b>Chloroform</b>	<b>67-66-3</b>	1.68209	09	0	0.000059	AFTER
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0069	09	99.8	0.000121	BEFORE
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.19871	04	99.8	0.00000697	AFTER
<b>Cumene</b>	<b>98-82-8</b>	0.1511	09	0	0.0000053	AFTER
<b>Cyanide Unlisted Compounds (Specify &amp; Component of CNC)</b>	<b>CNC-Other</b>	71.275	09	0	0.0025	AFTER
<b>Di(2-ethylhexyl)phthalate (DEHP)</b>	<b>117-81-7</b>	2.08123	09	0	0.000073	AFTER
<b>Dimethyl sulfate</b>	<b>77-78-1</b>	1.36848	09	0	0.000048	AFTER
<b>Dinitrotoluene, 2,4-</b>	<b>121-14-2</b>	0.00798	09	0	2.8E-7	AFTER
<b>Ethyl benzene</b>	<b>100-41-4</b>	2.67994	09	0	0.000094	AFTER
<b>Ethyl chloride (chloroethane)</b>	<b>75-00-3</b>	1.19742	09	0	0.000042	AFTER
<b>Ethylene dibromide</b>	<b>106-93-4</b>	0.03421	09	0	0.0000012	AFTER
<b>Ethylene dichloride (1,2-dichloroethane)</b>	<b>107-06-2</b>	1.1404	09	0	0.00004	AFTER
<b>Fluorides (sum of all fluoride compounds)</b>	<b>16984-48-8</b>	165.67161	08	0	0.005811	AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	47.39502	04	0	0.0016624	AFTER
<b>Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)</b>	<b>132-64-9</b>	0.00573	09	0	2.01E-7	AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	1.91017	09	0	0.000067	AFTER
<b>Hydrogen chloride (hydrochloric acid)</b>	<b>7647-01-0</b>	14045.39448	04	0	0.492648	AFTER
<b>Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)</b>	<b>7664-39-3</b>	165.67161	04	0	0.005811	AFTER
<b>Isophorone</b>	<b>78-59-1</b>	16.5358	09	0	0.00058	AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	1.26869	04	99.8	0.0000445	AFTER
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	8.63853	04	99.8	0.000303	AFTER

<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.04676	04	99.8	0.00000164	AFTER
<b>Methyl bromide</b>	<b>74-83-9</b>	4.5616	09	0	0.00016	AFTER
<b>Methyl chloride</b>	<b>74-87-3</b>	15.1103	09	0	0.00053	AFTER
<b>Methyl chloroform</b>	<b>71-55-6</b>	0.5702	08	0	0.00002	AFTER
<b>Methyl ethyl ketone</b>	<b>78-93-3</b>	11.1189	09	0	0.00039	AFTER
<b>Methyl hydrazine</b>	<b>60-34-4</b>	4.8467	09	0	0.00017	AFTER
<b>Methyl methacrylate</b>	<b>80-62-6</b>	0.5702	09	0	0.00002	AFTER
<b>Methyl tertiary butyl ether (MTBE)</b>	<b>1634-04-4</b>	0.99785	09	0	0.000035	AFTER
<b>Methylene chloride</b>	<b>75-09-2</b>	8.2679	09	0	0.00029	AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.37063	09	0	0.000013	AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	7.04197	04	99.8	0.000247	AFTER
<b>Perchloroethylene (tetrachloroethylene)</b>	<b>127-18-4</b>	1.22593	09	0	0.000043	AFTER
<b>Phenol</b>	<b>108-95-2</b>	0.45616	09	0	0.000016	AFTER
<b>Phosphorus Metal, Yellow or White</b>	<b>7723-14-0</b>	1.05173	04	0	0.00003689	AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	1.62222	09	0	0.0000569	AFTER
<b>Propionaldehyde</b>	<b>123-38-6</b>	10.8338	09	0	0.00038	AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.15481	04	0	0.00000543	AFTER
<b>Styrene</b>	<b>100-42-5</b>	0.71275	09	0	0.000025	AFTER
<b>Tetrachlorodibenzo-p- dioxin, 2,3,7,8- (Component of CLDC &amp; POMTV)</b>	<b>1746-01-6</b>	0	09	0	1.43E-11	AFTER
<b>Tetrachloroethane, 1,1,2,2-</b>	<b>79-34-5</b>	0	09	0		
<b>Toluene</b>	<b>108-88-3</b>	6.8424	09	0	0.00024	AFTER
<b>Trichloroethane, 1,1,2-</b>	<b>79-00-5</b>	0	09	0		
<b>Trichloroethylene</b>	<b>79-01-6</b>	0	09	0		
<b>Vinyl acetate</b>	<b>108-05-4</b>	0.21668	09	0	0.0000076	AFTER
<b>Xylene</b>	<b>1330-20-7</b>	1.05487	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 2020**

- 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 2020:**      654068 E3FT3/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	1032 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 2020)

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 2020	26%	March-May 2020	32%	June-Aug. 2020	16%	Sept.-Nov. 2020	26%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	41815.1	01	0		
Methane (CH4)	74-82-8	0.744	09	0		
Nitrous Oxide (N2O)	10024972	0.0744	09	0		
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	27.47	09	0		
NOx	NOx	55.41	01	0		
TSP	TSP	2.48	09	99.8		
PM10	PM10	2.48	09	99.6		
PM2.5	PM2.5	2.48	09	97.9		
SO2	SO2	0	01	0		
VOC	VOC	1.8	09	0		
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Ammonia (as NH3)	7664-41-7	2093.0176	09	99.8	0.0032	AFTER
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.13	09	0		
Benzene	71-43-2	1.4	09	0		
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00772	09	99.8	1.18E-8	AFTER
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.72	09	0		
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.92	09	0		

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.0539	09	99.8	8.24E-8	AFTER
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.78	09	0		
<b>Formaldehyde</b>	<b>50-00-0</b>	49	09	0		
<b>Hexane, n-</b>	<b>110-54-3</b>	1177.32214	09	0		
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.33	09	0		
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.25	09	0		
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.17	09	0		
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.4	09	0		
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	1.4	09	0		
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.43	09	0		
<b>Selenium Compounds</b>	<b>SEC</b>	0.01537	09	0	2.35E-8	AFTER
<b>Toluene</b>	<b>108-88-3</b>	2.2	09	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 2020**

- 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 2020:**      0 E3GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0397	%Ash		Heat Content	134030 Btu/gallon
(If fuel is used)				(Btu/units)	
- 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08	0		
NOx	NOx	0	01	0		
TSP	TSP	0	08	99.8		
PM10	PM10	0	08	99.6		
PM2.5	PM2.5	0	08	97.6		
SO2	SO2	0	01	0		
VOC	VOC	0	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
		2020				

**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 2020**

- 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 2020:**      0 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |  |      |  |                             |             |
|---------|--|------|--|-----------------------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content<br>(Btu/units) | 8185 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08	0		
NOx	NOx	0	01	0		
TSP	TSP	0	08	99.8		
PM10	PM10	0	08	99.6		
PM2.5	PM2.5	0	08	97.6		
SO2	SO2	0	01	0		
VOC	VOC	0	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
		2020				

**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 2020**

- 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 2020:**      19854 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      %Sulfur      2      %Ash           Heat Content      Btu/lb  
(If fuel is used)      (Btu/units)
- |  |   |  |  |  |  |  |
|--|---|--|--|--|--|--|
|  | 2 |  |  |  |  |  |
|--|---|--|--|--|--|--|
- 
- 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 2020)

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 2020	42%	March-May 2020	4%	June-Aug. 2020	27%	Sept.-Nov. 2020	27%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	55299.1	01	0		
Methane (CH4)	74-82-8	6.03	09	0		
Nitrous Oxide (N2O)	10024972	0.88	09	0		
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	8.48	04	0		
NOx	NOx	41.22	01	0		
TSP	TSP	0.46	04	99.8		
PM10	PM10	0.46	04	99.6		
PM2.5	PM2.5	0.46	04	97.9		
SO2	SO2	63.47	01	90		
VOC	VOC	0.11	09	0		
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	11.31678	09	0	0.00057	AFTER
Acetophenone	98-86-2	0.29781	09	0	0.000015	AFTER
Acrolein	107-02-8	5.75766	09	0	0.00029	AFTER
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.16062	04	0	0.00000809	AFTER
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.1497	04	99.8	0.00000754	AFTER
Benzene	71-43-2	25.8102	09	0	0.0013	AFTER
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00075	09	0	3.8E-8	AFTER
Benzyl chloride	100-44-7	13.8978	09	0	0.0007	AFTER

<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.02621	04	99.8	0.00000132	AFTER
<b>Biphenyl (Component of POMTV)</b>	<b>92-52-4</b>	0.03375	09	0	0.0000017	AFTER
<b>Bromine</b>	<b>7726-95-6</b>	4.07652	09	99.8	0.102664	BEFORE
<b>Bromoform</b>	<b>75-25-2</b>	0.77431	09	0	0.000039	AFTER
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.06909	04	99.8	0.00000348	AFTER
<b>Carbon disulfide</b>	<b>75-15-0</b>	2.58102	09	0	0.00013	AFTER
<b>Chlorine</b>	<b>7782-50-5</b>	53.68522	04	0	0.002704	AFTER
<b>Chloroacetophenone, 2-</b>	<b>532-27-4</b>	0.13898	09	0	0.000007	AFTER
<b>Chlorobenzene</b>	<b>108-90-7</b>	0.43679	09	0	0.000022	AFTER
<b>Chloroform</b>	<b>67-66-3</b>	1.17139	09	0	0.000059	AFTER
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00477	04	99.8	0.00012019	BEFORE
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.13719	04	0	0.00000691	AFTER
<b>Cumene</b>	<b>98-82-8</b>	0.10523	09	0	0.0000053	AFTER
<b>Cyanide Unlisted Compounds (Specify &amp; Component of CNC)</b>	<b>CNC-Other</b>	49.635	09	0	0.0025	AFTER
<b>Di(2-ethylhexyl)phthalate (DEHP)</b>	<b>117-81-7</b>	1.44934	09	0	0.000073	AFTER
<b>Dimethyl sulfate</b>	<b>77-78-1</b>	0.95299	09	0	0.000048	AFTER
<b>Dinitrotoluene, 2,4-</b>	<b>121-14-2</b>	0.00556	09	0	2.8E-7	AFTER
<b>Ethyl benzene</b>	<b>100-41-4</b>	1.86628	09	0	0.000094	AFTER
<b>Ethyl chloride (chloroethane)</b>	<b>75-00-3</b>	0.83387	09	0	0.000042	AFTER
<b>Ethylene dibromide</b>	<b>106-93-4</b>	0.02382	09	0	0.0000012	AFTER
<b>Ethylene dichloride (1,2-dichloroethane)</b>	<b>107-06-2</b>	0.79416	09	0	0.00004	AFTER
<b>Fluorides (sum of all fluoride compounds)</b>	<b>16984-48-8</b>	114.34316	08	0	0.0057592	AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	32.71205	04	0	0.00164763	AFTER
<b>Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)</b>	<b>132-64-9</b>	0.00399	09	0	2.01E-7	AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	1.33022	09	0	0.000067	AFTER
<b>Hydrogen chloride (hydrochloric acid)</b>	<b>7647-01-0</b>	7457.1624	04	0	0.3756	AFTER
<b>Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)</b>	<b>7664-39-3</b>	114.34316	04	0	0.0057592	AFTER
<b>Isophorone</b>	<b>78-59-1</b>	11.51532	09	0	0.00058	AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.87497	04	99.8	0.00004407	AFTER
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	5.96573	04	99.8	0.00030048	AFTER

<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.03335	04	0	0.00000168	AFTER
<b>Methyl bromide</b>	<b>74-83-9</b>	3.17664	09	0	0.00016	AFTER
<b>Methyl chloride</b>	<b>74-87-3</b>	10.52262	09	0	0.00053	AFTER
<b>Methyl chloroform</b>	<b>71-55-6</b>	0.39708	09	0	0.00002	AFTER
<b>Methyl ethyl ketone</b>	<b>78-93-3</b>	7.74306	09	0	0.00039	AFTER
<b>Methyl hydrazine</b>	<b>60-34-4</b>	3.37518	09	0	0.00017	AFTER
<b>Methyl methacrylate</b>	<b>80-62-6</b>	0.39708	09	0	0.00002	AFTER
<b>Methyl tertiary butyl ether (MTBE)</b>	<b>1634-04-4</b>	0.69489	09	0	0.000035	AFTER
<b>Methylene chloride</b>	<b>75-09-2</b>	5.75766	09	0	0.00029	AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.2581	09	0	0.000013	AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	4.85708	04	99.8	0.00024464	AFTER
<b>Perchloroethylene (tetrachloroethylene)</b>	<b>127-18-4</b>	0.85372	09	0	0.000043	AFTER
<b>Phenol</b>	<b>108-95-2</b>	0.31766	09	0	0.000016	AFTER
<b>Phosphorus Metal, Yellow or White</b>	<b>7723-14-0</b>	0.72586	04	0	0.00003656	AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	1.11361	09	0	0.00005609	AFTER
<b>Propionaldehyde</b>	<b>123-38-6</b>	7.54452	09	0	0.00038	AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.10681	04	0	0.00000538	AFTER
<b>Styrene</b>	<b>100-42-5</b>	0.49635	09	0	0.000025	AFTER
<b>Tetrachlorodibenzo-p- dioxin, 2,3,7,8- (Component of CLDC &amp; POMTV)</b>	<b>1746-01-6</b>	0	08	0	1.43E-11	
<b>Tetrachloroethane, 1,1,2,2-</b>	<b>79-34-5</b>	0	08	0		AFTER
<b>Toluene</b>	<b>108-88-3</b>	4.76496	09	0	0.00024	AFTER
<b>Trichloroethane, 1,1,2-</b>	<b>79-00-5</b>	0	09	0		
<b>Trichloroethylene</b>	<b>79-01-6</b>	0	09	0		AFTER
<b>Vinyl acetate</b>	<b>108-05-4</b>	0.15089	09	0	0.0000076	AFTER
<b>Xylene</b>	<b>1330-20-7</b>	0.7346	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 2020**

- 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 2020:**      466430 E3FT3/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      (If fuel is used)
- |         |  |      |  |              |             |
|---------|--|------|--|--------------|-------------|
| %Sulfur |  | %Ash |  | Heat Content |             |
|         |  |      |  | (Btu/units)  | 1032 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 2020)

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:**

<b>Jan-Feb + Dec 2020</b>	<b>36%</b>	<b>March-May 2020</b>	<b>5%</b>	<b>June-Aug. 2020</b>	<b>26%</b>	<b>Sept.-Nov. 2020</b>	<b>33%</b>
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**13. Actual Emissions per Pollutant Listed :**

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

<b>GHG Pollutants</b>	<b>CAS</b>	<b>Emissions-GHG Pollutants (Tons/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>Ef Control</b>
		<b>2020</b>				
<b>Carbon Dioxide (CO2)</b>	<b>124389</b>	30456.8	01	0		
<b>Methane (CH4)</b>	<b>74-82-8</b>	0.531	08	0		
<b>Nitrous Oxide (N2O)</b>	<b>10024972</b>	0.0531	08	0		
<b>Criteria (NAAQS) Pollutants</b>	<b>Pollutant Code</b>	<b>Emissions-Criteria Pollutants (Tons/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>Ef Control</b>
		<b>2020</b>				
<b>CO</b>	<b>CO</b>	19.59	09	0		
<b>NOx</b>	<b>NOx</b>	39.91	01	0		
<b>TSP</b>	<b>TSP</b>	1.77	09	99.8		
<b>PM10</b>	<b>PM10</b>	1.77	09	99.6		
<b>PM2.5</b>	<b>PM2.5</b>	1.77	09	97.9		
<b>SO2</b>	<b>SO2</b>	0	09	0		
<b>VOC</b>	<b>VOC</b>	1.28	09	0		
<b>HAP/TAP Pollutants (In Alphabetical Order)</b>	<b>CAS (see instructions)</b>	<b>Emissions HAP/TAPS (Pounds/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>EF Control</b>
		<b>2020</b>				
<b>Ammonia (as NH3)</b>	<b>7664-41-7</b>	1492.576	09	0	0.0032	AFTER
<b>Arsenic Unlisted Compounds ( Specify &amp; Component of ASC)</b>	<b>ASC-Other</b>	0.093	09	0		AFTER
<b>Benzene</b>	<b>71-43-2</b>	0.98	09	0		AFTER
<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.0055	09	0	1.18E-8	AFTER
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.51	09	0		AFTER
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.65	09	0		AFTER

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.03843	09	0	8.24E-8	AFTER
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.56	09	0		AFTER
<b>Formaldehyde</b>	<b>50-00-0</b>	35	09	0		AFTER
<b>Hexane, n-</b>	<b>110-54-3</b>	840	09	0		AFTER
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.23	09	0		AFTER
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.18	09	0		AFTER
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.12	09	0		AFTER
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.28	09	0		AFTER
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.98	09	0		AFTER
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.31	09	0		AFTER
<b>Selenium Compounds</b>	<b>SEC</b>	0.01096	09	0	2.35E-8	AFTER
<b>Toluene</b>	<b>108-88-3</b>	1.6	09	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 2020**

- 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 2020:**      0 E3GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0397	%Ash		Heat Content	134030 Btu/gallon
(If fuel is used)				(Btu/units)	
- 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08	0		
NO <sub>x</sub>	NO <sub>x</sub>	0	01	0		
TSP	TSP	0	08	99.8		
PM <sub>10</sub>	PM <sub>10</sub>	0	08	99.6		
PM <sub>2.5</sub>	PM <sub>2.5</sub>	0	08	97.6		
SO <sub>2</sub>	SO <sub>2</sub>	0	01	0		
VOC	VOC	0	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
		2020				



**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 2020**

- 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 2020:**      0 TON/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	8185 Btu/lb

  
(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-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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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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
		2020				
Carbon Dioxide (CO2)	124389	0	01	0		
Methane (CH4)	74-82-8	0	08	0		
Nitrous Oxide (N2O)	10024972	0	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
		2020				
CO	CO	0	08	0		
NOx	NOx	0	01	0		
TSP	TSP	0	08	99.8		
PM10	PM10	0	08	99.6		
PM2.5	PM2.5	0	08	97.6		
SO2	SO2	0	01	0		
VOC	VOC	0	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
		2020				
Acetaldehyde	75-07-0	0	08	0		
Acetophenone	98-86-2	0	08	0		
Acrolein	107-02-8	0	08	0		
Antimony Metal - add to SBC	7440-36-0	0	08	0		
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0	08	0		
Benzene	71-43-2	0	08	0		
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0	08	0		

<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0	08	0		
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0	08	0		
<b>Carbon tetrachloride</b>	<b>56-23-5</b>	0	08	0		
<b>Chlorine</b>	<b>7782-50-5</b>	0	08	0		
<b>Chlorobenzene</b>	<b>108-90-7</b>	0	08	0		
<b>Chloroform</b>	<b>67-66-3</b>	0	08	0		
<b>Chromium Unlisted Compounds (Specify &amp; Component of CRC)</b>	<b>CRC-Other</b>	0	08	0		
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0	08	0		
<b>Di(2-ethylhexyl)phthalate (DEHP)</b>	<b>117-81-7</b>	0	08	0		
<b>Dinitrophenol, 2,4-</b>	<b>51-28-5</b>	0	08	0		
<b>Ethyl benzene</b>	<b>100-41-4</b>	0	08	0		
<b>Ethylene dichloride (1,2-dichloroethane)</b>	<b>107-06-2</b>	0	08	0		
<b>Formaldehyde</b>	<b>50-00-0</b>	0	08	0		
<b>Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8 (Component of CLDC)</b>	<b>57653-85-7</b>	0	08	0		
<b>Hydrogen chloride (hydrochloric acid)</b>	<b>7647-01-0</b>	0	08	0		
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0	08	0		
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0	08	0		
<b>Mercury Unlisted Compounds (Specify &amp; Component of HGC)</b>	<b>HGC-Other</b>	0	08	0		
<b>Methyl bromide</b>	<b>74-83-9</b>	0	08	0		
<b>Methyl chloride</b>	<b>74-87-3</b>	0	08	0		
<b>Methyl chloroform</b>	<b>71-55-6</b>	0	08	0		
<b>Methyl ethyl ketone</b>	<b>78-93-3</b>	0	08	0		
<b>Methylene chloride</b>	<b>75-09-2</b>	0	08	0		
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0	08	0		
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0	08	0		
<b>Nitrophenol, 4-</b>	<b>100-02-7</b>	0	08	0		
<b>Pentachlorophenol</b>	<b>87-86-5</b>	0	08	0		
<b>Perchloroethylene (tetrachloroethylene)</b>	<b>127-18-4</b>	0	08	0		
<b>Phenol</b>	<b>108-95-2</b>	0	08	0		
<b>Phosphorus Metal, Yellow or White</b>	<b>7723-14-0</b>	0	08	0		
<b>Polychlorinated biphenyls (PCB)</b>	<b>1336-36-3</b>	0	08	0		

<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0	08	0		
<b>Propionaldehyde</b>	<b>123-38-6</b>	0	08	0		
<b>Propylene dichloride</b>	<b>78-87-5</b>	0	08	0		
<b>Selenium Compounds</b>	<b>SEC</b>	0	08	0		
<b>Styrene</b>	<b>100-42-5</b>	0	08	0		
<b>Tetrachlorodibenzo-p- dioxin, 2,3,7,8- (Component of CLDC &amp; POMTV)</b>	<b>1746-01-6</b>	0	08	0		
<b>Tetrachloroethane, 1,1,2,2-</b>	<b>79-34-5</b>	0	08	0		
<b>Toluene</b>	<b>108-88-3</b>	0	08	0		
<b>Trichloroethylene</b>	<b>79-01-6</b>	0	08	0		
<b>Trichlorophenol, 2,4,5-</b>	<b>95-95-4</b>	0	08	0		
<b>Vinyl chloride</b>	<b>75-01-4</b>	0	08	0		
<b>Xylene</b>	<b>1330-20-7</b>	0	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 2020**

- 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 2020:**      48624 E3FT3/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	1032 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 2020)

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 2020	11%	March-May 2020	44%	June-Aug. 2020	43%	Sept.-Nov. 2020	2%
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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
		2020				
Carbon Dioxide (CO2)	124389	703.6	01			
Methane (CH4)	74-82-8	0.0553	09			
Nitrous Oxide (N2O)	10024972	0.0055	09			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2020				
CO	CO	2.04	09			
NOx	NOx	1.32	01			
TSP	TSP	0.18	09			
PM10	PM10	0.18	09			
PM2.5	PM2.5	0.18	09			
SO2	SO2	0.01	09			
VOC	VOC	0.13	09			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				
Ammonia (as NH3)	7664-41-7	155.5968	09		0.0032	
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00972	09		2E-7	
Benzene	71-43-2	0.10211	09		0.0000021	
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00006	09		1.2E-9	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00058	09		1.2E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.05349	09		0.0000011	

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.06807	09		0.0000014	
<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC- Other</b>	0.00408	09		8.4E-8	
<b>Dichlorobenzene(p), 1,4- Formaldehyde</b>	<b>106-46-7 50-00-0</b>	0.05835 3.6468	09 09		0.0000012 0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	87.5232	09		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.02431	09		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.01848	09		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.01264	09		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.02966	09		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.10211	09		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.03219	09		6.62E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.00117	09		2.4E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.16532	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 2020**

- 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 2020:**      0 E3GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0397	%Ash		Heat Content	134030 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-4	VERTICAL STACK	208	6	300	47.2	80072.91	Boiler Stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08			
NOx	NOx	0	01			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				

**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 2020**

- 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 2020:**      0 E3GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	133697 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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08			
NOx	NOx	0	01			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				

**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 2020**

- 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 2020:**      72884 E3FT3/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	1033 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 2020)

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 2020	57%	March-May 2020	36%	June-Aug. 2020	2%	Sept.-Nov. 2020	5%
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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
		2020				
Carbon Dioxide (CO2)	124389	5741.22	01			
Methane (CH4)	74-82-8	0.083	09			
Nitrous Oxide (N2O)	10024972	0.0083	09			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		2020				
CO	CO	3.06	09		0.084	
NOx	NOx	1.69	01			
TSP	TSP	0.28	09		0.0076	
PM10	PM10	0.28	09		0.0076	
PM2.5	PM2.5	0.28	09		0.0076	
SO2	SO2	0.02	09			
VOC	VOC	0.2	09		0.0055	
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				
Ammonia (as NH3)	7664-41-7	233.2288	09		0.0032	
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.01458	09		2E-7	
Benzene	71-43-2	0.15306	09		0.0000021	
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00086	09		1.18E-8	
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.08017	09		0.0000011	
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.10204	09		0.0000014	

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.00601	09		8.24E-8	
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.08746	09		0.0000012	
<b>Formaldehyde</b>	<b>50-00-0</b>	5.4663	09		0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	131.1912	09		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.03644	09		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.0277	09		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.01895	09		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.04446	09		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.15306	09		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0481	09		6.6E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.00171	09		2.35E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.24781	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 2020**

- 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 2020:**      0 E3GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

<b>%Sulfur</b>	0.04295	<b>%Ash</b>		<b>Heat Content</b>	
				(Btu/units)	133697 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
Mannin g	VERTICAL STACK	135	9	335	44.01	167987.71	Combined Boiler Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO	0	08			
NOx	NOx	0	01			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				



**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 2020**

- 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 2020:**      41923 E3FT3/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur		%Ash		Heat Content	
				(Btu/units)	1033 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 2020)

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:**

<b>Jan-Feb + Dec 2020</b>	<b>31%</b>	<b>March-May 2020</b>	<b>46%</b>	<b>June-Aug. 2020</b>	<b>20%</b>	<b>Sept.-Nov. 2020</b>	<b>3%</b>
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**13. Actual Emissions per Pollutant Listed :**

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

<b>GHG Pollutants</b>	<b>CAS</b>	<b>Emissions-GHG Pollutants (Tons/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>Ef Control</b>
		<b>2020</b>				
<b>Carbon Dioxide (CO2)</b>	<b>124389</b>	3275.37	01			
<b>Methane (CH4)</b>	<b>74-82-8</b>	0.0477	09			
<b>Nitrous Oxide (N2O)</b>	<b>10024972</b>	0.0048	09			
<b>Criteria (NAAQS) Pollutants</b>	<b>Pollutant Code</b>	<b>Emissions-Criteria Pollutants (Tons/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>Ef Control</b>
		<b>2020</b>				
<b>CO</b>	<b>CO</b>	1.76	09		0.084	
<b>NOx</b>	<b>NOx</b>	1.08	01			
<b>TSP</b>	<b>TSP</b>	0.16	09		0.0076	
<b>PM10</b>	<b>PM10</b>	0.16	09		0.0076	
<b>PM2.5</b>	<b>PM2.5</b>	0.16	09		0.0076	
<b>SO2</b>	<b>SO2</b>	0.01	09		0.0006	
<b>VOC</b>	<b>VOC</b>	0.12	09		0.0055	
<b>HAP/TAP Pollutants (In Alphabetical Order)</b>	<b>CAS (see instructions)</b>	<b>Emissions HAP/TAPS (Pounds/Year)</b>	<b>Emission Estimation Method Code (See Instructions)</b>	<b>Control Efficiency (Net after all controls)</b>	<b>Emission Factor</b>	<b>EF Control</b>
		<b>2020</b>				
<b>Ammonia (as NH3)</b>	<b>7664-41-7</b>	134.1536	09		0.0032	
<b>Arsenic Unlisted Compounds ( Specify &amp; Component of ASC)</b>	<b>ASC-Other</b>	0.00838	09		2E-7	
<b>Benzene</b>	<b>71-43-2</b>	0.08804	09		0.0000021	
<b>Beryllium metal (unreacted) (Component of BEC)</b>	<b>7440-41-7</b>	0.00049	09		1.18E-8	
<b>Cadmium Metal (elemental unreacted, Component of CDC)</b>	<b>7440-43-9</b>	0.04612	09		0.0000011	
<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.05869	09		0.0000014	

<b>Cobalt Unlisted Compound (Specify &amp; Component of COC)</b>	<b>COC-Other</b>	0.00345	09		8.24E-8	
<b>Dichlorobenzene(p), 1,4-</b>	<b>106-46-7</b>	0.05031	09		0.0000012	
<b>Formaldehyde</b>	<b>50-00-0</b>	3.14422	09		0.000075	
<b>Hexane, n-</b>	<b>110-54-3</b>	75.4614	09		0.0018	
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.02096	09		5E-7	
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.01593	09		3.8E-7	
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0109	09		2.6E-7	
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.02557	09		6.1E-7	
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.08804	09		0.0000021	
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.02767	09		6.6E-7	
<b>Selenium Compounds</b>	<b>SEC</b>	0.00099	09		2.35E-8	
<b>Toluene</b>	<b>108-88-3</b>	0.14254	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 2020**

**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 2020:** 48364 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 2020)

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 2020	35%	March-May 2020	24%	June-Aug. 2020	20%	Sept.-Nov. 2020	21%
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**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
		2020				
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
		2020				
CO	CO		08	0		
NOx	NOx		08	0		
TSP	TSP	0.34	08	99.8		
PM10	PM10	0.34	08	99.6		
PM2.5	PM2.5	0.33	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
		2020				

**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 2020**

**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 2020:**      11940 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO		08	0		
NOx	NOx		08	0		
TSP	TSP	0.8	08	99.8		
PM10	PM10	0.8	08	99.6		
PM2.5	PM2.5	0.76	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
		2020				

**As entered in AERO**

**Facility Name:** The University of North Carolina at Chapel Hill  
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Chapel Hill, NC 27599-1000

**Facility ID :** 6800043  
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**County :** Orange  
**DAQ Region :** RRO

**North Carolina Department of Environmental Quality  
Division of Air Quality  
Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

**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 2020:**  
(e.g. production or fuel use):

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

%Sulfur		%Ash		Heat Content (Btu/units)	
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**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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
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
		2020				

**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 2020**

- 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 2020:**      188 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-EG1	VERTICAL STACK	3	2.26	817	30.7	7389.18	Emergency Generator #1

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	2.07	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.02	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00064	08			
Acrolein	107-02-8	0.0002	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0001	08			
Benzene	71-43-2	0.0197	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00008	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00008	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00201	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00023	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>	0.00008	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00331	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00008	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00539	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00038	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00714	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00491	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 2020**

- 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 2020:** 457 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#10	VERTICAL STACK	54	1	950	125.2	5899.91	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	5.02	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00155	08			
Acrolein	107-02-8	0.00049	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00025	08			
Benzene	71-43-2	0.0478	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00019	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00019	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00019	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00486	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00055	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00037	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00019	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00801	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00019	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0131	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00092	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0173	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0119	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 2020**

- 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 2020:**      999 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#11	VERTICAL STACK	106	1.3	944	135.35	10779.18	Emergency generator stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	10.99	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>2020</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	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>2020</b>				
Acetaldehyde	75-07-0	0.0034	08			
Acrolein	107-02-8	0.00106	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00054	08			
Benzene	71-43-2	0.105	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0004	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.0004	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0004	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0106	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00121	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00081	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0004	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0175	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0004	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0286	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00202	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0379	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.026	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 2020**

- 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 2020:**      686 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#12	VERTICAL STACK	2	6.67	851	4.33	9077.8	Emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	7.55	08			
Methane (CH4)	74-82-8	0.0003	08			
Nitrous Oxide (N2O)	10024972	0.0001	08			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	0.04	08			
NOx	NOx	0.09	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00233	08			
Acrolein	107-02-8	0.00073	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00037	08			
Benzene	71-43-2	0.0718	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00028	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00028	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00028	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0073	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00083	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00055	08			
<b>Mercury Unlisted Compounds (Specify &amp; Component of HGC)</b>	<b>HGC- Other</b>	0	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00028	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.012	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00028	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0196	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00139	08			
<b>Toluene</b>	<b>108-88-3</b>	0.026	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0179	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 2020**

- 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 2020:**      1078 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-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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	11.86	08			
Methane (CH4)	74-82-8	0.0005	08			
Nitrous Oxide (N2O)	10024972	0.0001	08			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	0.06	08			
NOx	NOx	0.14	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>2020</b>				
Acetaldehyde	75-07-0	0.00367	08			
Acrolein	107-02-8	0.00115	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00058	08			
Benzene	71-43-2	0.113	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00004	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00044	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00044	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00044	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0115	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00131	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00087	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00044	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0189	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00044	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0309	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00218	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0409	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0281	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 2020**

- 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 2020:** 434 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#14	VERTICAL STACK	12	1	806	159.12	7498.35	Emergency generator stack

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	4.77	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00148	08			
Acrolein	107-02-8	0.00046	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00023	08			
Benzene	71-43-2	0.0454	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00018	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00018	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00018	08			
Formaldehyde	50-00-0	0.00462	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00053	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00035	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00018	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00761	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00018	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0124	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00088	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0165	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0113	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 2020**

- 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 2020:**      1522 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#15	VERTICAL STACK	14	1.5	847	145.91	15470.65	emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	16.75	08			
Methane (CH4)	74-82-8	0.0007	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>2020</b>				
CO	CO	0.09	08			
NOx	NOx	0.2	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>2020</b>				
Acetaldehyde	75-07-0	0.00518	08			
Acrolein	107-02-8	0.00162	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00082	08			
Benzene	71-43-2	0.159	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00005	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00062	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00062	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00062	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0162	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00185	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00123	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00062	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0267	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00062	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0436	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00308	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0577	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0397	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 2020**

- 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 2020:**      1871 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#16	VERTICAL STACK	78	1.5	847	145.91	15470.65	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	20.59	08			
Methane (CH4)	74-82-8	0.0008	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>2020</b>				
CO	CO	0.11	08			
NOx	NOx	0.24	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>2020</b>				
Acetaldehyde	75-07-0	0.00636	08			
Acrolein	107-02-8	0.00199	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00101	08			
Benzene	71-43-2	0.196	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00006	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00076	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00076	08			



<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00076	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.0199	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00227	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00152	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00076	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0328	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00076	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0535	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00379	08			
<b>Toluene</b>	<b>108-88-3</b>	0.071	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0487	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 2020**

- 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 2020:**      533 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-EG#17	VERTICAL STACK	10	1	835	173.2	8161.85	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	5.86	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00181	08			
Acrolein	107-02-8	0.00057	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00029	08			
Benzene	71-43-2	0.0558	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00022	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00022	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00022	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00567	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00065	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00043	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00022	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00935	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00022	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0152	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00108	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0202	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0139	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 2020**

- 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 2020:** 409 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#18	VERTICAL STACK	45	1	835	173.2	8161.85	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	4.5	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.05	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00139	08			
Acrolein	107-02-8	0.00044	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00022	08			
Benzene	71-43-2	0.0428	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00017	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00017	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00017	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00436	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0005	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00033	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00017	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00718	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00017	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0117	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00083	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0155	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0107	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 2020**

- 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 2020:** 1125 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	12.39	08			
Methane (CH4)	74-82-8	0.0005	08			
Nitrous Oxide (N2O)	10024972	0.0001	08			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	0.06	08			
NOx	NOx	0.14	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>2020</b>				
Acetaldehyde	75-07-0	0.00383	08			
Acrolein	107-02-8	0.0012	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00061	08			
Benzene	71-43-2	0.118	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>	0.012	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00137	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00091	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>	0.0198	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>	0.0322	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00228	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0427	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0293	08			



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	7.26	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>2020</b>				
CO	CO	0.04	08			
NOx	NOx	0.08	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00224	08			
Acrolein	107-02-8	0.0007	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00036	08			
Benzene	71-43-2	0.0691	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00027	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00027	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00027	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00702	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0008	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00053	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00027	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0116	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00027	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0189	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00134	08			
<b>Toluene</b>	<b>108-88-3</b>	0.025	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0172	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 2020**

- 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 2020:**      824 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#20	VERTICAL STACK	20	1.5	762	142.75	15135.6	emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	9.07	08			
Methane (CH4)	74-82-8	0.0004	08			
Nitrous Oxide (N2O)	10024972	0.0001	08			
Criteria (NAAQS) Pollutants	Pollutant Code	Emissions-Criteria Pollutants (Tons/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	Ef Control
		<b>2020</b>				
CO	CO	0.05	08			
NOx	NOx	0.11	08			
TSP	TSP	0.01	08			
PM10	PM10	0.01	08			
PM2.5	PM2.5	0.01	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0028	08			
Acrolein	107-02-8	0.00088	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00045	08			
Benzene	71-43-2	0.0864	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00003	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00033	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00033	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00033	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00878	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.001	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00067	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00033	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0145	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00033	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0236	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00167	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0313	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0215	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 2020**

- 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 2020:**      449 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-EG#21	VERTICAL STACK	127	1.25	950	155.61	11458	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	4.95	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00153	08			
Acrolein	107-02-8	0.00048	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00024	08			
Benzene	71-43-2	0.0471	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00018	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00018	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00018	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00479	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00055	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00036	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00018	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00789	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00018	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0129	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00091	08			
<b>Toluene</b>	<b>108-88-3</b>	0.017	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0117	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 2020**

- 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 2020:**      381 GAL/yr  
(e.g. production or fuel use):
- 6. Fuel Information**

<b>%Sulfur</b>	0.0015	<b>%Ash</b>		<b>Heat Content</b>	
				(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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	4.19	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.05	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0013	08			
Acrolein	107-02-8	0.00041	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00021	08			
Benzene	71-43-2	0.0399	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>	0.00406	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00046	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00031	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>	0.00668	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>	0.0109	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00077	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0144	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00992	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 2020**

- 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 2020:**      476 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%Sulfur	0.0015	%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-EG4	VERTICAL STACK	79	1	806	159	7492.69	Emergency Generator #4

10. Operating Schedule:(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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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>2020</b>				
Carbon Dioxide (CO2)	124389	5.23	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00162	08			
Acrolein	107-02-8	0.00051	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00026	08			
Benzene	71-43-2	0.0498	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00019	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00019	08			



<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00019	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00507	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00058	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00039	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00019	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00835	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00019	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0136	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00096	08			
<b>Toluene</b>	<b>108-88-3</b>	0.018	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0124	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 2020**

- 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 2020:**      548 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-EG5	VERTICAL STACK	130	1	847	162.9	7676.48	Emergency Generator #5

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	6.03	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00186	08			
Acrolein	107-02-8	0.00058	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0003	08			
Benzene	71-43-2	0.0574	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00022	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00022	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00022	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00584	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>	0.00044	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00022	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00962	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00022	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0157	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00111	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0208	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0143	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 2020**

- 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 2020:**      571 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-EG6	VERTICAL STACK	55	1	944	258.5	12181.52	Emergency Generator #6

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.07	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</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 2020**

- 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 2020:** 594 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-EG7	VERTICAL STACK	57	1	650	210	9896.01	Emergency Generator Stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	6.54	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.08	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00202	08			
Acrolein	107-02-8	0.00063	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00032	08			
Benzene	71-43-2	0.0623	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00024	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00024	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00024	08			
Formaldehyde	50-00-0	0.00633	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00072	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00048	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00024	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.0104	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00024	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.017	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0012	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0226	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0155	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 2020**

- 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 2020:**      304 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#8	VERTICAL STACK	41	1.3	944	165.35	13168.37	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	3.35	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.04	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00104	08			
Acrolein	107-02-8	0.00032	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00016	08			
Benzene	71-43-2	0.0319	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00012	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00012	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00012	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00324	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00037	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00025	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00012	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00534	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00012	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00871	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00062	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0115	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00793	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 2020**

- 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 2020:**      380 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#9	VERTICAL STACK	57	1.3	944	165.35	13168.37	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	4.19	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.05	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00129	08			
Acrolein	107-02-8	0.00041	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00021	08			
Benzene	71-43-2	0.0399	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>	0.00405	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00046	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00031	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>	0.00668	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>	0.0109	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00077	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0144	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00991	08			





**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.14	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>2020</b>				
CO	CO	0	08			
NOx	NOx	0	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00136	08			
Acrolein	107-02-8	0.00016	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00001	08			
Benzene	71-43-2	0.00165	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00001	08			
Butadiene, 1,3-	106-99-0	0.00007	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	0.00209	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00002	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00001	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>	0.00015	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>	0.0003	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00003	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00072	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0005	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 2020**

- 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 2020:** 18.7 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-FP2	VERTICAL STACK	1	0.5	950	57.63	679	Diesel Fire Pump Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.21	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>2020</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	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00194	08			
Acrolein	107-02-8	0.00023	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00001	08			
Benzene	71-43-2	0.00236	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00001	08			
Butadiene, 1,3-	106-99-0	0.0001	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	0.00298	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00002	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00002	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>	0.00021	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>	0.00043	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00004	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00103	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00072	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 2020**

- 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 2020:** 10.5 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-FP3	VERTICAL STACK	45	1	950	14.4	679	Diesel Fire Pump Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.12	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>2020</b>				
CO	CO	0	08			
NOx	NOx	0	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00108	08			
Acrolein	107-02-8	0.00013	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00001	08			
Benzene	71-43-2	0.00132	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0	08			
Butadiene, 1,3-	106-99-0	0.00006	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0	08			
Formaldehyde	50-00-0	0.00167	08			



<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00001	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00001	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00012	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>	0.00024	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00002	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00058	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0004	08			



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	1.31	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.02	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0004	08			
Acrolein	107-02-8	0.00013	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00006	08			
Benzene	71-43-2	0.0125	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00005	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00005	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00005	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00127	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00014	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0001	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00005	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00209	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00005	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0034	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00024	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00451	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0031	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 2020**

- 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 2020:**      429 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-EG02	VERTICAL STACK	5	0.83	918	120.75	3919.98	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	4.73	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00146	08			
Acrolein	107-02-8	0.00046	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00023	08			
Benzene	71-43-2	0.045	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00017	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00017	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00017	08			
Formaldehyde	50-00-0	0.00457	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00052	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00035	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00017	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00754	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00017	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0123	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00087	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0163	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0112	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 2020**

- 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 2020:** 764 KW-HR/yr  
 (e.g. production or fuel use):
- 6. Fuel Information** (If fuel is used)
- |         |  |      |  |              |  |
|---------|--|------|--|--------------|--|
| %Sulfur |  | %Ash |  | Heat Content |  |
|         |  |      |  | (Btu/units)  |  |
- 7. Capture Efficiency** (% of Emissions from this Process Vented to Control Device or Stack): \_\_\_\_\_
- 8. Control Device Information :None**

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

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

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-IS21	VERTICAL STACK	6	0.25	850	152.79	450	emergency generator stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.477	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>2020</b>				
CO	CO	0	08			
NOx	NOx	0.01	08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</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 2020**

- 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 2020:**      461 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

%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-IS30	VERTICAL STACK	48	0.833	1139	125.81	4113.82	Emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	5.07	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00157	08			
Acrolein	107-02-8	0.00049	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00025	08			
Benzene	71-43-2	0.0482	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00019	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00019	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00019	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00491	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00056	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00037	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00019	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00808	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00019	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0132	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00093	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0175	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.012	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 2020**

- 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 2020:**      393 KW-HR/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      %Sulfur      %Ash      Heat Content  
 (If fuel is used)                (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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.245	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>2020</b>				
CO	CO	0	08			
NOx	NOx	0.01	08			
TSP	TSP		08			
PM10	PM10		08			
PM2.5	PM2.5		08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</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 2020**

- 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 2020:**      190 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-IS40	VERTICAL STACK	55	0.75	1139	155.2	4113.91	Emergency generator stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	2.09	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.02	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00065	08			
Acrolein	107-02-8	0.0002	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0001	08			
Benzene	71-43-2	0.0199	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00008	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00008	08			
Formaldehyde	50-00-0	0.00203	08			



<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00023	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>	0.00008	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00334	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00008	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00544	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00039	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00722	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00496	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 2020**

- 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 2020:**      44 GAL/yr  
 (e.g. production or fuel use):
- 6. Fuel Information**

<b>%Sulfur</b>	0.0015	<b>%Ash</b>		<b>Heat Content</b>	
				(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-Gen43	VERTICAL STACK	7	0.38	950	156.21	1063	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	0.49	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>2020</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	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0046	08			
Acrolein	107-02-8	0.00055	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00002	08			
Benzene	71-43-2	0.00559	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00002	08			
Butadiene, 1,3-	106-99-0	0.00023	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00002	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00002	08			
Formaldehyde	50-00-0	0.00707	08			

<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00005	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>	0.00051	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00101	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00009	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00245	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00171	08			

**As entered in AERO**

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

**North Carolina Department of Environmental Quality  
Division of Air Quality  
Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

- 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 2020:**      493 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-Gen48	VERTICAL STACK	9	0.667	1100	196.23	4114	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	5.43	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>2020</b>				
CO	CO	0.03	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00168	08			
Acrolein	107-02-8	0.00052	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00027	08			
Benzene	71-43-2	0.0516	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00002	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0002	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.0002	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0002	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00525	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.0006	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.0004	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.0002	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00865	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.0002	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.0141	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.001	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0187	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 2020**

- 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 2020:** 304 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-IS50	VERTICAL STACK	70	1	906	105.64	4978.16	Emergency generator stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	3.35	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.04	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00104	08			
Acrolein	107-02-8	0.00032	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00016	08			
Benzene	71-43-2	0.0319	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00012	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00012	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00012	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00324	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00037	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00025	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00012	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00534	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00012	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00871	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00062	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0115	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00793	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 2020**

- 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 2020:**      247 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-IS57	HORIZONTAL STACK	82	0.8	906	159.81	4820	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	2.72	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>2020</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	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00084	08			
Acrolein	107-02-8	0.00026	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00013	08			
Benzene	71-43-2	0.0259	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.0001	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.0001	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.0001	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00263	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>	0.00434	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>	0.00708	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.0005	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00938	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00644	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 2020**

- 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 2020:**      190 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-IS59	VERTICAL STACK	14	0.67	906	190.8	4036.16	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	2.09	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.02	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00065	08			
Acrolein	107-02-8	0.0002	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0001	08			
Benzene	71-43-2	0.0199	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00008	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00008	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00008	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00203	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00023	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>	0.00008	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00334	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00008	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00544	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00039	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00722	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00496	08			





**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	3.31	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>2020</b>				
CO	CO	0.02	08			
NOx	NOx	0.04	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00102	08			
Acrolein	107-02-8	0.00032	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00016	08			
Benzene	71-43-2	0.0316	08			
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00001	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00012	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00012	08			

<b>Chromic acid (VI) (Component of SolCR6 &amp; CRC)</b>	<b>7738-94-5</b>	0.00012	08			
<b>Formaldehyde</b>	<b>50-00-0</b>	0.00321	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00037	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC- Other</b>	0.00024	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00012	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00529	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00012	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00862	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00061	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0114	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00785	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 2020**

- 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 2020:**      202 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-IS79	VERTICAL STACK	14	0.833	914	114.68	3750	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	2.22	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.06	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0209	08			
Acrolein	107-02-8	0.00252	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00011	08			
Benzene	71-43-2	0.0254	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00008	08			
Butadiene, 1,3-	106-99-0	0.00106	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00008	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00008	08			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0321	08			
<b>Lead Unlisted Compounds (Specify and Component of PBC)</b>	<b>PBC-Other</b>	0.00025	08			
<b>Manganese Unlisted Compounds (Specify &amp; Component of MNC)</b>	<b>MNC-Other</b>	0.00016	08			
<b>Mercury, vapor (Component of HGC)</b>	<b>7439-97-6</b>	0.00008	08			
<b>Naphthalene (Component of POMTV)</b>	<b>91-20-3</b>	0.00231	08			
<b>Nickel metal (Component of NIC)</b>	<b>7440-02-0</b>	0.00008	08			
<b>Polycyclic Organic Matter (Inc PAH, dioxins, etc. NC &amp; AP 42 historic amorphous glob)</b>	<b>POM</b>	0.00457	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00041	08			
<b>Toluene</b>	<b>108-88-3</b>	0.0111	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00776	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 2020**

- 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 2020:**      177 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	1.95	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>2020</b>				
CO	CO	0.01	08			
NOx	NOx	0.05	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0183	08			
Acrolein	107-02-8	0.00221	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.0001	08			
Benzene	71-43-2	0.0223	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00007	08			
Butadiene, 1,3-	106-99-0	0.00093	08			
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	0.00007	08			
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	0.00007	08			
Formaldehyde	50-00-0	0.0282	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>	0.00014	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>	0.00203	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>	0.00401	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00036	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00977	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00681	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 2020**

- 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 2020:** 110 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-IS81	VERTICAL STACK	92	0.8	1000	61.65	1859.32	Emergency Generator Stack

**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	1.21	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>2020</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	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.0114	08			
Acrolein	107-02-8	0.00138	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00006	08			
Benzene	71-43-2	0.0139	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00004	08			
Butadiene, 1,3-	106-99-0	0.00058	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			

<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>	0.00013	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>	0.00126	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>	0.0025	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00022	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00608	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.00424	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 2020**

- 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 2020:**      94 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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	1.03	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>2020</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	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Acetaldehyde	75-07-0	0.00968	08			
Acrolein	107-02-8	0.00117	08			
Arsenic Unlisted Compounds ( Specify & Component of ASC)	ASC-Other	0.00005	08			
Benzene	71-43-2	0.0118	08			
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.00004	08			
Butadiene, 1,3-	106-99-0	0.00049	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			

<b>Formaldehyde</b>	<b>50-00-0</b>	0.0149	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>	0.00008	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>	0.00107	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>	0.00212	08			
<b>Selenium Compounds</b>	<b>SEC</b>	0.00019	08			
<b>Toluene</b>	<b>108-88-3</b>	0.00516	08			
<b>Xylene</b>	<b>1330-20-7</b>	0.0036	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 2020**

- 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 2020:**      940.2121504    E3FT3/yr  
 (e.g. production or fuel use):
- 
- 6. Fuel Information**      %Sulfur      %Ash      Heat Content  
 (If fuel is used)                (Btu/units)      1026    Btu/CF
- |  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|
- 
- 7. Capture Efficiency**  
 (% of Emissions from this Process Vented to Control Device or Stack):
- 
- 8. Control Device Information :None**

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

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

ERP ID	ERP Type	Height (in feet)	Diameter Circle (enter #): Rectangle (L x W) (in 0.1 feet)	Temperature (F)	Velocity (Feet/sec)	Volume Flow Rate (Acfm)	ERP Description
EP-SB6	VERTICAL STACK	55	1	300	14.89	702	Small Boiler Stack



**10. Operating Schedule:**(Source/OperatingScenario that best characterizes Calendar Year 2020)

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 2020	19%	March-May 2020	20%	June-Aug. 2020	30%	Sept.-Nov. 2020	31%
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**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>2020</b>				
Carbon Dioxide (CO2)	124389	56.42	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>2020</b>				
CO	CO	0.04	08			
NOx	NOx	0.05	08			
TSP	TSP	0	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2	0	08			
VOC	VOC	0	08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		<b>2020</b>				
Benzene	71-43-2	0.00197	08			
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.00008	08			
Formaldehyde	50-00-0	0.0705	08			
Hexane, n-	110-54-3	1.69	08			
Naphthalene (Component of POMTV)	91-20-3	0.00057	08			
Selenium Compounds	SEC	0.00002	08			
Toluene	108-88-3	0.0032	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 2020**

- 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 2020:** 4.22 LB/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 2020)

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 2020	25%	March-May 2020	25%	June-Aug. 2020	25%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
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
		2020				
Ethylene oxide	75-21-8	4.22	03			

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

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

**North Carolina Department of Environmental Quality  
Division of Air Quality  
Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

- 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 2020:**      8950.15 TON/yr  
(e.g. production or fuel use):
- 
- 6. Fuel Information**      %Sulfur      %Ash      Heat Content  
(If fuel is used)      (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 2020)

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 2020	42%	March-May 2020	30%	June-Aug. 2020	3%	Sept.-Nov. 2020	25%
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**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
		2020				
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
		2020				
CO	CO		08			
NOx	NOx		08			
TSP	TSP	0.01	08			
PM10	PM10	0	08			
PM2.5	PM2.5	0	08			
SO2	SO2		08			
VOC	VOC		08			
HAP/TAP Pollutants (In Alphabetical Order)	CAS (see instructions)	Emissions HAP/TAPS (Pounds/Year)	Emission Estimation Method Code (See Instructions)	Control Efficiency (Net after all controls)	Emission Factor	EF Control
		2020				

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Air Pollutant Point Source Emissions Inventory - Calendar Year 2020**

**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
		2020	2019	
Carbon Dioxide (CO2)	124389	216873.9	250318.413	-13.360784%
Methane (CH4)	74-82-8	16.2489	18.5126	-12.227891%
Nitrous Oxide (N2O)	10024972	2.2995	2.6365	-12.782094%

**Criteria Pollutants**

Pollutant	CAS	Actual Emissions (Tons/Year)		% Change
		2020	2019	
CO	CO	76.9	69.74	10.26671%
NOx	NOx	205.99	237.63	-13.314816%
PM(TSP)	TSP	7.53	11.91	-36.775818%
PM10	PM10	7.47	11.9	-37.22689%
PM2.5	PM2.5	7.42	9.22	-19.522778%
SO2	SO2	191.41	275.32	-30.477262%
VOC	VOC	4.36	4	9.000004%

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

Pollutant	CAS	Actual Emissions (Pounds/Year)		% Change
		2020	2019	
<b>Pollutant Group:Antimony &amp; Compounds (total mass, inc elemental SB) Group Sum:.3887</b>				
Antimony Metal - add to SBC	7440-36-0	0.0	Not reported	N/A
Antimony Unlisted Compounds (Specify & Component of SBC)	SBC-Other	0.3887	.46392	-16.214%
<b>Pollutant Group:Arsenic &amp; Compounds (total mass of elemental AS, arsine and all inorganic compounds) Group Sum:.63872</b>				
Arsenic Unlisted Compounds (Specify & Component of ASC)	ASC-Other	0.63872	.65985	-3.2022467%
<b>Pollutant Group:Beryllium &amp; compounds (Total mass) Group Sum:.09093</b>				
Beryllium metal (unreacted) (Component of BEC)	7440-41-7	0.09093	.11019	-17.478897%
<b>Pollutant Group:Cadmium &amp; compounds (total mass inc elemental metal) Group Sum:1.59145</b>				
Cadmium Metal (elemental unreacted, Component of CDC)	7440-43-9	1.59145	1.3147	21.050428%

<b>Pollutant Group:</b> Chlorinated Dioxin Compounds of interest as HAP or TAP <b>Group Sum:</b> 0				
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:</b> Chromium (VI) Soluble Chromate Compounds (Component of CRC) <b>Group Sum:</b> 1.81773				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.81773	1.42666	27.41158%
<b>Pollutant Group:</b> Chromium - All/Total (Inc Chromium (VI) categories, metal and Others) <b>Group Sum:</b> 1.81773				
Chromic acid (VI) (Component of SolCR6 & CRC)	7738-94-5	1.81773	1.42666	27.41158%
Chromium Unlisted Compounds (Specify & Component of CRC)	CRC-Other	0.0	Not reported	N/A
<b>Pollutant Group:</b> Cobalt compounds <b>Group Sum:</b> .44289				
Cobalt Unlisted Compound (Specify & Component of COC)	COC-Other	0.44289	.47803	-7.351005%
<b>Pollutant Group:</b> Cyanide compounds (see also hydrogen cyanide) <b>Group Sum:</b> 120.91				
Cyanide Unlisted Compounds (Specify & Component of CNC)	CNC-Other	120.91	145.2125	-16.735811%
<b>Pollutant Group:</b> Lead and Lead compounds <b>Group Sum:</b> 2.82286				
Lead Unlisted Compounds (Specify and Component of PBC)	PBC-Other	2.82286	3.07824	-8.296296%
<b>Pollutant Group:</b> Manganese & compounds <b>Group Sum:</b> 15.12133				
Manganese Unlisted Compounds (Specify & Component of MNC)	MNC-Other	15.12133	17.59594	-14.063525%
<b>Pollutant Group:</b> Mercury & Compounds - all total mass, inc Hg Vapor <b>Group Sum:</b> .42511				
Mercury Unlisted Compounds (Specify & Component of HGC)	HGC-Other	0.0	.0008	-100.0%
Mercury, vapor (Component of HGC)	7439-97-6	0.42511	1.47949	-71.26645%
<b>Pollutant Group:</b> Nickel & Compounds, sum total mass, inc elemental <b>Group Sum:</b> 14.63475				
Nickel metal (Component of NIC)	7440-02-0	14.63475	16.08365	-9.008528%
<b>Pollutant Group:</b> Polycyclic Organic Matter (7 PAH Compounds for NIF) <b>Group Sum:</b> .00281				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00281	.00399	-29.573938%
<b>Pollutant Group:</b> Polycyclic Organic Matter (Specific Compounds from OAQPS for TV) <b>Group Sum:</b> 1.99528				
Benzo(a)pyrene (Component of POMTV & POM7)	50-32-8	0.00281	.00399	-29.573938%
Biphenyl (Component of POMTV)	92-52-4	0.08222	.09875	-16.73924%
Furans - Dibenzofurans (group total - CAA - unchlorinated) (Component of POMTV)	132-64-9	0.00972	.01168	-16.780823%
Naphthalene (Component of POMTV)	91-20-3	1.90053	2.30582	-17.576828%
Tetrachlorodibenzo-p-dioxin, 2,3,7,8- (Component of CLDC & POMTV)	1746-01-6	0.0	Not reported	N/A
Acetaldehyde	75-07-0	28.61853	34.24983	-16.44183%
Acetophenone	98-86-2	0.72546	.87128	-16.7363%
Acrolein	107-02-8	14.16668	17.01313	-16.7309%
Ammonia (as NH3)	7664-41-7	4108.5728	3220.3712	27.580723%
Benzene	71-43-2	69.0591	83.76846	-17.55955%
Benzyl chloride	100-44-7	33.8548	40.6595	-16.735815%
Bromine	7726-95-6	9.98268	11.93593	-16.364456%
Bromoform	75-25-2	1.8862	2.26531	-16.735462%
Butadiene, 1,3-	106-99-0	0.04982	.05	-0.3600046%



Carbon disulfide	75-15-0	6.28732	7.55105	-16.735819%
Carbon tetrachloride	56-23-5	0.0	Not reported	N/A
Chlorine	7782-50-5	131.48901	154.5061	-14.897204%
Chloroacetophenone, 2-	532-27-4	0.33855	.4066	-16.73635%
Chlorobenzene	108-90-7	1.06401	1.27787	-16.735664%
Chloroform	67-66-3	2.85348	3.42701	-16.735579%
Cumene	98-82-8	0.25633	.30785	-16.73542%
Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	3.53057	4.2402	-16.735765%
Dichlorobenzene(p), 1,4-	106-46-7	1.53612	1.19155	28.917799%
Dimethyl sulfate	77-78-1	2.32147	2.78808	-16.735888%
Dinitrophenol, 2,4-	51-28-5	0.0	Not reported	N/A
Dinitrotoluene, 2,4-	121-14-2	0.01354	.01626	-16.728168%
Ethyl benzene	100-41-4	4.54622	5.45999	-16.735748%
Ethyl chloride (chloroethane)	75-00-3	2.03129	2.43957	-16.735731%
Ethylene dibromide	106-93-4	0.05803	.0697	-16.743185%
Ethylene dichloride (1,2-dichloroethane)	107-06-2	1.93456	2.3234	-16.73582%
Ethylene oxide	75-21-8	4.22	9.1	-53.626377%
Fluorides (sum of all fluoride compounds)	16984-48-8	280.01477	339.36338	-17.488216%
Formaldehyde	50-00-0	179.09831	171.64202	4.344099%
Hexane, n-	110-54-3	2338.7283	1816.7621	28.730574%
Hydrogen chloride (hydrochloric acid)	7647-01-0	21502.557	28734.17944	-25.16732%
Hydrogen fluoride (hydrofluoric acid as mass of HF- Component of Fluorides)	7664-39-3	280.01477	329.01478	-14.892948%
Isophorone	78-59-1	28.05112	33.6893	-16.735817%
Methyl bromide	74-83-9	7.73824	9.2936	-16.73582%
Methyl chloride	74-87-3	25.63292	30.78505	-16.735819%
Methyl chloroform	71-55-6	0.96728	Not reported	N/A
Methyl ethyl ketone	78-93-3	18.86196	22.65315	-16.735823%
Methyl hydrazine	60-34-4	8.22188	9.87445	-16.735815%
Methyl methacrylate	80-62-6	0.96728	1.1617	-16.73582%
Methyl tertiary butyl ether (MTBE)	1634-04-4	1.69274	2.03298	-16.736025%
Methylene chloride	75-09-2	14.02556	16.84465	-16.735817%
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	2.07965	Not reported	N/A
Phenol	108-95-2	0.77382	.92936	-16.736248%
Phosphorus Metal, Yellow or White	7723-14-0	1.77759	2.08779	-14.857815%
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	4.40996	5.53977	-20.394535%
Propionaldehyde	123-38-6	18.37832	22.0723	-16.735815%
Propylene dichloride	78-87-5	0.0	Not reported	N/A
Selenium Compounds	SEC	0.35463	.44443	-20.205656%
Styrene	100-42-5	1.2091	1.45213	-16.736103%
Tetrachloroethane, 1,1,2,2-	79-34-5	0.0	2.49765	-100.0%
Toluene	108-88-3	17.34139	19.68599	-11.9099865%
Trichloroethane, 1,1,2-	79-00-5	0.0	1.1617	-100.0%

Trichloroethylene	79-01-6	0.0	2.49765	-100.0%
Trichlorophenol, 2,4,5-	95-95-4	0.0	Not reported	N/A
Vinyl acetate	108-05-4	0.36757	.44145	-16.735754%
Vinyl chloride	75-01-4	0.0	Not reported	N/A
Xylene	1330-20-7	2.71112	3.74252	-27.558977%

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**Comments From Facility:**