

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)
P. H. Glatfelter Company - Chillicothe)
Facility Power Boiler #6 for Certification) Case No. 10-1060-EL-REN
As an Eligible Ohio Renewable Energy)
Resource Generating Facility.)

**RESPONSE OF P. H. GLATFELTER COMPANY
TO STAFF INTERROGATORIES – INITIAL SET**

Question 1: In Section B, please provide the legal name of the facility owner representative, title, fax, e-mail address, and website address.

Answer 1: Corporate Name: P. H. Glatfelter Company
Legal Name of Contact Person: John R. Blind
Title: Division Vice President, Printing & Carbonless Facility
Organization: P. H. Glatfelter Company – Chillicothe Facility
Street Address: 401 South Paint Street
City: Chillicothe State: OH Zip Code: 45601
Phone: 740.772.3111
Fax: 740.772.0000
Email Address: john.blind@glatfelter.com
Web Site Address: www.glatfelter.com

Question 2: Please provide a formula to be used for computing the proportions of generation output per fuel type for power boiler # 6, that includes the mass (or volume for fuel oil) and the heating value of the wood waste, TDF and number 2 fuel oil fuels.

Answer 2: From Attachment A of the Glatfelter's Wood-waste Application for Certification as an Eligible Ohio Renewable Energy Resource Generating Facility:

Attachment A - Sample Calculation of REC Creation at PHGlatfelter Chillicothe Facility								
			Copy this column to be sent for monthly GATS numbers for renewable energy credits					
PERIOD START	NO DAYS IN MONTH					NET GENERATION	ENERGY SOURCE	
5/1/2009	31					(Megawatthours)	(Nearest Ton, Barrels, Thousand Cubic Feet)	
PERIOD END						Indicate gross generation with a "G" next to value in each row.		
5/31/2009								
			PRIME MOVER TYPE	ENERGY SOURCE	MAXIMUM GENERATION NAMEPLATE CAPACITY (Megawatts)		CONSUMED DURING REPORTING PERIOD	Liquids - MMBtu per Barrel Gases - MMBtu per Thousand Cubic Feet
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
P.H. Glatfelter - Chillicothe	10244	OH	ST	WDS	92.9	5,556.20	18,707	6.690
P.H. Glatfelter - Chillicothe	10244	OH	ST	NG	92.9	346.62	11,011	1.034
P.H. Glatfelter - Chillicothe	10244	OH	ST	DFO	92.9	478.80	1,692	5.754
P.H. Glatfelter - Chillicothe	10244	OH	ST	BIT	92.9	20,159.07	24,047	22.224
P.H. Glatfelter - Chillicothe	10244	OH	ST	BLQ	92.9	11,938.76	37,450	11.524
P.H. Glatfelter - Chillicothe	10244	OH	ST	TDF	92.9	311.54	258	27.150
P.H. Glatfelter - Chillicothe	10244	OH	ST	SLW	92.9	0.00	0	0.000
P.H. Glatfelter - Chillicothe	10244	OH	ST	MILLS PRIDE(OTH)	92.9	0.00	0	0.000
P.H. Glatfelter - Chillicothe	10244	OH	ST	KNOTS (OBS)	92.9	0.00	0	0.000
					Gross	38,791.00		
Methodology - Please refer to Diagram A								
1.) The steam flow from each boiler is measured hourly and summed up daily using steam meters i.e. st#6 for the #6 Power Boiler which burns Woodwaste (WDS) and TDF (Tire Derived Fuel)								
2.) The steam flows from all boilers that feed into the 900psig header are totaled (ST = st#9 + st#6 + st#7 + st#1 + st#2)								
3.) The electric generation from ST/Generator Set is measured hourly and summed up daily using electric meters i.e. m#10 for the ST/Generator Set #10								
4.) The electric generation from each ST/Generator Set all three sets are totaled (TM = m#10 + m#11 + m#12)								
5.) The generation attributed to Wood-waste is calculated as the ratio of the Power Boiler #6, to total steam, ST, times the total generation, TM, WDS Generation = st#6/ST*TM								
6.) The the daily Woodwaste (WDS) Generation is summed for the month and adjusted for the TDF and any #2 Fuel used during start-up (on a ratio of BTUs of WDS Consumed to Total Fuel Consumed basis)								
7.) The MWhs generation is the RECs for each qualified renewable resource is entered into column (g) and sent to GATS monthly.								
1 MWh = 1 REC								

Using May 27, 2009 as an example:

- 1.) #6 Steam Flow = 206 Klbs
- 2.) Steam Total (ST, all 900psig Boilers) = 457klbs + 206klbs + 228klbs + 0klbs + 0klbs = 891klbs
- 3.) ST/Gen #10 = 234 MWh
- 4.) Total MWhs (TM, all 900psig TGs) = 234 MWh + 237MWh + 547MWh = 1018MWh
- 5.) WDS Daily Generation(Unadjusted Oil) = (206klbs/891klbs) X 1018MWh = 235MWh
- 6.) Step 1. Oil Adjustment:

Oil usage (gals) X Heat Content (MMBTU/gal) X 1mil BTUs/MMBTU X Boiler Efficiency
 (Steam Content (BTU/lb) X 24hrs/day) X (1000lbs/klbs X Steam Flow (klbs/hr))

$$\frac{480\text{gals/day} \times .137\text{MMBTU/gal} \times 1,000,000 \text{ BTU/MMBTU} \times 83\%}{(1156\text{BTU/lb} \times 24\text{hrs/day})(1000\text{lb/klb} \times 206\text{klbs/hr})} = 1.1\%$$

WDS Daily Generation(Unadjusted Fuels) = WDS Gen Unadjusted Oil X (100% - 1.1%)

WDS Daily Generation(Unadjusted Fuels) = 235MWh X (100% - 1.1%) = 233MWh

Step 2. Co-firing Adjustment:

$$\text{WDS Monthly Generation} = \sum \text{WDS Daily Generation(Unadjusted Fuels)} \times \frac{\text{Ratio of WDS MMBTU}}{\text{(All Fuels Burned in Boiler \#6 MBTU)}}$$

$$\sum \text{WDS Daily Generation(Unadjusted Fuels)} = 5867\text{MWh}$$

$$\text{All Fuels Burned in Boiler} = \text{WDS} + \text{TDF} + \text{Sludge waste (0)} + \text{Knots (0)}$$

$$\text{Ratio of WDS MMBTU} = \frac{(18,707 \text{ Tons} \times 6.690\text{MMBTU/Ton})}{((18,707 \text{ Tons} \times 6.690\text{MMBTU/Ton}) + (258 \text{ Tons} \times 27.150\text{MMBTU/Ton}))}$$

$$\text{Ratio of WDS MMBTU} = .95$$

$$\text{WDS Monthly Generation} = 5867\text{MWh} \times .95 = 5556\text{MWh}$$

7.) 5556MWh = 5556 WDS RECS

Question 3: In Section G. 10c, what is the expected heat content (BTU/lb.), moisture, ash, and sulfur content for each of the fuel types listed, TDF, fuel oil and the wood waste biomass resource?

Answer 3: Wood-waste and TDF average values for 2010 are as follows (on an as received basis) and could be considered “expected” values:

	<u>Woodwaste*</u>	<u>TDF</u>
Heat content (Btu/lb)	4,633	13,458
Heat content (MMBTU/Ton)	9.27	26.92
Moisture (%)	1.68	2.95
Ash (%)	3.64	13.88
Sulfur (%)	0.11	1.66

**Note: Wood-waste heat content can vary dramatically from month to month depending on a number of variables including specific wood make-up and outside weather conditions.*

Fuel oil is only sampled for heat content, sulfur content, and ash content. Below are the average values for 2010:

Heat Content – 19,620 btu/lb
Sulfur Content – 0.01% wt
Ash Content – <0.001% wt

Question 4: Please describe the source and process for determining these values, how they may be verified, as well as the frequency of this calculation under a regular schedule of operation.

Answer 4: Wood-waste is wood residue that is obtained from various suppliers and may include residue from saw mills or pallet mills, cuttings from logging operations and onsite bark and wood residue. A sample is collected each day (Monday through Friday) and composited into a weekly sample that is analyzed by a third-party laboratory. The weekly results are then averaged into a monthly reported result.

Tire-derived fuel (“TDF”) is processed tire material that is obtained from various suppliers and may include tires recycled from the auto industry (tire stores, repair shops, etc.) and/or tires reclaimed from tire depositories. Samples of this material are collected two times per month and are analyzed by a third-party laboratory. The results are then averaged into a monthly reported result.

A sample from each truck load of fuel oil is collected and analyzed by a third-party laboratory for heat content and sulfur content. The third-party laboratory conducts an ash analysis on a sample, which is composited from each of the individual samples. The results are then averaged into a monthly reported result. The frequency of this collection and analysis process depends on Glatfelter’s use of fuel oil in the boilers. Each truckload of fuel oil we receive is sampled and tested for heat content and sulfur content. When a batch of samples is sent to our Core Labs, the lab makes a composite sample from all samples received and tests the composite sample for ash content. The sulfur content and ash content above are reported in the Department of Energy (“DOE”) report which is used to generate renewable energy credits (“RECs”) in the Generation Attribute Tracking System (“GATS”).

Question 5: Will the company meet the documentation requirements for Multi-Fuel Generating Units in Section 6.5 and Appendix C of the GATS Operating Rules on an ongoing basis?

Answer 5: Yes. Glatfelter agrees to meet the documentation requirements for Multi-Fuel Generating Units in Section 6.5 and Appendix C of the GATS Operating Rules on an ongoing basis.

Question 6: Please indicate the frequency with which the generation (MWh) of the renewable biomass resource will be calculated and reported to the GATS tracking system.

Answer 6: Generation by all fuel and generation sources are entered into GATS each month.

Question 7: If forestry wood biomass resources are used (i.e., the application lists “thinning or tree trimming”), explain the commitment and measures that will be undertaken to ensure procurement from sustainable forest management operations.

Answer 7: Glatfelter is committed to continually achieve certification to the Sustainable Forestry Initiative® (“SFI”) Requirements for the (2010-2014) Program and the Program for the Endorsement of Forest Certification (“PEFC”) Chain of Custody Standard.

Glatfelter is also committed to implementing the Forest Stewardship Council (“FSC”) Standards addressing chain of custody (FSC-STD-40-004), controlled wood (FSC-STD-40-005), and on-product labeling (FSC-STD-40-201) for its fiber procurement and manufacturing operations. Glatfelter implements best efforts to avoid trading in wood or wood fiber that is: a) illegally harvested, b) harvested in violation of traditional and civil rights, c) harvested where global conservation priorities are threatened, d) harvested in natural forests being converted to plantations or non-forest uses, and e) from forests in which genetically modified trees are planted.

Glatfelter is committed to sourcing wood material from certified sustainable sources. In addition to the SFI and FSC Standards, Glatfelter recognizes and promotes certification to the American Tree Farm System (“ATFS”) Standard, Master Logger Certification, the Canadian Standards Association (“CSA”), and other acceptable and appropriate certification standards.

Glatfelter’s policy is to promote and achieve the Principles of Sustainable Forest Management including: practicing sustainable forestry, employing responsible practices, regenerating the forest and maintaining productive capacity, protecting and maintaining long-term forest and soil productivity, protecting water resources, protecting special sites and biological diversity, complying with legal requirements, and continually improving forest practices. Glatfelter is committed to comply with applicable laws and regulations, including social laws.

To help implement and achieve the above Sustainable Forestry Standards, Glatfelter has developed and adopted appropriate documents, manuals and procedures to guide its fiber procurement, tracking of the chain of custody of fiber and recovered material, and on- and off-product claims and labels.

Glatfelter is committed to annually monitor and review the effectiveness of its Sustainable Forestry Policy and associated programs to continually improve and broaden the practice of sustainable forestry.

Question 8: Please describe the source of the biomass fuel, including the states or region from which the material originates, and the estimated number of suppliers that will be used.

Answer 8: The source of our biomass fuel comes from our produced residue from our Woodyard Chipping operation, and what we purchase from outside sources. Internally Glatfelter produces approximately 90,000 tons of biomass fuel residue annually.

Glatfelter supplement that biomass with purchased biomass from two types of suppliers: sawmills and in-woods operators.

Glatfelter purchases approximately 175,000 tons annually from these sources. Out of the 175,000 tons purchased each year from approximately 90 suppliers:

- 30,000 tons or 17% from Kentucky sawmills.
- 1000 tons or 1% from West Virginia sawmills.
- 11,000 tons or 6% from in-woods chipping operations cutting whole trees in Ohio.
- 133,100 tons or 76% from Ohio sawmills.

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Summary: Response Response of P.H. Glatfelter Company to Staff Interrogatories-Initial Set
electronically filed by Mrs. Lisa G. McAlister on behalf of P.H. Glatfelter Company