Table C-1

Natural Gas Specifications

Invenergy LLC - Allegheny Energy Center

Natural Gas Fuel Parameter	Value	Units
High Heating Value @ 68°F	1,050	BTU/CF
Sulfur Content	0.4	grains/100 scf
SO_2 emissions factor from gas combustion	0.0011	lb/MMBtu

Table C-2

Performance/Emissions Specifications for Combined-Cycle CT w/ Auxiliary Fired DB in HRSG

Invenergy LLC - Allegheny Energy Center

Parameter	Units	Specifications												
		Summer 100% Fired	Summer 100% Unfired	Summer 41% Unfired	Summer 100% Unfired	Summer 100% Unfired	Summer 37% Unfired	Average 100% Fired	Average 100% Unfired	Winter 100% Fired	Winter 100% Unfired	Winter 100% Fired	Winter 100% Unfired	Winter 50% Unfired
		S100FB	S100UC	S41U	S100FA	S100U	A37U	A100F	A100U	W100FB	W100UB	W100FA	W100UA	W50U
Case Number		**21**	**23**	**24**	**11**	**13**	**14**	**1**	**2**	**4**	**5**	**15**	**17**	**18**
Duct Burner Firing/Unfired		1 GT @ 100% load, DB 95.8%	1 GT @ 100% load, DB 0.0%	1 GT @ 40.9% load, DB 0.0%	1 GT @ 100% load, EC on, DB 79.0%	1 GT @ 100% load, DB 0.0%	1 GT @ 36.7% load, DB 0.0%	1 GT @ 100% load, DB 80.9%	1 GT @ 100% load, DB 0.0%	1 GT @ 100% load, DB 96.8%	1 GT @ 100% load, DB 0.0%	1 GT @ 100% load, DB 100%	1 GT @ 100% load, DB 0.0%	1 GT @ 50% load, DB 0.0%
SITE CONDITIONS														
Ambient Temperature	°F	101.8	101.8	101.8	87.5	87.5	87.5	53	53	9	9	-26	-26	-26
Ambient Pressure	psia	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211	14.211
Ambient Relative Humidity	%	30	30	30	51	51	51	66	66	50	50	80	80	80
PLANT STATUS														
HRSG Duct Burner		Operating	Off	Off	Operating	Off	Off	Operating	Off	Operating	Off	Operating	Off	Off
SCR		Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating
CO Catalyst		Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating	Operating
Evaporative Cooler state (On or Off)		Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off
Gas Turbine Load	%	1	1	0	1	1	0	1	1	1	1	1	1	1
Gas Turbines Operating		1	1	1	1	1	1	1	1	1	1	1	1	1
GT Diluent Injection Type		None	None	None	None	None	None	None	None	None	None	None	None	None
FUEL DATA														
Fuel Type		NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG
HHV	BTU/lb	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492	23,492
LHV	BTU/lb	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198	21,198
Fuel Mol. Wt.	lb/mole	17	17	17	17	17	17	17	17	17	17	17	17	17
Fuel Bound Nitrogen	Wt %	0	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Sulfur Content	ppmw	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
Combustion Turbine Heat Consumption	MMBTU/hr, HHV	3,339.2	3,339.2	1,805.9	3,697.7	3,559.0	1,784.6	3,799.4	3,799.4	3,843.8	3,843.8	3,843.9	3,843.9	2,384.8
Duct Burner Heat Consumption	MMBTU/hr, HHV	378.2	0	0	311.8	0	0	319.3	0	382	0	394.4	0	0
Total Heat Consumption	MMBTU/hr, HHV	3,717.4	3,339.2	1,805.9	4,009.5	3,559.0	1,784.6	4,118.7	3,799.4	4,225.8	3,843.8	4,238.3	3,843.9	2,384.8
Unmargined Combustion Turbine Heat Consumption	MMBTU/hr, HHV	3,180.2	3,180.2	1,719.9	3,521.6	3,389.5	1,699.6	3,618.5	3,618.5	3,660.8	3,660.8	3,660.9	3,660.9	2,271.2
Unmargined Duct Burner Heat Consumption	MMBTU/hr, HHV	360.2	0.0	0.0	297.0	0.0	0.0	304.1	0.0	363.8	0.0	375.6	0.0	0.0
Unmargined Total Heat Consumption	MMBTU/hr, HHV	3,540.4	3,180.2	1,719.9	3,818.6	3,389.5	1,699.6	3,922.6	3,618.5	4,024.6	3,660.8	4,036.5	3,660.9	2,271.2
HRSG EXIT EXHAUST GAS														
Composition:														
Ar	mol %	0.87	0.87	0.88	0.86	0.87	0.88	0.88	0.88	0.88	0.89	0.88	0.89	0.89
CO_2	mol %	5.00	4.49	3.76	4.94	4.51	3.78	4.98	4.60	5.01	4.56	5.01	4.55	4.27
H_2O	mol %	11.71	10.73	9.33	12.21	10.97	9.55	10.54	9.80	9.82	8.94	9.75	8.85	8.30
N_2	mol %	72.73	73.11	73.65	72.29	72.94	73.49	73.62	73.91	74.21	74.55	74.27	74.62	74.83
O_2	mol %	9.70	10.80	12.38	9.70	10.71	12.31	9.97	10.81	10.07	11.05	10.08	11.09	11.70
Molecular weight		28.13	28.19	28.28	28.07	28.17	28.26	28.26	28.30	28.34	28.40	28.35	28.40	28.44
Temperature	°F	171.80	183.60	169.30	166.60	177.80	157.90	155.60	170.30	155.50	170.00	155.50	171.20	152.10
Mass Flow	lb/hr	5,597,800	5,580,900	3,616,600	6,087,300	5,912,800	3,556,900	6,240,300	6,226,000	6,388,900	6,371,900	6,405,600	6,388,000	4,230,100
Actual Volume Flow	Actual ft^3/hr	94,882,000	96,156,000	60,738,000	102,560,000	101,040,000	58,704,000	102,600,000	104,650,000	104,720,000	106,710,000	104,980,000	107,140,000	68,721,000
Standard Volume Flow	Standard ft^3/min (SCFM)	1,321,560	1,314,750	849,348	1,440,357	1,394,092	836,050	1,466,667	1,461,082	1,497,215	1,490,552	1,500,933	1,493,714	987,984
Dry Standard Volume Flow	DSCFM	1,166,805	1,173,677	770,120	1,264,490	1,241,160	756,207	1,312,080	1,317,911	1,350,204	1,357,267	1,354,562	1,361,550	905,971
Dry Standard Volume Flow	DSCFM @ 15% O2	2,214,359	2,009,176	1,112,106	2,401,030	2,143,631	1,100,986	2,430,461	2,253,850	2,478,425	2,265,946	2,484,128	2,263,865	1,412,701
Stack Velocity	ft/s	69.33	70.26	44.38	74.94	73.83	42.90	74.97	76.47	76.52	77.98	76.71	78.29	50.22
HRSG EXIT EXHAUST GAS EMISSIONS														
NO_X	ppmvd @ 15% O2	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
NO_X	lb/hr as NO2	27.20	24.30	13.10	29.30	25.90	12.90	30.00	27.60	30.90	27.90	30.90	27.90	17.30
CO	ppmvd @ 15% O2	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CO	lb/hr	16.50	14.80	8.00	17.80	15.70	7.90	18.30	16.80	18.80	17.00	18.80	17.00	10.50
VOC	ppmvd @ 15% O2	1.50	1.00	1.00	1.50	1.00	1.00	1.50	1.00	1.50	1.00	1.50	1.00	1.00

Table C-2

Performance/Emissions Specifications for Combined-Cycle CT w/ Auxiliary Fired DB in HRSG

Invenergy LLC - Allegheny Energy Center

Parameter	Units	Specifications												
		Summer 100% Fired	Summer 100% Unfired	Summer 41% Unfired	Summer 100% Unfired	Summer 100% Unfired	Summer 37% Unfired	Average 100% Fired	Average 100% Unfired	Winter 100% Fired	Winter 100% Unfired	Winter 100% Fired	Winter 100% Unfired	Winter 50% Unfired
		S100FB	S100UC	S41U	S100FA	S100U	A37U	A100F	A100U	W100FB	W100UB	W100FA	W100UA	W50U
VOC	lb/hr as methane	7.13	4.20	2.30	7.65	4.50	2.30	7.88	4.80	8.10	4.90	8.10	4.90	3.00
CO_2	lb/hr	407000	335000	186000	434000	356000	179000	439000	373000	462000	394000	467000	395000	259000
NH_3	ppmvd @ 15% O2	5	5	5	5	5	5	5	5	5	5	5	5	5
NH_3	lb/hr	25.1	22.4	12.1	27.1	23.9	12	27.8	25.5	28.6	25.8	28.6	25.8	16
SO_X	lb/hr as SO2	4.90	4.40	2.40	5.30	4.70	2.30	5.40	5.00	5.60	5.10	5.60	5.10	3.10
SO_2	lb/MMBtu	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
Unmargined $PM_{10}/PM_{2.5}$	lb/hr	19.4	15.2	13.6	19	15.4	13.6	19.2	15.6	19.9	15.7	20.1	15.7	14.2
$PM_{10}/PM_{2.5}$	lb/hr	20.4	16.0	14.3	20.0	16.2	14.3	20.2	16.4	20.9	16.5	21.1	16.5	14.9
$PM_{10}/PM_{2.5}$	lb/MMBtu	0.0058	0.0050	0.0083	0.0052	0.0048	0.0084	0.0051	0.0045	0.0052	0.0045	0.0052	0.0045	0.0066
Unmargined PM filterable	lb/hr	9.70	7.60	6.80	9.50	7.70	6.80	9.60	7.80	9.95	7.85	10.05	7.85	7.10
PM filterable	lb/hr	10.19	7.98	7.14	9.98	8.09	7.14	10.08	8.19	10.45	8.24	10.55	8.24	7.46
PM filterable	lb/MMBtu	0.0029	0.0025	0.0042	0.0026	0.0024	0.0042	0.0026	0.0023	0.0026	0.0023	0.0026	0.0023	0.0033
Sulfuric Acid Mist	lb/hr	3.5	3.2	1.7	3.8	3.4	1.7	3.9	3.6	4	3.6	4	3.6	2.3
Sulfuric Acid Mist	lb/MMBtu	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
Formaldehyde	lb/hr	0.9422	0.8549	0.4732	1.0217	0.9121	0.4685	1.0342	0.9590	1.0546	0.9642	1.0570	0.9633	0.6011
Formaldehyde	lb/MMBtu	2.66E-04	2.69E-04	2.75E-04	2.68E-04	2.69E-04	2.76E-04	2.64E-04	2.65E-04	2.62E-04	2.63E-04	2.62E-04	2.63E-04	2.65E-04
CO_2	lb/MWh gross	731.00	655.28	764.91	706.69	640.99	731.76	692.93	624.71	723.75	663.23	745.69	680.42	779.57
CH_4	lb/hr	7.81	7.01	3.79	8.42	7.47	3.75	8.65	7.98	8.87	8.07	8.90	8.07	5.01
N_2O	lb/hr	0.78	0.70	0.38	0.84	0.75	0.37	0.86	0.80	0.89	0.81	0.89	0.81	0.50
GHG/CO_2e	lb/hr	407,428	335,384	186,208	434,461	356,409	179,205	439,474	373,437	462,486	394,442	467,488	395,442	259,274
GHG/CO_2e	lb/MMBtu	115.1	105.5	108.3	113.8	105.2	105.4	112.0	103.2	114.9	107.7	115.8	108.0	114.2
HEAT AND MASS BALANCE SUMMARY														
Plant Gross Output	kW	556,775	511,235	243,165	614,135	555,395	244,616	633,541	597,073	638,342	594,063	626,262	580,522	332,235
Plant Aux Load	kW	1,245	1,245	1,245	1,245	1,245	1,256	1,291	1,263	1,292	1,273	1,292	1,272	1,265
Plant Aux Load	% of gross	0.975	0.977	0.962	0.977	0.978	0.962	0.977	0.981	0.980	0.983	0.980	0.983	0.978
Plant Net Output	kW	543,000	499,567	233,924	600,000	543,269	235,294	619,000	585,671	625,500	583,859	614,000	570,850	325,049
Plant Net LHV Heat Rate	BTU/kWh	5,913	5,744	6,634	5,765	5,630	6,518	5,740	5,575	5,832	5,658	5,960	5,787	6,305

Table C-3
Derivation of CT Heat Rate Limits
Invenergy LLC - Allegheny Energy Center

Parameter	Value	Units
Unmargined Base Load Heat Input	3,661	MMBtu/hr
Base Load Output, Gross	638,342	kW
Unmargined Heat Rate	5,734	Btu/kWh
Heat Input Margin[(a)]	12.8	%
Final Base Load Heat Rate	6,468	Btu/kWh
CO_2e Emissions Factor	115.8	lb/MMBtu
CO_2e Emissions Limit	749	lb CO_2e / gross MWh

[(a)] To calculate GHG emissions factors, a heat input margin was applied that was based on a design margin of 3.8%, a performance margin of 6.0%, and a degradation margin of 3.0%.

Table C-4
CT and DB Annual Emissions by Operating Scenario
Invenergy LLC - Allegheny Energy Center

Operating Scenario A

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	0	0	0	0	0	0	0	0	0
Warm Starts	-	0	0	0	0	0	0	0	0	0
Hot Starts	-	0	0	0	0	0	0	0	0	0
Shutdowns	-	0	0	0	0	0	0	0	0	0
Average Steady-State w/ Duct	1	0	0	0	0	0	0	0	0	0
Average Steady-State w/o Duct	2	8,760	33,282,744	241,776	147,168	42,048	71,744	143,489	3,267,480,000	43,800
Annual Emissions (tpy)			**33,282,744.0**	**120.9**	**73.6**	**21.0**	**35.9**	**71.7**	**1,633,740.0**	**21.9**

Operating Scenario B

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	0	0	0	0	0	0	0	0	0
Warm Starts	-	0	0	0	0	0	0	0	0	0
Hot Starts	-	0	0	0	0	0	0	0	0	0
Shutdowns	-	0	0	0	0	0	0	0	0	0
Average Steady-State w/ Duct	1	8,760	33,282,744	262,800	160,308	68,985	88,301	176,602	3,845,640,000	47,304
Average Steady-State w/o Duct	2	0	0	0	0	0	0	0	0	0
Annual Emissions (tpy)			**33,282,744.0**	**131.4**	**80.2**	**34.5**	**44.2**	**88.3**	**1,922,820.0**	**23.7**

Operating Scenario C

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	0	0	0	0	0	0	0	0	0
Warm Starts	-	0	0	0	0	0	0	0	0	0
Hot Starts	-	0	0	0	0	0	0	0	0	0
Shutdowns	-	0	0	0	0	0	0	0	0	0
Average Steady-State w/ Duct	1	4,380	16,641,372	131,400	80,154	34,493	44,150	88,301	1,922,820,000	23,652
Average Steady-State w/o Duct	2	4,380	16,641,372	120,888	73,584	21,024	35,872	71,744	1,633,740,000	21,900
Annual Emissions (tpy)			**33,282,744**	**126.1**	**76.9**	**27.8**	**40.0**	**80.0**	**1,778,280**	**22.8**

Operating Scenario D

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	15	20,700	3,750	13,500	4,200	158	317	7,005,000	84
Warm Starts	-	50	65,000	9,000	28,500	11,000	528	1,055	23,350,000	280
Hot Starts	-	155	76,725	13,950	60,450	31,775	1,636	3,271	72,385,000	868
Shutdowns	-	220	37,400	3,080	18,700	27,500	2,322	4,643	102,740,000	1,232
Average Steady-State w/ Duct	1	6,985	26,537,859	209,543	127,821	55,005	70,406	140,813	3,066,305,250	37,718
Average Steady-State w/o Duct	2	0	0	0	0	0	0	0	0	0
Annual Emissions (tpy)			**26,737,684**	**119.7**	**124.5**	**64.7**	**37.5**	**75.0**	**1,635,893**	**20.1**

Table C-4
CT and DB Annual Emissions by Operating Scenario
Invenergy LLC - Allegheny Energy Center

Operating Scenario E

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	15	20,700	3,750	13,500	4,200	158	317	7,005,000	84
Warm Starts	-	50	65,000	9,000	28,500	11,000	528	1,055	23,350,000	280
Hot Starts	-	155	76,725	13,950	60,450	31,775	1,636	3,271	72,385,000	868
Shutdowns	-	220	37,400	3,080	18,700	27,500	2,322	4,643	102,740,000	1,232
Average Steady-State w/ Duct	1	0	0	0	0	0	0	0	0	0
Average Steady-State w/o Duct	2	7,015	26,652,791	193,614	117,852	33,672	57,453	114,906	2,616,595,000	35,075
Annual Emissions (tpy)			**26,852,616**	**111.7**	**119.5**	**54.1**	**31.0**	**62.1**	**1,411,038**	**18.8**

Operating Scenario F

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	5	6,900	1,250	4,500	1,400	53	106	2,335,000	28
Warm Starts	-	52	67,600	9,360	29,640	11,440	549	1,097	24,284,000	291
Hot Starts	-	208	102,960	18,720	81,120	42,640	2,195	4,390	97,136,000	1,165
Shutdowns	-	265	45,050	3,710	22,525	33,125	2,796	5,593	123,755,000	1,484
Average Steady-State w/ Duct	1	7,615	28,933,381	228,458	139,359	59,970	76,762	153,523	3,343,094,750	41,122
Average Steady-State w/o Duct	2	0	0	0	0	0	0	0	0	0
Annual Emissions (tpy)			**29,155,891**	**130.7**	**138.6**	**74.3**	**41.2**	**82.4**	**1,795,302.4**	**22.0**

Operating Scenario G

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	5	6,900	1,250	4,500	1,400	53	106	2,335,000	28
Warm Starts	-	52	67,600	9,360	29,640	11,440	549	1,097	24,284,000	291
Hot Starts	-	208	102,960	18,720	81,120	42,640	2,195	4,390	97,136,000	1,165
Shutdowns	-	265	45,050	3,710	22,525	33,125	2,796	5,593	123,755,000	1,484
Average Steady-State w/ Duct	1	0	0	0	0	0	0	0	0	0
Average Steady-State w/o Duct	2	7,615	28,933,381	210,181	127,936	36,553	62,369	124,738	2,840,488,250	38,076
Annual Emissions (tpy)			**29,155,891**	**121.6**	**132.9**	**62.6**	**34.0**	**68.0**	**1,543,999**	**20.5**

Operating Scenario H

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	0	0	0	0	0	0	0	0	0
Warm Starts	-	0	0	0	0	0	0	0	0	0
Hot Starts	-	365	180,675	32,850	142,350	74,825	3,852	7,703	170,455,000	2,044
Shutdowns	-	365	62,050	5,110	31,025	45,625	3,852	7,703	170,455,000	2,044
Average Steady-State w/ Duct	1	8,200	31,156,346	246,010	150,066	64,578	82,659	165,319	3,599,946,333	44,282
Average Steady-State w/o Duct	2	0	0	0	0	0	0	0	0	0
Annual Emissions (tpy)			**31,399,071**	**142.0**	**161.7**	**92.5**	**45.2**	**90.4**	**1,970,428**	**24.2**

Table C-4
CT and DB Annual Emissions by Operating Scenario
Invenergy LLC - Allegheny Energy Center

Operating Scenario I

Operation	CT Case #	Annual Number of Events or Hours	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
			MMBtu	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Cold Starts	-	0	0	0	0	0	0	0	0	0
Warm Starts	-	0	0	0	0	0	0	0	0	0
Hot Starts	-	365	180,675	32,850	142,350	74,825	3,852	7,703	170,455,000	2,044
Shutdowns	-	365	62,050	5,110	31,025	45,625	3,852	7,703	170,455,000	2,044
Average Steady-State w/ Duct	1	0	0	0	0	0	0	0	0	0
Average Steady-State w/o Duct	2	8,200	31,156,346	226,329	137,766	39,362	67,161	134,321	3,058,724,333	41,002
Annual Emissions (tpy)			**31,399,071**	**132.1**	**155.6**	**79.9**	**37.4**	**74.9**	**1,699,817**	**22.5**

	Fuel	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$	CO_2	SO_2
	MMBtu	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Maximum	**33,282,744.0**	**142.0**	**161.7**	**92.5**	**45.2**	**90.4**	**1,970,428**	**24.2**
Maximum Case		**H**	**H**	**H**	**H**	**H**	**H**	**H**

Pollutant	GE 7HA.02 - Total Annual Emissions for 1 CT+DB For Range of Operating Scenarios (tpy)								
	Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H	Case I
NO_X	120.9	131.4	126.1	119.7	111.7	130.7	121.6	142.0	132.1
CO	73.6	80.2	76.9	124.5	119.5	138.6	132.9	161.7	155.6
VOC	21.0	34.5	27.8	64.7	54.1	74.3	62.6	92.5	79.9
PM	35.9	44.2	40.0	37.5	31.0	41.2	34.0	45.2	37.4
$PM_{10}/PM_{2.5}$	71.7	88.3	80.0	75.0	62.1	82.4	68.0	90.4	74.9
CO_2	1,633,740.0	1,922,820.0	1,778,280.0	1,635,892.6	1,411,037.5	1,795,302.4	1,543,999.1	1,970,428.2	1,699,817.2
SO_2	21.9	23.7	22.8	20.1	18.8	22.0	20.5	24.2	22.5

Table C-5
HAPs Emissions for Combustion Sources
Invenergy LLC - Allegheny Energy Center

								Emissions Unit Description	CT	DB	Auxilary Boiler	Dew Point Heater	Emergency Generator	Fire Water Pump
								Operating Time, hrs/yr	8,760	8,760	4,000	8,760	100	100
								Fuel Type	Natural Gas	Natural Gas	Natural Gas	Natural Gas	ULSD	ULSD
								Heat Input (HHV), Max. MMBtu/hr each unit	3,844	394.4	88.7	3.0	20.9	1.9
Emission Factor Reference (unless otherwise noted)			Emissions Factors for Natural Gas-Fired Turbines	Emissions Factors for Natural Gas Combustion	Emissions Factors for Large Diesel Engines	Emissions Factors for Small Diesel Engines	Emissions Factors for Trace Metals from Distillate Oil Combustion		Annual Emissions					
			AP-42 Ch 3.1	AP-42 Ch 1.4	AP-42 Ch 3.4	AP-42 Ch. 3.3	AP-42 Ch 1.3		(tpy)					
HAPs Pollutant Emitted	Note	CAS Number	(lb/MMBtu)	(lb/MMBtu)	(lb/MMBtu)	(lb/MMBtu)	(lb/MMBtu)							
1,3-Butadiene	(a)	106-99-0	4.30E-07	-	-	3.91E-05	-		7.24E-03	0.00	0.00	0.00	0.00	3.79E-06
2-Methylnaphthalene		91-57-6	-	2.29E-08	-	-	-		0.00	3.95E-05	4.05E-06	3.00E-07	0.00	0.00
3-Methylchloranthrene	(a)	56-49-5	-	1.71E-09	-	-	-		0.00	2.96E-06	3.04E-07	2.25E-08	0.00	0.00
7,12-Dimethylbenz(a)anthracene	(a)	57-97-6	-	1.52E-08	-	-	-		0.00	2.63E-05	2.70E-06	2.00E-07	0.00	0.00
Acenaphthene	(a)	83-32-9	-	1.71E-09	4.68E-06	1.42E-06	-		0.00	2.96E-06	3.04E-07	2.25E-08	4.88E-06	1.38E-07
Acenaphthylene	(a)	208-96-8	-	1.71E-09	9.23E-06	5.06E-06	-		0.00	2.96E-06	3.04E-07	2.25E-08	9.63E-06	4.91E-07
Acetaldehyde		75-07-0	4.00E-05	-	2.52E-05	7.67E-04	-		0.67	0.00	0.00	0.00	2.63E-05	7.44E-05
Anthracene	(a)	120-12-7	-	2.29E-09	1.23E-06	1.87E-06	-		0.00	3.95E-06	4.05E-07	3.00E-08	1.28E-06	1.81E-07
Acrolein	(a)	107-02-8	6.40E-06	-	7.88E-06	9.25E-05	-		0.11	0.00	0.00	0.00	8.22E-06	8.98E-06
Benz(a)anthracene	(a)	56-55-3	-	1.71E-09	6.22E-07	1.68E-06	-		0.00	2.96E-06	3.04E-07	2.25E-08	6.49E-07	1.63E-07
Benzene		71-43-2	1.20E-05	2.00E-06	7.76E-04	9.33E-04	-		0.20	3.45E-03	3.55E-04	2.63E-05	8.10E-04	9.05E-05
Benzo(a)pyrene (PAH)	(a)	50-32-8	-	1.14E-09	2.57E-07	1.88E-07	-		0.00	1.97E-06	2.03E-07	1.50E-08	2.68E-07	1.82E-08
Benzo(b)fluoranthene	(a)	205-99-2	-	1.71E-09	1.11E-06	9.91E-08	-		0.00	2.96E-06	3.04E-07	2.25E-08	1.16E-06	9.62E-09
Benzo(g,h,i)perylene	(a)	191-24-2	-	1.14E-09	-	4.89E-07	-		0.00	1.97E-06	2.03E-07	1.50E-08	0.00	4.75E-08
Benzo(k)fluoranthene	(a)	207-08-9	-	1.71E-09	2.18E-07	1.55E-07	-		0.00	2.96E-06	3.04E-07	2.25E-08	2.27E-07	1.50E-08
Chrysene	(a)	218-01-9	-	1.71E-09	1.53E-06	3.53E-07	-		0.00	2.96E-06	3.04E-07	2.25E-08	1.60E-06	3.43E-08
Dibenz(a,h)anthracene	(a)	53-70-3	-	1.14E-09	3.46E-07	5.83E-07	-		0.00	1.97E-06	2.03E-07	1.50E-08	3.61E-07	5.66E-08
Dichlorobenzene		25321-22-6	-	1.14E-06	-	-	-		0.00	1.97E-03	2.03E-04	1.50E-05	0.00	0.00
Ethylbenzene		100-41-4	3.20E-05	-	-	-	-		0.54	0.00	0.00	0.00	0.00	0.00
Fluoranthene		206-44-0	-	2.86E-09	4.03E-06	7.61E-06	-		0.00	4.94E-06	5.07E-07	3.75E-08	4.20E-06	7.38E-07
Fluorene		86-73-7	-	2.67E-09	1.28E-05	2.92E-05	-		0.00	4.61E-06	4.73E-07	3.50E-08	1.34E-05	2.83E-06
Formaldehyde	(b)	50-00-0	2.76E-04	2.76E-04	7.89E-05	1.18E-03	-		4.64	0.48	0.05	3.62E-03	8.23E-05	1.15E-04
Hexane (n)	(c)	110-54-3	-	1.24E-06	-	-	-		0.00	2.14E-03	2.20E-04	1.63E-05	0.00	0.00
Indeno(1,2,3-cd)pyrene	(a)	193-39-5	-	1.71E-09	4.14E-07	3.75E-07	-		0.00	2.96E-06	3.04E-07	2.25E-08	4.32E-07	3.64E-08
Naphthalene		91-20-3	1.30E-06	5.81E-07	1.30E-04	8.48E-05	-		0.02	1.00E-03	1.03E-04	7.63E-06	1.36E-04	8.23E-06
Phenanthrene		85-01-8	-	1.62E-08	4.08E-05	2.94E-05	-		0.00	2.80E-05	2.87E-06	2.13E-07	4.26E-05	2.85E-06
Propylene Oxide	(a)	75-56-9	2.90E-05	-	-	-	-		0.49	0.00	0.00	0.00	0.00	0.00
Pyrene		129-00-0	-	4.76E-09	3.71E-06	4.78E-06	-		0.00	8.23E-06	8.45E-07	6.26E-08	3.87E-06	4.64E-07
Toluene		108-88-3	1.30E-04	3.24E-06	2.81E-04	4.09E-04	-		2.19	5.59E-03	5.74E-04	4.25E-05	2.93E-04	3.97E-05
Xylenes		1330-20-7	6.40E-05	-	1.93E-04	2.85E-04	-		1.08	0.00	0.00	0.00	2.01E-04	2.77E-05
Arsenic		7440-38-2	-	1.90E-07	-	-	4.00E-06		0.00	3.29E-04	3.38E-05	2.50E-06	4.17E-06	3.88E-07
Beryllium	(a)	7440-41-7	-	1.14E-08	-	-	3.00E-06		0.00	1.97E-05	2.03E-06	1.50E-07	3.13E-06	2.91E-07
Cadmium		7440-43-9	-	1.05E-06	-	-	3.00E-06		0.00	1.81E-03	1.86E-04	1.38E-05	3.13E-06	2.91E-07
Chromium		7440-47-3	-	1.33E-06	-	-	3.00E-06		0.00	2.30E-03	2.37E-04	1.75E-05	3.13E-06	2.91E-07
Cobalt		7440-48-4	-	8.00E-08	-	-	-		0.00	1.38E-04	1.42E-05	1.05E-06	0.00	0.00
Lead		7439-92-1	-	4.76E-07	-	-	9.00E-06		0.00	8.23E-04	8.45E-05	6.26E-06	9.39E-06	8.73E-07
Manganese		7439-96-5	-	3.62E-07	-	-	6.00E-06		0.00	6.25E-04	6.42E-05	4.76E-06	6.26E-06	5.82E-07
Mercury		7439-97-6	-	2.48E-07	-	-	3.00E-06		0.00	4.28E-04	4.39E-05	3.25E-06	3.13E-06	2.91E-07
Nickel		7440-02-0	-	2.00E-06	-	-	3.00E-06		0.00	3.45E-03	3.55E-04	2.63E-05	3.13E-06	2.91E-07
Selenium	(a)	7782-49-2	-	2.29E-08	-	-	1.50E-05		0.00	3.95E-05	4.05E-06	3.00E-07	1.57E-05	1.46E-06
								Highest Individual HAP (tpy)	**4.64**	**0.48**	**0.05**	**3.62E-03**	**8.10E-04**	**1.15E-04**
								Total HAPs (tpy)	**9.95**	**0.50**	**0.05**	**3.81E-03**	**1.69E-03**	**3.81E-04**
									10.50					

[a] Emissions factors are based on method detection limits from AP-24 Chapter 1.4, Chapter 3.1, Chapter 3.3, or Chapter 3.4.

[b] Formaldehyde standard in 40 CFR Part 63, Subpart YYYY (0.091 parts per million, volumetric dry [ppmvd] @ 15% oxygen [O_2]).

[c] The AP-42 emissions factor for hexane from natural gas combustion (AP-42 Chapter 1.4 Table 1.4-3 (7/98)) has been designated as poor (i.e. "E" rating). This hexane emissions factor is considered unreasonably high. Therefore, a more realistic hexane emissions factor is being used. The hexane emissions factor is located in Ventura County Air Pollution Control District document AB2588 AB 2588 - Combustion Emission Factors.