MRC/FIBERIGHT PROCESSING FACILITY
LIST OF DELIVERABLES

RESPONSES

Deliverable #3:

3. Details on any other fuel (including startup fuel) that may be fired in the boilers (type, max MMBtu/hr, anticipated annual usage, etc.)

The table below summarizes the anticipated usage of natural gas/bio-methane during startup scenarios. The table presents the total MMBtu of natural gas/bio-methane fired for Cold Starts, Hot Starts, and Temperature control scenarios. The Potential to Emit (PTE) calculations have been revised to include this fuel usage.

EVENT	EVENTS PER YEAR	DURATION	TOTAL FUEL USE PER YEAR (MMBTU)
BOILER #1			
Cold Start	3	4	300
Hot Start	2	1	61
Temp Control	6	0.5	147
		Boiler #1 Total =	**508**
BOILER #2			
Cold Start	3	4	300
Hot Start	2	1	61
Temp Control	6	0.5	147
		Boiler #2 Total =	**508**
		Facility Total =	**1016 MMBtu**

Deliverable #4:

4. Revised boiler emissions (if applicable)

The following tables represent the revised Potential to Emit (PTE) calculations for the proposed facility. The emissions estimates have been revised to reflect PHS as the primary fuel source. The addition of natural gas or bio-methane at startup has also been included in the annual estimates.

POTENTIAL TO EMIT SUMMARY
FIBERIGHT, LLC
Proposed Hampden, ME Facility

Criteria Pollutants (Ton/Year)						
	Flare	Boiler#1	Boiler #2	Scrubber #1	Scrubber #2	Total
Carbon Monoxide (CO)	0.09	46.40	46.40	0	0	**92.9**
Oxides of Nitrogen (Nox)	0.73	21.10	21.10	0	0	**42.9**
Sulfur Dioxide (SO2)	0.15	5.27	5.27	0	0	**10.7**
Particulate Matter (PM)	0.44	6.33	6.33			**13.1**
Particulate Matter < 10 µm (PM10)	0.44	4.64	4.64			**9.7**
Particulate Matter < 2.5 µm (PM2.5)	0.44	4.22	4.22			**8.9**
Volatile Organic Compounds	0.14	2.74	2.74	2.89	2.89	**11.4**
ammonia	0.08	0.00	0.00	0	0	**0.1**
HAPS	0.05	3.41	3.41	0.15	0.15	**7.2**

Hazardous Air Pollutants (Ton/Year)						
	Flare	Boiler#1	Boiler #2	Scrubber #1	Scrubber #2	Total
acetaldehyde	0	0.00	0.00	0.00	0.00	**0.00**
acrolein	0	0.00	0.00	0.00	0.00	**0.01**
arsenic	0	0.00	0.00	0.00	0.00	**0.00**
benzene	0	0.00	0.00	0.01	0.01	**0.02**
beryllium	0	0.00	0.00	0.00	0.00	**0.00**
cadmium	0	0.00	0.00	0.00	0.00	**0.00**
chromium	0	0.00	0.00	0.00	0.00	**0.00**
cobalt	0	0.00	0.00	0.00	0.00	**0.00**
dichlorobenzene	0	0.00	0.00	0.00	0.00	**0.01**
formaldehyde	0	0.00	0.00	0.00	0.00	**0.01**
hydrochloric acid	0	0.00	0.00	0.02	0.02	**0.03**
lead	0	0.00	0.00	0.00	0.00	**0.00**
manganese	0	0.00	0.00	0.00	0.00	**0.00**
methanol	0	0.00	0.00	0.00	0.00	**0.00**
mercury	0	0.00	0.00	0.00	0.00	**0.00**
n-hexane	0	0.00	0.00	0.02	0.02	**0.05**
napthalene	0	0.00	0.00	0.00	0.00	**0.00**
nickel	0	0.00	0.00	0.00	0.00	**0.00**
phenanthrene	0	0.00	0.00	0.00	0.00	**0.00**
toluene	0	0.00	0.00	0.10	0.10	**0.21**

Fiberight, LLC
Flare Potential to Emit

Biogas production rate (SCFH)	65585
Gas Recovery rate	90%
Operational days per year	365
Days venting gas (process upset)	0
Gas flared Annual Total (SCF)	51,943,320

Flare Potential to Emit (ton/year)	
Carbon Monoxide (CO)	0.09
Oxides of Nitrogen (Nox)	0.73
Sulfur Dioxide (SO2)	0.15
Particulate Matter (PM)	0.44
Particulate Matter < 10 µm (PM10)	0.44
Particulate Matter < 2.5 µm (PM2.5)	0.44
Volatile Organic Coumpounds	0.14
ammonia	0.08
HAPS	0.05

Emissions Factors			
Pollutant	**Emission Factor**	**Units**	**Source**
Carbon Monoxide (CO)	3.47E-06	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Oxides of Nitrogen (Nox)	2.83E-05	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Sulfur Dioxide (SO2)	5.75E-06	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Particulate Matter (PM)	1.70E-05	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Particulate Matter < 10 µm (PM10)	1.70E-05	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Particulate Matter < 2.5 µm (PM2.5)	1.70E-05	lb/cu ft Burned	SCC 50300601, landfill flare, WebFire
Volatile Organic Coumpounds	5.5	lb/MM cu ft Burned	SCC 10100602, boiler
ammonia	3.2	lb/MM cu ft Burned	SCC 10100602, boiler
HAPS	1.938	lb/MM cu ft Burned	SCC 10100602, boiler

Fiberight, LLC
Boiler #1 Potential to Emit

Heat Input (mmBtu/hr)	48.11
Total Gas fired (MMBtu)	1016
Btu/Scf Natural Gas	1020
Natural Gas (scf)	996078
Annual Hours of operation	8760

Pollutant	Ton/Year
Carbon Monoxide (CO)	46.40
Oxides of Nitrogen (Nox)	21.10
Sulfur Dioxide (SO2)	5.27
Particulate Matter (PM)	6.33
Particulate Matter < 10 µm (PM10)	4.64
Particulate Matter < 2.5 µm (PM2.5)	4.22
Volatile Organic Coumpounds	2.74
ammonia	0.00
HAPS	3.4

Emissions Factors Biomass (PHS)			
Pollutant	Emission Factor (lb/mmBtu)	Emission Factor (lb/hr)	Source
Carbon Monoxide (CO)	0.22	10.58	Emisison factors provided by manufaturer (AP-42 1.6)
Oxides of Nitrogen (Nox)	0.1	4.81	Emisison factors provided by manufaturer (AP-42 1.6)
Sulfur Dioxide (SO2)	0.025	1.20	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter (PM)	0.03	1.44	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter < 10 µm (PM10)	0.022	1.06	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter < 2.5 µm (PM2.5)	0.02	0.96	Emisison factors provided by manufaturer (AP-42 1.6)
Volatile Organic Coumpounds	0.013	0.63	Emisison factors provided by manufaturer (AP-42 1.6)

Emissions Factors Natural Gas / Bio-methane			
Pollutant	Emission Factor ($lb/10^6$ scf)	Total lb/yr	Source
Carbon Monoxide (CO)	84	83.67	Emisison factors provided by manufaturer (AP-42 1.4)
Oxides of Nitrogen (Nox)	50	49.80	Emisison factors provided by manufaturer (AP-42 1.4)
Sulfur Dioxide (SO2)	0.6	0.60	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter (PM)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter < 10 µm (PM10)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter < 2.5 µm (PM2.5)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Volatile Organic Coumpounds	5.5	5.48	Emisison factors provided by manufaturer (AP-42 1.4)

Controls
Baghouse for PM
SNCR for Nox, Reduced EF from 0.22 lb/mmBtu to 0.10 lb/mmBtu

Fiberight, LLC
Boiler #1 Potential to Emit

HAPS EMISSIONS (PHS)		
HAP	lb/mmBtu	Ton/yr
acetaldehyde	8.300E-04	0.17
acrolein	4.00E-03	0.84
arsenic	7.90E-06	0.00
benzene	4.20E-03	0.89
beryllium	1.10E-06	0.00
cadmium	4.10E-06	0.00
chromium	2.10E-05	0.00
cobalt	6.50E-06	0.00
dichlorobenzene		0.00
formaldehyde	4.40E-03	0.93
hydrochloric acid		0.00
lead	4.80E-05	0.01
manganese	1.60E-03	0.34
methanol		0.00
mercury	3.50E-06	0.00
n-hexane		0.00
napthalene	9.70E-05	0.02
nickel	3.30E-05	0.01
phenanthrene	7.00E-06	0.00
toluene	9.20E-04	0.19

Source of EF AP-42 2.4

HAPS EMISSIONS (Natural Gas)		
HAP	$lb/10^6$ scf	Ton/yr
arsenic	2.00E-04	0.00
benzene	2.10E-03	0.00
beryllium	1.20E-05	0.00
cadmium	1.10E-03	0.00
chromium	1.30E-03	0.00
cobalt	8.40E-05	0.00
dichlorobenzene	1.20E-03	0.00
formaldehyde	7.50E-02	0.00
lead	5.00E-04	0.00
manganese	3.80E-04	0.00
mercury	2.60E-04	0.00
n-hexane	1.80E+00	0.00
napthalene	6.10E-04	0.00
nickel	2.10E-03	0.00
phenanthrene	1.70E-05	0.00
toluene	3.40E-03	0.00

Fiberight, LLC
Boiler #2 Potential to Emit

Heat Input (mmBtu/hr)	48.11
Total Gas fired (MMBtu)	1016
Btu/Scf Natural Gas	1020
Natural Gas (scf)	996078.4314
Annual Hours of operation	8760

Pollutant	Ton/Year
Carbon Monoxide (CO)	46.40
Oxides of Nitrogen (Nox)	21.10
Sulfur Dioxide (SO2)	5.27
Particulate Matter (PM)	6.33
Particulate Matter < 10 µm (PM10)	4.64
Particulate Matter < 2.5 µm (PM2.5)	4.22
Volatile Organic Coumpounds	2.74
ammonia	0.00
HAPS	3.4

Emissions Factors Biomass (PHS)			
Pollutant	Emission Factor (lb/mmBtu)	Emission Factor (lb/hr)	Source
Carbon Monoxide (CO)	0.22	10.58	Emisison factors provided by manufaturer (AP-42 1.6)
Oxides of Nitrogen (Nox)	0.1	4.81	Emisison factors provided by manufaturer (AP-42 1.6)
Sulfur Dioxide (SO2)	0.025	1.20	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter (PM)	0.03	1.44	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter < 10 µm (PM10)	0.022	1.06	Emisison factors provided by manufaturer (AP-42 1.6)
Particulate Matter < 2.5 µm (PM2.5)	0.02	0.96	Emisison factors provided by manufaturer (AP-42 1.6)
Volatile Organic Coumpounds	0.013	0.63	Emisison factors provided by manufaturer (AP-42 1.6)

Emissions Factors Natural Gas / Bio-methane			
Pollutant	Emission Factor ($lb/10^6$ scf)	Total lb/yr	Source
Carbon Monoxide (CO)	84	83.67	Emisison factors provided by manufaturer (AP-42 1.4)
Oxides of Nitrogen (Nox)	50	49.80	Emisison factors provided by manufaturer (AP-42 1.4)
Sulfur Dioxide (SO2)	0.6	0.60	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter (PM)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter < 10 µm (PM10)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Particulate Matter < 2.5 µm (PM2.5)	7.6	7.57	Emisison factors provided by manufaturer (AP-42 1.4)
Volatile Organic Coumpounds	5.5	5.48	Emisison factors provided by manufaturer (AP-42 1.4)

Controls
Baghouse for PM
SNCR for Nox, Reduced EF from 0.22 lb/mmBtu to 0.10 lb/mmBtu

Fiberight, LLC
Boiler #2 Potential to Emit

HAPS EMISSIONS (PHS)		
HAP	lb/mmBtu	Ton/yr
acetaldehyde	8.300E-04	0.17
acrolein	4.00E-03	0.84
arsenic	7.90E-06	0.00
benzene	4.20E-03	0.89
beryllium	1.10E-06	0.00
cadmium	4.10E-06	0.00
chromium	2.10E-05	0.00
cobalt	6.50E-06	0.00
dichlorobenzene		0.00
formaldehyde	4.40E-03	0.93
hydrochloric acid		0.00
lead	4.80E-05	0.01
manganese	1.60E-03	0.34
methanol		0.00
mercury	3.50E-06	0.00
n-hexane		0.00
napthalene	9.70E-05	0.02
nickel	3.30E-05	0.01
phenanthrene	7.00E-06	0.00
toluene	9.20E-04	0.19

Source of EF AP-42 2.4

HAPS EMISSIONS (Natural Gas)		
HAP	$lb/10^6$ scf	Ton/yr
arsenic	2.00E-04	0.00
benzene	2.10E-03	0.00
beryllium	1.20E-05	0.00
cadmium	1.10E-03	0.00
chromium	1.30E-03	0.00
cobalt	8.40E-05	0.00
dichlorobenzene	1.20E-03	0.00
formaldehyde	7.50E-02	0.00
lead	5.00E-04	0.00
manganese	3.80E-04	0.00
mercury	2.60E-04	0.00
n-hexane	1.80E+00	0.00
napthalene	6.10E-04	0.00
nickel	2.10E-03	0.00
phenanthrene	1.70E-05	0.00
toluene	3.40E-03	0.00

Fiberight, LLC
Scrubber #1 Potential to Emit

Operating Rate (Tons MSW/year)	214000
Operating Hours	8760
Capture Efficiency	90%
Control Efficiency	95%
VOC Emission (lb/hour)	14.64
VOC Emission (Ton/Year)	2.89

Pollutant	ppmv	Ton/year
acetaldehyde	0.08	0.00
acrolein	0.00	0.00
arsenic	0.00	0.00
benzene	2.40	0.01
beryllium	0.00	0.00
cadmium	0.00	0.00
chromium	0.00	0.00
cobalt	0.00	0.00
dichlorobenzene	1.15	0.00
formaldehyde	0.01	0.00
hydrochloric acid	5.00	0.02
lead	0.00	0.00
manganese	0.00	0.00
methanol	0.00	0.00
mercury	0.00	0.00
n-hexane	6.57	0.02
napthalene	0.00	0.00
nickel	0.00	0.00
phenanthrene	0.00	0.00
toluene	29.50	0.10

VOC Emission Factor			
Organic Compounds Rumpke Landfill	157.38	lb/hr	Ohio EPA Permit #P0112360
MSW Received at Rumpke 2011	2300000	ton/yr	Ohio EPA Permit #P0112360; PTE
Annual MSW Fiberight ME	214000	ton/yr	Maximum planned annual receipts
Organics to Scrubber	14.6432	lb/hr	Ratio (185000/2300000)*157.38 = 12.66
Reference VOC Concentration	835	ppm	

Fiberight, LLC
Scrubber #1 Potential to Emit

Operating Rate (Tons MSW/year)	214000
Operating Hours	8760
Capture Efficiency	90%
Control Efficiency	95%
VOC Emission (lb/hour)	14.64
VOC Emission (Ton/Year)	2.89

Pollutant	ppmv	Ton/year
acetaldehyde	0.08	0.00
acrolein	0.00	0.00
arsenic	0.00	0.00
benzene	2.40	0.01
beryllium	0.00	0.00
cadmium	0.00	0.00
chromium	0.00	0.00
cobalt	0.00	0.00
dichlorobenzene	1.15	0.00
formaldehyde	0.01	0.00
hydrochloric acid	5.00	0.02
lead	0.00	0.00
manganese	0.00	0.00
methanol	0.00	0.00
mercury	0.00	0.00
n-hexane	6.57	0.02
napthalene	0.00	0.00
nickel	0.00	0.00
phenanthrene	0.00	0.00
toluene	29.50	0.10

VOC Emission Factor			
Organic Compounds Rumpke Landfill	157.38	lb/hr	Ohio EPA Permit #P0112360
MSW Received at Rumpke 2011	2300000	ton/yr	Ohio EPA Permit #P0112360; PTE
Annual MSW Fiberight ME	214000	ton/yr	Maximum planned annual receipts
Organics to Scrubber	14.6432	lb/hr	Ratio (185000/2300000)*157.38 = 12.66
Reference VOC Concentration	835	ppm	

Deliverable Items #5 and #6:

5. *Heat content (Btu/lb at x% moisture) of the PHS*

6. *Expected moisture content of the PHS both as-fired and prior to the "PHS dryer" which proceeds the boiler*

The attached emissions summary provided by the close coupled gasifier/boiler manufacturer includes the heat content and anticipated moisture of the PHS as fired. The PHS leaves the screw press with a moisture content of approximately 50%. The PHS material will be dried to a maximum of 41.5% moisture content. The PHS will have approximately 4,347 British Thermal Units (Btu) per pound (Btu/lb) at 41.5% moisture. This is the minimum btu/lb required to maintain operation of the gasifier/boiler.

CES INC

BOILER PERFORMANCE SUMMARY				Fuel Analysis		Page 1	
Fiberight Facility - Hampden, Maine - PHS (Min CV)				% by Weight		11/11/2015	
Boiler Horsepower	1043	{	}	Ash	2.20	1.88	3.76
Steam Flow lb/hr	29,091	= 35970.71 F&A 212	}	S	0.04	0.04	0.07
Steam Pres. psig	405	{	}	H2	3.43	2.94	5.87
Steam Temp. F	750	{	}	C	28.06	23.99	47.98
Feedwater Temp. F	220	{	}	N2	0.33	0.29	0.57
Feedwater Rate GPM	60.63		}	O2	24.41	20.88	41.75
Steam Enth. btu/lb	1388.7		}	H2O	41.53	50.00	0.00
Feedwater Enth. btu/lb	189						
Heat Absorb. by stm. btu/lb	1199.7						
Ex. Air [include tramp air] %	40	{ add air leakage		Total 100	100	100	100
Unburn Carbon Loss %	0.5	{ 0 for gas & oil			At Min CV	As Received	Dry Basis
Air Temp. To Boiler F (ambient)	80	{			btu/lb	btu/lb	btu/lb
Gas Temp.Leaving Boiler F	350	{	}	btu value*=	4,347	3,717	7,434
Excess Air to Burners %	45	{ no air leakage		Mj/kg=	10.11	8.65	17.29
Moist. In Air lb H2O/lb air	0.013	{.013}	}	Fuel Type	Processed	PHS (Test)	PHS (Test)
Radiation Loss %	0.5	{.5}			Fuel	18-Dec-14	18-Dec-14
Manufactures Margin %	0.5	{1}		Tons/Hr	5.62	6.57	3.29
Moist. from Atm. Stm. #/10kbtu	0	{use.056 when burning oil			*Mixture btu/lb value minimum = 4347 btu/lb		
Fuel BTU/LB	4,347				Hrs/Yr Oper.	7,920	
Water from Fuel lb/10 kbtu	1.66						
Theoretical Air lb/10 kbtu	7.74						
Fuel wt.- Ash wt. lb/10 kbtu	2.25						
Actual Dry Air lb/10 kbtu	10.79						
Wt. of FuelBurned Wet lb/10 kbtu	2.25						
Moisture in Air lb/10 kbtu	0.14						
Added Moist.:Atm.stm.lb/10kbtu	0.00						
Total Wet Gas lb/10 kbtu	13.18						
Water from Fuel lb/10 kbtu	1.66						
Water in Wet Gas lb/10 kbtu	1.80						
Dry Gas total lb/10 kbtu	11.38						
% water by wt. in Gas %	13.67						
Gas out F - Air in F	270						
EFFICIENCY LOSSES							
Dry Gas Loss %	7.37						
H2O from Fuel Loss %	19.51						
Moist . In Air Loss %	0.18						
Unburn Comb. Loss %	0.50						
Radation Loss %	0.50						
Manufac.Unaccount.Margin %	0.50						
Total Losses %	28.56						
BOILER EFFICIENCY	71.44						
Fuel Input mmBtu/hr	48.86						
Wet Gas Weight M lb/hr [x1000]	64.40	Heat Output mmBtu/hr	34.90				
Total Air to BurnersMlb/hr x1000	55.50	Total Air Flow ACFM 70 F	12,350				
Fuel Rate lb/hr (into boiler)	11,240.0	Fuel Rate-Tons/Hr	5.62				

CONSTITUENTS OF FLUE GAS				
	WET BASIS		DRY BASIS	
	% BY WT.	% BY VOL.	% BY WT.	%BYVOL
CO2	17.80	11.28	20.61	14.30
SO2	0.01	0.01	0.02	0.01
H2O	13.60	21.07	0.00	0.00
N2	63.19	62.94	73.14	79.74
O2	5.39	4.70	6.24	5.95
Total	100.00	100.00	100.00	100.00

Flue Gas		
Density Flue Gas #/cf	0.044	350
Flue Gas Flow ACFM	24,329	350
Flue Gas Flow SCFM	15,618	70
Gas Flow DSCFM	12,328	70
Corrected 8% O2 dscf	14,282	70

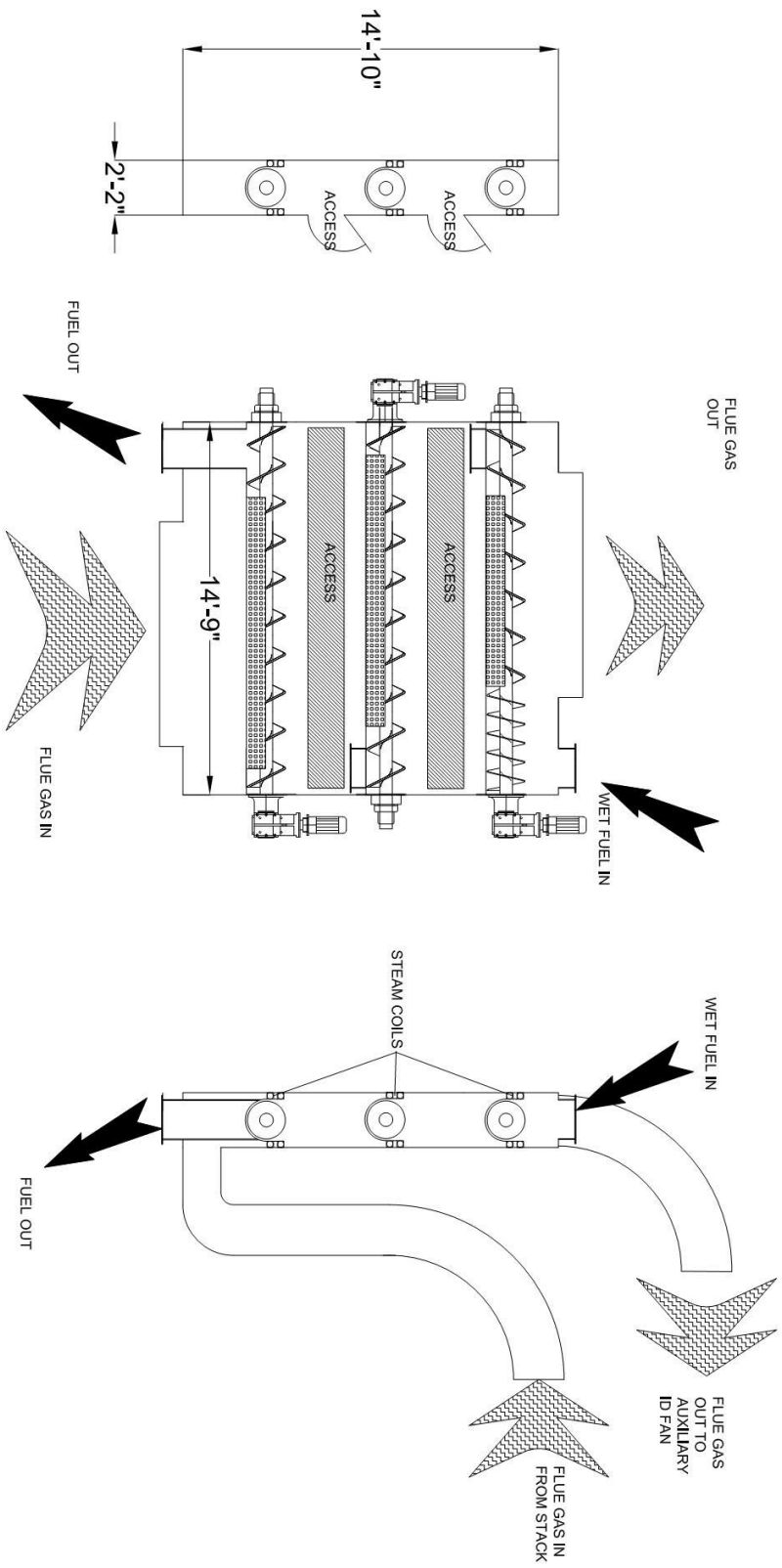
PROJECTED EMISSIONS	RATE (lb/mmBtu)		lbs/hr	US Tons/yr
PM -10 with Multicyclone	0.2		9.77	38.69
PM-2.5 with Multicyclone	0.12		5.86	23.22
Total PM with Multicyclone	0.30		14.66	58.04
PM-10 with Baghouse	0.022		1.07	4.26
PM-2.5 with Baghouse	0.020		0.98	3.87
Total PM with Baghouse	0.030		1.47	5.80
Nox	0.22		10.75	42.56
CO	0.22		10.75	42.56
SO2	0.025		1.22	4.84
TOC	0.039		1.91	7.55
VOC	0.013		0.64	2.52

Deliverable Item #7:

7. Information on the PHS dryer

The PHS dryer uses boiler discharge gas that is routed to pass through the dryer and then return to the inlet side of the Hurst multi-cyclone. The gas is then routed the same way as in the basic Hurst system, i.e. through multi-cyclone, the bag house, the ID fan, and then out the stack. The dryer is essentially a box that contains multiple screws with the wet fuel being introduced at the top being moved sideways by the 1st screw, then reversed to the other side by the next screw, and back and forth by subsequent screws until exiting at the bottom as a dried fuel which would then be routed to the boiler metering bin inlet. The gas discharged from the boiler is introduced to the dryer at the bottom and flows vertically upwards physically passing through the wet fuel causing the fuel to dry. The ID fan will be sized to include the additional gas stream pressure drop (or an auxiliary ID fan will be provided, as required).

The attached generic sketch shows some steam coils in the Dryer. These are optional, and would act as a backup using steam as the drying agent.


14'-10"
2'-2"
ACCESS
ACCESS
FUEL OUT
FLUE GAS OUT
ACCESS
ACCESS
14'-9"
FLUE GAS IN
WET FUEL IN
STEAM COILS
WET FUEL IN
FUEL OUT
FLUE GAS OUT TO AUXILIARY ID FAN
FLUE GAS IN FROM STACK

Deliverable #8*:*

8. Information on how Fiberight intends to track the amount of each fuel fired in the boilers on a monthly and annual basis

FIberight will use PHS metering bins/feeders for each gasifier/boiler unit and natural gas or bio-methane will be metered into the boiler systems. This will allow FIberight to track monthly and annul fuel usage in the boilers.

Deliverable #9 and #10:

9. Information on the biogas cleanup system, including the anticipated amount (ppm) of H2S before and after the cleanup system and what technology is being used to remove H2S from the gas

10. Whether the biogas cleanup system will be used on all biogas, including that which is flared, or only the biogas that is conditioned for sale/use elsewhere

The Attached Table presents a summary of the constituents of the biogas before the Molecular Gate™ Pressure Swing Adsorption (PSA) gas conditioning unit, the saleable gas and the gas tailings resulting from gas clean up. Gas generated in the Anaerobic Digester (AD) system is anticipated to have a hydrogen sulfide (H_2S) concentration of approximately 500 parts per million (ppm). The saleable gas will have undetectable concentrations of H_2S. The gas tailings will have H_2S concentrations of approximately 1,600 ppm.

All gas generated in the AD system is treated in the PSA. Gas meeting the specifications of Bangor Gas is saleable and will be transferred to the pipeline. The tailings resulting from gas treatment will be directed to the open flare.

Bio-gas Clean-up System

Two each Molecular Gate™ PSA Units to be provided by Guild Associates, Inc.

Design Material Balance:

	Feed	Sales Gas	Tail Gas*
Design Flow, SCFM	600	407	193
Pressure, PSIG	0/Compressed to 100	90	2
Temperature, °F	100	140	150
Composition, Mol%			
C1	70.00	98.00	10.89
CO_2	29.95	2.00	88.96
H_2S	0.05	Nil	0.16
VOCS	PPM Levels	<20 PPB	By Difference
H_2O	Saturated	<<7 lbs./MMSCF	By Difference
HHV, BTU/Ft3	707	990	111

*** Tail Gas will be routed to flare.**