Table 1 - Stationary Fuel Used from July 2015 to June 2016
Central Michigan University, Mt. Pleasant, Michigan

	Wood Boiler EU-BLR4	Waste Heat Boiler EU-BLR5	Boilers 1 and 2 EU-BLR1; EU-BLR2	Turbine EU-GASTURBINE	Natural Gas Used for Heating	
	WOOD **TON/MONTH**	NG **MMCF/MONTH**	NG **MMCF/MONTH**	NG **MMCF/MONTH**	Space Heaters **MMCF/MONTH**	Boilers **MMCF/MONTH**
	1-03-009-03	1-03-006-01	1-03-006-02	2-03-002-03	1-05-002-06	1-03-006-03
July 2015		23.92	0.02	31.03	0.60	0.91
August 2015		12.49	18.25	27.49	0.58	0.88
September 2015		20.73	4.77	30.32	1.03	1.55
October 2015		0.25	27.08	29.60	1.61	2.44
November 2015		3.90	23.10	30.90	2.45	3.71
December 2015	375.00	18.06	20.76	34.48	2.43	3.69
January 2016	565.00	16.81	34.71	35.10	3.14	4.76
February 2016	535.00	0.81	54.42	29.72	3.27	4.95
March 2016	516.00	-	43.73	30.79	2.49	3.77
April 2016		-	41.27	30.69	2.24	3.39
May 2016		-	24.44	31.26	1.11	1.68
June 2016		8.96	9.65	25.22	0.78	1.19
Total	1,991.00	105.92	302.19	366.59	21.74	32.92

	HHV (MMBtu/Scf)	MMBtu
Nat Gas	1.03E-03	850,919.87
	HHV (MMBtu/ton)	MMBtu
Wood	17.48	34,802.68
Total MMBtu		885,722.55

Table 2 - Emissions from Stationary Sources from July 2015 to June 2016

Central Michigan University, Mt. Pleasant, Michigan

	Wood Boiler EU-BLR4		Waste Heat Boiler EU-BLR5		Boilers 1 and 2 EU-BLR1; EU-BLR2		Turbine EU-GASTURBINE		Natural Gas Used for Heating				Total
	1-03-009-03	Tons/Yr	1-03-006-01	Tons/Yr	1-03-006-02	Tons/Yr	2-03-002-03	Tons/Yr	1-05-002-06	Tons/Yr	1-03-006-03	Tons/Yr	Tons/yr
Nox	2.29	2.28	1.90E+02	10.06	1.00E+02	15.11	3.26E+02	59.83	1.00E+02	1.09	1.00E+02	1.65	90.01
Sox	0.26	0.26	6.00E-01	0.03	6.00E-01	0.09	9.59E+02	0.18	6.00E-01	0.01	6.00E-01	0.01	0.57
CO	6.6	6.57	8.40E+01	4.45	8.40E+01	12.69	8.36E+01	15.33	2.00E+01	0.22	8.40E+01	1.38	40.64
PM		-	7.6	0.40	7.6	1.15	6.73E+00	1.23	8.7	0.09	7.60E+00	0.13	3.00
O3		-		-		-		-		-		-	0.00
Pb	4.99E-04	0.00	5.00E-04	0.00	5.00E-04	0.00		-		-	5.00E-04	0.00	0.00
ODCs													

Table 3 - Emissions from July 2012 to June 2013
Central Michigan University, Mt. Pleasant, Michigan

	Wood Boiler EU-BLR4	Waste Heat Boiler EU-BLR5	Boilers 1 and 2 EU-BLR1; EU-BLR2	Turbine EU-GASTURBINE	Natural Gas Used for Heating	
	WOOD **TON/MONTH**	NG **MMCF/MONTH**	NG **MMCF/MONTH**	NG **MMCF/MONTH**	Space Heaters **MMCF/MONTH**	Boilers **MMCF/MONTH**
	1-03-009-03	1-03-006-01	1-03-006-02	2-03-002-03	1-05-002-06	1-03-006-03
July 2012	2,293.70	7.42	29.04	3.31	0.60	0.92
August 2012	2,903.50	4.19	30.01	5.63	0.70	1.07
September 2012	2,281.50	11.70	30.84	2.03	1.11	1.67
October 2012	2,384.60	9.56	35.01	15.36	1.75	2.64
November 2012	2,235.20	12.90	32.99	1.70	2.74	4.15
December 2012	533.90	12.70	8.35	21.44		
January 2013	-	31.82	19.64	30.69	2.81	4.26
February 2013	-	33.04	13.41	28.88	2.89	4.38
March 2013	-	34.23	5.91	34.23	2.39	3.62
April 2013	-	29.09	0.08	33.28	2.54	3.85
May 2013	-	28.29	0.48	30.16	1.10	1.67
June 2013	-	15.69	10.85	30.64	0.72	1.10
Total	12,632.40	230.63	216.61	237.35	19.36	29.32

	HHV (MMBtu/Scf)	MMBtu
Nat Gas	1.03E-03	752,345.38
	HHV (MMBtu/ton)	MMBtu
Wood	17.48	220,814.35
		973,159.73

Table 4 - Emissions from Stationary Sources from July 2012 to June 2013

Central Michigan University, Mt. Pleasant, Michigan

	Wood Boiler EU-BLR4		Waste Heat Boiler EU-BLR5		Boilers 1 and 2 EU-BLR1; EU-BLR2		Turbine EU-GASTURBINE		Natural Gas Used for Heating				Total
	1-03-009-03	Tons/Yr	1-03-006-01	Tons/Yr	1-03-006-02	Tons/Yr	2-03-002-03	Tons/Yr	1-05-002-06	Tons/Yr	1-03-006-03	Tons/Yr	tons/yr
Nox	2.29	14.45	1.90E+02	21.91	1.00E+02	10.83	3.26E+02	38.74	1.00E+02	0.97	1.00E+02	1.47	88.36
Sox	0.26	1.64	6.00E-01	0.07	6.00E-01	0.06	9.59E+02	0.11	6.00E-01	0.01	6.00E-01	0.01	1.90
CO	6.6	41.69	8.40E+01	9.69	8.40E+01	9.10	8.36E+01	9.93	2.00E+01	0.19	8.40E+01	1.23	71.82
PM		-	7.6	0.88	7.6	0.82	6.73E+00	0.80	8.7	0.08	7.60E+00	0.11	2.69
O3		-		-		-		-		-		-	0.00
Pb	4.99E-04	0.00	5.00E-04	0.00	5.00E-04	0.00		-		-	5.00E-04	0.00	0.00
ODCs													

Table 5 - HAP Emissions produced from July 2015 to June 2016
Central Michigan University, Mt Pleasant, Michigan

	HAPs Total (lb/mo)
July 2015	79.33
August 2015	88.41
September 2015	82.76
October 2015	87.12
November 2015	90.26
December 2015	193.32
January 2016	258.99
February 2016	254.56
March 2016	227.85
April 2016	116.38
May 2016	81.99
June 2016	63.73
Total (tpy)	0.81

Table 6 - Greenhouse Gas Stationary Combustion

Enter Year	**July 2015 to June 2016**
Enter Facility	**Central Michigan University**

Subpart C - Tier 1 Methodology

$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$ (Eq. C-1)

Where

CO_2 = Annual CO_2 mass emissions for the specific fuel type (metric tons).

Fuel = Mass or volume of fuel combusted per year, from company records as defined in § 98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel).

HHV = Default high heat value of the fuel.

EF = Fuel-specific default CO_2 emission factor, from Table C–1 of this subpart (kg CO_2/MMBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

Monthly Natural Gas Usage in Standard Cubic Feet

GROUP or Equipment ID	CAMPUS	Boiler 4
Fuel	Natural Gas	Wood Chips
Month	Monthly Fuel Usage	Monthly Fuel Usage
Units	SCF	short tons
TOTAL	829,356,600	1,991
Default GHG Emission Factors (from Tables C-1 and C-2)		
CO_2 Emission Factor (kg/MMBtu)	53.06	93.8
CH_4 Emission Factor (kg/MMBtu)	1.00E-03	7.20E-03
N_2O Emission Factor (kg/MMBTU)	1.00E-04	3.60E-03
Default GHG Emission Factors (from Tables C-1 and C-2)		
CO_2 Global Warming Potential	1	1
CH_4 Global Warming Potential	25	25
N_2O Global Warming Potential	298	298
Default HHV (from Table C-1)	1.026E-03 MMBtu/SCF	17.48 MMBtu/ton

Annual GHG Emissions (mT)

CO_2	45,149.8	3,264.5
CH_4	0.85	0.25
N_2O	0.085	0.125

Annual GHG Emissions (mT as CO_2e)

CO_2	45,149.8	3,264.5
CH_4	21.3	6.3
N_2O	25.4	37.3
Total	45,196.4	3,308.1

CO_2 Equivalent Emissions (mT) =	45,240.0
Biogenic CO_2 Emissions (mT) =	3,264.5
N_20 Emissions (mT) =	0.21
CH_4 Emissions (mT) =	1.10

Table 7 - Greenhouse Gases Generated from Purchased Electricity
Central Michigan University, Mt. Pleasant, Michigan

	Purchased MW
Jul-15	2664
Aug-15	3018
Sep-15	3580
Oct-15	3774
Nov-15	3683
Dec-15	2920
Jan-16	1828
Feb-16	1585
Mar-16	1650
Apr-16	1662
May-16	1761
Jun-16	3651
Total (MW)	31,776.0
Total (MMBtu)	108,419.7

	Emission Factor (lb/MWh)	Annual GHG Emissions (tons)	Global Warming Potential	CO2 Equivalent Emissions (tons)
CO2	1569.23	2.49E+04	1	2.49E+04
CH4	0.03036	4.82E-01	25	1.21E+01
N2O	0.02412	3.83E-01	298	1.14E+02
Total CO2 Equivalent Emissions (metric tons)				22,732.4

Emission Factor Source - EPA Climate Leaders Emission Factors for GHG Inventroies Modified 11/19/2015, Table 6 - Electricity Emission Factors

Table 8 - Greenhouse Gas Stationary Combustion

Enter Year **July 2015 to June 2016**
Enter Facility **Central Michigan University**

Subpart C - Tier 1 Methodology

$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$ (Eq. C-1)

Where

CO_2 = Annual CO_2 mass emissions for the specific fuel type (metric tons).

Fuel = Mass or volume of fuel combusted per year, from company records as defined in § 98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel).

HHV = Default high heat value of the fuel.

EF = EPA Climate Leaders Emission Factors for GHG Inventories Modified 11/19/2015, Table 2 - Mobile Combustion CO2 Emission Factors, and Table 5 -Mobile Combustion CH4 and N2O Emission Factors for Non-Road Vehicles*

1×10^{-3} = Conversion factor from kilograms to metric tons.

Monthly Natural Gas Usage in Standard Cubic Feet

Fuel	Gasoline	Diesel
Month	Monthly Fuel Usage	Monthly Fuel Usage
Units	Gal	Gal
TOTAL	85,980	10,470
Default GHG Emission Factors (from Tables C-1 and C-2)		
CO_2 Emission Factor (kg/Gal)	8.78	10.21
CH_4 Emission Factor (g/Gal)	5.00E-01	5.70E-01
N_2O Emission Factor (g/Gal)	2.20E-01	2.60E-01
Default GHG Emission Factors (from Tables C-1 and C-2)		
CO_2 Global Warming Potential	1	1
CH_4 Global Warming Potential	25	25
N_2O Global Warming Potential	298	298
Default HHV (from Table C-1)	1.250E-01	0.14
Annual GHG Emissions (mT)		
CO_2	754.9	106.9
CH_4	0.04	0.006
N_2O	0.002	0.003
Annual GHG Emissions (mT as CO_2e)		
CO_2	754.9	106.9
CH_4	1.1	0.1
N_2O	0.7	0.8
Total	756.7	107.9

CO_2 Equivalent Emissions (mT) =	864.5
N_20 Emissions (mT) =	0.01
CH_4 Emissions (mT) =	0.05

*Mobile Combustion N2O and CH4 factors for on-road vehicles are in g/mile/vehicel type. Assumed non-road vehicle emission factors were similar.