Georgia-Pacific

Palatka Pulp and Paper Operations
Consumer Products Division

P.O. Box 919
Palatka, FL 32178-0919
(386) 325-2001

RECEIVED
JUN 23 2008
BUREAU OF AIR REGULATION

June 18, 2008

Mr. Jeffery F. Koerner, Air Permitting North Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Georgia-Pacific Consumer Operations LLC, Palatka Operations
Draft Air Permit No. PSD-FL-393, Project No. 1070005-045-AC
Comments on Draft Permit for Modifications to No. 4 Combination Boiler

Dear Mr. Koerner:

We would like to submit the following comments regarding the draft permit issued on May 9, 2008 for the proposed modifications to the No. 4 Combination Boiler at the Palatka, Florida Mill. GP has extracted portions of the draft permit language as listed below (*in italicized font)* in order to discuss each comment.

SECTION 1 OF DRAFT PERMIT. GENERAL INFORMATION

Previous Projects

Based on the following previous projects, the No. 4 Combination Boiler is currently authorized to operate as a control device in the following circumstances.

- *Pursuant to previous air construction Permit No. 1070005-017-AC, the No. 4 Combination Boiler is authorized to serve as a backup destruction device to the Thermal Oxidizer (EU-037) for noncondensible gases (NCG) and condensate stripper off-gases (SOG) from the sources subject to Subpart S (MACT I) of 40 CFR 63 and Rule 62-296.404, F.A.C., for TRS emissions. Prior to destruction in the boiler, a spray tower pre-scrubber removes sulfur compounds from the batch digesting system and a separate spray tower pre-scrubber removes sulfur compounds from the multiple effect evaporator system streams. Operation as a backup destruction device would occur during startup, shutdown, and malfunctions of the Thermal Oxidizer. The boiler is permitted to operate as the backup destruction device for a maximum*

uptime of 20%. ***These provisions also include a requirement to continuously monitor the combustion zone temperature with a thermocouple in lieu of monitoring TRS emissions.***

- *Pursuant to previous air construction Permit No 1070005-024-AC, the No. 4 Combination boiler is* ***authorized to destroy DNCG from the brown stock washer system and associated pressure knotters and screens****. The No. 5 Power Boiler serves as a backup unit to the No. 4 Combination Boiler for the destruction of DNCG.*

These provisions are specified in the latest Title V air operation permit (No. 1070005-048-AV). This project does not impose any new applicable requirements for operation as a control device.

GP Comment:

The current Title V permit (1070005-048-AV) contains the following conditions addressing TRS emissions from the No. 4 Combination Boiler while burning NCG/DNCG/SOG gases:

C.6b. Total Reduced Sulfur (TRS) Emissions. When the No. 4 Combination Boiler is used to burn DNCGs, NCGs and/or SOGs, TRS emissions shall not exceed 5 ppm by volume on a dry basis at standard conditions corrected to 10 percent oxygen as a 12-hour average; and 3.6 lbs/hr and 15.7 TPY.

C.10.a. TRS Emissions. It is assumed that compliance with the TRS emissions limit stated in **Condition No. C.6.b.** is achieved by maintaining the minimum temperature of 1200°F and the 0.5-second residence time.

C.10.b. TRS Emissions. When routing TRS gases to this boiler for thermal destruction, the gases shall be introduced with the primary fuel or into the flame zone, or with the combustion air. The TRS gases shall be subject to a minimum temperature of 1200° F for at least 0.5 second.

As noted above, the language currently contained in the draft permit states that, "These provisions also include a requirement to continuously monitor the combustion zone temperature with a thermocouple in lieu of monitoring TRS emissions". Although the minimum temperature and retention time required for compliance are identified in the permit, there is no requirement to continuously monitor the combustion zone temperature. In addition, the NSPS regulatory language, at 40 CFR 60.284(a)(2), states that continuous monitoring of TRS emissions does not apply in situations where 40 CFR 60.283(a)(1)(iii) applies. As such, neither direct monitoring of TRS emissions, nor monitoring of the temperature are required and this statement should be removed from the draft permit.

As a clarification of the second bullet point, please note that in Permit No 1070005-024-AC the No. 4 Combination Boiler was also authorized to destroy DNCG from the Oxygen Delignification (OD) system, the post-OD washer, and the Bleach Plant pre-washer.

SECTION 3 OF DRAFT PERMIT. EMISSIONS UNIT SPECIFIC CONDITIONS

12. NO_x Emissions:

a. Bark/Wood: During the initial interim period, NO_x emissions shall not exceed 0.28 lb/MM Btu and 157.9 lb/hour based on a 30-day rolling CEMS average. The initial interim period is defined as the first consecutive 12 months after completing work (including a 90 calendar day shakedown period) on the bark/wood fuel delivery system and the OFA system. During the initial interim period, the permittee shall operate the boiler and control system to minimize NO_x emissions to the extent practicable. Thereafter, one of the following standards shall apply. Day 1 of the first 30-day rolling average compliance period for the new standard is the first day after the end of the 12 month initial interim period.

(1) NO_x emissions shall not exceed 0.24 lb/MM Btu and 135.4 lb/hour based on a 30-day rolling CEMS average. This standard applies following the initial interim period defined above in Condition 12.a based on satisfactory reductions achieved by the installed OFA system.

(2) If unable to achieve the NO_x emissions standard specified above in Condition 12.a(1) based solely on the installed OFA system, the permittee shall complete the requirements in paragraphs (a) and (b) before the end of the initial interim period defined above.

(a) The permittee shall provide notification that an additional NO_x control system will be installed. The notification shall include the preliminary design details of the selected control system and a schedule for installation and commencement of operation.

(b) The permittee shall install, operate and maintain a NO_x control system (e.g., selective noncatalytic reduction system) to comply with a NO_x emissions standard of 0.17 lb/MM Btu and 95.9 lb/hour based on a 30-day rolling CEMS average.

GP Comment:

If GP is unable to achieve the NO_x emission standard of 0.24 lb/MM Btu when burning 100% bark/wood, based solely on the installed OFA system within the one-year "initial interim period", we believe we will need an additional six months to procure, install, test and put into place a selective non-catalytic reduction (SNCR) system for the No. 4 Combination Boiler. This is based on our Engineering Department's estimated schedule as outlined in Attachment 1. For this reason, we request that the FL DEP extend the time allowed for compliance with Condition Nos. 12a(2)(a) and (b) from **one year** after completing work on the OFA system to **18 months** after completing work on the OFA system. Additionally, in order to comply with Condition No. 12a(2)(b) of the draft permit, which requires the Mill to meet a NO_x emissions standard of 0.17 lb/MM Btu with an installed SNCR system, based on a 30-day rolling CEMS average, the Mill will need to operate the SNCR system with an ammonia slip equivalent to a maximum of 20 parts per million by volume (ppmv), corrected to 7% oxygen. This ammonia slip value corresponds to an emission level of approximately 0.15 lb/MM Btu (June 3, 2008 letter from Fuel-Tech), which will provide GP with the minimal, necessary margin of compliance with the 0.17 lb/MM Btu limit. GP requests that FL DEP include permit language allowing for an ammonia slip up to 20 ppmv, corrected to 7% oxygen, on a 24-hour averaging basis.

SECTION 3 OF DRAFT PERMIT. EMISSIONS UNIT SPECIFIC CONDITIONS

13. PM Emissions:
a. PM Emissions: When firing any authorized fuel or combination thereof, PM emissions shall not exceed 0.030 lb/MM Btu and 16.9 lb/hour as determined by tests conducted in accordance with EPA Method 5 or 29.

GP Comment:

On April 3, 2008, Wayne Galler and Ron Reynolds of GP held a telephone conversation with Bruce Mitchell of FL DEP to discuss the Agency's proposed emissions limits for PM, NO_x, and CO emissions from the No. 4 Combination Boiler. During that call, GP explained that the combination of ESPs that are being proposed to control particulate emissions can not be guaranteed to meet an emission rate of 0.03 lb/MM Btu, according to our precipitator design consultants. The reason is that the aspect ratio (ratio of length/height) of the two ESPs, operating in parallel, is less than 1.0 (actual value is 0.82, which is based on both chambers of each ESP having three fields, each field with dimensions of 11.25 ft. long x 41 ft. tall, so aspect ratio = (11.25 x 3) / 41 = 0.82)[1].

---

[1] **The aspect ratio is calculated for each ESP since they are two separate units-the calculation shown is for each ESP.**

A new ESP similar to the ones in service would be designed with an aspect ratio of not less than 1.0 and more likely between the range of 1.0 – 1.2. Furthermore, an emission rate equivalent to 0.03 lb/MM Btu is approximately equivalent to 0.006 grain per actual cubic foot per minute (grains/acfm)(based on using actual bark firing heat input of 474.8 MM Btu/hr 16,458,000 acfm exhaust flow rate: 474.8 MM Btu/hr x 0.03 lb/MM Btu x 7,000 grains/acfm = 0.006 grains/acfm). ESP vendors will not generally guarantee outlet loadings below 0.005 for new ESPs that are designed to be "state-of-the-art" control devices. At the proposed limit, FL DEP is asking GP to meet an emission limit close to that for a new, "state-of-the-art" ESP with two existing ESPs that are more than 20 years old. This information was provided to Bruce Mitchell in a confirming e-mail dated April 4, 2008.

GP estimates that it will cost from $1.4 – $2.35 million to upgrade the existing two ESPs to meet a 0.04 lb/MM Btu particulate matter emission limit. This is based on a quotation from Air Tek Construction, Inc., dated June 3, 2008 (copy attached). In order to determine what would need to be done to the existing ESPs to meet the Agency's proposed particulate matter emission limit of 0.03 lb/MM Btu, GP requested that Air Tek evaluate the existing ESPs and provide a cost estimate for the necessary upgrade. . Based on Air Tek's evaluation, dated May 21, 2008 (copy attached), it will cost an additional $5.0 million to add a 4th electrical field to each of the two ESPs in order to guarantee GP that the ESPs can meet the 0.03 lb/MM Btu particulate matter emission limit. Using this information, GP has determined that it is not cost effective to lower the particulate matter

emission limit from 0.04 lb/MM Btu to 0.03 lb/MM Btu. This is based on using standard cost factors from EPA's "Air Pollution Cost Control Manual" and other information about the costs for performing the work, as shown in Table 1 (copy attached). Table 1 indicates that it will cost approximately $38,000 per ton of particulate matter reduced to lower the particulate matter emissions from 0.04 lb/MM Btu to 0.03 lb/MM Btu. This is clearly above any reasonable cost effectiveness value for installing pollution controls under both the FL DEP's and EPA's BACT procedures.

In the Technical Evaluation and Preliminary Determination (TEPD) report, prepared by the FL DEP, references are made to the particulate matter emission rates achieved by GP's combination boilers at its Monticello, Mississippi and Camas, Washington Mills. These units have shown that they are capable of achieving particulate matter emission rates of less than 0.01 lb PM/MM Btu. However, both of the combination boilers at these Mills have ESPs with 4 electrical fields, whereas the existing ESPs in use for the No. 4 Combination Boiler at the Palatka Mill only have three electrical fields. As stated in the paragraph above, the addition of a fourth field to each of the ESPs for the No. 4 Combination Boiler would be required to assure particulate matter emission rates at or below 0.03 lb/MM Btu.

Another way to look at the cost effectiveness for upgrading the two ESPs for the No. 4 Combination Boiler would be to use Air Tek's total cost to upgrade the ESPs from their present condition to the point of meeting a particulate matter emission limit of 0.03 lb/MM Btu. Using the average particulate matter emission rate of 0.054 lb PM/MM Btu over the seven-year period of 2001-2007, as reported in the TEPD, as the baseline emission rate, and 0.03 lb/MM Btu as the future particulate matter emission rate, the cost effectiveness is calculated for this scenario. This information has been presented in Table 2 (copy attached). As shown in table 2, the cost effectiveness for upgrading the two ESPs from 0.054 lb/MM Btu to 0.03 lb/MM Btu is over $86,000 per ton of PM removed.

Based on the information supplied above, it is clear that the cost per ton to upgrade the ESPs as needed to ensure compliance with 0.03 lb/MM Btu isprohibitive, and should therefore not be required to meet BACT for this project. GP remains committed to spending the money necessary to upgrade the ESPs for the No. 4 Combination Boiler to meet a particulate matter emission rate of 0.04 lb/MM Btu.

SECTION 3 OF DRAFT PERMIT. EMISSIONS UNIT SPECIFIC CONDITIONS

19. Compliance Tests

c. Test Fuel: All tests shall be conducted when firing only bark/wood at permitted capacity.

GP Comment:

GP requests that this condition be revised to add the following, taken from the Title V permit common conditions and DEP rule, be added: "If it is impractical to test at permitted capacity, an

emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity."

If there are any questions regarding these comments, pleased contact Mike Curtis at (386) 329-0918.

Sincerely,

Keith Wahoske

Keith W. Wahoske, Vice-President
Palatka Operations

Attachments

Cc: T. Champion, S. Matchett, W. Galler – GP, Atlanta
M. Curtis, S. Single – Palatka Mill

ATTACHMENT 1

SCHEDULE FOR INSTALLATION OF SNCR SYSTEM FOR NO. 4 COMBINATION BOILER

Modify No. 4 Combination Boiler to upgrade bark feed system
and install overfire air system – initial startup..... Project Start Date

Assess boiler operation at 100% bark firing to achieve 0.24 lb NO_x/MM Btu.....16 weeks

If Mill is unable to meet 0.24 lb NO_x/MM Btu, then start preliminary design engineering for SNCR
system up to point of issuing purchase order to vendor for equipment purchase.....4 weeks

Time between order placement until on-site delivery of SNCR system (based on Fuel-Tech quote).....33 weeks

Installation period for SNCR system.....10 weeks

Check-out SNCR system and start-up activities.....2 weeks

Optimize operation of SNCR system to achieve 0.15-0.17 lb NO_x/MM Btu.....3 weeks

Allowance of contingency time for unanticipated delays/issues.....2 weeks

Schedule and perform stack test to verify vendor guarantee for SNCR system.....2 weeks

Total project time.....**72 weeks (18 months)**

TABLE 1
COST EFFECTIVENESS OF ADDING 4TH FIELD TO BOTH ESPs
FOR NO. 4 COMBINATION BOILER, GP PALATKA MILL

	Cost Items	Cost Factors[a]	2008 Cost ($)
DIRECT CAPITAL COSTS (DCC):			
	Purchased Equipment Cost (PEC)		
	Design, fabricate, and supply all materials including support steel for the addition of a new, fourth (4th) field to both the #4 and #5 precipitators	Vendor quote[b]	$5,000,000
	Supply all construction services including mechanical erection, tie-ins, low voltage electrical (from the precipitator MCC to the field equipment), insulation and lagging, site work, and foundations.	Included with above	
	Freight	Included with above	---
	Taxes	Florida sales tax, 6%	$300,000
	Total PEC:		$5,300,000
	Direct Installation	Included as turnkey project with above quote	---
	Total DCC:		$5,300,000
INDIRECT CAPITAL COSTS (ICC):			
	Provide all field technical support as required for construction and startup.	Included as project with above quote	---
	Electrical and Controls	Included as turnkey project with above quote	---
	MCC/Power System Upgrades	To be supplied by GP	250,000
	Performance testing	Based on GP Engineering Estimate	$50,000
	Engineering and Supervision	Portion performed by GP (5% of Total DCC)	$265,000
	Start-up and Optimization Service	Included in vendor quote	--
	Operation and Maintenance Manuals (5)	Included in vendor quote	--
	Total ICC:		$565,000
PROJECT CONTINGENCY (RETROFIT):		15% of (DCC + ICC)	$879,750
TOTAL CAPITAL INVESTMENT (TCI):		DCC + ICC + PROJECT CONTINGENCY	$6,744,750
DIRECT OPERATING COSTS (DOC):			
	(1) Operating Labor		
	Operator	1 hours/week, $16/hr, 52 weeks/yr	$832
	Supervisor	15% of operator cost	$125
	(2) Maintenance	1.5% of TCI	$101,171
	Total DOC:		$102,128
INDIRECT OPERATING COSTS (IOC):			
	Overhead	30% of oper. labor & maintenance	$30,638
	Property Taxes	0.5% of total capital investment	$33,724
	Insurance	1% of total capital investment	$67,448
	Administration	1% of total capital investment	$67,448
	Total IOC:		$199,257
CAPITAL RECOVERY COSTS (CRC):		CRF of 0.09439 times TCI (20 yrs @ 7%)	$636,637
ANNUALIZED COSTS (AC):		DOC + IOC + CRC	$938,022
BASELINE PM EMISSIONS (TPY):		0.04 lb/MM Btu	98.8[c]
PM EMISSIONS w/4th field upgrade (TPY):		0.03 lb/MM Btu-FL DEP proposed emission limit as BACT	74.1
INCREMENTAL REDUCTION IN PM EMISSONS (TPY):		Difference between 0.04 and 0.03 lb/MM Btu	24.7
COST EFFECTIVENESS		Incremental $ per ton of PM Removed	$37,972

Footnotes:

[a] Unless otherwise specified, factors and cost estimates reflect EPA Air Pollution Cost Control Manual, Sixth Edition (EPA/452/B-02-001, Jan 2002)

[b] AirTek Scope of Work No. 4 and No. 5 Boiler ESPs Addition of New 4th Fields, dated May 21, 2008

[c] GP proposed PM emission limit. Boiler heat input after project improvements = 564 MM Btu/hr

TABLE 2
COST EFFECTIVENESS OF UPGRADING BOTH ESPs
FOR NO. 4 COMBINATION BOILER, GP PALATKA MILL

	Cost Items	Cost Factors[a]	2008 Cost ($)
DIRECT CAPITAL COSTS (DCC):			
	Purchased Equipment Cost (PEC)		
	Rebuild Outlet fields for the #4 and #5 ESPs; Design, fabricate, and supply all materials including support steel for the addition of a new, fourth (4th) field to both the #4 and #5 ESPs.	Vendor quotes[b]	$6,400,000
	Supply all construction services including mechanical erection, tie-ins, low voltage electrical (from the precipitator MCC to the field equipment), insulation and lagging, site work, and foundations.	Included with above	
	Freight	Included with above	---
	Taxes	Florida sales tax, 6%	$384,000
	Total PEC:		$6,784,000
	Direct Installation	Included as turnkey project with above quote	---
	Total DCC:		$6,784,000
INDIRECT CAPITAL COSTS (ICC):			
	Provide all field technical support as required for construction and startup.	Included as project with above quote	---
	Electrical and Controls	Included as turnkey project with above quote	---
	MCC/Power System Upgrades	To be supplied by GP	250,000
	Performance testing	Based on GP Engineering Estimate	$50,000
	Engineering and Supervision	Portion performed by GP (5% of Total DCC)	$339,200
	Start-up and Optimization Service	Included in vendor quote	--
	Operation and Maintenance Manuals (5)	Included in vendor quote	--
	Total ICC:		$639,200
PROJECT CONTINGENCY (RETROFIT):		15% of (DCC + ICC)	$1,113,480
TOTAL CAPITAL INVESTMENT (TCI):		DCC + ICC + PROJECT CONTINGENCY	$8,536,680
DIRECT OPERATING COSTS (DOC):			
	(1) Operating Labor		
	Operator	1 hours/week, $16/hr, 52 weeks/yr	$832
	Supervisor	15% of operator cost	$125
	(2) Maintenance	1.5% of TCI	$128,050
	Total DOC:		$129,007
INDIRECT OPERATING COSTS (IOC):			
	Overhead	30% of oper. labor & maintenance	$38,702
	Property Taxes	0.5% of total capital investment	$42,683
	Insurance	1% of total capital investment	$85,367
	Administration	1% of total capital investment	$85,367
	Total IOC:		$252,119
CAPITAL RECOVERY COSTS (CRC):		CRF of 0.09439 times TCI (20 yrs @ 7%)	$805,777
ANNUALIZED COSTS (AC):		DOC + IOC + CRC	$1,186,903
BASELINE PM EMISSIONS (TPY) : Avg. heat input for 2001-2007 = 3,252,937 MM Btu/yr	0.054 lb/MM Btu-avg. of 2001-2007 tests		87.8
PM EMISSIONS w/4th field upgrade (TPY) :		0.03 lb/MM Btu-FL DEP proposed emission limit as BACT and 564 MM Btu/hr heat input for upgraded boiler	74.1 [c]
INCREMENTAL REDUCTION IN PM EMISSONS (TPY):		Difference	13.7
COST EFFECTIVENESS:		$ per ton of PM Removed	$86,511

Footnotes:

[a] Unless otherwise specified, factors and cost estimates reflect EPA Air Pollution Cost Control Manual, Sixth Edition (EPA/452/B-02-001, Jan. 2002)

[b] AirTek Scope of Work No. 4 and No. 5 Boiler ESPs Rebuild outlet fileds, dated June 3, 2008 and AirTek Scope of Work No. 4 and No. 5 Boiler ESPs Addition of New 4th Fields, dated May 21, 2008.

[c] FL DEP proposed PM emission limit. Boiler heat input after project improvements = 564 MM Btu/hr

No. 4 Combination Boiler
Palatka, FL Mill

	Bark burned tons	Bark MM Btu	Oil burned MM Btu	Oil MM Btu	Total MM Btu
2001	278,240	2,504,160	3,607,230	541,085	3,045,245
2002	304281	2,738,529	4429453	664,418	3,402,947
2003	293274	2,639,466	4333330	650,000	3,289,466
2004	300219	2,701,971	4351657	652,749	3,354,720
2005	269420	2,424,780	4633378	695,007	3,119,787
2006	289662	2,606,958	4215837	632,376	3,239,334
2007	295712	2,661,408	4384366	657,655	3,319,063
				avg.	3,252,937

AIRTEK Construction, Inc.
PO BOX 588 • TROY, ALABAMA 36081 • (334) 566-7400

May 21, 2008

Jacobs Engineering
P.O. Box 5456
Greenville, SC 29606-5456

Attention: Mr. John Rickard

Subject: Georgia Pacific – Palatka, Florida
No. 4 & 5 Power Boiler Precipitators
Addition of New 4th Fields
AirTek Budgetary Planning Estimate No. 370-18(P), **Revision No. 1.**

Dear Mr. Rickard:

AirTek is pleased to herein offer our budgetary planning estimate for the subject work. Our estimate is more fully defined in the following attachments.

Attachment I:	Scope of Work
Attachment II:	Pricing/Commercial
Attachment III:	Schedule

AirTek will supply engineering, material, construction services, labor, supervision, project and construction management, and other services as described herein to ensure a successful project for Jacobs Engineering and Georgia Pacific. **Completion of this scope of work and the work as delineated in budget proposal No. 370-17(P) would allow the two (2) existing precipitators to achieve maximum outlet emissions of 0.030 LB per mm BTU when operating in parallel at the stated operating conditions per your letter to our Lewis Bringman.**

We sincerely appreciate the opportunity to propose our services, and we look forward to the possibility of working for you on this project. Please do not hesitate to contact us if we can serve you in any way.

Very truly yours,

Jonathan Smith
Assistant Proposal Manager

cc: Proposal Distribution
Nichols & Associates, Inc.
Mr. Robert DeCarrera

f:\300-399\370\370-17(p)\17 wp\proposal\jr.052108.jhs .doc

Attachment I
AirTek Scope of Work
No. 4 and No. 5 Boiler ESPs
Addition of New 4th Fields
Part of AirTek Budgetary Planning Estimate No. 370-18(P)

I. Scope of Work by AirTek

1. Design, fabricate, and supply all materials including support steel for the addition of a new, fourth (4th) field to both the #4 and #5 precipitators.
2. Supply all construction services including mechanical erection, tie-ins, low voltage electrical (from the precipitator MCC to the field equipment), insulation and lagging, site work, and foundations.
3. Provide all field technical support as required for construction and startup.

II. Work to be Completed by Others

1. Remove, prior to the outage, any asbestos and/or lead paint that will be affected, if applicable.
2. Classification and final disposition of all scrap from the on-site storage site.
3. Any required touch-up painting.
4. Provide a source of temporary construction power.
5. Provide any required modifications of the precipitator MCC room.
6. Provide any electrical work in the precipitator MCC room and/or power supply to the MCC.

NOTE: Our scope and budget is based on reusing the existing stacks and outlet plenums.

Attachment II
Pricing/Commercial
Part of AirTek Budgetary Planning Estimate No. 370-18(P)

I. New 4th Fields for Boilers #4 and #5

1. Turnkey price for the complete scope as defined herein .....$ 5,000,000.00

II. Clarifications

1. Pricing is budgetary. Accuracy is estimated to be +0% to -30%.
2. Freight is included.
3. Our pricing does not include any sales taxes on materials or rental equipment.
4. This scope and budget assumes reuse of the existing stacks and outlet plenums.
5. Our pricing is based on all work being completed in 2009.

Attachment III
Schedule
Part of AirTek Budgetary Planning Estimate No. 370-18(P)

I. **Schedule**

1. We can complete the outage work on both units in a 20 to 25 day outage working twenty-four (24) hours per day.
2. We have included four (4) weeks at fifty (50) hours per week for predown activities on both units, and two (2) weeks at fifty (50) hours per week for postdown.
3. We require twelve (12) months from receipt of a P.O. to the outage start date.

AIRTEK Construction, Inc.
PO BOX 588 • TROY, ALABAMA 36081 • (334) 566-7400

June 3, 2008

Jacobs Engineering
P.O. Box 5456
Greenville, SC 29606-5456

Attention: Mr. John Rickard

Subject: Georgia Pacific – Palatka, Florida
No. 4 & 5 Power Boiler Precipitators
Rebuild of Outlet Fields
AirTek Budgetary Planning Estimate No. **370-17(P), Revision 3**

Dear Mr. Rickard:

AirTek is pleased to herein offer our revised budgetary planning estimate for the subject work. We have updated our accuracy range to plus zero (+0), minus forty (-40)%. Our revision 2 added cost for "implementation of the flow model recommendations." For the basis of this proposal we have included the worse case scope, although we do not expect this to be required. Therefore, due to the possible range of scope relating to the "implementation of the flow model recommendations" it is necessary to increase the range of pricing.

Our estimate is more fully defined in the following attachments.

Attachment I:	Scope of Work
Attachment II:	Scope Clarifications
Attachment III:	Technical Description/Expected Performance
Attachment IV:	Pricing/Commercial
Attachment V:	Schedule

AirTek will supply engineering, material, construction services, labor, supervision, project and construction management, and other services as described herein to ensure a successful project for Jacobs Engineering and Georgia Pacific.

We sincerely appreciate the opportunity to propose our services, and we look forward to the possibility of working for you on this project. Please do not hesitate to contact us if we can serve you in any way.

Very truly yours,

Jonathan Smith
Assistant Proposal Manager

cc: Proposal Distribution
Nichols & Associates, Inc.
Mr. Robert DeCarrera

f:\300-399\370\370-17(p)\17 wp\proposal\jr.060308.jbs rev3.doc

Attachment I
AirTek Scope of Work
No. 4 and No. 5 Boiler ESPs
Rebuild Outlet Fields
Part of AirTek Budgetary Planning Estimate No. 370-17(P), Rev. 3

I. New Parts to be Supplied and Installed by AirTek (For Each Field)

1. All new 16 gauge collecting plates, plate support channels, hanger bolts, support channel spacer bars, bottom end plate spacer bars, center plate spacer bars, and all new alignment hardware.
2. All new rigid discharge electrodes, upper high voltage frames, support insulators, base plates, bottom high voltage frames, lower frame stabilizers, and hardware.
3. All new collecting plate rapper rods, sleeves, anvils, boots, ground straps, and stainless steel all-thread mounting rods.
4. One (1) new NWL Power Plus Power Supply.
5. Materials as required to implement the recommendations of the flow model study.

II. Other Work by AirTek

1. Perform a flow model study of the inlet ducts and precipitator.
2. Implement the recommendations of the flow model study.
3. Install the new Power Plus, and reconfigure the existing T/R from the inlet field.
4. Provide a field service specialist for each outage to complete a thorough internal and external inspection, provide technical assistance, and complete a final inspection.
5. Complete all low voltage electrical work including the following:
   a) Move cable tray and cable out of the way as required to allow access to both fields to be rebuilt, and replace same.
   b) Disconnect and move electrical wiring, tray, and/or conduit as required to move rappers, lights, etc for access; and replace same.
   c) Wire the new Power Plus unit.
6. Removal of existing plates, electrodes, frame material, etc. for installation of new material.
7. Furnish the required primary erection crane on an operated and maintained basis including fuel, insurance, and all associated crane costs.
8. All mechanical installation required for new material including all labor, equipment, tools, and supervision.
9. All crane rental, lifting, and rigging associated with installation of new material.
10. Repair or replace any insulation and lagging damaged or removed to complete the work.

11. Remove all scrap to an on-site location.
12. Temporarily relocate guy wires, and replace after the outage.
13. Wash the precipitator.

III. Parts/ Equipment to be Reused

1. Wall brackets.
2. High voltage rapper trains.
3. Collecting plate rappers.
4. T/R sets and controls.
5. Penthouse heater/ blowers and controls.
6. Key Interlock System.
7. Casing, roofs, etc.
8. Vertical and horizontal anti-sneak baffles.
9. All access doors.
10. All hopper components and material handling systems.

IV. Work to be Completed by Others

1. Perform evaluation as required and define for AirTek the requirements for relocating the stack guy wires.
2. Remove, prior to the outage, any asbestos and/or lead paint that will be affected, if applicable.
3. Classification and final disposition of all scrap from the on-site storage site.
4. Any required touch-up painting.

Attachment II
Scope Clarifications
Part of AirTek Budgetary Planning Estimate No. 370-17(P), Rev. 3

1. Our pricing includes twenty-four (24) hour per day field service specialist coverage during the rebuild of each precipitator.
2. Our pricing includes a safety supervisor on both shifts during the rebuild of each precipitator, but not during predown or postdown.
3. Our price is based on Georgia Pacific supplying temporary construction power including hookup.
4. Our pricing does not include any painting of any equipment, including touch-up. This would be by others.
5. We have not included in our price or schedule any removal or handling of hazardous materials such as asbestos or lead paint. This would be by others.
6. Our pricing includes removing all scrap material to an onsite location. No further off site hauling is included. No cutting up or classification of scope is included.
7. AirTek will furnish the required primary erection crane and cherry pickers and/or support cranes.

Attachment III
Technical Description
Part of AirTek Budgetary Planning Estimate No. 370-17(P), Rev 3

AirTek's proposal represents the most up to date technology available for precipitator applications. The material includes the latest design components to upgrade the existing material and enhance the precipitator's performance and reliability.

Collecting Plates

The collecting plates are shop assembled from six segments to form a modular 11'-3 ½" by 41 ft. (nominal size) plate. The segments are roll formed from 16 gauge C1008 steel. All collecting plates are interlocked at three elevations. The segments are bound by a heavy duty 7 gauge top tadpole and an 11 gauge bottom tadpole. The factory assembled plate forms a rigid one piece baffled structure providing maximum stiffness, and yet exhibits excellent rapping characteristics.

The top tadpole is suspended from plate support channels that are in turn suspended from the existing roof girders with mine bolts (two per channel). A bottom spacer bar is attached to the bottom tadpoles to align the plates and is tied to the casing with a turnbuckle. The collecting system is designed to allow for uniform thermal expansion.

Direct Plate Rapping

Direct plate rapping transfers the rapper energy through a 2-inch steel rod into a heavy duty anvil spanning two (2) collecting plates. The rapping energy is, therefore, transferred directly into the collecting plates and not through the support system.

The primary advantage of direct plate rapping on the top center of the plates is that the collecting plates are rapped directly on the heavy-duty top tadpole rather than through the support channels. Thus, the rapping energy is transmitted directly into the collecting plates and therefore not dampened into the casing through the plate support channels, mine bolts and girders as in the leading and trailing edge rapping style commonly utilized.

A second major advantage of center plate rapping is that only two (2) collecting plates are rapped by each rapper. This has a beneficial impact on precipitator efficiency by reducing the reintrainment that occurs during rapping.

Discharge Electrodes

The rigid discharge electrode (RDE) is a 2" diameter, 16 gauge tube with 2.25", 12 gauge emitter pins welded on. The outlet fields utilize 6" emitter spacing with 2.25" straight pins in a staggered arrangement. These electrodes are designed to maximize the voltage field while at the same time providing good current generation and distribution.

The 2" diameter tubes combined with the tubular collector plate top and bottom tadpoles prevent edge effect arc-over where the discharge electrodes penetrate the collecting zone. Each RDE is secured to the top and bottom frame with a bolt and nut.

Electric Impulse Rappers

The EMAG-2 240VDC single impulse, gravity impact type rapper is provided to dislodge the collected particulate from the collecting plates and rigid discharge electrodes. The rapper consists of a copper DC coil and a painted mild steel housing, a 20 lb. piston with a stainless steel tip, and the associated stainless steel mounting hardware. The rapper is mounted on three (3) pieces of 304 stainless steel all-thread fastened to the cold roof through mounting flanges. The rapper, as installed, weighs approximately 40 lbs.

Direct, Top Rapping

Direct plate rapping transfers the rapper energy through a 2-inch steel rod into a heavy duty anvil spanning two (2) collecting plates. The rapping energy is, therefore, transferred directly into the collecting plates and not through the support system.

The primary advantage of direct plate rapping on the top center of the plates is that the collecting plates are rapped directly on the heavy-duty top tadpole rather than through the support channels. Thus, the rapping energy is transmitted directly into the collecting plates and therefore not dampened into the casing through the plate support channels, mine bolts and girders as in the leading and trailing edge rapping style commonly utilized.

A second major advantage of center plate rapping is that only two (2) collecting plates are rapped by each rapper. This has a beneficial impact on precipitator efficiency by reducing the reintrainment that occurs during rapping.

Expected Performance

Our calculations indicate that completion of the entire Scope of Work as delineated herein, including the flow model study and implementations, will allow the two (2) existing precipitators to achieve maximum outlet emissions of 0.040 LB per mm BTU when operating in parallel at the stated operating conditions per your letter to our Lewis Bringman.

Attachment IV
Pricing/Commercial
Part of AirTek Budgetary Planning Estimate No. 370-17(P), Rev. 3

I. Outlet Field Rebuild for Boilers #4 and #5

1. Turnkey price for the complete scope as defined herein $2,351,196.00
2. Flow Model Study (Breakout Price)[1] ..... $ 75,000.00

Project Total $2,426,196.00

II. Clarifications

1. Pricing is budgetary. Accuracy is estimated to be +0% to **-40%**
2. Our pricing does not include any sales taxes on materials or rental equipment. Any incurred would be passed on to Georgia Pacific at cost.
3. Our payment terms are Net 30.
4. The critical path schedule includes all normal construction contingencies, but does not include any high wind, rain, or other weather delays. Any delays as described must be added to the schedule on an hour for hour basis. Any cost incurred due to delays would be reimbursable.
5. Our pricing includes all normal maintenance and upkeep of AirTek equipment and rental equipment on site; however, the cost of maintenance or repairs due to adverse mill environment beyond this normal basis would be billable to Georgia Pacific at our cost.
6. Our pricing is based on being able to construct our scope of the project based on the clarifications, schedules, laydown areas, and work by others as described herein without major interruptions by 3rd parties.
7. Our price is based on our standard 1-year warrantee on materials and workmanship.
8. Our pricing includes budgetary freight costs due to the variability of fuel costs. Freight would be passed on to Georgia Pacific at cost.
9. Our pricing is based on 2 separate outages on the #4 and #5 units, with separate mobilization/de-mobilization; but both units to be completed by 12/31/09.

[1] Breakout price for the flow model study does not include implementing the recommendations of the flow model study. This is included in the base price.

Attachment V
Schedule
Part of AirTek Budgetary Planning Estimate No. 370-17(P), Rev. 3

I. Schedule

1. We can complete all outage work on unit #5 in ten (10) days working twenty-four (24) hours per day.
2. We can complete all outage work on unit #4 in ten (10) days working twenty-four (24) hours per day.
3. The above outage durations begin when the unit is turned over to us locked-out and clean; and ends when we give it back ready to unlock.
4. The critical path schedule includes all normal construction contingencies, but does not include any high wind, rain, or other weather delays. Any delays as described must be added to the schedule on an hour for hour basis. Any cost incurred, due to delays, would be reimbursable.
5. We have included two (2) weeks at fifty (50) hours per week for predown activities on both units, and two (2) days at ten (10) hours per day for postdown on both units.
6. We require a P.O. no later than eight (8) months prior to the outage start date.