REGIONAL HAZE FOUR-FACTOR ANALYSIS FOR

GEORGIA-PACIFIC CEDAR SPRINGS LLC

CEDAR SPRINGS, GEORGIA

JULY 2, 2007

ATTACHMENT
ENGINEERING ANALYSIS FOR CONTROL TECHNOLOGY OPTIONS – GP CEDAR SPRINGS MILL

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1.0 ENGINEERING ANALYSIS METHODOLOGY

Georgia Environmental Protection Division (EPD) has requested an analysis using four factors to determine potential emission reductions that are reasonable for selected emission units at the Cedar Springs Mill. The fourth factor, "remaining useful life", indicates that a detailed engineering analysis is required if the expected remaining useful life is beyond the year 2018. The Mill believes that the emission units of interest will continue operating beyond 2018. Thus, GP has prepared this engineering analysis.

The engineering analysis in this application follows the "top-down" approach. The "top-down" approach starts with the most stringent control technology alternative that has been applied to same or similar sources and provides a basis for rejecting this alternative in favor of the next most stringent technology or proposing it as a reasonable measure. Following are the basic steps of a "top-down"analysis:

1) Identify all control technologies
   a) All typically in use
   b) Determined as BACT and listed in USEPA *RACT/BACT/LAER Clearinghouse*
   c) In use at Georgia-Pacific Corporation facilities
2) Eliminate technically or economically infeasible options
3) Rank remaining control technologies by control effectiveness
4) Evaluate most effective controls and document results
5) Select Control Technology

Georgia EPD has determined that the only relevant pollutant is sulfur dioxide (SO_2) and the only emissions units of interest are Recovery Boiler No. 3 and Power Boiler Nos. 1 and 2. The following sections present a description of each process unit and a feasibility analysis for SO_2.

2.0 ENGINEERING ANALYSIS FOR NO. 3 RECOVERY BOILER

2.1 SOURCE DESCRIPTION

The recovery boiler is at the heart of the Kraft chemical recovery process. It fulfills the following essential functions:

(1) Evaporates residual moisture from the black liquor solids.
(2) Burns the organic constituents.
(3) Supplies heat for steam generation.
(4) Reduces oxidized sulfur compounds to sulfide.
(5) Recovers inorganic chemicals in molten form.
(6) Conditions the products of combustion to minimize chemical carryover.

Heavy black liquor from the pulping process is sprayed directly into the recovery boiler. The liquor droplets dry and partially pyrolyze before falling onto the char bed. Incomplete combustion in the porous char bed causes carbon and carbon monoxide to act as reducing agents, thus converting sulfate and thiosulfate to sulfide. The heat is sufficient to melt the sodium salts, which filter through the char bed to the floor of the recovery boiler. The "smelt" then flows by gravity through water-cooled spouts to the associated smelt dissolving tanks.

The Recovery Boiler No. 3 is a low odor, non-direct contact evaporator design. The Recovery Boiler No. 3 was previously reviewed for Best Available Control Technology (BACT) for SO_2 in November 2001 (application TV-13439). The EPD determined that Good Combustion Practices is BACT.

The Mill is currently preparing a PSD permit application to install an additional crystallizer/concentrator system to remove additional water from the black liquor solids. This high-solids system is comparable to the system in place on the Mill's other two recovery boilers.

2.2 ANALYSIS FOR SULFUR DIOXIDE

Step 1a-Identification of Control Technologies-Typical Technologies in Use in the United States

Emission control equipment that might be considered to control SO_2 emissions from a recovery boiler would include any one of a number of absorption (*i.e.,* scrubbing) processes, a flue gas desulfurization (FGD) system, and combustion controls.

Gas Absorption

Gas absorption systems are designed to maximize contact between the gas and liquid solvent in order to permit interphase diffusion of the SO_2. Absorbers found to adequately disperse the liquid include packed towers, plate or tray towers, and spray chambers. When water is the liquid solvent, absorbers are analogous to wet scrubbers used for the reduction of particulate matter emissions (see discussion above). Thus, this type of equipment can be used to reduce both types of contaminants. Under high inlet loading rates, SO_2 emission reductions of 90-98% can be expected using gas absorption systems. Packed tower absorbers may achieve efficiencies as high as 99.9%. However, if the pollutant concentration entering the absorber is relatively low, then the SO_2 removal efficiency will be much lower.

The absorbent may be limestone, dual alkali, sodium solutions, ammonia-based solutions, citrate process or magnesium oxide process. These technologies are utilized to control SO_2 emissions in the chemical industry and for some types of combustion-related equipment. Absorption is the process whereby one or more gaseous contaminants are selectively dissolved into a relatively nonvolatile liquid. The liquid contains the equilibrium concentrations of the gaseous component. The effluent from an absorber would be discharged to a wastewater treatment plant and not reused in the Mill.

Gas absorption systems usually have significant pressure drops, in the range of 6-8 inches w.c. This may require additional expenditures for a new fan that is designed to handle the added pressure drop. These systems also require routine maintenance to clean out or replace the packing material.

Flue Gas Desulfurization

This technology has been used on coal-fired boilers and works in one of two ways. The first method works by injecting fine particles of dry limestone into the combustion chamber of the boiler. The limestone (calcium carbonate) reacts with the sulfur dioxide gases to form calcium sulfate. The calcium sulfate must then be removed from the boiler exhaust gas stream as particulate matter. The second method works by adding wet slurry of limestone into a wet scrubber that is controlling the flue gases from the boiler. The wet limestone also reacts to form calcium sulfate, but as a wet slurry, and not a dry particulate, as is the case with the first method. This second method results in the generation of a sludge (usually as calcium sulfate or gypsum) that must be sent to an off-site landfill (in some cases, there may be a way to reuse the sludge, if impurities are not present such as for making gypsum wall board). Both of these methods provide relatively high removal efficiencies, generally 90% and higher, depending upon the specific application.

Combustion Control and High Black Liquor Solids Content

Proper combustion control is an effective means to control SO_2 emissions from recovery boilers. SO_2 emissions are formed by the oxidation of reduced sulfur compounds in recovery boilers. These emissions vary depending upon the sulfur content of the black liquor being burned, the quantity of oxygen available in the combustion chamber, and the black liquor dry solids content. A separate permit application is under preparation for the No. 3 Recovery Boiler to increase the high black liquor solids content and therefore emit lower quantities of SO_2 than traditional direct contact evaporator (DCE) recovery boilers. In fact, the RBLC lists "high solids firing" as a BACT control technology for recovery boilers.

Combustion control to reduce SO_2 emissions is inherent in the design of a recovery boiler due to the chemical reactions that take place inside of the combustion chamber when black liquor is combusted. Black liquor normally contains a number of sulfur-bearing compounds when it is generated from the Kraft pulping process. When black liquor is oxidized, most of the oxidized sulfur compounds are converted to sulfides. These inorganic compounds, primarily sodium sulfide and sodium sulfate, recovered in molten form at the bottom of the boiler bed, are referred to as "smelt". The smelt is drained through the bottom of the recovery boiler into a smelt dissolving tank. The majority of remaining sulfur compounds that leave the smelt bed as a sodium fume from the reduction process is tied up with the boiler bottom ash as sodium sulfate, thereby reducing SO_2 emissions discharged from the boiler. Likewise, when black liquor is co-fired with oil and its sulfur, the sulfur is bound with the sodium fume.

The capture of SO_2 is primarily dependent upon the boiler bed temperature. Typically, a hot char bed will promote more rapid adsorption of SO_2 into the smelt and generate sufficient amounts of sodium fume to tie up the majority of the remaining SO_2 as sodium sulfate. A properly operated recovery boiler will result in an SO_2 capture efficiency of 99% or better. This is why SO_2 emissions from well-operated recovery boilers usually have an average SO_2 concentration in the exhaust gas well under 100 ppmv.

Step 1b-Identification of Control Technologies-Review of RACT/BACT/LAER Clearinghouse

Searches of the RBLC were conducted to identify control technologies for the control of SO_2 emissions from recovery boilers.

The specific categories searched are listed below:

- External Combustion-Other-11.999
- Kraft Pulp Mills-30.002
- Pulp & Paper Production Other than Kraft-30.004

- Other Wood Products Industry Sources-30.999

The results of the searches are summarized below:

- Boiler design and good engineering practices
- No controls
- High solids firing
- Limit of 30% sulfidity in black liquor
- Combustion control
- Low odor design boiler
- Combustion control
- Good process controls

Step 1c-Identification of Control Technologies-Review of Technologies in Use at Georgia-Pacific Corporation Facilities

With the exception of the Camas, Washington Mill, all of the Georgia-Pacific recovery boilers utilize combustion control techniques to minimize the generation of SO_2 emissions. The Camas recovery boiler is equipped with wet scrubbers to recover heat to generate process water for the Mill, and not to reduce SO_2 emissions. The Camas Mill has not tested inlet and outlet concentrations of SO_2 to determine the SO_2 removal effectiveness of a wet scrubber.

Step 2-Technical Feasibility Analysis-Eliminate Technically Infeasible Options

Systems that inject chemicals into the combustion chamber as a means to control SO_2 emissions will interfere with the recovery process that is taking place inside of a recovery boiler. For this reason, flue gas desulfurization using the "dry limestone" method is not considered technically feasible or a demonstrated technology to reduce SO_2 emissions from recovery boilers. Additionally, there are no known recovery boilers in the U.S utilizing this particular type of SO_2 control.

The use of a flue gas desulfurization system that employs the wet limestone slurry method (outside of the boiler) would be technically feasible, as would the use of a gas absorption system with a caustic solution (*e.g.,* sodium hydroxide).

However, the inherent design of a recovery boiler and the use of combustion control techniques result in low SO_2 emissions. Because of this fact, the use of additional downstream SO_2 controls, such as a wet adsorption tower, cannot be economically justified since the average inlet SO_2 concentration directed to the

control device is usually well under 100 ppmv. With low typical inlet concentrations, the scrubber design for gas residence time for contact with a scrubbant would become excessively large.

Annual SO_2 concentrations for the No. 3 Recovery Boiler during 2006 averaged less than 51 ppmv, based on stack testing results and from the use of an uncertified SO_2 emissions monitor (excluding start-up and malfunction emissions). While it is technically feasible to use a scrubber to control SO_2 emissions from a recovery boiler, it would not be economically feasible to install SO_2 controls on a source that has such a low exhaust gas stream concentration during normal operations.

Combustion control and gas absorption system with a caustic solution are technically feasible for use in reducing SO_2 emissions in recovery boilers.

Step 3-Ranking The Technically Feasible Control Alternatives to Establish a Control Hierarchy

Dry flue gas desulfurization systems were eliminated due to technical infeasibility. The only remaining control technologies are the use of an SO_2 adsorption device (scrubber) and the inherent design of a recovery boiler and combustion control techniques.

A conventional SO_2 scrubber can reduce SO_2 emissions from 90-98%, depending upon the degree of control required. Higher control efficiencies (99+%) require larger and more expensive scrubbers. As discussed above, the inherent design of recovery boilers already results in SO_2 removal efficiencies of 99+%.

Step 4-Control Effectiveness Evaluation

The No. 3 Recovery Boiler at the Cedar Springs Mill utilizes a non-direct contact evaporator (NDCE), low odor design, and staged combustion control techniques. Furthermore, as discussed above, SO_2 emissions, based on stack tests conducted during 1999 through 2003 and the use of an emissions monitor, averaged less than 20 ppm when burning only black liquor.

When a recovery boiler is only burning black liquor, the inherent design of the unit results in a control efficiency that is roughly equivalent to the control efficiency achieved through the use of an SO_2 scrubber. Further, SO_2 scrubber can not remove additional SO_2 emissions in applications with a loading at approximately 10 to 20 ppm.

The remaining technology, combustion control, is therefore considered to be the most effective control technology for reducing sulfur dioxide emissions from recovery boilers. Combustion control is part of the inherent design of the No. 3 Recovery Boiler.

Step 5-Select Control Technology

EPD has previously determined that Good Combustion Practices is BACT for Cedar Springs' Recovery Boiler No. 3. There is no NSPS limit for SO_2 emissions from recovery boilers. GP continues to believe that no additional control technologies are reasonable.

3.0 ENGINEERING ANALYSIS FOR NO. 1 AND NO. 2 POWER BOILERS

3.1 SOURCE DESCRIPTION

The Mill's two power boilers are used to provide steam to produce electrical energy using two turbine generators. The power boilers also act as "swing" boilers, providing supplemental steam for facility operations based on Mill production loads and steam header pressure. Each boiler is designed for steam production at a maximum continuous rating (MCR) of 500,000 pounds per hour (lbs/hr), with a two-hour peak rating of 600,000 lbs/hr. The maximum heat input rating based on each boiler operating at 500,000 lbs/hr of steam is 784 million British Thermal Units per hour (MM Btu/hr) based on 100% coal firing. Each boiler is currently equipped with a venturi scrubber for particulate matter control.

The primary fuels for these boilers are a combination of pulverized coal and wood waste (primarily bark). Natural gas or propane is burned as an igniter fuel for the pulverized coal-fired burners, while No. 2 or No. 6 fuel oil is also used as a start-up fuel and as a supplemental fuel if there is not a sufficient amount of coal to burn with the wood waste. Tire derived fuel (TDF), peanut/pecan hulls, OCC rejects, used oil, and primary clarifier wastewater treatment sludge can be combusted as alternate fuels in limited amounts.

The Nos. 1 and 2 Power Boilers were placed in service in 1963 and 1967, respectfully. Both boilers are designed to fire pulverized coal (with nine specialized burners) at the boilers' MCR, or bark and the other solid fuels on a traveling grate. No. 2 or No. 6 fuel oil is combusted through the use of spread-type oil burners.

Since 2006, the Mill has undergone a number of modifications to its two power boilers in order to meet compliance with the Boiler MACT PM standard before the compliance date of September 13, 2007. The following paragraphs summarize the permitted modifications currently underway on both boilers:

1. Combustion Controls/Over-Fire Air System (OFA)

Each power boiler will have its over-fire air system upgraded, by replacing its existing over-fire air fan with a new forced draft fan and over-fire air headers. The upgraded combustion controls will maintain better fuel/air ratios, over-fire air to under fire air ratios, and proper combustion staging. Increased combustion efficiency will result from longer residence time of gases in the furnaces, keeping the hot air

at a controlled velocity, which will minimize entrained fines to the scrubbers (decreased load), and increase furnace stability. The OFA system includes:

- Replacement of existing coal burners with high efficiency, secondary air control burners
- Addition of a new forced draft fan and drive for combustion air system
- Addition of a new steam coil air heater (to preheat combustion air)
- Addition of an OFA air fan and drive
- Upgrade and modify the distribution and control of combustion air introduced into the boiler

2. Mechanical Multicyclone

The existing nine-inch (9") diameter mechanical multicyclones will be replaced with twenty-four inch (24") diameter multicyclones. The decrease in pressure drop across the multicyclone will result in lower PM emissions from the boilers. The collection system will include:

- New rotary ash valves
- New inlet and outlet duct sections and expansion joints
- Each mechanical multicyclone will be equipped with 72 tube assemblies and will be designed to treat 400,000 actual cubic feet per minute of gas. It is anticipated that this will result in a pressure drop for enhanced particulate collection.

3. Bark Bin Modifications

Modifications to the bark bins will enhance fuel feed consistency and decrease air leakage to the boilers. The bark feed system will include:

- Sloping of the front wall
- New screws with variable feed drives

The design bark feed rate to the boilers will remain the same, which is a maximum feed rate of 37.5 tons per hour each.

As these are significant changes to the boilers, the baseline conditions for this analysis cannot reflect the equipment in place during 2001-2003 alone. The following analysis reflects the boilers after the modifications required by MACT are installed this year.

The two power boilers are very similar to each other. The following analysis determined installation and operating costs for one power boiler. The cost effectiveness calculations are presented for each boiler, reflecting the unit-specific baseline emissions.

3.2 ANALYSIS FOR SULFUR DIOXIDE

Step 1a-Identification of Control Technologies-Typical Technologies in Use in the United States

Emission control equipment that may be considered to control sulfur dioxide emissions from boilers includes wet and dry scrubbers and flue gas desulfurization techniques such as lime injection. The use of clean fuels can also be considered as an additional alternative to add-on controls.

Step 1b-Identification of Control Technologies-Review of RACT/BACT/LAER Clearinghouse (RBLC)

Searches of the RBLC were conducted to identify control technologies for the control of SO_2 emissions from combination boilers. The specific category searched was

- External Combustion- -11

The clearinghouse listed the use of clean fuels, wet and dry scrubbers and flue gas desulfurization techniques such as lime injection as the control technologies.

Step 1c-Identification of Control Technologies-Review of Technologies in Use at Georgia-Pacific Corporation Facilities

Georgia-Pacific operates numerous combination boilers and bark boilers within the US. SO_2 control technologies include wet scrubbing, dry scrubbing, lime injection on fluidized bed boilers, and the use of clean fuels.

Step 2-Technical Feasibility Analysis-Eliminate Technically Infeasible Options

All of the technology options are technically feasible.

Step 3 – Ranking the Technically Feasible Alternatives to Establish a Control Hierarchy

The ranking of the technologies are:

1. Wet scrubbing with caustic wet and dry scrubbing at greater than 90%
2. Limestone injection at 60-70% reduction
3. Wet Scrubbing with water alone at approximately 30%.
4. Coal washing at <10-15%

Step 4-Cost Effectiveness Evaluation

Wet Scrubbers

When first considering only wet scrubbing with caustic or dry scrubbing, the analysis only needs to consider the lower cost of the two. The power boilers each have a dedicated wet scrubber presently, thus the wet scrubber option will be much lower cost as control scenarios may take advantage of existing equipment, maintenance procedures and work practices. GP has worked closely with one scrubber supplier, Turbosonic, to determine novel options to increase the number of high SO_2 removal options for use with wet scrubbers. These options in descending level of control are:

1. Remove all existing scrubber equipment and install new scrubbers with new stacks to provide an SO_2 removal rate of 95%+ (Note that dry scrubbers cannot typically achieve this high level)
2. Modify existing venturi scrubbers with additional spray tower vessels and use sodium hydroxide to achieve over 90% SO_2 removal
3. Modify existing venturi scrubbers to accept sodium hydroxide without additional spray tower vessels to achieve over 85% SO_2 removal

Wastewater treatment options are a significant variable for the Mill. The total wastewater flow rate for each of the three options is approximately 410 gallons per minute (equal to approximately 0.6 million gallons per day). Until more complete engineering costs are developed, the estimated annual direct operating cost is $0.3MM/yr for using the existing wastewater treatment system at the mill with additional lift stations.

The following table presents the equipment costs, preliminary annualized costs and cost effectiveness values for these options.

Table 1. Summary of Cost Effectiveness for Sulfur Dioxide Removal from Power Boilers, Cedar Springs

Control Option	1		2		3	
Estimated Removal Efficiency	95%		90%		85%	
	PB 1	PB 2	PB 1	PB 2	PB 1	PB 2
Baseline SO_2 Emissions (tpy) (2005)	1,199	1,333	1,199	1,333	1,199	1,333
SO_2 Removed (tpy)	1,177	1,292	1,122	1,233	937	1,037
Total Capital Costs ($M)	18,716	18,716	19,612	19,612	4,859	4,859
Direct Operating Costs ($M/yr)	871	946	811	881	653	710
Indirect Operating Cost ($M/yr)	3,045	3,045	3,173	3,173	1,072	1,072
Total Annual Cost ($M/yr)	3,916	3,991	3,983	4,053	1,725	1,782
Cost Effectiveness $/ton	3,327	3,089	3,550	3,287	1,841	1,718

PB 1 = Power Boiler 1, PB 2 = Power Boiler 2

GP believes that the top 2 levels of control are economically infeasible. Further, the incremental cost effectiveness values are extremely high. The following example calculations indicate incremental cost effectiveness is greater than $8,500/ton.

Total Costs (annualized) of Control Option – Total Costs (annualized) of Next Control Option
Next Control Option Emission Rate – Control Option Emission Rate

From Option 3 to Option 2 for Power Boiler 1:
[3,983 $/yr – 1,725$/yr] / [1,122 tons- 937 tons] = $12,200 /ton

From Option 3 to Option 1 for Power Boiler 2:
[3,991 $/yr – 1,7812$/yr] / [1,292 tons- 1,037 tons] = $8,700 /ton

GP provided detailed calculations for the installation and operating costs in our February 2007 BART analysis. Those calculations are presented again in the appendix to this report.

During our discussions with our scrubber supplier, GP reviewed the CEMs data and requested additional engineering calculations from Turbosonic to determine the existing level of control. Turbosonic has estimated that the scrubbers (after MACT modifications are completed as well as in their present state) can remove up to 30% of the SO_2 emissions without the addition of caustic.

In addition, GP has reviewed NCASI technical documents and EPA AP-42 to determine how the alkaline bark when co-fired with coal can act as a reducing agent to capture sulfur in the bottom ash. GP believes that approximately 10% of the SO_2 fed into the boiler in captured by wood when co-fired and not exhausted to the wet scrubbers.

Since 2006, GP has operated a continuous SO_2 emissions monitor on Power Boiler No. 1. In 2007, GP will install an SO_2 CEMs on Power Boiler No. 2. With the additional emissions data from the CEMs, GP believes its actual emissions are at least 30% below previously reported levels. The emission factors are more conservative than actual measured emissions which excluding any SO_2 removal by the scrubber and possible absorption into alkaline ash when co-fired with wood. The 30% reduction in emissions will require no additional cost and is the most cost-effective option. GP has not claimed these lower actual emission rates in the past, as the CEMs data was not available.

Dry Sorbent Injection

Though technically feasible, Cedar Springs does have some concern with this option. First, the use of these systems is very limited. We found one facility in Colorado actively using a trona based DSI system. Second, the available suppliers of trona are very limited. In fact, we only learned of only one US based location for mining trona in Sweetwater County, Wyoming. Use of trona would be more attractive in a water-scarce region and located much closer to the trona supply. It would place the Mill's operations at risk to select a technology with just one supply location so far away and dependent on rail transportation. Third, the literature reports that trona-based DSI has the potential to cause a brownish or orange plume due to a conversion of nitrogen oxide to nitrogen dioxide in the flue gas. When we asked the vendors of DSI technology about this phenomenon, they could not guarantee that under all conditions we would not experience the brownish plume. Given the applicable opacity limits, this would be a major factor against selection of this technology.

DSI is a post-process SO_2 control system. O'Brien and Gere furnish a DSI system using Trona, as a dry powder, pneumatically injected into the Boiler's outlet ductwork. The Trona is injected into the hot ductwork region where the flue gas temperature is approximately 700°F. O'Brien & Gere's experience shows that this flue gas temperature presents the best environment for SO_2 control for this type of Power Boiler. Trona is a naturally occurring mineral that is chemically known as sodium sesquicarbonate or hydrated sodium bicarbonate ($Na_3HCO_3CO_3 \cdot 2H_2O$). Trona in-duct injection systems may also enhance the capture of mercury (Hg), nitrogen oxides (NO_X) and hydrogen chlorides (HCl) in the flue gas stream. The exact amount of Hg and HCl capture is not quantified by O'Brien and Gere. O'Brien & Gere stated the following in their budgetary quote for a similar GP Boilers at another facility:

"Application specific variables including, but not limited to: fuel blend, flue gas temperature, contaminant loading, duct configuration, Trona residence time, and back-end control device performance all influence Trona duct injection performance."

O'Brien & Gere highly recommends performance of a site-specific duct injection demonstration prior to implementation of a full-scale system design / installation." The cost of this test and study are included in the capital estimate.

Installation of this system includes the addition of a new Trona Storage Silo that has a capacity to store seven (7) days of sorbent. Normally, thirty (30) - to – forty (40) micron sized Trona is stored in the silo, as delivered. A Bin Vent Filter (pulsed jet baghouse type) is installed on the roof of the Silo to capture dust during truck unloading into the Silo. An access and platform system is installed to maintain this installed equipment. The required isolation gate(s), hopper(s), and feeder(s) are furnished along with an installed in-line Mill to re-size the Trona to fifteen (15) microns for injection purposes. A blower system pneumatically conveys the Trona in a dry form directly to the Boiler's outlet duct by way of a pneumatic piping system. Installation of the Silo and associated

auxiliary equipment will be in the area of the powerhouse. An injection nozzle is installed in the hot area of the flue gas ductwork to receive and distribute the powdered Trona into the gas stream.

O'Brien and Gere states that approximately two-thirds of the Trona that is injected into the ductwork system will be captured by the particulate matter control system. The remaining one-third passes through the ductwork and out of the stack in a gaseous state. O'Brien and Gere have not determined if the existing wet scrubbers can handle the increased solids loading with no change in performance. No money was included in this capital estimate to modify the existing scrubber to accept the Trona injection into either Power Boiler.

(213000 acfm for Power Boiler (1 or 2) /386,000 acfm for base estimate)^0.6 x Total Installed Cost of $12,520,000 for base estimate = 0.7 x $12,520,000 = $8,765,400

The operating costs are Trona usage, operating labor and maintenance. For Power Boiler 1, the uncontrolled baseline emission rate is 1199 tpy. The removal efficiency of 70% would remove 840 tpy.

The estimated Trona usage is 5.7 pound of Trona per pound of SO_2. The estimated cost for Trona delivered is $150 per ton. Thus the Trona usage annual cost is approximately $150/ton Trona x 5.7 ton Trona/ton SO_2 x 1199 ton SO_2 = $1.03MM.

The operating labor cost is estimated to be 2 man-hours per shift x 3 shifts per day x 365 days per year and a rate of $16/ hour. This operating cost is = 2 x 3 x 365 x 16 = $35,000.

The annual maintenance cost is estimated at 1.5% of TIC.

Thus the total direct operating cost is: $1.03MM + $35,000 + 1.5% x $8,765,400 = $1.2 MM/yr.

The other indirect annual operating costs are capital recovery cost (0.0944 x TIC), administrative, property tax and insurance (2.5% x TIC), or equal to 0.1194 x TIC. The annual indirect cost is thus:
Annual Indirect costs = 0.1194 x $8,765,400 = $1.1 MM/yr.

Total Annual costs = $1.2 MM + 1.1 MM = $2.3 MM/yr
The cost effectiveness is thus $2.3 MM/yr / (840 tpy) = $2,740/ ton SO_2 removed.
GP believes that this is not economically feasible.

Coal Washing

Coal washing is performed to reduce the pyritic sulfur and excess ash from raw coal. EPA estimates that pyritic sulfur may be as high as 10% of the total sulfur in the coal. Although GP believes its actual pyritic content to be much lower, the following cost effectiveness calculations assume 15%.

Applying the AP-42 emission factor of 38S lb SO_2/ton coal and a sulfur content of 1.0% (average 2002 – 2006) yields an emission factor of 0.019 ton uncontrolled SO_2/ton coal.

Considering 15% of the sulfur may be removed from the coal, the equivalent factor is 0.019 x 15 % = 0.00285 ton SO_2 removed/ton coal.

The estimated marginal cost for washing coal prior to delivery to the Cedar Springs Mill is $15/ton coal. Thus the cost effectiveness for coal washing is at least:

$15 /ton coal x ton coal/0.00285 ton SO_2 = $5,263 /ton removed.
GP believes that this is not economically feasible.

Step 5-Select Control Technology

GP believes that both coal washing and sorbent injection options are not reasonably economically feasible. Though the sorbent injection option is lower cost, concerns about opacity, scrubber capacity to remove additional solids and sole-source of sorbent supply eliminate as a reasonable option. GP believes the existing wet scrubbers are a reasonable measure. As they exist presently, the scrubbers can remove 30% of the uncontrolled SO2 with no additional cost. Higher levels of removal are achieved with adding caustic and scrubber modifications. The most reasonable option is the existing use of water without caustic as a scrubbant.

4.0 ENGINEERING ANALYSIS SUMMARY

The following table summary presents the summary of the technically feasible options for the No. 3 Recovery Boiler and Power Boiler Nos. 1 and 2.

Summary of Engineering Analysis, GP Cedar Springs LLC

Emission Unit	Existing Controls	Evaluated Technology	$/ton
No. 3 Recovery Boiler	Combustion Control	Combustion Control	0
No. 1 and 2 Power Boiler	Wet Scrubber	Caustic Scrubber (95%)	3,300
No. 1 and 2 Power Boiler	Wet Scrubber	Caustic Scrubber (90%)	3,500
No. 1 and 2 Power Boiler	Wet Scrubber	Caustic Scrubber (85%)	1,800
No. 1 and 2 Power Boiler	Wet Scrubber	Caustic Scrubber (30%)	0 (a)
No. 1 and 2 Power Boiler	Wet Scrubber	Duct Sorbent Injection	2,740
No. 1 and 2 Power Boiler	Wet Scrubber	Coal Washing	5,263

APPENDIX

Capital Cost Calculations for Wet Scrubber Options by Jacobs Engineering Group (2007)

Appendix C:
Detailed Capital Cost Estimates

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Cedar Springs Combination Boilers No. 1 and No. 2 - Boiler MACT Modifications

Equipment

Description	Equipment Cost	Direct Labor Cost	Comments
50% Caustic Metering Pump No. 1	$ 6,850.00	$ 1,775.00	1.2 gpm @ 230 ft
Motor	Included	$ 222.00	1.2 hp @ 1800 rpm
VFD	$ 4,000.00	$ 444.00	5 hp rating
50% Caustic Metering Pump No. 2	$ 6,850.00	$ 1,775.00	1.2 gpm @ 230 ft
Motor	Included	$ 222.00	1.2 hp @ 1800 rpm
VFD	$ 4,000.00	$ 444.00	5 hp rating
Wastewater Pump No. 1	$ 27,000.00	$ 2,200.00	400 gpm @ 600 ft
Motor	Included	$ 350.00	150 hp @ 1800 rpm
Wastewater Pump No. 2	$ 27,000.00	$ 2,200.00	400 gpm @ 600 ft
Motor	Included	$ 350.00	150 hp @ 1800 rpm
50% Caustic Day Tank	$ 50,000.00	$ 11,094.00	13' Diameter x 16' Straight Side - Carbon Steel

Direct Costs

Description	Baseline Item Cost	Baseline Equip. Cost	Ratio	Factored Cost
Demolition (Equip List & MACT Work)	Cost is Estimated Rather Than Factored			$ 150,000.00
Site Improvements	$ 140,041.00	$ 2,800,811.00	5.00%	$ 7,338.82
Piling, Cassions	$ 196,057.00	$ 2,800,811.00	7.00%	$ 10,274.33
Concrete	$ 84,024.00	$ 2,800,811.00	3.00%	$ 4,403.26
Structural Steel	$ 915,016.00	$ 2,800,811.00	32.67%	$ 47,951.25
Piping	Cost is Estimated Rather Than Factored			$ 579,000.00
Insulation	Cost is Estimated Rather Than Factored			$ 5,000.00
Instrumentation	$ 210,061.00	$ 2,800,811.00	7.50%	$ 11,008.21
Electrical	Cost is Estimated Rather Than Factored			$ 17,500.00
Painting	$ 28,008.00	$ 2,800,811.00	1.00%	$ 1,467.75
			Total Direct Costs	**$ 980,719.63**

Construction Indirect Costs

Description	Baseline Item Cost	Baseline Equip. Cost	Ratio	Factored Cost
Construction Support Labor	$ 234,041.00	$ 8,976,479.00	2.61%	$ 25,570.00
Premium Time	$ 181,996.00	$ 8,976,479.00	2.03%	$ 19,883.86
Craft Per Diem	$ 249,795.00	$ 8,976,479.00	2.78%	$ 27,291.20
Non-Payroll Tax, Insurance & Permits	$ 363,572.00	$ 8,976,479.00	4.05%	$ 39,721.83
Craft Start-Up Assistance	$ 31,500.00	$ 8,976,479.00	0.35%	$ 3,441.51
Contractors Construction Fee	$ 913,357.00	$ 8,976,479.00	10.18%	$ 99,788.25
			Total Construction Indirect Costs	**$ 215,696.66**

Total Construction Costs

Direct Costs	$ 980,719.63
Construction Indirect Costs	$ 215,696.66
Boiler MACT Phase 2 Fan and Venturi Mods (TCC Price Provided By GP)	$ 3,200,000.00
Total Construction Costs	**$ 4,396,416.29**

Project Indirect Costs

Construction Management	4.50%	TIC	$ 20,932.14
Engineering Professional Services	15%	TIC	$ 69,773.81
Study Cost	0.30%	TIC	$ 1,395.48
Outside Consultant Services	$100,000		$100,000
Owner's Cost	3%	TIC	$ 13,954.76
Spare Parts	3%	Equip. Cost	$ 42,803.28
Non-Craft Start-Up Assistance	1.09%	TCC	$ 47,920.94
Allowance for Unforeseen	10.20%	TIC	$ 47,446.19
Escalation	4.50%	TIC	$ 20,932.14
Air Infiltration Allowance	$100,000		$ 100,000.00
		Total Project Indirect Costs	**$ 465,158.75**

Total Construction Costs	$ 4,396,416.29
Project Indirect Costs	$ 465,158.75
Total Project Costs	**$ 4,861,575.04**

TOTAL COST SUMMARY - JE PRIME CODE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	DESCRIPTION	W-H	QTY	UNIT	LABOR	EQUIPMENT	MATERIAL	SUBCONTRACT	TOTAL COST
	DIRECT COSTS								
50	MAJOR EQUIPMENT	9,474	0	0	$525,509	$1,506,154	$139,782	$684,000	$2,855,445
51	DEMOLITION	3,643	0	0	$202,043	$0	$0	$0	$202,043
52	SITE EARTHMOVING	0	0	0	$0	$0	$0	$0	$0
53	SITE IMPROVEMENTS	0	0	0	$0	$0	$0	$142,772	$142,772
54	PILING, CAISSONS	0	1,999	LF	$0	$0	$0	$199,881	$199,881
55	BUILDINGS	0	1	LOT	$0	$0	$0	$30,000	$30,000
56	CONCRETE	873	73	CY	$42,832	$0	$42,832	$0	$85,663
57	MASONRY, REFRACTORY	0	0	0	$0	$0	$0	$0	$0
58	STRUCTURAL STEEL	6,729	192	TN	$352,341	$0	$580,524	$0	$932,865
59	ROOFING AND SIDING	0	0	0	$0	$0	$0	$0	$0
60	FIRE PROOFING	0	0	0	$0	$0	$0	$0	$0
61	PROCESS DUCTWORK (NON-BUILDING)	0	0	0	$0	$0	$0	$0	$0
62	PIPING	15,620	5,607	LF	$866,430	$0	$443,561	$0	$1,309,991
63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	0	1	LOT	$0	$0	$0	$85,663	$85,663
64	INSTRUMENTATION	820	41	EA	$42,832	$85,663	$85,663	$0	$214,158
65	ELECTRICAL	1,111	4,446	LF	$58,030	$142,772	$120,963	$0	$321,765
66	PAINTING, PROTECTIVE COATINGS	291	11,422	SF	$14,277	$0	$14,277	$0	$28,554
67	SPECIAL EQUIPMENT WORK	0	0	0	$0	$0	$0	$3,200,000	$3,200,000
	TOTAL DIRECT COSTS	38,561			$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802
	$ / WH	$54.57							
	CONSTRUCTION INDIRECT COSTS								
75	CONSTRUCTION SUPPORT LABOR	7,712			$303,484	$0	$0	$0	$303,484
76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATES)				$0	$0	$0	$0	$0
78	PREMIUM TIME				$237,057	$0	$0	$0	$237,057
79	CRAFT FRINGE BENEFITS (IN WAGE RATES)				$0	$0	$0	$0	$0
	CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS)				$0	$0	$0	$323,912	$323,912
80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)				$0	$0	$0	$0	$0
83	SMALL TOOLS (IN WAGE RATES)				$0	$0	$0	$0	$0
84	CONSUMABLE SUPPLIES (IN WAGE RATES)				$0	$0	$0	$0	$0
85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)				$0	$0	$0	$0	$0
87	FIELD STAFF (IN WAGE RATES)				$0	$0	$0	$0	$0
81	NON-PAYROLL TAX, INSURANCE & PERMITS				$0	$121,421	$99,932	$151,981	$373,335
93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)				$0	$0	$0	$0	$0
71	CRAFT START-UP ASSISTANCE	450			$31,500	$0	$0	$0	$31,500
99	CONTRACTOR'S CONSTRUCTION FEE		10.0%	TCC - EQ.	$291,735	$0	$229,130	$481,821	$1,002,686
	TOTAL CONSTRUCTION INDIRECT COSTS	8,162			$863,776	$121,421	$329,062	$957,714	$2,271,973
	TOTAL CONSTRUCTION COSTS (TCC)	46,723			$2,968,068	$1,856,011	$1,756,665	$5,300,031	$11,880,774
	$ / WH	$85.67							
	PROJECT INDIRECT COSTS								
88	CONSTRUCTION MANAGEMENT		4.5%	TIC	$0	$0	$0	$884,821	$884,821
90	ENGINEERING PROFESSIONAL SERVICES		15.0%	TIC	$0	$0	$0	$2,949,902	$2,949,902
90	STUDY COST		0.3%	TIC	$0	$0	$0	$50,000	$50,000
96	OUTSIDE CONSULTANT SERVICES				$0	$0	$0	$100,000	$100,000
91	OWNER'S COST		3.0%	TIC	$0	$0	$0	$591,187	$591,187
70	SPARE PARTS				$0	$86,729	$0	$0	$86,729
71	NON-CRAFT START-UP ASSISTANCE				$49,950	$0	$0	$69,200	$119,150
98	ALLOWANCE FOR UNFORESEEN		10.2%	TIC	$382,162	$233,129	$210,800	$1,193,417	$1,999,508
98	ESCALATION		4.5%	TIC	$150,901	$194,274	$239,344	$303,021	$887,539
	AIR INFILTRATION ALLOWANCE				$0	$0	$0	$100,000	$100,000
	ROUND OFF				($81)	($143)	$192	$422	$389
	TOTAL PROJECT COSTS	46,723			$3,531,000	$2,370,000	$2,207,000	$11,542,000	$19,650,000
	$ / WH	$85.67							

DETAIL DIRECT COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATE\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 05226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY.	UNIT	W H / UNIT	TOTAL W H's	COST/ W H	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
1																
2		MAJOR EQUIPMENT														
3	50	SO2 SCRUBBER SPRAY HEADERS	1	LOT	3,000.00	3,000	$55.47	$166,404	$575,000	$575,000	$0.00	$0	$0.00	$0	$741,404	$741,404
4	50	MIST ELIMINATOR	1	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
5	50	10' SPOOL PIECE SPRAY TOWER SECTIONS	3	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
6	50	CHIMNEY TRAP W/ HAT	1	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
7	50															
8	50	INSTALL FLANGES ON BOTH PIECES OF CUT TOWER	2	EA	180.00	360	$55.47	$19,969	$0.00	$0	$25,000	$50,000	$0.00	$0	$34,984	$69,969
9	50															
10	50	36" NOZZLE FOR CHIMNEY TRAP	1	EA	120.00	120	$55.47	$6,656	$0.00	$0	$7,500	$7,500	$0.00	$0	$14,156	$14,156
11	50															
12	50	SUPPORT TOP OF VENTURI AND ROTATE DISCONNECTED BOTTOM PIECE	1	EA	500.00	500	$55.47	$27,734	$0.00	$0	$25,000	$25,000	$0.00	$0	$52,734	$52,734
13	50															
14	50	REPLACE SCRUBBER VESSEL WALL	97	SF	10.00	969	$55.47	$53,749	$0.00	$0	$100.00	$9,690	$0.00	$0	$654.68	$63,439
15	50															
16	50	REPLACE DUCTWORK	1	LOT	1,000.00	1,000	$55.47	$55,468	$0.00	$0	$25,000	$25,000	$0.00	$0	$80,468	$80,468
17	50															
18	50	ID FAN NO. 1 ROTOR	1	EA	600.00	600	$55.47	$33,281	$12,000	$12,000	$0.00	$0	$0.00	$0	$45,281	$45,281
19	50	REPLACE MOTOR	1	EA	264.00	264	$55.47	$14,644	$160,000	$160,000	$0.00	$0	$0.00	$0	$174,644	$174,644
20	50	REPLACE CABLES	1	LOT	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
21	50	NEW MOTOR STARTER	1	EA	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
22	50	NEW MCC	1	EA	W / BLDG	0	$55.47	$0	W / BLDG	$0	$0.00	$0	$0.00	$0	$0.00	$0
23	50	NEW LCI DRIVE	1	EA	250.00	250	$55.47	$13,867	$120,000	$120,000	$0.00	$0	$0.00	$0	$133,867	$133,867
24	50															
25	50	ID FAN NO. 2 ROTOR	1	EA	600.00	600	$55.47	$33,281	$12,000	$12,000	$0.00	$0	$0.00	$0	$45,281	$45,281
26	50	REPLACE MOTOR	1	EA	264.00	264	$55.47	$14,644	$160,000	$160,000	$0.00	$0	$0.00	$0	$174,644	$174,644
27	50	REPLACE CABLES	1	LOT	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
28	50	NEW MOTOR STARTER	1	EA	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
29	50	NEW MCC	1	EA	W / BLDG	0	$55.47	$0	W / BLDG	$0	$0.00	$0	$0.00	$0	$0.00	$0
30	50	NEW LCI DRIVE	1	EA	250.00	250	$55.47	$13,867	$120,000	$120,000	$0.00	$0	$0.00	$0	$133,867	$133,867
31	50															
32	50	RECYCLE PUMP, 3160 GPM	4	EA	100.00	400	$55.47	$22,187	$25,000	$100,000	$0.00	$0	$0.00	$0	$30,547	$122,187
33	50	MOTOR, RECYCLE PUMP, 1750 HP @ 885 RPM	4	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
34	50															
35	50	MIST ELIMINATOR WASH BOOSTER PUMP, 200 GPM	1	EA	36.00	36	$55.47	$1,997	$8,600	$8,600	$0.00	$0	$0.00	$0	$10,597	$10,597
36	50	MOTOR, MIST ELIMINATOR WASH BOOSTER PUMP	1	EA	18.00	18	$55.47	$998	INCL	$0	$0.00	$0	$0.00	$0	$998.43	$998
37	50															
38	50	25,000 GAL RECYCLE TANK	1	EA	S/C	0	$55.47	$0	$0	$0	$0.00	$0	$284,000	$284,000	$284,000	$284,000
39	50															
40	50	50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE, CARBON STEEL, 215,000 LBS FULL	1	EA	200.00	200	$55.47	$11,094	$50,000	$50,000	$0.00	$0	$0.00	$0	$61,094	$61,094
41	50															
42	50	BAYONET TANK HEATER NO. 1, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
43	50															
44	50	BAYONET TANK HEATER NO. 2, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
45	50															
46	50	BAYONET TANK HEATER NO. 3, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
47	50															
48	50	BAYONET TANK HEATER NO. 4, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
49	50															
50	50	50% CAUSTIC METERING PUMP NO. 1, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
51	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 1, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
52	50	VFD, 50% CAUSTIC METERING PUMP NO. 1	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
53	50															
54	50	50% CAUSTIC METERING PUMP NO. 2, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
55	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 2, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
56	50	VFD, 50% CAUSTIC METERING PUMP NO. 2	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
57	50															
58	50	WASTEWATER PUMP NO. 1	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
59	50	MOTOR, WASTEWATER PUMP NO. 1, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
60	50															
61	50	WASTEWATER PUMP NO. 2	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
62	50	MOTOR, WASTEWATER PUMP NO. 2, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
63	50															
64	50															
65	50															
66	50	FREIGHT	1	LOT	N / A	0	$55.47	$0	$85,254	$85,254	$0.00	$0	$0.00	$0	$85,254	$85,254
67	50	SHIMS AND GROUT	1	LOT	231.08	231	$55.47	$12,817	$0	$0	$22,592	$22,592	$0.00	$0	$35,410	$35,410
70	50	RIGGING AND HEAVY LIFTS	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$400,000	$400,000	$400,000	$400,000
72																
73	50	TOTAL - MAJOR EQUIPMENT				9,474	$55.47	$525,509		$1,506,154		$139,782		$684,000		$2,855,445
88																
89																
90		DEMOLITION														
91																
93	51	DEMO ID FAN NO. 1 MOTOR, 1500 HP	1	LOT	118.00	118	$55.47	$6,545	$0	$0	$0.00	$0	$0.00	$0	$6,545	$6,545

JOB: SART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATR\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
94	51	DEMO ID FAN NO. 2 MOTOR, 1500 HP	1	LOT	118.00	118	$55.47	$6,545	$0	$0	$0.00	$0	$0.00	$0	$6,545	$6,545
95	51	REMOVE TOP OF SCRUBBER TOWER AND STACK	1	LOT	1,000.00	1,000	$55.47	$55,468	$0	$0	$0.00	$0	$0.00	$0	$55,468	$55,468
96	51	DEMO STACK	30	LF	40.00	1,200	$55.47	$66,562	$0	$0	$0.00	$0	$0.00	$0	$2,219	$66,562
97	51	DISCONNECT BOTTOM HALF OF VENTURI VESSEL	1	LOT	1,000.00	1,000	$55.47	$55,468	$0	$0	$0.00	$0	$0.00	$0	$55,468	$55,468
98	51	DEMO SCRUBBER VESSEL WALL	41	SF	5.00	207	$55.47	$11,454	$0	$0	$0.00	$0	$0.00	$0	$277.34	$11,454
114																
115	51	TOTAL - DEMOLITION				3,543	$55.47	$202,043		$0		$0		$0		$202,043
127																
128		SITE IMPROVEMENTS														
129																
130																
132	53	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$142,772	$142,772	$142,772	$142,772
133																
134	53	TOTAL - SITE IMPROVEMENTS				0	$0.00	$0		$0		$0		$142,772		$142,772
135																
136		PILING, CAISSONS														
137																
138																
143	54	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$199,881	$199,881	$199,881	$199,881
144																
145	54	TOTAL - PILING, CAISSONS	1,999	LF		0	$0.00	$0		$0		$0	$100.00	$199,881		$199,881
146																
147		SPECIAL CONSTR. (SEISMIC CONTROL, PRE-ENGR BUILDINGS, ETC.)														
183																
184																
185	55.380	MCC BUILDING 10' X 10'	100	SF	S/C	0	$49.09	$0	$0.00	$0	$0.00	$0	$300.00	$30,000	$300.00	$30,000
191																
192	55.380	TOTAL - SPECIAL CONSTRUCTION				0	$0.00	$0		$0		$0		$30,000		$30,000
193																
231		CONCRETE														
232																
233																
237	56	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	872.54	873	$49.09	$42,832	$0	$0	$42.832	$42,832	$0	$0	$85.663	$85,663
238																
239	56	TOTAL - CONCRETE	73	CY	12.0	873	$49.09	$42,832		$0		$42,832		$0		$85,663
251																
252		STRUCTURAL STEEL														
253																
254																
278	58	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	6,728.74	6,729	$52.36	$352,341	$0	$0	$580,524	$580,524	$0	$0	$932,865	$932,865
279																
280	58	TOTAL - STRUCTURAL STEEL	192	TN	35.0	6,729	$52.36	$352,341		$0		$580,524		$0		$932,865
314																
315		PIPING														
316																
317																
319	62	4" PIPE, CARBON STEEL, SCH 40	2,640	LF	2.87	7,577	$55.47	$420,271	$0.00	$0	$20.00	$52,800	$0.00	$0	$179.19	$473,071
320	62	STAINLESS STEEL, AVG. SIZE 1.5" Ø	400	LF	1.40	560	$55.47	$31,062	$0.00	$0	$19.80	$7,920	$0.00	$0	$97.46	$38,982
334	62															
338	62	FLUSHING AND CLEANING	3,040	LF	0.10	304	$55.47	$16,862	$0.00	$0	$1.00	$3,040	$0.00	$0	$6.55	$19,902
339	62	HYDRO-TESTING	3,040	LF	0.15	456	$55.47	$25,293	$0.00	$0	$1.00	$3,040	$0.00	$0	$9.32	$28,333
343	62	PIPE I. D. AND LABELING	152	EA	0.50	76	$55.47	$4,216	$0.00	$0	$25.00	$3,800	$0.00	$0	$52.73	$8,016
354	62	FREIGHT	1	LOT	N/A	0	$55.47	$0	$0.00	$0	$4,236	$4,236	$0.00	$0	$4,236	$4,236
356	62															
357	62	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	6,647.52	6,648	$55.47	$368,725	$0	$0	$368,725	$368,725	$0	$0	$737,451	$737,451
358																
359	62	TOTAL - PIPING	5,607	LF	2.79	15,620	$55.47	$865,430		$0		$443,551		$0		$1,309,991
360																
361		INSULATION - PIPE, EQUIPMENT & DUCTWORK														
362																
363																
372	63	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	S/C	0	$49.09	$0	$0	$0	$0	$0	$85,663	$85,663	$85,663	$85,663
373																
374	63	TOTAL - INSULATION - PIPE, EQUIPMENT & DUCTWORK	1	LOT		0	$0.00	$0		$0		$0		$85,663		$85,663
375																
376		INSTRUMENTATION														
377																
378																
391	64	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	820.39	820	$52.21	$42,832	$85,663	$85,663	$85,663	$85,663	$0	$0	$214,158	$214,158
392																
393	64	TOTAL - INSTRUMENTATION	41	EA	20.00	820	$52.21	$42,832		$85,663		$85,663		$0		$214,158
394																

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\ORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
395																
396		ELECTRICAL														
397																
398	65	HEAT TRACING	600	LF	0.03	17	$52.21	$877	$0.00	$0	$10.50	$6,300	$0.00	$0	$11.96	$7,177
408	65	TESTING AND STARTUP	1	LOT	0.84	1	$52.21	$44	$0.00	$0	$63.00	$63	$0.00	$0	$106.86	$107
409	65	FREIGHT	1	LOT	N/A	0	$52.21	$0	$0	$0	$381.78	$382	$0.00	$0	$381.78	$382
413	65	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,093.86	1,094	$52.21	$57,109	$142,772	$142,772	$114,218	$114,218	$0	$0	$314,099	$314,099
414																
415	65	TOTAL - ELECTRICAL	4,446	LF	0.25	1,111	$52.21	$58,030		$142,772		$120,963		$0		$321,765
416																
417																
418		PAINTING, PROTECTIVE COATINGS														
419																
424	66	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	290.85	291	$49.09	$14,277	$0	$0	$14,277	$14,277	$0	$0	$28,554	$28,554
425																
426	66	TOTAL - PAINTING, PROTECTIVE COATINGS	11,422	SF	0.03	291	$49.09	$14,277		$0		$14,277		$0	$2.50	$28,554
427																
428																
429		SPECIAL EQUIPMENT WORK														
430																
431	67	PHASE 2 - BOILER MACT WORK	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$3,200,000	$3,200,000	$3,200,000	$3,200,000
437																
438	67	TOTAL - SPECIAL EQUIPMENT WORK				0	$0.00	$0		$0		$0		$3,200,000		$3,200,000
439																
440																
441																
442																
443																
444		TOTAL - DIRECT COST				38,561	$54.57	$2,104,293		$1,734,590		$1,427,602		$4,342,317		$9,608,802

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONSTRUCTION SUPPORT LABOR

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
75	**CONSTRUCTION SUPPORT LABOR**											
	(LABOR COST ONLY)											
	CAPITAL - CONSTRUCTION SUPPORT LABOR - ALLOWANCE @ 20 % OF DIRECT LABOR HOURS FOR BELOW LISTED ITEMS	38,561	WH	0.20	7,712	$39.35	$303,484	$0	$0	$0	$0	$303,484
	CONS EQUIP OPERATION - CRANE				0	$39.35	$0	$0	$0	$0	$0	$0
	WELDER QUALIFICATIONS				0	$39.35	$0	$0	$0	$0	$0	$0
	RAINED OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	SAFETY TRAINING				0	$39.35	$0	$0	$0	$0	$0	$0
	SCAFFOLDING (Rental Incl. W/ Constr. Eq. Rental)				0	$39.35	$0	$0	$0	$0	$0	$0
	UNLOAD AND STORE BULK MATERIAL				0	$39.35	$0	$0	$0	$0	$0	$0
	WAREHOUSEMAN				0	$39.35	$0	$0	$0	$0	$0	$0
	TOOL MAN				0	$39.35	$0	$0	$0	$0	$0	$0
8	FIRE WATCH				0	$39.35	$0	$0	$0	$0	$0	$0
	YARD CREWS				0	$39.35	$0	$0	$0	$0	$0	$0
	SPECIAL HAULING / RIGGING				0	$39.35	$0	$0	$0	$0	$0	$0
	STARTUP - CRAFTSMEN				0	$39.35	$0	$0	$0	$0	$0	$0
	CLEAN UP				0	$39.35	$0	$0	$0	$0	$0	$0
	EMPLOYMENT & RANDOM DRUG TESTS				0	$39.35	$0	$0	$0	$0	$0	$0
	MOVE IN / MOVE OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	WATER / ICE				0	$39.35	$0	$0	$0	$0	$0	$0
75	**TOTAL - CONSTRUCTION SUPPORT LABOR**				7,712		$303,484		$0		$0	$303,484

CONTRACTOR'S CONSTRUCTION INDIRECT COST - PREMIUM TIME

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY T
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HEN
EST. FILE #: 06226

G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

JE PRIME CODE	DESCRIPTION		TOTAL WEEKLY W.H.'S	TOTAL PREMIUM W.H.'S		PREMIUM COST ADDER	TOTAL COST
78	**PREMIUM & EFFICIENCY LOSS TIME CALCULATION WORKSHEET**						
	CAPITAL PREMIUM TIME COST:	BASED ON BARE WAGE RATE OF:				$25.49	
		TOTAL CRAFT HOURS:		46,273	HRS		
6	CRAFT HOURS WORKED ON 40 HR WEEK **(0 HRS PT)**	0.0%	0	0	HRS		
	CRAFT HOURS WORKED ON 50 HR WEEK **(10 HRS PT)**	50.0%	23,137	4,627	HRS	$14.16	$65,502
	CRAFT HOURS WORKED ON 60 HR WEEK **(20 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 70 HR WEEK **(30 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 84 HR WEEK **(44 HRS PT)**	50.0%	23,137	12,119	HRS	$14.16	$171,554
		100.0%	46,273	16,746	HRS		
	TOTAL CAPITAL PREMIUM TIME COST						**$237,057**
78	**TOTAL**						**$237,057**

CONTRACTOR'S CONSTRUCTION INDIRECT COST - NON-PAYROLL TAX, INSURANCE AND PERMITS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
81	**NON-PAYROLL TAX, INSURANCE AND PERMITS**									
	SALES & USE TAX									
	7% OF EQUIPMENT	$1,734,590	EQ $	7.00%	$121,421					$121,421
	7% OF MATERIAL	$1,427,602	MAT'L $			7.00%	$99,932			$99,932
	7% ON 50% OF SUBCONTRACTS	$2,171,158	SUB $					7.00%	$151,981	$151,981
81	**TOTAL NON-PAYROLL TAX, INSURANCE AND PERMITS**				**$121,421**		**$99,932**		**$151,981**	**$373,335**

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JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	CRAFT START-UP ASSISTANCE													
	CRAFT START-UP SERVICES (3 CRAFT PERSONNEL @ 50 HOURS EACH)	3	WK	150.00	450	$70.00	$31,500	$0	$0	$0	$0	$0	$0	$31,500
71	TOTAL CRAFT START-UP ASSISTANCE						$31,500		$0		$0		$0	$31,500

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CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONTRACTOR'S CONSTRUCTION FEE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
99	CONTRACTOR'S CONSTRUCTION FEE											
	LABOR (INCLUDED IN WAGE RATES)	$2,676,333	LAB$	10.9%	$291,735							$291,735
	EQUIPMENT	$1,856,011	EQ$			0.0%	$0					$0
	MATERIAL	$1,527,535	MAT$					15.0%	$229,130			$229,130
	SUBCONTRACT	$4,818,210	SUB$							10.0%	$481,821	$481,821
99	TOTAL CONTRACTOR'S CONSTRUCTION FEE				$291,735		$0		$229,130		$481,821	$1,002,686

TOTAL CONTRACTOR'S CONSTRUCTION FEE AS A % OF TOTAL CONSTRUCTION COST - EQUIP. =	10.0%

12

TOTAL CONSTRUCTION COST LESS PROCESS EQUIPMENT = ##########

PROJECT INDIRECT COST - CONSTRUCTION MANAGEMENT

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
88	TOTAL CONSTRUCTION MANAGEMENT												
	TOTAL - CONSTRUCTION MANAGEMENT	1	LOT		0	$0.00	$0	$0.00	$0	$884,821	$884,821	$884,821	$884,821
88	TOTAL - CONSTRUCTION MANAGEMENT				0		$0		$0		$884,821		$884,821

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PROJECT INDIRECT COST - ENGINEERING PROFESSIONAL SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
90	ENGINEERING PROFESSIONAL SERVICES															
	JACOBS	1	LOT		0	$0.00	$0.00	$0	$0	$0	$0	$0	$2,949,902	$2,949,902	$2,949,902	$2,949,902
90	TOTAL ENGINEERING PROFESSIONAL SERVICES							$0		$0		$0		$2,949,902		$2,949,902

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PROJECT INDIRECT COST - STUDY COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
90	**STUDY COST**										
	STUDY COST	1	LOT	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
90	**STUDY COST**			$0		$0		$0		$50,000	$50,000

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PROJECT INDIRECT COST - OUTSIDE CONSULTANT SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
96	OUTSIDE CONSULTANT SERVICES										
	OUTSIDE CONSULTANT SERVICES	1	LOT	$0	$0	$0	$0	$0	$100,000	$100,000	$100,000
96	TOTAL OUTSIDE CONSULTANT SERVICES			$0		$0		$0		$100,000	$100,000

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PROJECT INDIRECT COST - OWNER'S COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
91	OWNER'S COST										
	OWNER'S COST	1	LOT	$0	$0	$0	$0	$0	$591,187	$591,187	$591,187
91	TOTAL OWNER'S COST			$0		$0		$0		$591,187	$591,187

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PROJECT INDIRECT COST - SPARE PARTS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS
COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI /
SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07

REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
70	SPARE PARTS										
	SPARE PARTS - ALLOWANCE OF 5% OF EQUIPMENT COST	1	LOT	$0	$86,729	$86,729	$0	$0	$0	$0	$86,729
70	TOTAL SPARE PARTS			$0		$86,729		$0		$0	$86,729

18

PROJECT NDIRECT COST - NON-CRAFT START-UP ASSISTANCE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	NON-CRAFT START-UP ASSISTANCE													
	PROFESSIONAL SERVICES START-UP	4	WK	150.00	600	$83.25	$49,950	$0	$0	$0	$0	$0	$0	$49,950
	PROFESSIONAL SERVICES START-UP - EXPENSES	4	WK	0.00	0	$0.00	$0	$0	$0	$0	$0	$4,800	$19,200	$19,200
	VENDOR START-UP SERVICES	1	LOT		0	$0.00	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
71	TOTAL NON-CRAFT START-UP ASSISTANCE						$49,950		$0		$0		$69,200	$119,150

19

PROJECT INDIRECT COSTS - ALLOWANCE FOR UNFORESEEN

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
AFU G:\ESTIMATING\EORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	PRIME CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L.	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$525,509	$1,506,154	$139,782	$684,000	$12	12.0%	12.0%	12.0%	12.0%	$63,061	$180,736	$16,774	$82,080	$342,653
98	51	DEMOLITION	$202,043	$0	$0	$0	$202,043	12.0%	12.0%	12.0%	12.0%	$24,245	$0	$0	$0	$24,245
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$0	$0	$0	$142,772	$142,772	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$17,133	$17,133
98	54	PILING, CAISSONS	$0	$0	$0	$199,881	$199,881	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$23,986	$23,986
98	55	BUILDINGS	$0	$0	$0	$30,000	$30,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$3,600	$3,600
98	56	CONCRETE	$42,832	$0	$42,832	$0	$85,663	12.0%	12.0%	12.0%	12.0%	$5,140	$0	$5,140	$0	$10,280
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$352,341	$0	$580,524	$0	$932,865	12.0%	12.0%	12.0%	12.0%	$42,281	$0	$69,663	$0	$111,944
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	62	PIPING	$866,430	$0	$443,561	$0	$1,309,991	12.0%	12.0%	12.0%	12.0%	$103,972	$0	$53,227	$0	$157,199
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$85,663	$85,663	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$10,280	$10,280
98	64	INSTRUMENTATION	$42,832	$85,663	$85,663	$0	$214,158	12.0%	12.0%	12.0%	12.0%	$5,140	$10,280	$10,280	$0	$25,699
98	65	ELECTRICAL	$58,030	$142,772	$120,963	$0	$321,765	12.0%	12.0%	12.0%	12.0%	$6,964	$17,133	$14,516	$0	$38,612
98	66	PAINTING, PROTECTIVE COATINGS	$14,277	$0	$14,277	$0	$28,554	12.0%	12.0%	12.0%	12.0%	$1,713	$0	$1,713	$0	$3,427
98	67	SPECIAL EQUIPMENT WORK	$0	$0	$0	$3,200,000	$3,200,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$384,000	$384,000
		TOTAL DIRECT COSTS	$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802					$252,515	$208,151	$171,312	$521,078	$1,153,056
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$303,484	$0	$0	$0	$303,484	12.0%	12.0%	12.0%	12.0%	$36,418	$0	$0	$0	$36,418
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$237,057	$0	$0	$0	$237,057	12.0%	12.0%	12.0%	12.0%	$28,447	$0	$0	$0	$28,447
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$323,912	$323,912	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$38,869	$38,869
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	91	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$121,421	$99,932	$151,981	$373,335	12.0%	12.0%	12.0%	12.0%	$0	$14,571	$11,992	$18,238	$44,800
98	92	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	12.0%	12.0%	12.0%	12.0%	$3,780	$0	$0	$0	$3,780
98	99	CONTRACTOR'S CONSTRUCTION FEE	$291,735	$0	$229,130	$481,821	$1,002,686	12.0%	12.0%	12.0%	12.0%	$35,008	$0	$27,496	$57,819	$120,322
		TOTAL CONSTRUCTION INDIRECT COSTS										$103,653	$14,571	$39,487	$114,926	$272,637
		TOTAL CONSTRUCTION COSTS (TCC)	$2,968,068	$1,856,011	$1,756,685	$5,300,031	$11,880,774					$356,168	$222,721	$210,800	$636,004	$1,425,693
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$884,821	$884,821	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$106,178	$106,178
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$2,949,902	$2,949,902	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$353,988	$353,988
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$6,000	$6,000
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$12,000	$12,000
98	91	OWNER'S COST	$0	$0	$0	$591,187	$591,187	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$70,942	$70,942
98	70	SPARE PARTS	$0	$86,729	$0	$0	$86,729	12.0%	12.0%	12.0%	12.0%	$0	$10,408	$0	$0	$10,408
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	12.0%	12.0%	12.0%	12.0%	$5,994	$0	$0	$8,304	$14,298
98	98	ALLOWANCE FOR UNFORESEEN N/A														
98	98	ESCALATION N/A														
98	99	EPC FEE N/A														
		CAPITAL INTEREST N/A														
		ROUND OFF N/A														
98		TOTAL PROJECT COSTS	$3,018,018	$1,942,740	$1,756,685	$9,945,141	$16,662,564					$362,162	$233,129	$210,800	$1,193,417	$1,999,508

PROJECT INDIRECT COSTS - ESCALATION

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
ESC G:\ESTIMATA\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESCALATION IS BASED ON THE ASSUMPTION THAT ALL WORK WILL BE COMPLETED BY DECEMBER 31, 2007

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$525,509	$1,506,154	$139,782	$684,000	$2,855,445	5.0%	10.0%	10.0%	5.0%	$26,275	$150,615	$13,978	$34,200	$225,069
98	51	DEMOLITION	$202,043	$0	$0	$0	$202,043	5.0%	10.0%	10.0%	5.0%	$10,102	$0	$0	$0	$10,102
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$0	$0	$0	$142,772	$142,772	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$7,139	$7,139
98	54	PILING, CAISSONS	$0	$0	$0	$199,881	$199,881	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$9,994	$9,994
98	55	BUILDINGS	$0	$0	$0	$30,000	$30,000	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$1,500	$1,500
98	56	CONCRETE	$42,932	$0	$42,932	$0	$85,863	5.0%	10.0%	15.0%	5.0%	$2,142	$0	$6,425	$0	$8,566
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$352,341	$0	$580,524	$0	$932,865	5.0%	10.0%	15.0%	5.0%	$17,617	$0	$87,079	$0	$104,696
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	62	PIPING	$866,430	$0	$443,561	$0	$1,309,991	5.0%	10.0%	15.0%	5.0%	$43,321	$0	$66,534	$0	$109,856
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$85,663	$85,663	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$4,283	$4,283
98	64	INSTRUMENTATION	$42,832	$85,663	$35,663	$0	$214,158	5.0%	10.0%	15.0%	5.0%	$2,142	$8,566	$12,850	$0	$23,557
98	65	ELECTRICAL	$58,030	$142,772	$120,963	$0	$321,765	5.0%	10.0%	15.0%	5.0%	$2,901	$14,277	$18,144	$0	$35,323
98	66	PAINTING, PROTECTIVE COATINGS	$14,277	$0	$14,277	$0	$28,554	5.0%	10.0%	10.0%	5.0%	$714	$0	$1,428	$0	$2,142
98	67	SPECIAL EQUIPMENT WORK	$0	$0	$0	$3,200,000	$3,200,000	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$160,000	$160,000
		TOTAL DIRECT COSTS	$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802					$105,215	$173,459	$206,437	$217,116	$702,227
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$303,484	$0	$0	$0	$303,484	5.0%	10.0%	10.0%	5.0%	$15,174	$0	$0	$0	$15,174
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$237,057	$0	$0	$0	$237,057	5.0%	10.0%	10.0%	5.0%	$11,853	$0	$0	$0	$11,853
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$323,912	$323,912	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$16,196	$16,196
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$121,421	$99,932	$151,981	$373,335	5.0%	10.0%	10.0%	5.0%	$0	$12,142	$9,993	$7,599	$29,734
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	5.0%	10.0%	10.0%	5.0%	$1,575	$0	$0	$0	$1,575
98	99	CONTRACTOR'S CONSTRUCTION FEE	$291,735	$0	$229,130	$481,821	$1,002,686	5.0%	10.0%	10.0%	5.0%	$14,587	$0	$22,913	$24,091	$61,591
		TOTAL CONSTRUCTION INDIRECT COSTS										$43,189	$12,142	$32,906	$47,886	$135,123
		TOTAL CONSTRUCTION COSTS (TCC)	$2,968,068	$1,856,011	$1,756,665	$5,300,031	$11,880,774					$148,403	$185,601	$239,344	$265,002	$838,350
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$884,821	$884,821	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$2,949,902	$2,949,902	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	91	OWNER'S COST	$0	$0	$0	$591,187	$591,187	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$5,000	$5,000
98	70	SPARE PARTS	$0	$86,729	$0	$0	$86,729	0.0%	10.0%	0.0%	0.0%	$0	$0	$0	$29,559	$29,559
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	5.0%	0.0%	0.0%	5.0%	$2,498	$8,673	$0	$0	$8,673
98	98	ALLOWANCE FOR UNFORESEEN	N / A										$0	$0	$3,460	$5,958
98	93	ESCALATION	N / A													
98	99	EPC FEE	N / A													
		CAPITAL INTEREST	N / A													
		ROUND OFF	N / A													
98		TOTAL PROJECT COSTS	$3,018,018	$1,942,740	$1,756,665	$9,945,141	$16,662,564					$150,901	$194,274	$239,344	$303,021	$887,539

CONSTRUCTION "ALL-IN" WAGE RATE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000

ITEM	NOTES	CRAFT CONCRETE / MASONRY %	CRAFT CONCRETE / MASONRY COST	NOTES	CRAFT STRUCTURAL STEEL %	CRAFT STRUCTURAL STEEL COST	NOTES	CRAFT PIPING & MECHANICAL %	CRAFT PIPING & MECHANICAL COST	NOTES	CRAFT INSTRUMENTATION %	CRAFT INSTRUMENTATION COST	NOTES	CRAFT ELECTRICAL %	CRAFT ELECTRICAL COST	NOTES	CRAFT SUPPORT (INC. OPERATORS) %	CRAFT SUPPORT (INC. OPERATORS) COST
BASE JOURNEYMAN			$25.00			$25.00			$25.00			$25.00			$25.00			$24.00
COMPOSITE RATE		88.61%	$22.15		95.60%	$23.90		96.85%	$24.21		96.42%	$24.10		96.42%	$24.10		90.29%	$21.67
PAYROLL TAXES & INSURANCES:	21.59%																	
WORKMEN'S COMPENSATION		6.57%	$1.46		6.57%	$1.57		6.57%	$1.59		6.57%	$1.58		6.57%	$1.58		6.57%	$1.42
GENERAL LIABILITY		3.95%	$0.88		3.95%	$0.94		3.95%	$0.96		3.95%	$0.95		3.95%	$0.95		3.95%	$0.86
EXCESS LIABILITY		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FICA		7.65%	$1.69		7.65%	$1.83		7.65%	$1.85		7.65%	$1.84		7.65%	$1.84		7.65%	$1.66
FUI		0.80%	$0.18		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.17
SUI		2.62%	$0.58		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.57
OTHER		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FRINGES		12.50%	$2.77		12.50%	$2.99		12.50%	$3.03		12.50%	$3.01		12.50%	$3.01		12.50%	$2.71
PREMIUM TIME		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONSTRUCTION SUPPORT LABOR		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TEMPORARY FACILITIES		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
SMALL TOOLS		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
CONSUMABLES		7.50%	$1.66		10.00%	$2.39		10.00%	$2.42		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
FIELD STAFF		25.00%	$5.54		25.00%	$5.98		35.00%	$8.47		35.00%	$8.44		35.00%	$8.44		25.00%	$5.42
EQUIPMENT RENTAL		40.00%	$8.86		35.00%	$8.37		35.00%	$8.47		25.00%	$6.03		25.00%	$6.03		0.00%	$0.00
CONSTRUCTION HOME OFFICE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
PER DIEM (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONTRACTOR FEE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TOTAL WAGE RATE WITH FEE		221.59%	$49.09		219.09%	$52.36		229.09%	$55.47		216.59%	$52.21		216.59%	$52.21		181.59%	$39.35

TOTAL COST SUMMARY - JE PRIME CODE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	DESCRIPTION	W-H	QTY	UNIT	LABOR	EQUIPMENT	MATERIAL	SUBCONTRACT	TOTAL COST
	DIRECT COSTS								
50	MAJOR EQUIPMENT	12,261	0	0	$680,097	$2,493,940	$37,409	$1,150,000	$4,361,447
51	DEMOLITION	5,745	0	0	$318,645	$0	$0	$81,300	$399,945
52	SITE EARTHMOVING	0	0	0	$0	$0	$0	$0	$0
53	SITE IMPROVEMENTS	533	0	0	$26,179	$0	$12,800	$218,072	$257,051
54	PILING, CAISSONS	0	3,053	LF	$0	$0	$0	$305,301	$305,301
55	BUILDINGS	0	1	LOT	$0	$0	$0	$879,750	$879,750
56	CONCRETE	1,565	130	CY	$76,821	$0	$69,369	$0	$146,191
57	MASONRY, REFRACTORY	0	0	0	$0	$0	$0	$0	$0
58	STRUCTURAL STEEL	5,139	147	TN	$269,085	$0	$443,350	$0	$712,435
59	ROOFING AND SIDING	0	0	0	$0	$0	$0	$0	$0
60	FIRE PROOFING	0	0	0	$0	$0	$0	$0	$0
61	PROCESS DUCTWORK (NON-BUILDING)	0	0	0	$0	$0	$0	$0	$0
62	PIPING	18,456	6,152	LF	$1,023,737	$0	$628,259	$0	$1,651,996
63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	0	1	LOT	$0	$0	$0	$558,343	$558,343
64	INSTRUMENTATION	1,353	68	EA	$70,643	$180,843	$130,843	$0	$382,329
65	ELECTRICAL	1,671	6,683	LF	$87,229	$218,072	$174,458	$0	$479,759
66	PAINTING, PROTECTIVE COATINGS	444	17,446	SF	$21,807	$0	$21,807	$0	$43,614
67	FURNITURE, LAB & SHOP EQUIPMENT	0	0	0	$0	$0	$0	$0	$0
	TOTAL DIRECT COSTS	47,167			$2,574,243	$2,892,856	$1,518,296	$3,192,767	$10,178,163
	$ / WH	$54.58							
	CONSTRUCTION INDIRECT COSTS								
75	CONSTRUCTION SUPPORT LABOR	9,433			$371,217	$0	$0	$0	$371,217
76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATES)				$0	$0	$0	$0	$0
78	PREMIUM TIME				$160,262	$0	$0	$0	$160,262
79	CRAFT FRINGE BENEFITS (IN WAGE RATES)				$0	$0	$0	$0	$0
	CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS)				$0	$0	$0	$396,204	$396,204
80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)				$0	$0	$0	$0	$0
83	SMALL TOOLS (IN WAGE RATES)				$0	$0	$0	$0	$0
84	CONSUMABLE SUPPLIES (IN WAGE RATES)				$0	$0	$0	$0	$0
85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)				$0	$0	$0	$0	$0
87	FIELD STAFF (IN WAGE RATES)				$0	$0	$0	$0	$0
81	NON-PAYROLL TAX, INSURANCE & PERMITS				$0	$202,500	$106,281	$111,747	$420,528
93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)				$0	$0	$0	$0	$0
71	CRAFT START-UP ASSISTANCE	450			$31,500	$0	$0	$0	$31,500
99	CONTRACTOR'S CONSTRUCTION FEE		10.0%	TCC - EQ.	$322,553	$0	$243,687	$370,072	$936,311
	TOTAL CONSTRUCTION INDIRECT COSTS	9,883			$885,532	$202,500	$349,967	$878,023	$2,316,022
	TOTAL CONSTRUCTION COSTS (TCC)	57,051			$3,459,775	$3,095,356	$1,868,264	$4,070,790	$12,494,184
	$ / WH	$78.35							
	PROJECT INDIRECT COSTS								
88	CONSTRUCTION MANAGEMENT		4.5%	TIC	$0	$0	$0	$845,856	$845,856
90	ENGINEERING PROFESSIONAL SERVICES		10.0%	TIC	$0	$0	$0	$1,862,604	$1,862,604
90	STUDY COST		0.3%	TIC	$0	$0	$0	$50,000	$50,000
96	OUTSIDE CONSULTANT SERVICES				$0	$0	$0	$100,000	$100,000
91	OWNER'S COST		3.0%	TIC	$0	$0	$0	$563,488	$563,488
70	SPARE PARTS				$0	$144,643	$0	$0	$144,643
71	NON-CRAFT START-UP ASSISTANCE				$49,950	$0	$0	$69,200	$119,150
98	ALLOWANCE FOR UNFORESEEN		8.6%	TIC	$350,972	$324,000	$186,826	$751,194	$1,612,992
98	ESCALATION		4.4%	TIC	$0	$324,000	$259,140	$240,174	$823,314
	AIR INFILTRATION ALLOWANCE				$0	$0	$0	$100,000	$100,000
	ROUND OFF				$303	$1	($230)	($305)	($231)
	TOTAL PROJECT COSTS	57,051			$3,861,000	$3,888,000	$2,314,000	$8,653,000	$18,716,000
	$ / WH	$78.35							

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
1		MAJOR EQUIPMENT														
2																
3	50	DUCTWORK - ID FANS COMBINED DUCT OUTLET TO VENTURI / SPRAY TOWER SCRUBBER INLET, 1/4" THICK DUCT, 12'-3" X 12'-3", 7350 SF	110,250	LB	0.04	4,410	$55.47	$244,614	$2.50	$275,625	$0.00	$0	$0.00	$0	$4.72	$520,239
4	50															
5	50	EXPANSION JOINT - ID FANS COMBINED OUTLET	1	EA	80.00	80	$55.47	$4,437	$7,600	$7,600	$0.00	$0	$0.00	$0	$12,037	$12,037
6	50															
7	50	ID FAN NO. 1 NEW ROTOR	1	EA	600.00	600	$55.47	$33,281	$25,000	$25,000	$0.00	$0	$0.00	$0	$58,281	$58,281
8	50															
9	50	ID FAN NO. 2 NEW ROTOR	1	EA	600.00	600	$55.47	$33,281	$25,000	$25,000	$0.00	$0	$0.00	$0	$58,281	$58,281
10	50															
11	50	EXPANSION JOINT - SPRAY TOWER SCRUBBER INLET	1	EA	80.00	80	$55.47	$4,437	$7,600	$7,600	$0.00	$0	$0.00	$0	$12,037	$12,037
12	50															
13	50	VENTURI / SPRAY TOWER SCRUBBER - 25" DIAMETER X 58' TALL, 316L SS - FOUR SPRAY ZONES	1	EA	5,000.00	5,000	$55.47	$277,341	$1,750,000	$1,750,000	$0.00	$0	$0.00	$0	$2,027,341	$2,027,341
14	50															
15	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 1, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
16	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 1, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
17	50															
18	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 2, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
19	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 2, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
20	50															
21	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 3, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
22	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 3, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
23	50															
24	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 4, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
25	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 4, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
26	50															
27	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 5, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
28	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 5, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
29	50															
30	50	VENTURI SUPPLY PUMP NO. 1, 1300 GPM @ 100' TDH	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
31	50	MOTOR, VENTURI SUPPLY PUMP NO. 1, 40 HP @ 1800 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
32	50															
33	50	VENTURI SUPPLY PUMP NO. 2, 1300 GPM @ 100' TDH	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
34	50	MOTOR, VENTURI SUPPLY PUMP NO. 2, 40 HP @ 1800 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
35	50															
36	50	50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE, CARBON STEEL, 215,000 LBS FULL	1	EA	200.00	200	$55.47	$11,094	$50,000	$50,000	$0.00	$0	$0.00	$0	$61,094	$61,094
37	50															
38	50	BAYONET TANK HEATER NO. 1, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
39	50															
40	50	BAYONET TANK HEATER NO. 2, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
41	50															
42	50	BAYONET TANK HEATER NO. 3, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
43	50															
44	50	BAYONET TANK HEATER NO. 4, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
45	50															
46	50	50% CAUSTIC METERING PUMP NO. 1, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
47	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 1, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
48	50	VFD, 50% CAUSTIC METERING PUMP NO. 1	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
49	50															
50	50	50% CAUSTIC METERING PUMP NO. 2, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
51	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 2, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
52	50	VFD, 50% CAUSTIC METERING PUMP NO. 2	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
53	50															
54	50	SPRAY TOWER SCRUBBER INSTRUMENTATION	1	LOT	INC. W/ SPRAY TOWER SCRUBBER	0	$55.47	$0	INC. W/ SPRAY TOWER SCRUBBER	$0	$0.00	$0	$0.00	$0	$0	$0
55	50															
56	50	SPRAY TOWER SCRUBBER OVERFLOW SEAL POT	1	EA	20.00	20	$55.47	$1,109	$3,000	$3,000	$0.00	$0	$0.00	$0	$4,109	$4,109
57	50															
58	50	EXPANSION JOINT - SPRAY TOWER SCRUBBER OUTLET	1	EA	80.00	80	$55.47	$4,437	$12,000	$12,000	$0.00	$0	$0.00	$0	$16,437	$16,437
59	50															
60	50	STACK - 12' DIAMETER, 316L SS, 121' SECTION, 199' TOP ELEVATION	1	EA	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$750,000	$750,000	$750,000	$750,000
61	50															
62	50	MAKE-UP WATER BOOSTER PUMP NO. 1, 115 GPM @ 130' TDH	1	EA	34.00	34	$55.47	$1,886	$5,500	$5,500	$0.00	$0	$0.00	$0	$7,386	$7,386
63	50	MOTOR, MAKE-UP WATER BOOSTER PUMP NO. 1, 15 HP @ 1800 RPM	1	EA	10.00	10	$55.47	$555	INCLUDED	$0	$0.00	$0	$0.00	$0	$554.68	$555
64	50															
65	50	MAKE-UP WATER BOOSTER PUMP NO. 2, 115 GPM @ 130' TDH	1	EA	34.00	34	$55.47	$1,886	$5,500	$5,500	$0.00	$0	$0.00	$0	$7,386	$7,386
66	50	MOTOR, MAKE-UP WATER BOOSTER PUMP NO. 2, 15 HP @ 1800 RPM	1	EA	10.00	10	$55.47	$555	INCLUDED	$0	$0.00	$0	$0.00	$0	$554.68	$555
67	50															
68	50	WASTEWATER PUMP NO. 1	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
69	50	MOTOR, WASTEWATER PUMP NO. 1, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
70	50															
71	50	WASTEWATER PUMP NO. 2	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC5000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\GEORPACI\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
72	50	MOTOR, WASTEWATER PUMP NO. 2, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
73	50															
74	50															
75	50	FREIGHT	1	LOT	N / A	0	$55.47	$0	$141,166	$141,166	$0.00	$0	$0.00	$0	$141,166	$141,166
76	50	SHIMS AND GROUT	1	LOT	299.05	299	$55.47	$16,586	$0	$0	$37,409	$37,409	$0.00	$0	$53,997	$53,997
79	50	RIGGING AND HEAVY LIFTS	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$400,000	$400,000	$400,000	$400,000
81																
82	50	TOTAL - MAJOR EQUIPMENT				12,261	$55.47	$680,097		$2,493,940		$37,409		$1,150,000		$4,361,447
97																
98																
99		DEMOLITION														
100																
102	51	DEMO EXISTING ID FAN, MOTOR	1	EA	250.00	250	$55.47	$13,867	$0	$0	$0.00	$0	$0.00	$0	$13,867	$13,867
103	51	DEMO EXISTING VENTURI SCRUBBER	1	EA	2,000.00	2,000	$55.47	$110,936	$0	$0	$0.00	$0	$0.00	$0	$110,936	$110,936
104	51	DEMO EXISTING VENTURI STACK AND TEST PLATFORM	1	EA	2,000.00	2,000	$55.47	$110,936	$0	$0	$0.00	$0	$0.00	$0	$110,936	$110,936
105	51	DEMO EXISTING SCRUBBER RECYCLE TANK	1	EA	120.00	120	$55.47	$6,656	$0	$0	$0.00	$0	$0.00	$0	$6,656	$6,656
106	51	DEMO EXISTING RECYCLE PUMP & MOTOR	4	EA	30.00	120	$55.47	$6,656	$0	$0	$0.00	$0	$0.00	$0	$1,664	$6,656
107	51	DEMO EXISTING DUCT - ID FANS OUTLET TO EXISTING VENTURI INLET, 1/4" DUCT, 12'-3"Ø X 100 LF, 100' IN AIR	62,732	LB	0.02	1,255	$55.47	$69,593	$0	$0	$0.00	$0	$0.00	$0	$1.11	$69,593
108	51	DEMO EXISTING MAINTENANCE BUILDING	8,130	SF	S/C	0	$55.47	$0	$0	$0	$0.00	$0	$10.00	$81,300	$10.00	$81,300
121																
122	51	TOTAL - DEMOLITION				5,745	$55.47	$318,645		$0		$0		$81,300		$399,945
134																
135																
136		SITE IMPROVEMENTS														
137																
138	53	24" STORM DRAIN LINE - EXCAVATE	241	CY	0.50	121	$49.09	$5,915	$0.00	$0	$0.00	$0	$0.00	$0	$24.54	$5,915
139	53	24" STORM DRAIN LINE - BACKFILL	144	CY	0.80	115	$49.09	$5,655	$0.00	$0	$0.00	$0	$0.00	$0	$39.27	$5,655
140	53	24" STORM DRAIN LINE - BEDDING	97	CY	0.80	78	$49.09	$3,809	$0.00	$0	$0.00	$0	$0.00	$0	$39.27	$3,809
141	53	24" STORM DRAIN LINE - PIPE, RCP	80	LF	1.50	120	$49.09	$5,891	$0.00	$0	$60.00	$4,800	$0.00	$0	$133.63	$10,691
142	53	24" STORM DRAIN LINE - MANHOLE	2	EA	50.00	100	$49.09	$4,909	$0.00	$0	$4,000	$8,000	$0.00	$0	$6,454	$12,909
143	53															
145	53	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$218,072	$218,072	$218,072	$218,072
146																
147	53	TOTAL - SITE IMPROVEMENTS				533	$49.09	$26,179		$0		$12,800		$218,072		$257,951
148																
149																
150		PILING, CAISSONS														
151																
156	54	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$305,301	$305,301	$305,301	$305,301
157																
158	54	TOTAL - PILING, CAISSONS	3,053	LF		0	$0.00	$0		$0		$0	$100.00	$305,301		$305,301
159																
160																
161	55	BUILDINGS														
162																
196		SPECIAL CONSTR. (SEISMIC CONTROL, PRE-ENGR BUILDINGS, ETC.)														
197																
198	55.380	MCC BUILDING - 30' X 30'	900	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$300.00	$270,000	$300.00	$270,000
199	55.380	MAINTENANCE BUILDING	8,130	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$75.00	$609,750	$75.00	$609,750
204																
205	55.380	TOTAL - SPECIAL CONSTRUCTION				0	$0.00	$0		$0		$0		$879,750		$879,750
243																
244																
245		CONCRETE														
248																
247	56	DIKE	12	CY	19.00	232	$49.09	$11,399	$0.00	$0	$323.00	$3,948	$0.00	$0	$1,256	$15,347
248	56															
251	56	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,332.73	1,333	$49.09	$65,422	$0	$0	$65,422	$65,422	$0	$0	$130,843	$130,843
252																
253	56	TOTAL - CONCRETE	130	CY	12.0	1,565	$49.09	$76,821		$0		$69,369		$0		$146,191
265																
266																
267		STRUCTURAL STEEL														
268																
292	58	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	5,138.79	5,139	$52.36	$269,085	$0	$0	$443,350	$443,350	$0	$0	$712,435	$712,435
293																
294	58	TOTAL - STRUCTURAL STEEL	147	TN	35.0	5,139	$52.36	$269,085		$0		$443,350		$0		$712,435
328																
329																
330		PIPING														
331																

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATA\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY	UNIT	W.H / UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
332	62	4" PIPE, CARBON STEEL, SCH 40	2,640	LF	2.87	7,577	$55.47	$420,271	$0.00	$0	$20.00	$52,800	$0.00	$0	$179.19	$473,071
348	62															
352	62	FLUSHING AND CLEANING	2,640	LF	0.10	264	$55.47	$14,644	$0.00	$0	$1.00	$2,640	$0.00	$0	$6.55	$17,284
353	62	HYDRO-TESTING	2,640	LF	0.15	396	$55.47	$21,965	$0.00	$0	$1.00	$2,640	$0.00	$0	$9.32	$24,605
357	62	PIPE I.D. AND LABELING	132	EA	0.50	66	$55.47	$3,661	$0.00	$0	$25.00	$3,300	$0.00	$0	$52.73	$6,961
368	62	FREIGHT	1	LOT	N/A	0	$55.47	$0	$0.00	$0	$3,683	$3,683	$0.00	$0	$3,683	$3,683
370	62															
371	62	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	10,153.52	10,154	$55.47	$563,196	$0	$0	$563,196	$563,196	$0	$0	$1,126,393	$1,126,393
372																
373	62	TOTAL - PIPING	5,152	LF	3.00	18,456	$55.47	$1,023,737		$0		$828,259		$0		$1,851,996
374																
375																
376		INSULATION - PIPE, EQUIPMENT & DUCTWORK														
377																
378	63	INSULATE - ID FANS COMBINED DUCT OUTLET	7,350	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$50.00	$367,500	$50.00	$367,500
379	63	INSULATION - 50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE PLUS TOP & BOTTOM	1,200	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$50.00	$60,000	$50.00	$60,000
383	63															
388	63	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	S / C	0	$49.09	$0	$0	$0	$0	$0	$130,843	$130,843	$130,843	$130,843
389																
390	63	TOTAL - INSULATION - PIPE, EQUIPMENT & DUCTWORK	1	LOT		0	$0.00	$0		$0		$0		$558,343		$558,343
391																
392																
393		INSTRUMENTATION														
394																
406	64	DRAFT SENSOR IN BOILER FURNACE	1	EA	100.00	100	$52.21	$5,221	$50,000	$50,000	$0.00	$0	$0.00	$0	$55,221	$55,221
407	64															
408	64	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,253.08	1,253	$52.21	$65,422	$130,843	$130,843	$130,843	$130,843	$0	$0	$327,109	$327,109
409																
410	64	TOTAL - INSTRUMENTATION	68	EA	20.00	1,353	$52.21	$70,643		$180,843		$130,843		$0		$382,329
411																
412																
413		ELECTRICAL														
414																
430	65	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,670.77	1,671	$52.21	$87,229	$218,072	$218,072	$174,458	$174,458	$0	$0	$479,759	$479,759
431																
432	65	TOTAL - ELECTRICAL	6,683	LF	0.25	1,671	$52.21	$87,229		$218,072		$174,458		$0		$479,759
433																
434																
435		PAINTING, PROTECTIVE COATINGS														
436																
441	66	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	444.24	444	$49.09	$21,807	$0	$0	$21,807	$21,807	$0	$0	$43,614	$43,614
442																
443	66	TOTAL - PAINTING, PROTECTIVE COATINGS	17,446	SF	0.03	444	$49.09	$21,807		$0		$21,807		$0	$2.50	$43,614
456																
457																
458																
459																
460																
461		TOTAL - DIRECT COST				47,167	$54.58	$2,574,243		$2,892,856		$1,518,296		$3,192,767		$10,178,163

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONSTRUCTION SUPPORT LABOR

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
75	**CONSTRUCTION SUPPORT LABOR**											
	(LABOR COST ONLY)											
	CAPITAL - CONSTRUCTION SUPPORT LABOR - ALLOWANCE @ 20 % OF DIRECT LABOR HOURS FOR BELOW LISTED ITEMS	47,167	WH	0.20	9,433	$39.35	$371,217	$0	$0	$0	$0	$371,217
	CONS EQUIP OPERATION - CRANE				0	$39.35	$0	$0	$0	$0	$0	$0
	WELDER QUALIFICATIONS				0	$39.35	$0	$0	$0	$0	$0	$0
	RAINED OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	SAFETY TRAINING				0	$39.35	$0	$0	$0	$0	$0	$0
	SCAFFOLDING (Rental Incl. W/ Constr. Eq. Rental)				0	$39.35	$0	$0	$0	$0	$0	$0
	UNLOAD AND STORE BULK MATERIAL				0	$39.35	$0	$0	$0	$0	$0	$0
	WAREHOUSEMAN				0	$39.35	$0	$0	$0	$0	$0	$0
	TOOL MAN				0	$39.35	$0	$0	$0	$0	$0	$0
27	FIRE WATCH				0	$39.35	$0	$0	$0	$0	$0	$0
	YARD CREWS				0	$39.35	$0	$0	$0	$0	$0	$0
	SPECIAL HAULING / RIGGING				0	$39.35	$0	$0	$0	$0	$0	$0
	STARTUP - CRAFTSMEN				0	$39.35	$0	$0	$0	$0	$0	$0
	CLEAN UP				0	$39.35	$0	$0	$0	$0	$0	$0
	EMPLOYMENT & RANDOM DRUG TESTS				0	$39.35	$0	$0	$0	$0	$0	$0
	MOVE IN / MOVE OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	WATER / ICE				0	$39.35	$0	$0	$0	$0	$0	$0
75	**TOTAL - CONSTRUCTION SUPPORT LABOR**				9,433		$371,217		$0		$0	$371,217

CONTRACTOR'S CONSTRUCTION INDIRECT COST - PREMIUM TIME

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBI
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HEN
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION		TOTAL WEEKLY W.H.'S	TOTAL PREMIUM W.H.'S		PREMIUM COST ADDER	TOTAL COST
78	**PREMIUM & EFFICIENCY LOSS TIME CALCULATION WORKSHEET**						
	CAPITAL PREMIUM TIME COST:	BASED ON BARE WAGE RATE OF:				$25.49	
		TOTAL CRAFT HOURS:		56,601	HRS		
	CRAFT HOURS WORKED ON 40 HR WEEK (**0 HRS PT**)	0.0%	0	0	HRS		
28	CRAFT HOURS WORKED ON 50 HR WEEK (**10 HRS PT**)	100.0%	56,601	11,320	HRS	$14.16	$160,262
	CRAFT HOURS WORKED ON 60 HR WEEK (**20 HRS PT**)	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 70 HR WEEK (**30 HRS PT**)	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 84 HR WEEK (**44 HRS PT**)	0.0%	0	0	HRS	$14.16	$0
		100.0%	56,601	11,320	HRS		
	TOTAL CAPITAL PREMIUM TIME COST						**$160,262**
78	**TOTAL**						**$160,262**

CONTRACTOR'S CONSTRUCTION INDIRECT COST - NON-PAYROLL TAX, INSURANCE AND PERMITS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
81	**NON-PAYROLL TAX, INSURANCE AND PERMITS**									
	SALES & USE TAX									
	7% OF EQUIPMENT	$2,892,856	EQ $	7.00%	$202,500					$202,500
	7% OF MATERIAL	$1,518,296	MAT'L $			7.00%	$106,281			$106,281
	7% ON 50% OF SUBCONTRACTS	$1,596,384	SUB $					7.00%	$111,747	$111,747
81	**TOTAL NON-PAYROLL TAX, INSURANCE AND PERMITS**				**$202,500**		**$106,281**		**$111,747**	**$420,528**

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CONTRACTOR'S CONSTRUCTION INDIRECT COST - CRAFT START-UP ASSISTANCE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	CRAFT START-UP ASSISTANCE													
	CRAFT START-UP SERVICES (3 CRAFT PERSONNEL @ 50 HOURS EACH)	3	WK	150.00	450	$70.00	$31,500	$0	$0	$0	$0	$0	$0	$31,500
71	TOTAL CRAFT START-UP ASSISTANCE						$31,500		$0		$0		$0	$31,500

30

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONTRACTOR'S CONSTRUCTION FEE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
99	CONTRACTOR'S CONSTRUCTION FEE											
	LABOR (INCLUDED IN WAGE RATES)	$3,137,222	LAB$	10.3%	$322,553							$322,553
	EQUIPMENT	$3,095,356	EQ$			0.0%	$0					$0
	MATERIAL	$1,624,577	MAT$					15.0%	$243,687			$243,687
	SUBCONTRACT	$3,700,718	SUB$							10.0%	$370,072	$370,072
99	TOTAL CONTRACTOR'S CONSTRUCTION FEE				$322,553		$0		$243,687		$370,072	$936,311

31	TOTAL CONTRACTOR'S CONSTRUCTION FEE AS A % OF TOTAL CONSTRUCTION COST - EQUIP. =	10.0%

TOTAL CONSTRUCTION COST LESS PROCESS EQUIPMENT = $9,398,828

PROJECT INDIRECT COST - CONSTRUCTION MANAGEMENT

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
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JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
88	TOTAL CONSTRUCTION MANAGEMENT												
	TOTAL - CONSTRUCTION MANAGEMENT	1	LOT		0	$0.00	$0	$0.00	$0	$845,856	$845,856	$845,856	$845,856
88	TOTAL - CONSTRUCTION MANAGEMENT				0		$0		$0		$845,856		$845,856

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PROJECT INDIRECT COST - ENGINEERING PROFESSIONAL SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
90	ENGINEERING PROFESSIONAL SERVICES															
	JACOBS	1	LOT		0	$0.00	$0.00	$0	$0	$0	$0	$0	$1,862,604	$1,862,604	$1,862,604	$1,862,604
90	TOTAL ENGINEERING PROFESSIONAL SERVICES							$0		$0		$0		$1,862,604		$1,862,604

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PROJECT INDIRECT COST - STUDY COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
90	**STUDY COST**										
	STUDY COST	1	LOT	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
90	**STUDY COST**			$0		$0		$0		$50,000	$50,000

34

PROJECT INDIRECT COST - OUTSIDE CONSULTANT SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
96	OUTSIDE CONSULTANT SERVICES										
	OUTSIDE CONSULTANT SERVICES	1	LOT	$0	$0	$0	$0	$0	$100,000	$100,000	$100,000
96	TOTAL OUTSIDE CONSULTANT SERVICES			$0		$0		$0		$100,000	$100,000

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PROJECT INDIRECT COST - OWNER'S COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
91	OWNER'S COST										
	OWNER'S COST	1	LOT	$0	$0	$0	$0	$0	$563,488	$563,488	$563,488
91	TOTAL OWNER'S COST			$0		$0		$0		$563,488	$563,488

PROJECT INDIRECT COST - SPARE PARTS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS
COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07

REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
70	SPARE PARTS										
	SPARE PARTS - ALLOWANCE OF 5% OF EQUIPMENT COST	1	LOT	$0	$144,643	$144,643	$0	$0	$0	$0	$144,643
70	TOTAL SPARE PARTS			$0		$144,643		$0		$0	$144,643

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PROJECT NDIRECT COST - NON-CRAFT START-UP ASSISTANCE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	NON-CRAFT START-UP ASSISTANCE													
	PROFESSIONAL SERVICES START-UP	4	WK	150.00	600	$83.25	$49,950	$0	$0	$0	$0	$0	$0	$49,950
	PROFESSIONAL SERVICES START-UP - EXPENSES	4	WK	0.00	0	$0.00	$0	$0	$0	$0	$0	$4,800	$19,200	$19,200
	VENDOR START-UP SERVICES	1	LOT		0	$0.00	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
71	TOTAL NON-CRAFT START-UP ASSISTANCE						$49,950		$0		$0		$69,200	$119,150

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PROJECT INDIRECT COSTS - ALLOWANCE FOR UNFORESEEN

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16OC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
AFU G:\ESTIMATING\EORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE		DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$660,097	$2,493,940	$37,409	$1,150,000	$4,361,447	10.0%	10.0%	10.0%	10.0%	$66,010	$249,394	$3,741	$115,000	$436,145
98	51	DEMOLITION	$318,645	$0	$0	$81,300	$399,945	10.0%	10.0%	10.0%	10.0%	$31,864	$0	$0	$8,130	$39,994
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$26,179	$0	$12,800	$218,072	$257,051	10.0%	10.0%	10.0%	10.0%	$2,618	$0	$1,280	$21,807	$25,705
98	54	PILING, CAISSONS	$0	$0	$0	$305,301	$305,301	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$30,530	$30,530
98	55	BUILDINGS	$0	$0	$0	$879,750	$879,750	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$87,975	$87,975
98	56	CONCRETE	$76,621	$0	$69,369	$0	$146,191	10.0%	10.0%	10.0%	10.0%	$7,662	$0	$6,937	$0	$14,619
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$269,085	$0	$443,350	$0	$712,435	10.0%	10.0%	10.0%	10.0%	$26,909	$0	$44,335	$0	$71,244
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	62	PIPING	$1,023,737	$0	$628,259	$0	$1,651,996	10.0%	10.0%	10.0%	10.0%	$102,374	$0	$62,826	$0	$165,200
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$558,343	$558,343	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$55,834	$55,834
98	64	INSTRUMENTATION	$70,643	$180,843	$130,843	$0	$382,329	10.0%	10.0%	10.0%	10.0%	$7,064	$18,084	$13,084	$0	$38,233
98	65	ELECTRICAL	$87,229	$216,072	$174,458	$0	$479,759	10.0%	10.0%	10.0%	10.0%	$8,723	$21,607	$17,446	$0	$47,976
98	66	PAINTING, PROTECTIVE COATINGS	$21,807	$0	$21,807	$0	$43,614	10.0%	10.0%	10.0%	10.0%	$2,181	$0	$2,181	$0	$4,361
98	67	FURNITURE, LAB & SHOP EQUIPMENT	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
		TOTAL DIRECT COSTS	$2,574,243	$2,892,856	$1,518,296	$3,192,767	$10,178,163					$257,424	$289,286	$151,830	$319,277	$1,017,816
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$371,217	$0	$0	$0	$371,217	10.0%	10.0%	10.0%	10.0%	$37,122	$0	$0	$0	$37,122
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$160,262	$0	$0	$0	$160,262	10.0%	10.0%	10.0%	10.0%	$16,026	$0	$0	$0	$16,025
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$396,204	$396,204	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$39,620	$39,620
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$202,500	$106,281	$111,747	$420,528	10.0%	10.0%	10.0%	10.0%	$0	$20,250	$10,628	$11,175	$42,053
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	10.0%	10.0%	10.0%	10.0%	$3,150	$0	$0	$0	$3,150
98	99	CONTRACTOR'S CONSTRUCTION FEE	$322,553	$0	$243,687	$370,072	$936,311	10.0%	10.0%	10.0%	10.0%	$32,255	$0	$24,369	$37,007	$93,631
		TOTAL CONSTRUCTION INDIRECT COSTS										$88,553	$20,250	$34,997	$87,802	$231,602
		TOTAL CONSTRUCTION COSTS (TCC)	$3,459,775	$3,095,356	$1,868,264	$4,070,790	$12,494,184					$345,977	$309,535	$186,826	$407,079	$1,249,418
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$845,856	$845,856	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$84,586	$84,586
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$1,862,604	$1,862,604	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$186,260	$186,260
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	10.0%	10.0%	10.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$10,000	$10,000
98	91	OWNER'S COST	$0	$0	$0	$563,488	$563,488	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$56,349	$56,349
98	70	SPARE PARTS	$0	$144,643	$0	$0	$144,643	10.0%	10.0%	10.0%	10.0%	$0	$14,464	$0	$0	$14,464
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	10.0%	10.0%	10.0%	10.0%	$4,995	$0	$0	$5,920	$11,915
98	98	ALLOWANCE FOR UNFORESEEN N/A														
98	98	ESCALATION N/A														
98	99	EPC FEE N/A														
		CAPITAL INTEREST N/A														
		ROUND OFF N/A														
98		TOTAL PROJECT COSTS	$3,509,725	$3,239,999	$1,868,264	$7,561,937	$16,179,925					$350,972	$324,000	$186,826	$751,194	$1,612,992

PROJECT INDIRECT COSTS - ESCALATION

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
ESC G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 1 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESCALATION IS BASED ON THE ASSUMPTION THAT ALL WORK WILL BE COMPLETED BY DECEMBER 31, 2006

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE		DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$680,097	$2,493,940	$37,409	$1,150,000	$4,361,447	0.0%	10.0%	10.0%	5.0%	$0	$249,394	$3,741	$57,500	$310,635
98	51	DEMOLITION	$318,645	$0	$0	$81,300	$399,945	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$4,065	$4,065
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$25,179	$0	$12,800	$218,072	$257,051	0.0%	10.0%	10.0%	5.0%	$0	$0	$1,280	$10,904	$12,184
98	54	PILING, CAISSONS	$0	$0	$0	$305,301	$305,301	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$15,265	$15,265
98	55	BUILDINGS	$0	$0	$0	$879,750	$879,750	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$43,988	$43,988
98	56	CONCRETE	$76,821	$0	$69,369	$0	$146,191	0.0%	10.0%	15.0%	5.0%	$0	$0	$10,405	$0	$10,405
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$269,085	$0	$443,350	$0	$712,435	0.0%	10.0%	15.0%	5.0%	$0	$0	$66,502	$0	$66,502
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	62	PIPING	$1,023,737	$0	$628,259	$0	$1,651,996	0.0%	10.0%	15.0%	5.0%	$0	$0	$94,239	$0	$94,239
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$558,343	$558,343	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$27,917	$27,917
98	64	INSTRUMENTATION	$70,643	$180,843	$130,843	$0	$382,329	0.0%	10.0%	15.0%	5.0%	$0	$18,084	$19,627	$0	$37,711
98	65	ELECTRICAL	$87,229	$218,072	$174,456	$0	$479,759	0.0%	10.0%	15.0%	5.0%	$0	$21,807	$26,169	$0	$47,976
98	66	PAINTING, PROTECTIVE COATINGS	$21,807	$0	$21,807	$0	$43,614	0.0%	10.0%	10.0%	5.0%	$0	$0	$2,181	$0	$2,181
98	67	FURNITURE, LAB & SHOP EQUIPMENT	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
		TOTAL DIRECT COSTS	$2,574,243	$2,892,856	$1,518,296	$3,192,767	$10,178,163					$0	$289,286	$224,144	$159,638	$673,068
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$371,217	$0	$0	$0	$371,217	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$160,262	$0	$0	$0	$160,262	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 160 % OF THE HOURS	$0	$0	$0	$396,204	$396,204	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$19,810	$19,810
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$202,500	$106,281	$111,747	$420,528	0.0%	10.0%	10.0%	5.0%	$0	$20,250	$10,628	$5,587	$36,465
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	99	CONTRACTOR'S CONSTRUCTION FEE	$322,553	$0	$243,687	$370,072	$936,311	0.0%	10.0%	10.0%	5.0%	$0	$0	$24,369	$18,504	$42,872
		TOTAL CONSTRUCTION INDIRECT COSTS										$0	$20,250	$34,997	$43,901	$99,148
		TOTAL CONSTRUCTION COSTS (TCC)	$3,459,775	$3,095,356	$1,868,264	$4,070,790	$12,494,184					$0	$309,536	$259,140	$203,539	$772,215
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$845,856	$845,856	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$1,362,604	$1,362,604	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$5,000	$5,000
98	91	OWNER'S COST	$0	$0	$0	$563,488	$563,488	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$28,174	$28,174
98	70	SPARE PARTS	$0	$144,643	$0	$0	$144,643	0.0%	10.0%	0.0%	0.0%	$0	$14,464	$0	$0	$14,464
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$3,460	$3,460
98	98	ALLOWANCE FOR UNFORESEEN	N/A													
98	98	ESCALATION	N/A													
98	99	EPC FEE	N/A													
		CAPITAL INTEREST	N/A													
		ROUND OFF	N/A													
98		TOTAL PROJECT COSTS	$3,509,725	$3,239,999	$1,868,264	$7,561,937	$16,179,925					$0	$324,000	$259,140	$240,174	$823,314

CONSTRUCTION "ALL-IN" WAGE RATE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 1 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000

ITEM	CRAFT CONCRETE / MASONRY			CRAFT STRUCTURAL STEEL			CRAFT PIPING & MECHANICAL			CRAFT INSTRUMENTATION			CRAFT ELECTRICAL			CRAFT SUPPORT (INC. OPERATORS)		
	NOTES	%	COST	NOTES	%	COST	NOTES	%	COST	NOTES	%	COST	NOTES	%	COST	NOTES	%	COST
BASE JOURNEYMAN			$25.00			$25.00			$25.00			$25.00			$25.00			$24.00
COMPOSITE RATE		88.61%	$22.15		95.80%	$23.90		96.85%	$24.21		96.42%	$24.10		96.42%	$24.10		90.29%	$21.67
PAYROLL TAXES & INSURANCES:	21.59%																	
WORKMEN'S COMPENSATION		6.57%	$1.46		6.57%	$1.57		6.57%	$1.59		6.57%	$1.58		6.57%	$1.58		6.57%	$1.42
GENERAL LIABILITY		3.95%	$0.88		3.95%	$0.94		3.95%	$0.96		3.95%	$0.95		3.95%	$0.95		3.95%	$0.86
EXCESS LIABILITY		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FICA		7.65%	$1.69		7.65%	$1.83		7.65%	$1.85		7.65%	$1.84		7.65%	$1.84		7.65%	$1.66
FUI		0.80%	$0.18		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.17
SUI		2.62%	$0.58		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.57
OTHER		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FRINGES		12.50%	$2.77		12.50%	$2.99		12.50%	$3.03		12.50%	$3.01		12.50%	$3.01		12.50%	$2.71
PREMIUM TIME		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONSTRUCTION SUPPORT LABOR		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TEMPORARY FACILITIES		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
SMALL TOOLS		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
CONSUMABLES		7.50%	$1.66		10.00%	$2.39		10.00%	$2.42		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
FIELD STAFF		25.00%	$5.54		25.00%	$5.98		35.00%	$8.47		35.00%	$8.44		35.00%	$8.44		25.00%	$5.42
EQUIPMENT RENTAL		40.00%	$8.86		35.00%	$8.37		35.00%	$8.47		25.00%	$6.03		25.00%	$6.03		0.00%	$0.00
CONSTRUCTION HOME OFFICE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
PER DIEM		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONTRACTOR FEE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TOTAL WAGE RATE WITH FEE		221.59%	$49.09		219.09%	$52.36		229.09%	$55.47		216.59%	$52.21		216.59%	$52.21		181.59%	$39.35

TOTAL COST SUMMARY - JE PRIME CODE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	DESCRIPTION	W-H	QTY	UNIT	LABOR	EQUIPMENT	MATERIAL	SUBCONTRACT	TOTAL COST
	DIRECT COSTS								
50	MAJOR EQUIPMENT	9,474	0	0	$525,509	$1,506,154	$139,782	$684,000	$2,855,445
51	DEMOLITION	3,643	0	0	$202,043	$0	$0	$0	$202,043
52	SITE EARTHMOVING	0	0	0	$0	$0	$0	$0	$0
53	SITE IMPROVEMENTS	0	0	0	$0	$0	$0	$142,772	$142,772
54	PILING, CAISSONS	0	1,999	LF	$0	$0	$0	$199,881	$199,881
55	BUILDINGS	0	1	LOT	$0	$0	$0	$30,000	$30,000
56	CONCRETE	873	73	CY	$42,832	$0	$42,832	$0	$85,663
57	MASONRY, REFRACTORY	0	0	0	$0	$0	$0	$0	$0
58	STRUCTURAL STEEL	6,729	192	TN	$352,341	$0	$580,524	$0	$932,865
59	ROOFING AND SIDING	0	0	0	$0	$0	$0	$0	$0
60	FIRE PROOFING	0	0	0	$0	$0	$0	$0	$0
61	PROCESS DUCTWORK (NON-BUILDING)	0	0	0	$0	$0	$0	$0	$0
62	PIPING	15,620	5,607	LF	$866,430	$0	$443,561	$0	$1,309,991
63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	0	1	LOT	$0	$0	$0	$85,663	$85,663
64	INSTRUMENTATION	820	41	EA	$42,832	$85,663	$85,663	$0	$214,158
65	ELECTRICAL	1,111	4,446	LF	$58,030	$142,772	$120,963	$0	$321,765
66	PAINTING, PROTECTIVE COATINGS	291	11,422	SF	$14,277	$0	$14,277	$0	$28,554
67	SPECIAL EQUIPMENT WORK	0	0	0	$0	$0	$0	$3,200,000	$3,200,000
	TOTAL DIRECT COSTS	38,561			$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802
	$ / WH	$54.57							
	CONSTRUCTION INDIRECT COSTS								
75	CONSTRUCTION SUPPORT LABOR	7,712			$303,484	$0	$0	$0	$303,484
76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATES)				$0	$0	$0	$0	$0
78	PREMIUM TIME				$237,057	$0	$0	$0	$237,057
79	CRAFT FRINGE BENEFITS (IN WAGE RATES)				$0	$0	$0	$0	$0
	CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS)				$0	$0	$0	$323,912	$323,912
80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)				$0	$0	$0	$0	$0
83	SMALL TOOLS (IN WAGE RATES)				$0	$0	$0	$0	$0
84	CONSUMABLE SUPPLIES (IN WAGE RATES)				$0	$0	$0	$0	$0
85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)				$0	$0	$0	$0	$0
87	FIELD STAFF (IN WAGE RATES)				$0	$0	$0	$0	$0
81	NON-PAYROLL TAX, INSURANCE & PERMITS				$0	$121,421	$99,932	$151,981	$373,335
93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)				$0	$0	$0	$0	$0
71	CRAFT START-UP ASSISTANCE	450			$31,500	$0	$0	$0	$31,500
99	CONTRACTOR'S CONSTRUCTION FEE		10.0%	TCC - EQ.	$291,735	$0	$229,130	$481,821	$1,002,686
	TOTAL CONSTRUCTION INDIRECT COSTS	8,162			$863,776	$121,421	$329,062	$957,714	$2,271,973
	TOTAL CONSTRUCTION COSTS (TCC)	46,723			$2,968,068	$1,856,011	$1,756,665	$5,300,031	$11,880,774
	$ / WH	$85.67							
	PROJECT INDIRECT COSTS								
88	CONSTRUCTION MANAGEMENT		4.5%	TIC	$0	$0	$0	$884,821	$884,821
90	ENGINEERING PROFESSIONAL SERVICES		15.0%	TIC	$0	$0	$0	$2,949,902	$2,949,902
90	STUDY COST		0.3%	TIC	$0	$0	$0	$50,000	$50,000
96	OUTSIDE CONSULTANT SERVICES				$0	$0	$0	$100,000	$100,000
91	OWNER'S COST		3.0%	TIC	$0	$0	$0	$591,187	$591,187
70	SPARE PARTS				$0	$86,729	$0	$0	$86,729
71	NON-CRAFT START-UP ASSISTANCE				$49,950	$0	$0	$69,200	$119,150
98	ALLOWANCE FOR UNFORESEEN		10.2%	TIC	$362,162	$233,129	$210,800	$1,193,417	$1,999,508
98	ESCALATION		4.5%	TIC	$150,901	$194,274	$239,344	$303,021	$887,539
	AIR INFILTRATION ALLOWANCE				$0	$0	$0	$100,000	$100,000
	ROUND OFF				($81)	($143)	$192	$422	$389
	TOTAL PROJECT COSTS	46,723			$3,531,000	$2,370,000	$2,207,000	$11,542,000	$19,650,000
	$ / WH	$85.67							

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\EORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_RJ.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
1																
2		MAJOR EQUIPMENT														
3	50	SO2 SCRUBBER SPRAY HEADERS	1	LOT	3,000.00	3,000	$55.47	$166,404	$575,000	$575,000	$0.00	$0	$0.00	$0	$741,404	$741,404
4	50	MIST ELIMINATOR	1	EA	INCL	0	$55.47	$0	INCL.	$0	$0.00	$0	$0.00	$0	$0.00	$0
5	50	10' SPOOL PIECE SPRAY TOWER SECTIONS	3	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
6	50	CHIMNEY TRAP W/ HAT	1	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
7	50															
8	50	INSTALL FLANGES ON BOTH PIECES OF CUT TOWER	2	EA	180.00	360	$55.47	$19,969	$0.00	$0	$25,000	$50,000	$0.00	$0	$34,984	$69,969
9	50															
10	50	36" NOZZLE FOR CHIMNEY TRAP	1	EA	120.00	120	$55.47	$6,656	$0.00	$0	$7,500	$7,500	$0.00	$0	$14,156	$14,156
11	50															
12	50	SUPPORT TOP OF VENTURI AND ROTATE DISCONNECTED BOTTOM PIECE	1	EA	500.00	500	$55.47	$27,734	$0.00	$0	$25,000	$25,000	$0.00	$0	$52,734	$52,734
13	50															
14	50	REPLACE SCRUBBER VESSEL WALL	97	SF	10.00	969	$55.47	$53,749	$0.00	$0	$100.00	$9,690	$0.00	$0	$654.68	$63,439
15	50															
16	50	REPLACE DUCTWORK	1	LOT	1,000.00	1,000	$55.47	$55,468	$0.00	$0	$25,000	$25,000	$0.00	$0	$80,468	$80,468
17	50															
18	50	ID FAN NO. 1 ROTOR	1	EA	600.00	600	$55.47	$33,281	$12,000	$12,000	$0.00	$0	$0.00	$0	$45,281	$45,281
19	50	REPLACE MOTOR	1	EA	264.00	264	$55.47	$14,644	$160,000	$160,000	$0.00	$0	$0.00	$0	$174,644	$174,644
20	50	REPLACE CABLES	1	LOT	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
21	50	NEW MOTOR STARTER	1	EA	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
22	50	NEW MCC	1	EA	W / BLDG	0	$55.47	$0	W / BLDG	$0	$0.00	$0	$0.00	$0	$0.00	$0
23	50	NEW LCI DRIVE	1	EA	250.00	250	$55.47	$13,867	$120,000	$120,000	$0.00	$0	$0.00	$0	$133,867	$133,867
24	50															
25	50	ID FAN NO. 2 ROTOR	1	EA	600.00	600	$55.47	$33,281	$12,000	$12,000	$0.00	$0	$0.00	$0	$45,281	$45,281
26	50	REPLACE MOTOR	1	EA	264.00	264	$55.47	$14,644	$160,000	$160,000	$0.00	$0	$0.00	$0	$174,644	$174,644
27	50	REPLACE CABLES	1	LOT	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
28	50	NEW MOTOR STARTER	1	EA	W / ELECT	0	$55.47	$0	W / ELECT	$0	$0.00	$0	$0.00	$0	$0.00	$0
29	50	NEW MCC	1	EA	W / BLDG	0	$55.47	$0	W / BLDG	$0	$0.00	$0	$0.00	$0	$0.00	$0
30	50	NEW LCI DRIVE	1	EA	250.00	250	$55.47	$13,867	$120,000	$120,000	$0.00	$0	$0.00	$0	$133,867	$133,867
31	50															
32	50	RECYCLE PUMP, 3160 GPM	4	EA	100.00	400	$55.47	$22,187	$25,000	$100,000	$0.00	$0	$0.00	$0	$30,547	$122,187
33	50	MOTOR, RECYCLE PUMP, 1750 HP @ 885 RPM	4	EA	INCL	0	$55.47	$0	INCL	$0	$0.00	$0	$0.00	$0	$0.00	$0
34	50															
35	50	MIST ELIMINATOR WASH BOOSTER PUMP, 200 GPM	1	EA	36.00	36	$55.47	$1,997	$8,600	$8,600	$0.00	$0	$0.00	$0	$10,597	$10,597
36	50	MOTOR, MIST ELIMINATOR WASH BOOSTER PUMP	1	EA	18.00	18	$55.47	$998	INCL	$0	$0.00	$0	$0.00	$0	$998.43	$998
37	50															
38	50	25,000 GAL RECYCLE TANK	1	EA	S/C	0	$55.47	$0	$0	$0	$0.00	$0	$284,000	$284,000	$284,000	$284,000
39	50															
40	50	50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE, CARBON STEEL, 215,000 LBS FULL	1	EA	200.00	200	$55.47	$11,094	$50,000	$50,000	$0.00	$0	$0.00	$0	$61,094	$61,094
41	50															
42	50	BAYONET TANK HEATER NO. 1, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
43	50															
44	50	BAYONET TANK HEATER NO. 2, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
45	50															
46	50	BAYONET TANK HEATER NO. 3, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
47	50															
48	50	BAYONET TANK HEATER NO. 4, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
49	50															
50	50	50% CAUSTIC METERING PUMP NO. 1, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
51	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 1, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
52	50	VFD, 50% CAUSTIC METERING PUMP NO. 1	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
53	50															
54	50	50% CAUSTIC METERING PUMP NO. 2, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
55	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 2, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
56	50	VFD, 50% CAUSTIC METERING PUMP NO. 2	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
57	50															
58	50	WASTEWATER PUMP NO. 1	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
59	50	MOTOR, WASTEWATER PUMP NO. 1, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
60	50															
61	50	WASTEWATER PUMP NO. 2	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
62	50	MOTOR, WASTEWATER PUMP NO. 2, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
63	50															
64	50															
65	50	FREIGHT	1	LOT	N / A	0	$55.47	$0	$85,254	$85,254	$0.00	$0	$0.00	$0	$85,254	$85,254
66	50	SHIMS AND GROUT	1	LOT	231.08	231	$55.47	$12,817	$0	$0	$22,592	$22,592	$0.00	$0	$35,410	$35,410
68	50	RIGGING AND HEAVY LIFTS	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$400,000	$400,000	$400,000	$400,000
71																
72	50	TOTAL - MAJOR EQUIPMENT				9,474	$55.47	$525,509		$1,506,154		$139,782		$684,000		$2,855,445
88																
89		DEMOLITION														
90																
92	51	DEMO ID FAN NO. 1 MOTOR, 1500 HP	1	LOT	118.00	118	$55.47	$6,545	$0	$0	$0.00	$0	$0.00	$0	$6,545	$6,545
93	51	DEMO ID FAN NO. 2 MOTOR, 1500 HP	1	LOT	118.00	118	$55.47	$6,545	$0	$0	$0.00	$0	$0.00	$0	$6,545	$6,545

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 160C9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATA\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MOW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
94	51	REMOVE TOP OF SCRUBBER TOWER AND STACK	1	LOT	1,000.00	1,000	$55.47	$55,468	$0	$0	$0.00	$0	$0.00	$0	$55,468	$55,468
95	51	DEMO STACK	30	LF	40.00	1,200	$55.47	$66,562	$0	$0	$0.00	$0	$0.00	$0	$2,219	$66,562
96	51	DISCONNECT BOTTOM HALF OF VENTURI VESSEL	1	LOT	1,000.00	1,000	$55.47	$55,468	$0	$0	$0.00	$0	$0.00	$0	$55,468	$55,468
97	51	DEMO SCRUBBER VESSEL WALL	41	SF	5.00	207	$55.47	$11,454	$0	$0	$0.00	$0	$0.00	$0	$277.34	$11,454
113																
114	51	TOTAL - DEMOLITION				3,643	$55.47	$202,043		$0		$0		$0		$202,043
126																
127		SITE IMPROVEMENTS														
128																
129																
131	53	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$142,772	$142,772	$142,772	$142,772
132																
133	53	TOTAL - SITE IMPROVEMENTS				0	$0.00	$0		$0		$0		$142,772		$142,772
134																
135																
136		PILING, CAISSONS														
137																
142	54	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$199,881	$199,881	$199,881	$199,881
143																
144	54	TOTAL - PILING, CAISSONS	1,999	LF		0	$0.00	$0		$0		$0	$100.00	$199,881		$199,881
145																
146																
182		SPECIAL CONSTR. (SEISMIC CONTROL, PRE-ENGR BUILDINGS, ETC.)														
183																
184	55.380	MCC BUILDING 10' X 10'	100	SF	S/C	0	$49.09	$0	$0.00	$0	$0.00	$0	$300.00	$30,000	$300.00	$30,000
190																
191	55.380	TOTAL - SPECIAL CONSTRUCTION				0	$0.00	$0		$0		$0		$30,000		$30,000
192																
193																
231		CONCRETE														
232																
236	56	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	872.54	873	$49.09	$42,832	$0	$0	$42,832	$42,832	$0	$0	$85,663	$85,663
237																
238	56	TOTAL - CONCRETE	73	CY	12.0	873	$49.09	$42,832		$0		$42,832		$0		$85,663
250																
251																
252		STRUCTURAL STEEL														
253																
277	58	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	6,728.74	6,729	$52.36	$352,341	$0	$0	$580,524	$580,524	$0	$0	$932,865	$932,865
278																
279	58	TOTAL - STRUCTURAL STEEL	192	TN	35.0	6,729	$52.36	$352,341		$0		$580,524		$0		$932,865
313																
314																
315		PIPING														
316																
317	62	4" PIPE, CARBON STEEL, SCH 40	2,640	LF	2.87	7,577	$55.47	$420,271	$0.00	$0	$20.00	$52,800	$0.00	$0	$179.19	$473,071
318	62	STAINLESS STEEL, AVG. SIZE 1.5" Ø	400	LF	1.40	560	$55.47	$31,062	$0.00	$0	$19.80	$7,920	$0.00	$0	$97.48	$38,982
332	62															
336	62	FLUSHING AND CLEANING	3,040	LF	0.10	304	$55.47	$16,862	$0.00	$0	$1.00	$3,040	$0.00	$0	$5.55	$19,902
337	62	HYDRO-TESTING	3,040	LF	0.15	456	$55.47	$25,293	$0.00	$0	$1.00	$3,040	$0.00	$0	$9.32	$28,333
341	62	PIPE I. D. AND LABELING	152	EA	0.50	76	$55.47	$4,216	$0.00	$0	$25.00	$3,800	$0.00	$0	$52.73	$8,016
352	62	FREIGHT	1	LOT	N/A	0	$55.47	$0	$0.00	$0	$4,236	$4,236	$0.00	$0	$4,236	$4,236
353	62															
355	62	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	6,647.52	6,648	$55.47	$368,725	$0	$0	$368,725	$368,725	$0	$0	$737,451	$737,451
356																
357	62	TOTAL - PIPING	5,607	LF	2.79	15,620	$55.47	$866,430		$0		$443,561		$0		$1,309,991
358																
359																
360		INSULATION - PIPE, EQUIPMENT & DUCTWORK														
361																
370	63	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	S / C	0	$49.09	$0	$0	$0	$0	$0	$85,663	$85,663	$85,663	$85,663
371																
372	63	TOTAL - INSULATION - PIPE, EQUIPMENT & DUCTWORK	1	LOT		0	$0.00	$0		$0		$0		$85,663		$85,663
373																
374																
375		INSTRUMENTATION														
376																
389	64	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	820.39	820	$52.21	$42,832	$85,663	$85,663	$85,663	$85,663	$0	$0	$214,158	$214,158
390																
391	64	TOTAL - INSTRUMENTATION	41	EA	20.00	820	$52.21	$42,832		$85,663		$85,663		$0		$214,158
392																
393																
394		ELECTRICAL														

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2
REMOVAL VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\EORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL VENTURI / SPRAY TOWER REBUILD DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
395																
396	65	HEAT TRACING	600	LF	0.03	17	$52.21	$877	$0.00	$0	$10.50	$6,300	$0.00	$0	$11.96	$7,177
406	65	TESTING AND STARTUP	1	LOT	0.84	1	$52.21	$44	$0.00	$0	$63.00	$63	$0.00	$0	$106.86	$107
407	65	FREIGHT	1	LOT	N/A	0	$52.21	$0	$0	$0	$381.78	$382	$0.00	$0	$381.78	$382
411	65	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,093.86	1,094	$52.21	$57,109	$142,772	$142,772	$114,218	$114,218	$0	$0	$314,099	$314,099
412																
413	65	TOTAL - ELECTRICAL	4,446	LF	0.25	1,111	$52.21	$58,030		$142,772		$120,963		$0		$321,765
414																
415																
416		PAINTING, PROTECTIVE COATINGS														
417																
422	66	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	290.85	291	$49.09	$14,277	$0	$0	$14,277	$14,277	$0	$0	$28,554	$28,554
423																
424	66	TOTAL - PAINTING, PROTECTIVE COATINGS	11,422	SF	0.03	291	$49.09	$14,277		$0		$14,277		$0	$2.50	$28,554
425																
426																
427		SPECIAL EQUIPMENT WORK														
428																
429	67	PHASE 2 - BOILER MACT WORK	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$3,200,000	$3,200,000	$3,200,000	$3,200,000
435																
436	67	TOTAL - SPECIAL EQUIPMENT WORK				0	$0.00	$0		$0		$0		$3,200,000		$3,200,000
437																
438																
439																
440																
441																
442		TOTAL - DIRECT COST				38,561	$54.57	$2,104,293		$1,734,580		$1,427,602		$4,342,317		$9,608,802

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONSTRUCTION SUPPORT LABOR

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
75	**CONSTRUCTION SUPPORT LABOR**											
	(LABOR COST ONLY)											
	CAPITAL - CONSTRUCTION SUPPORT LABOR - ALLOWANCE @ 20 % OF DIRECT LABOR HOURS FOR BELOW LISTED ITEMS	38,561	WH	0.20	7,712	$39.35	$303,484	$0	$0	$0	$0	$303,484
	CONS EQUIP OPERATION - CRANE				0	$39.35	$0	$0	$0	$0	$0	$0
	WELDER QUALIFICATIONS				0	$39.35	$0	$0	$0	$0	$0	$0
	RAINED OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	SAFETY TRAINING				0	$39.35	$0	$0	$0	$0	$0	$0
	SCAFFOLDING (Rental Incl. W/ Constr. Eq. Rental)				0	$39.35	$0	$0	$0	$0	$0	$0
	UNLOAD AND STORE BULK MATERIAL				0	$39.35	$0	$0	$0	$0	$0	$0
	WAREHOUSEMAN				0	$39.35	$0	$0	$0	$0	$0	$0
	TOOL MAN				0	$39.35	$0	$0	$0	$0	$0	$0
64	FIRE WATCH				0	$39.35	$0	$0	$0	$0	$0	$0
	YARD CREWS				0	$39.35	$0	$0	$0	$0	$0	$0
	SPECIAL HAULING / RIGGING				0	$39.35	$0	$0	$0	$0	$0	$0
	STARTUP - CRAFTSMEN				0	$39.35	$0	$0	$0	$0	$0	$0
	CLEAN UP				0	$39.35	$0	$0	$0	$0	$0	$0
	EMPLOYMENT & RANDOM DRUG TESTS				0	$39.35	$0	$0	$0	$0	$0	$0
	MOVE IN / MOVE OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	WATER / ICE				0	$39.35	$0	$0	$0	$0	$0	$0
75	**TOTAL - CONSTRUCTION SUPPORT LABOR**				7,712		$303,484		$0		$0	$303,484

CONTRACTOR'S CONSTRUCTION INDIRECT COST - PREMIUM TIME

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY T
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HEN
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION		TOTAL WEEKLY W.H.'S	TOTAL PREMIUM W.H.'S		PREMIUM COST ADDER	TOTAL COST
78	**PREMIUM & EFFICIENCY LOSS TIME CALCULATION WORKSHEET**						
	CAPITAL PREMIUM TIME COST:	BASED ON BARE WAGE RATE OF:				$25.49	
		TOTAL CRAFT HOURS:		46,273	HRS		
65	CRAFT HOURS WORKED ON 40 HR WEEK **(0 HRS PT)**	0.0%	0	0	HRS		
	CRAFT HOURS WORKED ON 50 HR WEEK **(10 HRS PT)**	50.0%	23,137	4,627	HRS	$14.16	$65,502
	CRAFT HOURS WORKED ON 60 HR WEEK **(20 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 70 HR WEEK **(30 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 84 HR WEEK **(44 HRS PT)**	50.0%	23,137	12,119	HRS	$14.16	$171,554
		100.0%	46,273	16,746	HRS		
	TOTAL CAPITAL PREMIUM TIME COST						**$237,057**
78	**TOTAL**						**$237,057**

CONTRACTOR'S CONSTRUCTION INDIRECT COST - NON-PAYROLL TAX, INSURANCE AND PERMITS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
81	**NON-PAYROLL TAX, INSURANCE AND PERMITS**									
	SALES & USE TAX									
	7% OF EQUIPMENT	$1,734,590	EQ $	7.00%	$121,421					$121,421
	7% OF MATERIAL	$1,427,602	MAT'L $			7.00%	$99,932			$99,932
	7% ON 50% OF SUBCONTRACTS	$2,171,158	SUB $					7.00%	$151,981	$151,981
81	**TOTAL NON-PAYROLL TAX, INSURANCE AND PERMITS**				**$121,421**		**$99,932**		**$151,981**	**$373,335**

99

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CRAFT START-UP ASSISTANCE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	CRAFT START-UP ASSISTANCE													
	CRAFT START-UP SERVICES (3 CRAFT PERSONNEL @ 50 HOURS EACH)	3	WK	150.00	450	$70.00	$31,500	$0	$0	$0	$0	$0	$0	$31,500
71	TOTAL CRAFT START-UP ASSISTANCE						$31,500		$0		$0		$0	$31,500

67

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONTRACTOR'S CONSTRUCTION FEE

JE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
99	CONTRACTOR'S CONSTRUCTION FEE											
	LABOR (INCLUDED IN WAGE RATES)	$2,676,333	LABS	10.9%	$291,735							$291,735
	EQUIPMENT	$1,856,011	EQS			0.0%	$0					$0
	MATERIAL	$1,527,535	MATS					15.0%	$229,130			$229,130
	SUBCONTRACT	$4,818,210	SUBS							10.0%	$481,821	$481,821
99	TOTAL CONTRACTOR'S CONSTRUCTION FEE				$291,735		$0		$229,130		$481,821	$1,002,686

89	TOTAL CONTRACTOR'S CONSTRUCTION FEE AS A % OF TOTAL CONSTRUCTION COST - EQUIP. =	10.0%

TOTAL CONSTRUCTION COST LESS PROCESS EQUIPMENT = ##########

PROJECT INDIRECT COST - CONSTRUCTION MANAGEMENT

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
88	**TOTAL CONSTRUCTION MANAGEMENT**												
	TOTAL - CONSTRUCTION MANAGEMENT	1	LOT		0	$0.00	$0	$0.00	$0	$884,821	$884,821	$884,821	$884,821
88	**TOTAL - CONSTRUCTION MANAGEMENT**				0		$0		$0		$884,821		$884,821

69

PROJECT INDIRECT COST - ENGINEERING PROFESSIONAL SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
90	ENGINEERING PROFESSIONAL SERVICES															
	JACOBS	1	LOT		0	$0.00	$0.00	$0	$0	$0	$0	$0	$2,949,902	$2,949,902	$2,949,902	$2,949,902
90	TOTAL ENGINEERING PROFESSIONAL SERVICES							$0		$0		$0		$2,949,902		$2,949,902

70

PROJECT INDIRECT COST - STUDY COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
90	STUDY COST										
	STUDY COST	1	LOT	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
90	STUDY COST			$0		$0		$0		$50,000	$50,000

PROJECT INDIRECT COST - OUTSIDE CONSULTANT SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
96	OUTSIDE CONSULTANT SERVICES										
	OUTSIDE CONSULTANT SERVICES	1	LOT	$0	$0	$0	$0	$0	$100,000	$100,000	$100,000
96	TOTAL OUTSIDE CONSULTANT SERVICES			$0		$0		$0		$100,000	$100,000

72

PROJECT INDIRECT COST - OWNER'S COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
91	OWNER'S COST										
	OWNER'S COST	1	LOT	$0	$0	$0	$0	$0	$591,187	$591,187	$591,187
91	TOTAL OWNER'S COST			$0		$0		$0		$591,187	$591,187

73

PROJECT INDIRECT COST - SPARE PARTS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS
COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07

REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
70	SPARE PARTS										
	SPARE PARTS - ALLOWANCE OF 5% OF EQUIPMENT COST	1	LOT	$0	$86,729	$86,729	$0	$0	$0	$0	$86,729
70	TOTAL SPARE PARTS			$0		$86,729		$0		$0	$86,729

74

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	NON-CRAFT START-UP ASSISTANCE													
	PROFESSIONAL SERVICES START-UP	4	WK	150.00	600	$83.25	$49,950	$0	$0	$0	$0	$0	$0	$49,950
	PROFESSIONAL SERVICES START-UP - EXPENSES	4	WK	0.00	0	$0.00	$0	$0	$0	$0	$0	$4,800	$19,200	$19,200
	VENDOR START-UP SERVICES	1	LOT		0	$0.00	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
71	TOTAL NON-CRAFT START-UP ASSISTANCE						$49,950		$0		$0		$69,200	$119,150

75

PROJECT INDIRECT COSTS - ALLOWANCE FOR UNFORESEEN

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
AFU G:\ESTIMATING\ERPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

AFU PRIME CODE	PRIME CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$525,509	$1,508,154	$139,782	$684,000	$12	12.0%	12.0%	12.0%	12.0%	$63,061	$180,738	$16,774	$82,080	$342,653
98	51	DEMOLITION	$202,043	$0	$0	$0	$202,043	12.0%	12.0%	12.0%	12.0%	$24,245	$0	$0	$0	$24,245
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$0	$0	$0	$142,772	$142,772	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$17,133	$17,133
98	54	PILING, CAISSONS	$0	$0	$0	$199,881	$199,881	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$23,986	$23,986
98	55	BUILDINGS	$0	$0	$0	$30,000	$30,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$3,600	$3,600
98	56	CONCRETE	$42,832	$0	$42,832	$0	$85,663	12.0%	12.0%	12.0%	12.0%	$5,140	$0	$5,140	$0	$10,280
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$352,341	$0	$580,524	$0	$932,865	12.0%	12.0%	12.0%	12.0%	$42,281	$0	$69,663	$0	$111,944
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	62	PIPING	$866,430	$0	$443,561	$0	$1,309,991	12.0%	12.0%	12.0%	12.0%	$103,972	$0	$53,227	$0	$157,199
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$85,663	$85,663	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$10,280	$10,280
98	64	INSTRUMENTATION	$42,832	$85,663	$85,663	$0	$214,158	12.0%	12.0%	12.0%	12.0%	$5,140	$10,280	$10,280	$0	$25,699
98	65	ELECTRICAL	$58,030	$142,772	$120,963	$0	$321,765	12.0%	12.0%	12.0%	12.0%	$6,964	$17,133	$14,516	$0	$38,612
98	66	PAINTING, PROTECTIVE COATINGS	$14,277	$0	$14,277	$0	$28,554	12.0%	12.0%	12.0%	12.0%	$1,713	$0	$1,713	$0	$3,427
98	67	SPECIAL EQUIPMENT WORK	$0	$0	$0	$3,200,000	$3,200,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$384,000	$384,000
		TOTAL DIRECT COSTS	$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802					$252,515	$208,151	$171,312	$521,078	$1,153,056
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$303,484	$0	$0	$0	$303,484	12.0%	12.0%	12.0%	12.0%	$36,418	$0	$0	$0	$36,418
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$237,057	$0	$0	$0	$237,057	12.0%	12.0%	12.0%	12.0%	$28,447	$0	$0	$0	$28,447
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$323,912	$323,912	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$38,869	$38,869
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$121,421	$99,902	$151,981	$373,335	12.0%	12.0%	12.0%	12.0%	$0	$14,571	$11,992	$18,238	$44,800
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	12.0%	12.0%	12.0%	12.0%	$3,780	$0	$0	$0	$3,780
98	99	CONTRACTOR'S CONSTRUCTION FEE	$291,735	$0	$229,130	$481,821	$1,002,686	12.0%	12.0%	12.0%	12.0%	$35,008	$0	$27,496	$57,819	$120,322
		TOTAL CONSTRUCTION INDIRECT COSTS										$103,653	$14,571	$39,487	$114,926	$272,637
		TOTAL CONSTRUCTION COSTS (TCC)	$2,968,068	$1,856,011	$1,756,665	$5,200,031	$11,880,774					$356,168	$222,721	$210,800	$636,004	$1,425,693
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$884,821	$884,821	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$106,178	$106,178
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$2,949,902	$2,949,902	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$353,988	$353,988
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$6,000	$6,000
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$12,000	$12,000
98	91	OWNER'S COST	$0	$0	$0	$591,187	$591,187	12.0%	12.0%	12.0%	12.0%	$0	$0	$0	$70,942	$70,942
98	70	SPARE PARTS	$0	$88,729	$0	$0	$88,729	12.0%	12.0%	12.0%	12.0%	$0	$10,408	$0	$0	$10,408
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	12.0%	12.0%	12.0%	12.0%	$5,994	$0	$0	$8,304	$14,298
98	98	ALLOWANCE FOR UNFORESEEN	N/A													
98	98	ESCALATION	N/A													
98	99	EPC FEE	N/A													
		CAPITAL INTEREST	N/A													
		ROUND OFF	N/A													
98		TOTAL PROJECT COSTS	$3,018,018	$1,942,740	$1,756,665	$9,945,141	$16,662,564					$362,162	$233,129	$210,800	$1,193,417	$1,999,508

PROJECT INDIRECT COSTS - ESCALATION

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
ESC G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 SO2 Removal_Venturi_Spray Tower Rebuild_R3.xls]PRIME CODE TCS

ESCALATION IS BASED ON THE ASSUMPTION THAT ALL WORK WILL BE COMPLETED BY DECEMBER 31, 2007

ESTIMATE DATE: 02/13/07
REVISION NO.: 3
ESTIMATOR: MDW (REV. 3 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	PRIME CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$525,509	$1,506,154	$139,782	$684,000	$2,855,445	5.0%	10.0%	10.0%	5.0%	$26,275	$150,615	$13,978	$34,200	$225,069
98	51	DEMOLITION	$202,043	$0	$0	$0	$202,043	5.0%	10.0%	10.0%	5.0%	$10,102	$0	$0	$0	$10,102
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$0	$0	$0	$142,772	$142,772	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$7,139	$7,139
98	54	PILING, CAISSONS	$0	$0	$0	$199,881	$199,881	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$9,994	$9,994
98	55	BUILDINGS	$0	$0	$0	$30,000	$30,000	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$1,500	$1,500
98	56	CONCRETE	$42,832	$0	$42,832	$0	$85,663	5.0%	10.0%	15.0%	5.0%	$2,142	$0	$6,425	$0	$8,566
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$352,341	$0	$580,524	$0	$932,865	5.0%	10.0%	15.0%	5.0%	$17,617	$0	$87,079	$0	$104,696
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	62	PIPING	$866,430	$0	$443,561	$0	$1,309,991	5.0%	10.0%	15.0%	5.0%	$43,321	$0	$66,534	$0	$109,856
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$85,663	$85,663	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$4,283	$4,283
98	64	INSTRUMENTATION	$42,832	$85,663	$85,663	$0	$214,158	5.0%	10.0%	15.0%	5.0%	$2,142	$8,566	$12,850	$0	$23,557
98	65	ELECTRICAL	$58,030	$142,772	$120,963	$0	$321,765	5.0%	10.0%	15.0%	5.0%	$2,901	$14,277	$18,144	$0	$35,323
98	66	PAINTING, PROTECTIVE COATINGS	$14,277	$0	$14,277	$0	$28,554	5.0%	10.0%	10.0%	5.0%	$714	$0	$1,426	$0	$2,142
98	67	SPECIAL EQUIPMENT WORK	$0	$0	$0	$3,200,000	$3,200,000	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$160,000	$160,000
		TOTAL DIRECT COSTS	$2,104,293	$1,734,590	$1,427,602	$4,342,317	$9,608,802					$105,215	$173,459	$206,437	$217,116	$702,227
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$303,484	$0	$0	$0	$303,484	5.0%	10.0%	10.0%	5.0%	$15,174	$0	$0	$0	$15,174
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$237,057	$0	$0	$0	$237,057	5.0%	10.0%	10.0%	5.0%	$11,853	$0	$0	$0	$11,853
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$323,912	$323,912	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$16,196	$16,196
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$121,421	$99,932	$151,981	$373,335	5.0%	10.0%	10.0%	5.0%	$0	$12,142	$9,993	$7,599	$29,734
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	5.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	5.0%	10.0%	10.0%	5.0%	$1,575	$0	$0	$0	$1,575
98	99	CONTRACTOR'S CONSTRUCTION FEE	$291,735	$0	$229,130	$481,821	$1,002,686	5.0%	10.0%	10.0%	5.0%	$14,587	$0	$22,913	$24,091	$61,591
		TOTAL CONSTRUCTION INDIRECT COSTS										$43,189	$12,142	$32,906	$47,886	$136,123
		TOTAL CONSTRUCTION COSTS (TCC)	$2,968,068	$1,856,011	$1,756,665	$5,300,031	$11,880,774					$148,403	$185,601	$239,344	$265,002	$838,350
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$884,821	$884,821	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$2,949,902	$2,949,902	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$5,000	$5,000
98	91	OWNER'S COST	$0	$0	$0	$591,187	$591,187	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$29,559	$29,559
98	70	SPARE PARTS	$0	$86,729	$0	$0	$86,729	0.0%	10.0%	0.0%	0.0%	$0	$8,673	$0	$0	$8,673
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	5.0%	0.0%	0.0%	5.0%	$2,498	$0	$0	$3,460	$5,956
98	98	ALLOWANCE FOR UNFORESEEN	N/A													
98	98	ESCALATION	N/A													
98	99	EPC FEE	N/A													
		CAPITAL INTEREST	N/A													
		ROUND OFF	N/A													
98		TOTAL PROJECT COSTS	$3,018,018	$1,942,740	$1,756,665	$9,945,141	$16,662,564					$150,901	$194,274	$239,344	$303,021	$887,539

CONSTRUCTION "ALL-IN" WAGE RATE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 SO2 REMOVAL_VENTURI / SPRAY TOWER REBUILD
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000

ITEM	NOTES	CRAFT CONCRETE / MASONRY %	CRAFT CONCRETE / MASONRY COST	NOTES	CRAFT STRUCTURAL STEEL %	CRAFT STRUCTURAL STEEL COST	NOTES	CRAFT PIPING & MECHANICAL %	CRAFT PIPING & MECHANICAL COST	NOTES	CRAFT INSTRUMENTATION %	CRAFT INSTRUMENTATION COST	NOTES	CRAFT ELECTRICAL %	CRAFT ELECTRICAL COST	NOTES	CRAFT SUPPORT (INC. OPERATORS) %	CRAFT SUPPORT (INC. OPERATORS) COST
BASE JOURNEYMAN			$25.00			$25.00			$25.00			$25.00			$25.00			$24.00
COMPOSITE RATE		88.61%	$22.15		95.60%	$23.90		96.85%	$24.21		96.42%	$24.10		96.42%	$24.10		90.29%	$21.67
PAYROLL TAXES & INSURANCES:	21.59%																	
WORKMEN'S COMPENSATION		6.57%	$1.46		6.57%	$1.57		6.57%	$1.59		6.57%	$1.58		6.57%	$1.58		6.57%	$1.42
GENERAL LIABILITY		3.95%	$0.88		3.95%	$0.94		3.95%	$0.96		3.95%	$0.95		3.95%	$0.95		3.95%	$0.86
EXCESS LIABILITY		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FICA		7.65%	$1.69		7.65%	$1.83		7.65%	$1.85		7.65%	$1.84		7.65%	$1.84		7.65%	$1.66
FUI		0.80%	$0.18		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.17
SUI		2.62%	$0.58		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.57
OTHER		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FRINGES		12.50%	$2.77		12.50%	$2.99		12.50%	$3.03		12.50%	$3.01		12.50%	$3.01		12.50%	$2.71
PREMIUM TIME		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONSTRUCTION SUPPORT LABOR		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TEMPORARY FACILITIES		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
SMALL TOOLS		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
CONSUMABLES		7.50%	$1.66		10.00%	$2.39		10.00%	$2.42		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
FIELD STAFF		25.00%	$5.54		25.00%	$5.98		35.00%	$8.47		35.00%	$8.44		35.00%	$8.44		25.00%	$5.42
EQUIPMENT RENTAL		40.00%	$8.86		35.00%	$8.37		35.00%	$8.47		25.00%	$6.03		25.00%	$6.03		0.00%	$0.00
CONSTRUCTION HOME OFFICE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
PER DIEM		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONTRACTOR FEE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TOTAL WAGE RATE WITH FEE		221.59%	$49.09		219.09%	$52.36		229.09%	$55.47		216.59%	$52.21		216.59%	$52.21		181.59%	$39.35

TOTAL COST SUMMARY - JE PRIME CODE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	DESCRIPTION	W-H	QTY	UNIT	LABOR	EQUIPMENT	MATERIAL	SUBCONTRACT	TOTAL COST
	DIRECT COSTS								
50	MAJOR EQUIPMENT	12,261	0	0	$680,097	$2,493,940	$37,409	$1,150,000	$4,361,447
51	DEMOLITION	5,745	0	0	$318,645	$0	$0	$81,300	$399,945
52	SITE EARTHMOVING	0	0	0	$0	$0	$0	$0	$0
53	SITE IMPROVEMENTS	533	0	0	$26,179	$0	$12,800	$218,072	$257,051
54	PILING, CAISSONS	0	3,053	LF	$0	$0	$0	$305,301	$305,301
55	BUILDINGS	0	1	LOT	$0	$0	$0	$879,750	$879,750
56	CONCRETE	1,565	130	CY	$76,821	$0	$69,369	$0	$146,191
57	MASONRY, REFRACTORY	0	0	0	$0	$0	$0	$0	$0
58	STRUCTURAL STEEL	5,139	147	TN	$269,085	$0	$443,350	$0	$712,435
59	ROOFING AND SIDING	0	0	0	$0	$0	$0	$0	$0
60	FIRE PROOFING	0	0	0	$0	$0	$0	$0	$0
61	PROCESS DUCTWORK (NON-BUILDING)	0	0	0	$0	$0	$0	$0	$0
62	PIPING	18,456	6,152	LF	$1,023,737	$0	$628,259	$0	$1,651,996
63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	0	1	LOT	$0	$0	$0	$558,343	$558,343
64	INSTRUMENTATION	1,353	68	EA	$70,643	$180,843	$130,843	$0	$382,329
65	ELECTRICAL	1,671	6,683	LF	$87,229	$218,072	$174,458	$0	$479,759
66	PAINTING, PROTECTIVE COATINGS	444	17,446	SF	$21,807	$0	$21,807	$0	$43,614
67	FURNITURE, LAB & SHOP EQUIPMENT	0	0	0	$0	$0	$0	$0	$0
	TOTAL DIRECT COSTS	47,167			$2,574,243	$2,892,856	$1,518,296	$3,192,767	$10,178,163
	$ / WH	$54.58							
	CONSTRUCTION INDIRECT COSTS								
75	CONSTRUCTION SUPPORT LABOR	9,433			$371,217	$0	$0	$0	$371,217
76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATES)				$0	$0	$0	$0	$0
78	PREMIUM TIME				$160,262	$0	$0	$0	$160,262
79	CRAFT FRINGE BENEFITS (IN WAGE RATES)				$0	$0	$0	$0	$0
	CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS)				$0	$0	$0	$396,204	$396,204
80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)				$0	$0	$0	$0	$0
83	SMALL TOOLS (IN WAGE RATES)				$0	$0	$0	$0	$0
84	CONSUMABLE SUPPLIES (IN WAGE RATES)				$0	$0	$0	$0	$0
85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)				$0	$0	$0	$0	$0
87	FIELD STAFF (IN WAGE RATES)				$0	$0	$0	$0	$0
81	NON-PAYROLL TAX, INSURANCE & PERMITS				$0	$202,500	$106,281	$111,747	$420,528
93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)				$0	$0	$0	$0	$0
71	CRAFT START-UP ASSISTANCE	450			$31,500	$0	$0	$0	$31,500
99	CONTRACTOR'S CONSTRUCTION FEE		10.0%	TCC - EQ.	$322,553	$0	$243,687	$370,072	$936,311
	TOTAL CONSTRUCTION INDIRECT COSTS	9,883			$885,532	$202,500	$349,967	$878,023	$2,316,022
	TOTAL CONSTRUCTION COSTS (TCC)	57,051			$3,459,775	$3,095,356	$1,868,264	$4,070,790	$12,494,184
	$ / WH	$78.35							
	PROJECT INDIRECT COSTS								
88	CONSTRUCTION MANAGEMENT		4.5%	TIC	$0	$0	$0	$845,856	$845,856
90	ENGINEERING PROFESSIONAL SERVICES		10.0%	TIC	$0	$0	$0	$1,862,604	$1,862,604
90	STUDY COST		0.3%	TIC	$0	$0	$0	$50,000	$50,000
96	OUTSIDE CONSULTANT SERVICES				$0	$0	$0	$100,000	$100,000
91	OWNER'S COST		3.0%	TIC	$0	$0	$0	$563,488	$563,488
70	SPARE PARTS				$0	$144,643	$0	$0	$144,643
71	NON-CRAFT START-UP ASSISTANCE				$49,950	$0	$0	$69,200	$119,150
98	ALLOWANCE FOR UNFORESEEN		8.6%	TIC	$350,972	$324,000	$186,826	$751,194	$1,612,992
98	ESCALATION		4.4%	TIC	$0	$324,000	$259,140	$240,174	$823,314
	AIR INFILTRATION ALLOWANCE				$0	$0	$0	$100,000	$100,000
	ROUND OFF				$303	$1	($230)	($305)	($231)
	TOTAL PROJECT COSTS	57,051			$3,861,000	$3,888,000	$2,314,000	$8,653,000	$18,716,000
	$ / WH	$78.35							

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO.	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
1																
2		MAJOR EQUIPMENT														
3	50	DUCTWORK - ID FANS COMBINED DUCT OUTLET TO VENTURI / SPRAY TOWER SCRUBBER INLET, 1/4" THICK DUCT, 12'-3" X 12'-3", 7350 SF	110,250	LB	0.04	4,410	$55.47	$244,614	$2.50	$275,625	$0.00	$0	$0.00	$0	$4.72	$520,239
4	50															
5	50	EXPANSION JOINT - ID FANS COMBINED OUTLET	1	EA	80.00	80	$55.47	$4,437	$7,600	$7,600	$0.00	$0	$0.00	$0	$12,037	$12,037
6	50															
7	50	ID FAN NO. 1 NEW ROTOR	1	EA	600.00	600	$55.47	$33,281	$25,000	$25,000	$0.00	$0	$0.00	$0	$58,281	$58,281
8	50															
9	50	ID FAN NO. 2 NEW ROTOR	1	EA	600.00	600	$55.47	$33,281	$25,000	$25,000	$0.00	$0	$0.00	$0	$58,281	$58,281
10	50															
11	50	EXPANSION JOINT - SPRAY TOWER SCRUBBER INLET	1	EA	80.00	80	$55.47	$4,437	$7,600	$7,600	$0.00	$0	$0.00	$0	$12,037	$12,037
12	50															
13	50	VENTURI / SPRAY TOWER SCRUBBER - 25" DIAMETER X 58' TALL, 316L SS - FOUR SPRAY ZONES	1	EA	5,000.00	5,000	$55.47	$277,341	$1,750,000	$1,750,000	$0.00	$0	$0.00	$0	$2,027,341	$2,027,341
14	50															
15	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 1, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
16	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 1, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
17	50															
18	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 2, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
19	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 2, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
20	50															
21	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 3, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
22	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 3, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
23	50															
24	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 4, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
25	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 4, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
26	50															
27	50	SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 5, 1067 GPM @ 150 FT TDH (GOULDS 3196 LT X 4X6-13	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
28	50	MOTOR, SPRAY TOWER SCRUBBER RECYCLE PUMP NO. 5, 40 HP @ 3600 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
29	50															
30	50	VENTURI SUPPLY PUMP NO. 1, 1300 GPM @ 100' TDH	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
31	50	MOTOR, VENTURI SUPPLY PUMP NO. 1, 40 HP @ 1800 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
32	50															
33	50	VENTURI SUPPLY PUMP NO. 2, 1300 GPM @ 100' TDH	1	EA	38.00	38	$55.47	$2,108	$11,807	$11,807	$0.00	$0	$0.00	$0	$13,915	$13,915
34	50	MOTOR, VENTURI SUPPLY PUMP NO. 2, 40 HP @ 1800 RPM	1	EA	18.00	18	$55.47	$998	INCLUDED	$0	$0.00	$0	$0.00	$0	$998	$998
35	50															
36	50	50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE, CARBON STEEL, 215,000 LBS FULL	1	EA	200.00	200	$55.47	$11,094	$50,000	$50,000	$0.00	$0	$0.00	$0	$61,094	$61,094
37	50															
38	50	BAYONET TANK HEATER NO. 1, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
39	50															
40	50	BAYONET TANK HEATER NO. 2, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
41	50															
42	50	BAYONET TANK HEATER NO. 3, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
43	50															
44	50	BAYONET TANK HEATER NO. 4, 150 KW	1	EA	30.00	30	$55.47	$1,664	$10,400	$10,400	$0.00	$0	$0.00	$0	$12,064	$12,064
45	50															
46	50	50% CAUSTIC METERING PUMP NO. 1, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
47	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 1, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
48	50	VFD, 50% CAUSTIC METERING PUMP NO. 1	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
49	50															
50	50	50% CAUSTIC METERING PUMP NO. 2, 2 GPM @ 230 FT TDH	1	EA	32.00	32	$55.47	$1,775	$6,850	$6,850	$0.00	$0	$0.00	$0	$8,625	$8,625
51	50	MOTOR, 50% CAUSTIC METERING PUMP NO. 2, 2 HP @ 1800 RPM	1	EA	4.00	4	$55.47	$222	INCLUDED	$0	$0.00	$0	$0.00	$0	$221.87	$222
52	50	VFD, 50% CAUSTIC METERING PUMP NO. 2	1	EA	8.00	8	$55.47	$444	$4,000	$4,000	$0.00	$0	$0.00	$0	$4,444	$4,444
53	50															
54	50	SPRAY TOWER SCRUBBER INSTRUMENTATION	1	LOT	INC. W/ SPRAY TOWER SCRUBBER	0	$55.47	$0	INC. W/ SPRAY TOWER SCRUBBER	$0	$0.00	$0	$0.00	$0	$0	$0
55	50															
56	50	SPRAY TOWER SCRUBBER OVERFLOW SEAL POT	1	EA	20.00	20	$55.47	$1,109	$3,000	$3,000	$0.00	$0	$0.00	$0	$4,109	$4,109
57	50															
58	50	EXPANSION JOINT - SPRAY TOWER SCRUBBER OUTLET	1	EA	80.00	80	$55.47	$4,437	$12,000	$12,000	$0.00	$0	$0.00	$0	$16,437	$16,437
59	50															
60	50	STACK - 12' DIAMETER, 316L SS, 121' SECTION, 199' TOP ELEVATION	1	EA	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$750,000	$750,000	$750,000	$750,000
61	50															
62	50	MAKE-UP WATER BOOSTER PUMP NO. 1, 115 GPM @ 130' TDH	1	EA	34.00	34	$55.47	$1,886	$5,500	$5,500	$0.00	$0	$0.00	$0	$7,386	$7,386
63	50	MOTOR, MAKE-UP WATER BOOSTER PUMP NO. 1, 15 HP @ 1800 RPM	1	EA	10.00	10	$55.47	$555	INCLUDED	$0	$0.00	$0	$0.00	$0	$554.68	$555
64	50															
65	50	MAKE-UP WATER BOOSTER PUMP NO. 2, 115 GPM @ 130' TDH	1	EA	34.00	34	$55.47	$1,886	$5,500	$5,500	$0.00	$0	$0.00	$0	$7,386	$7,386
66	50	MOTOR, MAKE-UP WATER BOOSTER PUMP NO. 2, 15 HP @ 1800 RPM	1	EA	10.00	10	$55.47	$555	INCLUDED	$0	$0.00	$0	$0.00	$0	$554.68	$555
67	50															
68	50	WASTEWATER PUMP NO. 1	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550
69	50	MOTOR, WASTEWATER PUMP NO. 1, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
70	50															
71	50	WASTEWATER PUMP NO. 2	1	EA	64.00	64	$55.47	$3,550	$20,000	$20,000	$0.00	$0	$0.00	$0	$23,550	$23,550

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATING\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY.	UNIT	W H / UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
72	50	MOTOR, WASTEWATER PUMP NO. 2, 150 HP	1	EA	38.00	38	$55.47	$2,108	INCLUDED	$0	$0.00	$0	$0.00	$0	$2,108	$2,108
73	50															
74	50															
75	50															
76	50															
77	50	FREIGHT	1	LOT	N / A	0	$55.47	$0	$141,166	$141,166	$0.00	$0	$0.00	$0	$141,166	$141,166
78	50	SHIMS AND GROUT	1	LOT	299.05	299	$55.47	$16,588	$0	$0	$37,409	$37,409	$0.00	$0	$53,997	$53,997
81	50	RIGGING AND HEAVY LIFTS	1	LOT	S / C	0	$55.47	$0	$0	$0	$0.00	$0	$400,000	$400,000	$400,000	$400,000
83																
84	50	TOTAL - MAJOR EQUIPMENT				12,261	$55.47	$680,097		$2,493,940		$37,409		$1,150,000		$4,361,447
99																
100																
101		DEMOLITION														
102																
104	51	DEMO EXISTING ID FAN, MOTOR	1	EA	250.00	250	$55.47	$13,867	$0	$0	$0.00	$0	$0.00	$0	$13,867	$13,867
105	51	DEMO EXISTING VENTURI SCRUBBER	1	EA	2,000.00	2,000	$55.47	$110,936	$0	$0	$0.00	$0	$0.00	$0	$110,936	$110,936
106	51	DEMO EXISTING VENTURI STACK AND TEST PLATFORM	1	EA	2,000.00	2,000	$55.47	$110,936	$0	$0	$0.00	$0	$0.00	$0	$110,936	$110,936
107	51	DEMO EXISTING SCRUBBER RECYCLE TANK	1	EA	120.00	120	$55.47	$6,656	$0	$0	$0.00	$0	$0.00	$0	$6,656	$6,656
108	51	DEMO EXISTING RECYCLE PUMP & MOTOR	4	EA	30.00	120	$55.47	$6,656	$0	$0	$0.00	$0	$0.00	$0	$1,664	$6,656
109	51	DEMO EXISTING DUCT - ID FANS OUTLET TO EXISTING VENTURI INLET, 1/4" DUCT, 12'-3"Ø X 100 LF, 100' IN AIR	62,732	LB	0.02	1,255	$55.47	$69,593	$0	$0	$0.00	$0	$0.00	$0	$1.11	$69,593
110	51	DEMO EXISTING MAINTENANCE BUILDING	8,130	SF	S/C	0	$55.47	$0	$0	$0	$0.00	$0	$10.00	$81,300	$10.00	$81,300
123																
124	51	TOTAL - DEMOLITION				5,745	$55.47	$318,645		$0		$0		$81,300		$399,945
136																
137																
138		SITE IMPROVEMENTS														
139																
140	53	24" STORM DRAIN LINE - EXCAVATE	241	CY	0.50	121	$49.09	$5,915	$0.00	$0	$0.00	$0	$0.00	$0	$24.54	$5,915
141	53	24" STORM DRAIN LINE - BACKFILL	144	CY	0.80	115	$49.09	$5,655	$0.00	$0	$0.00	$0	$0.00	$0	$39.27	$5,655
142	53	24" STORM DRAIN LINE - BEDDING	97	CY	0.80	78	$49.09	$3,809	$0.00	$0	$0.00	$0	$0.00	$0	$39.27	$3,809
143	53	24" STORM DRAIN LINE - PIPE, RCP	80	LF	1.50	120	$49.09	$5,891	$0.00	$0	$80.00	$4,800	$0.00	$0	$133.63	$10,691
144	53	24" STORM DRAIN LINE - MANHOLE	2	EA	50.00	100	$49.09	$4,909	$0.00	$0	$4,000	$8,000	$0.00	$0	$6,454	$12,909
145	53															
147	53	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$218,072	$218,072	$218,072	$218,072
148																
149	53	TOTAL - SITE IMPROVEMENTS				533	$49.09	$26,179		$0		$12,800		$218,072		$257,051
150																
151																
152		PILING, CAISSONS														
153																
158	54	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	0.00	0	$49.09	$0	$0	$0	$0	$0	$305,301	$305,301	$305,301	$305,301
159																
160	54	TOTAL - PILING, CAISSONS	3,053	LF		0	$0.00	$0		$0		$0		$305,301		$305,301
161																
162																
163	55	BUILDINGS														
164																
198		SPECIAL CONSTR. (SEISMIC CONTROL, PRE-ENGR BUILDINGS, ETC.)														
199																
200	55.380	MCC BUILDING - 30' X 30'	900	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$300.00	$270,000	$300.00	$270,000
201	55.380	MAINTENANCE BUILDING	8,130	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$75.00	$609,750	$75.00	$609,750
206																
207	55.380	TOTAL - SPECIAL CONSTRUCTION				0	$0.00	$0		$0		$0		$879,750		$879,750
245																
246																
247		CONCRETE														
248																
249	56	DIKE	12	CY	19.00	232	$49.09	$11,399	$0.00	$0	$323.00	$3,948	$0.00	$0	$1,256	$15,347
250	56															
253	56	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,332.73	1,333	$49.09	$65,422	$0	$0	$65,422	$65,422	$0	$0	$130,843	$130,843
254																
255	56	TOTAL - CONCRETE	130	CY	12.0	1,565	$49.09	$76,821		$0		$69,369		$0		$146,191
267																
268																
269		STRUCTURAL STEEL														
270																
294	58	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	5,138.79	5,139	$52.36	$269,085	$0	$0	$443,350	$443,350	$0	$0	$712,435	$712,435
295																
296	58	TOTAL - STRUCTURAL STEEL	147	TN	35.0	5,139	$52.36	$269,085		$0		$443,350		$0		$712,435
330																
331																

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATA\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

LINE NO	JE PRIME CODE	01 CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER DESCRIPTION	QTY	UNIT	W.H / UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
		DIRECT COST - DETAILS														
332		PIPING														
333																
334	62	4" PIPE, CARBON STEEL, SCH 40	2,640	LF	2.87	7,577	$55.47	$420,271	$0.00	$0	$20.00	$52,800	$0.00	$0	$179.19	$473,071
350	62															
354	62	FLUSHING AND CLEANING	2,640	LF	0.10	264	$55.47	$14,644	$0.00	$0	$1.00	$2,640	$0.00	$0	$6.55	$17,284
355	62	HYDRO-TESTING	2,640	LF	0.15	396	$55.47	$21,965	$0.00	$0	$1.00	$2,640	$0.00	$0	$9.32	$24,605
359	62	PIPE I. D. AND LABELING	132	EA	0.50	66	$55.47	$3,661	$0.00	$0	$25.00	$3,300	$0.00	$0	$52.73	$6,961
370	62	FREIGHT	1	LOT	N/A	0	$55.47	$0	$0.00	$0	$3,683	$3,683	$0.00	$0	$3,683	$3,683
371	62															
373	62	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	10,153.52	10,154	$55.47	$563,196	$0	$0	$563,196	$563,196	$0	$0	$1,126,393	$1,126,393
374																
375	62	TOTAL - PIPING	5,152	LF	3.00	18,456	$55.47	$1,023,737		$0		$628,259		$0		$1,651,996
376																
377																
378		INSULATION - PIPE, EQUIPMENT & DUCTWORK														
379																
380	63	INSULATE - ID FANS COMBINED DUCT OUTLET	7,350	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$50.00	$367,500	$50.00	$367,500
381	63	INSULATION - 50% CAUSTIC DAY TANK - 13' DIAMETER X 16' STRAIGHT SIDE PLUS TOP & BOTTOM	1,200	SF	S / C	0	$49.09	$0	$0.00	$0	$0.00	$0	$50.00	$60,000	$50.00	$60,000
385	63															
390	63	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	S / C	0	$49.09	$0	$0	$0	$0	$0	$130,843	$130,843	$130,843	$130,843
391																
392	63	TOTAL - INSULATION - PIPE, EQUIPMENT & DUCTWORK	1	LOT		0	$0.00	$0		$0		$0		$558,343		$558,343
393																
394																
395		INSTRUMENTATION														
396																
408	64	DRAFT SENSOR IN BOILER FURNACE	1	EA	100.00	100	$52.21	$5,221	$50,000	$50,000	$0.00	$0	$0.00	$0	$55,221	$55,221
409	64															
410	64	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,253.08	1,253	$52.21	$65,422	$130,843	$130,843	$130,843	$130,843	$0	$0	$327,109	$327,109
411																
412	64	TOTAL - INSTRUMENTATION	68	EA	20.00	1,353	$52.21	$70,643		$180,843		$130,843		$0		$382,329
413																
414																
415		ELECTRICAL														
416																
432	65	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	1,670.77	1,671	$52.21	$87,229	$218,072	$218,072	$174,458	$174,458	$0	$0	$479,759	$479,759
433																
434	65	TOTAL - ELECTRICAL	6,683	LF	0.25	1,671	$52.21	$87,229		$218,072		$174,458		$0		$479,759
435																
436																
437		PAINTING, PROTECTIVE COATINGS														
438																
443	66	*FACTORED FROM INSTALLED PROCESS EQUIPMENT COST*	1	LOT	444.24	444	$49.09	$21,807	$0	$0	$21,807	$21,807	$0	$0	$43,614	$43,614
444																
445	66	TOTAL - PAINTING, PROTECTIVE COATINGS	17,446	SF	0.03	444	$49.09	$21,807		$0		$21,807		$0	$2.50	$43,614
458																
459																
460																
461																
462																
463		TOTAL - DIRECT COST				47,167	$54.58	$2,574,243		$2,892,356		$1,518,296		$3,192,767		$10,178,163

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONSTRUCTION SUPPORT LABOR

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
75	**CONSTRUCTION SUPPORT LABOR**											
	(LABOR COST ONLY)											
	CAPITAL - CONSTRUCTION SUPPORT LABOR - ALLOWANCE @ 20 % OF DIRECT LABOR HOURS FOR BELOW LISTED ITEMS	47,167	WH	0.20	9,433	$39.35	$371,217	$0	$0	$0	$0	$371,217
	CONS EQUIP OPERATION - CRANE				0	$39.35	$0	$0	$0	$0	$0	$0
	WELDER QUALIFICATIONS				0	$39.35	$0	$0	$0	$0	$0	$0
	RAINED OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	SAFETY TRAINING				0	$39.35	$0	$0	$0	$0	$0	$0
	SCAFFOLDING (Rental Incl. W/ Constr. Eq. Rental)				0	$39.35	$0	$0	$0	$0	$0	$0
	UNLOAD AND STORE BULK MATERIAL				0	$39.35	$0	$0	$0	$0	$0	$0
	WAREHOUSEMAN				0	$39.35	$0	$0	$0	$0	$0	$0
	TOOL MAN				0	$39.35	$0	$0	$0	$0	$0	$0
83	FIRE WATCH				0	$39.35	$0	$0	$0	$0	$0	$0
	YARD CREWS				0	$39.35	$0	$0	$0	$0	$0	$0
	SPECIAL HAULING / RIGGING				0	$39.35	$0	$0	$0	$0	$0	$0
	STARTUP - CRAFTSMEN				0	$39.35	$0	$0	$0	$0	$0	$0
	CLEAN UP				0	$39.35	$0	$0	$0	$0	$0	$0
	EMPLOYMENT & RANDOM DRUG TESTS				0	$39.35	$0	$0	$0	$0	$0	$0
	MOVE IN / MOVE OUT LABOR				0	$39.35	$0	$0	$0	$0	$0	$0
	WATER / ICE				0	$39.35	$0	$0	$0	$0	$0	$0
75	**TOTAL - CONSTRUCTION SUPPORT LABOR**				9,433		$371,217		$0		$0	$371,217

CONTRACTOR'S CONSTRUCTION INDIRECT COST - PREMIUM TIME

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBI
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HEN
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION		TOTAL WEEKLY W.H.'S	TOTAL PREMIUM W.H.'S		PREMIUM COST ADDER	TOTAL COST
78	**PREMIUM & EFFICIENCY LOSS TIME CALCULATION WORKSHEET**						
	CAPITAL PREMIUM TIME COST:	BASED ON BARE WAGE RATE OF:				$25.49	
		TOTAL CRAFT HOURS:		56,601	HRS		
84	CRAFT HOURS WORKED ON 40 HR WEEK **(0 HRS PT)**	0.0%	0	0	HRS		
	CRAFT HOURS WORKED ON 50 HR WEEK **(10 HRS PT)**	100.0%	56,601	11,320	HRS	$14.16	$160,262
	CRAFT HOURS WORKED ON 60 HR WEEK **(20 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 70 HR WEEK **(30 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
	CRAFT HOURS WORKED ON 84 HR WEEK **(44 HRS PT)**	0.0%	0	0	HRS	$14.16	$0
		100.0%	56,601	11,320	HRS		
	TOTAL CAPITAL PREMIUM TIME COST						**$160,262**
78	**TOTAL**						**$160,262**

CONTRACTOR'S CONSTRUCTION INDIRECT COST - NON-PAYROLL TAX, INSURANCE AND PERMITS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
81	NON-PAYROLL TAX, INSURANCE AND PERMITS									
	SALES & USE TAX									
	7% OF EQUIPMENT	$2,892,856	EQ $	7.00%	$202,500					$202,500
	7% OF MATERIAL	$1,518,296	MAT'L $			7.00%	$106,281			$106,281
	7% ON 50% OF SUBCONTRACTS	$1,596,384	SUB $					7.00%	$111,747	$111,747
81	TOTAL NON-PAYROLL TAX, INSURANCE AND PERMITS				$202,500		$106,281		$111,747	$420,528

85

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMAT\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	CRAFT START-UP ASSISTANCE													
	CRAFT START-UP SERVICES (3 CRAFT PERSONNEL @ 50 HOURS EACH)	3	WK	150.00	450	$70.00	$31,500	$0	$0	$0	$0	$0	$0	$31,500
71	TOTAL CRAFT START-UP ASSISTANCE						$31,500		$0		$0		$0	$31,500

88

CONTRACTOR'S CONSTRUCTION INDIRECT COST - CONTRACTOR'S CONSTRUCTION FEE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
99	CONTRACTOR'S CONSTRUCTION FEE											
	LABOR (INCLUDED IN WAGE RATES)	$3,137,222	LABS	10.3%	$322,553							$322,553
	EQUIPMENT	$3,095,356	EQS			0.0%	$0					$0
	MATERIAL	$1,624,577	MATS					15.0%	$243,687			$243,687
	SUBCONTRACT	$3,700,718	SUBS							10.0%	$370,072	$370,072
99	TOTAL CONTRACTOR'S CONSTRUCTION FEE				$322,553		$0		$243,687		$370,072	$936,311

87 TOTAL CONTRACTOR'S CONSTRUCTION FEE AS A % OF TOTAL CONSTRUCTION COST - EQUIP. = 10.0%

TOTAL CONSTRUCTION COST LESS PROCESS EQUIPMENT = $9,398,828

PROJECT INDIRECT COST - CONSTRUCTION MANAGEMENT

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
88	TOTAL CONSTRUCTION MANAGEMENT												
	TOTAL - CONSTRUCTION MANAGEMENT	1	LOT		0	$0.00	$0	$0.00	$0	$845,856	$845,856	$845,856	$845,856
88	TOTAL - CONSTRUCTION MANAGEMENT				0		$0		$0		$845,856		$845,856

88

PROJECT INDIRECT COST - ENGINEERING PROFESSIONAL SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W H./ UNIT	TOTAL W.H.'s	COST/ W.H.	LABOR UNIT COST	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	UNIT COST	TOTAL ALL COSTS
90	ENGINEERING PROFESSIONAL SERVICES															
	JACOBS	1	LOT		0	$0.00	$0.00	$0	$0	$0	$0	$0	$1,862,604	$1,862,604	$1,862,604	$1,862,604
90	TOTAL ENGINEERING PROFESSIONAL SERVICES							$0		$0		$0		$1,862,604		$1,862,604

PROJECT INDIRECT COST - STUDY COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
90	STUDY COST										
	STUDY COST	1	LOT	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
90	STUDY COST			$0		$0		$0		$50,000	$50,000

06

PROJECT INDIRECT COST - OUTSIDE CONSULTANT SERVICES

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
96	OUTSIDE CONSULTANT SERVICES										
	OUTSIDE CONSULTANT SERVICES	1	LOT	$0	$0	$0	$0	$0	$100,000	$100,000	$100,000
96	TOTAL OUTSIDE CONSULTANT SERVICES			$0		$0		$0		$100,000	$100,000

91

PROJECT INDIRECT COST - OWNER'S COST

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
91	OWNER'S COST										
	OWNER'S COST	1	LOT	$0	$0	$0	$0	$0	$563,488	$563,488	$563,488
91	TOTAL OWNER'S COST			$0		$0		$0		$563,488	$563,488

92

PROJECT INDIRECT COST - SPARE PARTS

JOB: BART BOILER PROGRAM - CEDAR SPRINGS
COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07

REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
70	SPARE PARTS										
	SPARE PARTS - ALLOWANCE OF 5% OF EQUIPMENT COST	1	LOT	$0	$144,643	$144,643	$0	$0	$0	$0	$144,643
70	TOTAL SPARE PARTS			$0		$144,643		$0		$0	$144,643

93

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
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ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HE
EST. FILE #: 06226

JE PRIME CODE	DESCRIPTION	QTY.	UNIT	W.H./ UNIT	TOTAL W.H.'s	COST/ W.H.	TOTAL DIRECT LABOR	PROCESS EQUIPMENT UNIT COST	TOTAL PROCESS EQUIPMENT	MATERIAL UNIT COST	TOTAL MATERIAL	SUB CONTRACT UNIT COST	TOTAL SUB CONTRACTS	TOTAL ALL COSTS
71	NON-CRAFT START-UP ASSISTANCE													
	PROFESSIONAL SERVICES START-UP	4	WK	150.00	600	$83.25	$49,950	$0	$0	$0	$0	$0	$0	$49,950
	PROFESSIONAL SERVICES START-UP - EXPENSES	4	WK	0.00	0	$0.00	$0	$0	$0	$0	$0	$4,800	$19,200	$19,200
	VENDOR START-UP SERVICES	1	LOT		0	$0.00	$0	$0	$0	$0	$0	$50,000	$50,000	$50,000
71	TOTAL NON-CRAFT START-UP ASSISTANCE						$49,950		$0		$0		$69,200	$119,150

94

PROJECT INDIRECT COSTS - ALLOWANCE FOR UNFORESEEN

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
AFU G:\ESTIMATING\ORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$680,097	$2,493,940	$37,409	$1,150,000	$4,361,447	10.0%	10.0%	10.0%	10.0%	$68,010	$249,394	$3,741	$115,000	$436,145
98	51	DEMOLITION	$316,845	$0	$0	$81,300	$399,945	10.0%	10.0%	10.0%	10.0%	$31,864	$0	$0	$8,130	$39,994
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$26,179	$0	$12,800	$218,072	$257,051	10.0%	10.0%	10.0%	10.0%	$2,618	$0	$1,280	$21,807	$25,705
98	54	PILING, CAISSONS	$0	$0	$0	$305,301	$305,301	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$30,530	$30,530
98	55	BUILDINGS	$0	$0	$0	$879,750	$879,750	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$87,975	$87,975
98	56	CONCRETE	$76,821	$0	$69,369	$0	$146,191	10.0%	10.0%	10.0%	10.0%	$7,682	$0	$6,937	$0	$14,619
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$269,085	$0	$443,350	$0	$712,435	10.0%	10.0%	10.0%	10.0%	$26,909	$0	$44,335	$0	$71,244
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	62	PIPING	$1,023,737	$0	$628,259	$0	$1,651,996	10.0%	10.0%	10.0%	10.0%	$102,374	$0	$62,826	$0	$165,200
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$558,343	$558,343	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$55,834	$55,834
98	64	INSTRUMENTATION	$70,643	$180,843	$130,843	$0	$382,329	10.0%	10.0%	10.0%	10.0%	$7,064	$18,084	$13,084	$0	$38,233
98	65	ELECTRICAL	$87,229	$218,072	$174,458	$0	$479,759	10.0%	10.0%	10.0%	10.0%	$8,723	$21,807	$17,446	$0	$47,976
98	66	PAINTING, PROTECTIVE COATINGS	$21,807	$0	$21,807	$0	$43,614	10.0%	10.0%	10.0%	10.0%	$2,181	$0	$2,181	$0	$4,361
98	67	FURNITURE, LAB & SHOP EQUIPMENT	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
		TOTAL DIRECT COSTS	$2,574,243	$2,892,856	$1,518,295	$3,192,767	$10,178,163					$257,424	$289,286	$151,830	$319,277	$1,017,816
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$371,217	$0	$0	$0	$371,217	10.0%	10.0%	10.0%	10.0%	$37,122	$0	$0	$0	$37,122
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$160,262	$0	$0	$0	$160,262	10.0%	10.0%	10.0%	10.0%	$16,026	$0	$0	$0	$16,026
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$396,204	$396,204	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$39,620	$39,620
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	85	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$202,500	$106,281	$111,747	$420,528	10.0%	10.0%	10.0%	10.0%	$0	$20,250	$10,628	$11,175	$42,053
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	10.0%	10.0%	10.0%	10.0%	$3,150	$0	$0	$0	$3,150
98	99	CONTRACTOR'S CONSTRUCTION FEE	$322,553	$0	$243,687	$370,072	$936,311	10.0%	10.0%	10.0%	10.0%	$32,255	$0	$24,369	$37,007	$93,631
		TOTAL CONSTRUCTION INDIRECT COSTS										$88,553	$20,250	$34,997	$87,802	$231,502
		TOTAL CONSTRUCTION COSTS (TCC)	$3,459,775	$3,095,356	$1,868,284	$4,070,790	$12,494,184					$345,977	$309,536	$186,826	$407,079	$1,249,418
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$845,856	$845,856	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$84,586	$84,586
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$1,862,604	$1,862,604	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$186,260	$186,260
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	10.0%	10.0%	10.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$10,000	$10,000
98	91	OWNER'S COST	$0	$0	$0	$563,488	$563,488	10.0%	10.0%	10.0%	10.0%	$0	$0	$0	$56,349	$56,349
98	70	SPARE PARTS	$0	$144,643	$0	$0	$144,643	10.0%	10.0%	10.0%	10.0%	$0	$14,464	$0	$0	$14,464
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	10.0%	10.0%	10.0%	10.0%	$4,995	$0	$0	$6,920	$11,915
98	98	ALLOWANCE FOR UNFORESEEN	N/A													
96	98	ESCALATION	N/A													
98	99	EPC FEE	N/A													
		CAPITAL INTEREST	N/A													
		ROUND OFF	N/A													
98		TOTAL PROJECT COSTS	$3,509,725	$3,239,999	$1,868,284	$7,561,937	$16,179,925					$350,972	$324,000	$186,826	$751,194	$1,612,992

PROJECT INDIRECT COSTS - ESCALATION

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000
CONSTRUCTION DURATION: TBD
ESTIMATE TYPE: CLASS 5 (+/- 30%)
ESC G:\ESTIMATI\GEORPAC\Cedar Springs\[Cedar Springs Combination Boiler No. 2 Venturi_Spray Tower Scrubber_R1.xls]PRIME CODE TCS

ESCALATION IS BASED ON THE ASSUMPTION THAT ALL WORK WILL BE COMPLETED BY DECEMBER 31, 2006

ESTIMATE DATE: 02/13/07
REVISION NO.: 1
ESTIMATOR: MDW (REV. 1 - WSJ)
PROJECT MANAGER: LELAND HENSON
EST. FILE #: 06226

PRIME CODE	CODE	DESCRIPTION	LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST	PERCENTAGES LABOR	EQUIP.	MAT'L	S/C	DOLLARS LABOR	EQUIPMENT	MATERIAL	SUBCONT.	TOTAL COST
		DIRECT COSTS														
98	50	MAJOR EQUIPMENT	$680,097	$2,493,940	$37,409	$1,150,000	$4,361,447	0.0%	10.0%	10.0%	5.0%	$0	$249,394	$3,741	$57,500	$310,635
98	51	DEMOLITION	$318,645	$0	$0	$81,300	$399,945	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$4,065	$4,065
98	52	SITE EARTHMOVING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	53	SITE IMPROVEMENTS	$26,179	$0	$12,800	$218,072	$257,051	0.0%	10.0%	10.0%	5.0%	$0	$0	$1,280	$10,904	$12,184
98	54	PILING, CAISSONS	$0	$0	$0	$305,301	$305,301	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$15,265	$15,265
98	55	BUILDINGS	$0	$0	$0	$879,750	$879,750	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$43,988	$43,988
98	56	CONCRETE	$76,821	$0	$69,369	$0	$146,191	0.0%	10.0%	15.0%	5.0%	$0	$0	$10,405	$0	$10,405
98	57	MASONRY, REFRACTORY	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	58	STRUCTURAL STEEL	$269,085	$0	$443,350	$0	$712,435	0.0%	10.0%	15.0%	5.0%	$0	$0	$66,502	$0	$66,502
98	59	ROOFING AND SIDING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	60	FIRE PROOFING	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	61	PROCESS DUCTWORK (NON-BUILDING)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	62	PIPING	$1,023,737	$0	$628,259	$0	$1,651,996	0.0%	10.0%	15.0%	5.0%	$0	$0	$94,239	$0	$94,239
98	63	INSULATION - PIPE, EQUIPMENT & DUCTWORK	$0	$0	$0	$558,343	$558,343	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$27,917	$27,917
98	64	INSTRUMENTATION	$70,643	$180,843	$130,843	$0	$382,329	0.0%	10.0%	15.0%	5.0%	$0	$18,084	$19,627	$0	$37,711
98	65	ELECTRICAL	$87,229	$218,072	$174,488	$0	$479,759	0.0%	10.0%	15.0%	5.0%	$0	$21,807	$26,169	$0	$47,976
98	66	PAINTING, PROTECTIVE COATINGS	$21,807	$0	$21,807	$0	$43,614	0.0%	10.0%	10.0%	5.0%	$0	$0	$2,181	$0	$2,161
98	67	FURNITURE, LAB & SHOP EQUIPMENT	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
		TOTAL DIRECT COSTS	$2,574,243	$2,892,856	$1,518,296	$3,192,767	$10,178,163					$0	$289,286	$224,144	$159,638	$673,066
		CONSTRUCTION INDIRECT COSTS														
98	75	CONSTRUCTION SUPPORT LABOR	$371,217	$0	$0	$0	$371,217	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	76	TEMPORARY CONSTRUCTION FACILITIES (IN WAGE RATE	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	78	PREMIUM TIME	$160,262	$0	$0	$0	$160,262	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	79	CRAFT FRINGE BENEFITS (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98		CRAFT PER DIEM ($7 PER HOUR ON 100 % OF THE HOURS	$0	$0	$0	$396,204	$396,204	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	80	PAYROLL TAXES & INSURANCE (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$19,810	$19,810
98	83	SMALL TOOLS (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	84	CONSUMABLE SUPPLIES (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	86	CONSTRUCTION EQUIPMENT (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	87	FIELD STAFF (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	81	NON-PAYROLL TAX, INSURANCE & PERMITS	$0	$202,500	$105,281	$111,747	$420,528	0.0%	10.0%	10.0%	5.0%	$0	$20,250	$10,528	$5,587	$36,465
98	93	CONSTRUCTION HOME OFFICE COST (IN WAGE RATES)	$0	$0	$0	$0	$0	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	71	CRAFT START-UP ASSISTANCE	$31,500	$0	$0	$0	$31,500	0.0%	10.0%	10.0%	5.0%	$0	$0	$0	$0	$0
98	99	CONTRACTOR'S CONSTRUCTION FEE	$322,553	$0	$243,687	$370,072	$936,311	0.0%	10.0%	10.0%	5.0%	$0	$0	$24,369	$18,504	$42,872
		TOTAL CONSTRUCTION INDIRECT COSTS										$0	$20,250	$34,897	$43,901	$99,148
		TOTAL CONSTRUCTION COSTS (TCC)	$3,459,775	$3,095,356	$1,868,284	$4,070,790	$12,494,184					$0	$309,536	$259,140	$203,539	$772,215
98	88	CONSTRUCTION MANAGEMENT	$0	$0	$0	$845,856	$845,856	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	ENGINEERING PROFESSIONAL SERVICES	$0	$0	$0	$1,862,604	$1,862,604	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	90	STUDY COST	$0	$0	$0	$50,000	$50,000	0.0%	0.0%	0.0%	0.0%	$0	$0	$0	$0	$0
98	96	OUTSIDE CONSULTANT SERVICES	$0	$0	$0	$100,000	$100,000	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$5,000	$5,000
98	91	OWNER'S COST	$0	$0	$0	$563,488	$563,488	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$28,174	$28,174
98	70	SPARE PARTS	$0	$144,643	$0	$0	$144,643	0.0%	10.0%	0.0%	0.0%	$0	$14,464	$0	$0	$14,464
98	71	NON-CRAFT START-UP ASSISTANCE	$49,950	$0	$0	$69,200	$119,150	0.0%	0.0%	0.0%	5.0%	$0	$0	$0	$3,460	$3,460
98	98	ALLOWANCE FOR UNFORESEEN	N / A													
98	98	ESCALATION	N / A													
98	99	EPC FEE	N / A													
		CAPITAL INTEREST	N / A													
		ROUND OFF	N / A													
98		TOTAL PROJECT COSTS	$3,509,725	$3,239,999	$1,868,284	$7,561,937	$16,179,925					$0	$324,000	$259,140	$240,174	$823,314

CONSTRUCTION "ALL-IN" WAGE RATE

JOB: BART BOILER PROGRAM - CEDAR SPRINGS COMBINATION BOILER NO. 2 VENTURI / SPRAY TOWER SCRUBBER
CLIENT: GEORGIA PACIFIC
LOCATION: CEDAR SPRINGS, GA.
JOB NUMBER: 16DC9000

ITEM	CRAFT CONCRETE / MASONRY NOTES	%	COST	CRAFT STRUCTURAL STEEL NOTES	%	COST	CRAFT PIPING & MECHANICAL NOTES	%	COST	CRAFT INSTRUMENTATION NOTES	%	COST	CRAFT ELECTRICAL NOTES	%	COST	CRAFT SUPPORT (INC. OPERATORS) NOTES	%	COST
BASE JOURNEYMAN			$25.00			$25.00			$25.00			$25.00			$25.00			$24.00
COMPOSITE RATE		88.61%	$22.15		95.60%	$23.90		96.85%	$24.21		96.42%	$24.10		96.42%	$24.10		90.29%	$21.67
PAYROLL TAXES & INSURANCES:	21.59%																	
WORKMEN'S COMPENSATION		6.57%	$1.46		6.57%	$1.57		6.57%	$1.59		6.57%	$1.58		6.57%	$1.58		6.57%	$1.42
GENERAL LIABILITY		3.95%	$0.88		3.95%	$0.94		3.95%	$0.96		3.95%	$0.95		3.95%	$0.95		3.95%	$0.86
EXCESS LIABILITY		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FICA		7.65%	$1.69		7.65%	$1.83		7.65%	$1.85		7.65%	$1.84		7.65%	$1.84		7.65%	$1.66
FUI		0.80%	$0.18		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.19		0.80%	$0.17
SUI		2.62%	$0.58		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.63		2.62%	$0.57
OTHER		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
FRINGES		12.50%	$2.77		12.50%	$2.99		12.50%	$3.03		12.50%	$3.01		12.50%	$3.01		12.50%	$2.71
PREMIUM TIME		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONSTRUCTION SUPPORT LABOR		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TEMPORARY FACILITIES		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
SMALL TOOLS		7.50%	$1.66		7.50%	$1.79		7.50%	$1.82		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
CONSUMABLES		7.50%	$1.66		10.00%	$2.39		10.00%	$2.42		7.50%	$1.81		7.50%	$1.81		7.50%	$1.63
FIELD STAFF		25.00%	$5.54		25.00%	$5.98		35.00%	$8.47		35.00%	$8.44		35.00%	$8.44		25.00%	$5.42
EQUIPMENT RENTAL		40.00%	$8.86		35.00%	$8.37		35.00%	$8.47		25.00%	$6.03		25.00%	$6.03		0.00%	$0.00
CONSTRUCTION HOME OFFICE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
PER DIEM		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
CONTRACTOR FEE (ON TCS SHEET)		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00		0.00%	$0.00
TOTAL WAGE RATE WITH FEE		221.59%	$49.09		219.09%	$52.36		229.09%	$55.47		216.59%	$52.21		216.59%	$52.21		181.59%	$39.35