## **APPLICATION INFORMATION**

RECEIVED

DEC 03 2012

### **Professional Engineer Certification**

DIVISION OF AIR PAGEMENT

<del></del>	Professional Engine Name (Control of Market)					
1.	Professional Engineer Name: Kennard F. Kosky					
	Registration Number: 14996					
2.	Professional Engineer Mailing Address Organization/Firm: Golder Associates Inc.**					
	Street Address: 6026 NW 1st Place					
	City: Gainesville State: FL Zip Code: 32607					
3.	Professional Engineer Telephone Numbers					
	Telephone: (352)336-5600 ext.21156 Fax: (352)336-6603					
	Professional Engineer E-mail Address:Ken_Kosky@golder.com					
5.	Professional Engineer Statement:					
	I, the undersigned, hereby certify, except as particularly noted herein*, that:					
	(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and					
	(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.					
	(3) If the purpose of this application is to obtain a Title $V$ air operation permit (check here $\boxtimes$ , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.					
	(4) If the purpose of this application is to obtain an air construction permit (check here $\boxtimes$ , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here $\square$ , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.					
	(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.					
	Janie 1 /21/12					
	Signature					
	(seal) 14990					
* A	ttach any exception to certification statement.					
	Board of Professional Engineers Certificate of Authorization #00001670.					
DE	P Form No. 62-210.900(41) Form  Y\Projects\2012\123-87674 SRB MI AC\AC\Final\Forms\SR-FI.do.					

## **EMISSIONS UNIT INFORMATION**

Section [1] Wood Shop/UV Wood Coating and Curing

## C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

## **Emission Point Description and Type**

1.	Identification of Point on Flow Diagram: See Attac		2. Emission Point 7	Гуре Code:			
	Descriptions of Emission						
	4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, and 17						
5.	Discharge Type Code: V	6. Stack Height 38 feet	:	7. Exit Diameter: 1.83 feet			
8.	Exit Temperature: °F	9. Actual Volur 50,000 acfm	netric Flow Rate:	10. Water Vapor: %			
11.	Maximum Dry Standard F dscfm	low Rate:	12. Nonstack Emission Point Height: feet				
	Emission Point UTM Coo Zone: East (km): North (km)		14. Emission Point I Latitude (DD/M Longitude (DD/I	, and the second			
	15. Emission Point Comment: There are 14 stacks associated with the proposed project (one for the boiler, one for the PM/PM <sub>10</sub> dust collector, and 12 for the UV Coating Line). See Attachment SR-EU1-C15 for a summary of stack parameters for this project.						
	Stack parameters represer	et dust collector st	ack No. 16.				
			_				

# POLLUTANT DETAIL INFORMATION Page [2] of [3] PM/PM10

# F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATIÓN – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

Pollutant Emitted:     PM/PM10	2. Total Percent Efficiency of Control:								
3. Potential Emissions: 4.1 lb/hour 18.0	4. Synthetically Limited? ☐ Yes ☑ No								
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year									
6. Emission Factor: 0.01 grains/dscf (based on		1)	7. Emissions Method Code:						
Reference: Manufacturer's Information			5						
8.a. Baseline Actual Emissions (if required):	8.b. Baseline	24-month	Period:						
tons/year	From:	T	o:						
9.a. Projected Actual Emissions (if required):	9.b. Projected	Monitorii	ng Period:						
tons/year	☐ 5 yea		) years						
10. Calculation of Emissions:  Manufacturer's Information – 99.9% collection efficiency,* 16 oz Dacron felt  Estimation of Dry Standard Exhaust Flow from 50,000 acfm @ 90°F:  Flow (dscfm) = 50,000 acfm x (460° + 68°)R/ (460° + 90°)R = 48,000 scfm									
Hourly: $48,000 \text{ scfm x } 60 \text{ min/hr x } 0.01 \text{ gr/ds}$ X 1 lb/7,000 gr = 4.1 lb/hr	cf								
Annual: 4.1 lb/hr x 8,760 hr/yr x 1 ton/2,000 l	b = 18.0 TPY								
*Supported by EPA, 1998. Air Pollution Control, Chapter 1 Baghouses and Filters									
11. Potential, Fugitive, and Actual Emissions Comment: Includes PM/PM <sub>10</sub> emissions for the dust collector controlling emissions from the Wood Shop, only.									

ATTACHMENT SR-EU1-C15
STACK PARAMETERS

ATTACHMENT SR-EU1-C15
SUMMARY OF STACK PARAMETERS

Stack Identifier	Stack Description	Stack Height Above Grade (ft)	Stack Diameter or Vent Dimensions (ft)	Stack Exhaust Flow (acfm)	Stack Exhaust Temperature (deg. F)	Stack Orientation
3	Roll Coat Application Brushes	38	0.83	10,000	90	Vertical
4	Roll Coat UV Cure No. 1	38	0.67	3,000	150	Vertical
5	Roll Coat UV Cure No. 2	38	0.67	3,000	150	Vertical
6	Roll Coat UV Cure No. 3	38	0.67	3,000	150	Vertical
7	Roll Coat UV Cure No. 4	38	0.67	3,000	150	Vertical
9	Automatic Spray booth	38	2.00	7,500	90	Vertical
10	Stacking Oven	38	0.83	7,500	90	Vertical
11	Laminar Air Oven	38	0.83	7,500	90	Vertical
12	Spray Cure UV No. 1	38	0.67	3,000	150	Vertical
13	Spray Cure UV No. 2	38	0.67	3,000	150	Vertical
14	Spray Cure UV No. 3	38	0.67	3,000	150	Vertical
15	Manual Spray Booth	38	3.50	30,000	90	Vertical
16	Dust Collection	38	1.83	50,000	90	Vertical
17	Boiler	38	1.17	700	500	Vertical



# ATTACHMENT SR-EU1-I3 DETAILED DESCRIPTION OF CONTROL EQUIPMENT



## **Proposal For:**

# JEA RAY BOATJ - CANAVERAL

Merritt Island, FL.,

50,000 CFM Dust Collection System &
Finishing Line Exhaust System

Attn: Steven Tilley

10-20-06



Since 1958

# SOUTHERN PNEUMATICS

Div. of Joe Hill Co., Inc.

PO Box 6333 / Knoxville, Tennessee 37914 / Tel. (865) 525-1690 / Fax (865) 525-0090 www.southernpneumatics.com

Sea Ray Boats 59C Excellence Way Vonore, TN 37885 October 20, 2006 Quote#I-2006-JH ATTN: Steven Tilley 423-884-3711 ext. 107

Subject: Pneumatic Conveying System

Dear Steven.

We are pleased to submit our proposal for consideration to manufacture and install components for the transfer of dust from (9) woodworking machines and future CNC with 8,543 CFM of future air to outside dust collection.

The system is sized for 50,000 CFM.

Material will be transferred through tapered trunk line to Ligna-Con baghouse with duct being discharged down through wide mouth discharge rotary air lock with 4' clearance to ground.

A small relay fan will close loop dust into single roll off dumpster.

Blower will be on clean side of dust collector discharging into no loss stack.

The layout will be generally as depicted on our drawing No. I-1306-JH

#### ITEMS PROVIDED BY JOE HILL CO., INC.

- 1. (1) Ligna-Con Filter, Model 14.5-500-12 FEATURING:
  - 7,250 sq. ft. of media with an air to media ratio of 6.9:1 @ 50,000CFM. Full welded carbon steel construction. Gear driven rotating surge tank, diaphragm valve, and distribution arm, with a 1 HP explosion proof (NEMA) motor, pneumatically controlled indexing sensor and firing mechanism which activates the diaphragm valves mounted inside the clean air plenum. Service door, 60" tall x 32" wide for access to the walk-in plenum. Explosion vents to provide 65:1 vent ratio.
  - Can Velocity 303 ft/min.
  - Reverse air blower package 25HP
  - Filter stressed for 20" W.C.
  - Tangential Inlet
  - 60 deg. Conical hopper with a 24" dia. flanged discharge

- 24" dia. transition assembly, including a 20" dia. bolted inspection opening, 8" dia. hinged quick open view port.
- Service platform with guard rail, ladder and safety cage
- Intermediate Service Platform (required if distance to tubesheet exceeds 30 ft.)
- Differential pressure Magnehelic gauge kit
- Mounted High level indicator.
- Sprinkler tap kit, with heat sensitive type heads plumbed to the sidewall of filter.
- (500)4.6" dia. x 144" long 16 oz. Dacron Polyester snap band type bags
- (500)4.6" dia. x 144" long galvanized bag cages
- Structural steel support structure to provide 48" clearance below airlock discharge
- 2. (1) Fabricated Rotary Airlock, Model 14
  FEATURING: (NOTE: Maximum Operating Limitations = 220 deg. F, 20" W.C.)
  - Fabricated non-machined, carbon steel housing.
  - Fabricated carbon steel end plates with 4-bolt flanged bearings
  - 8-vane, carbon steel rotor with graphite impregnated urethane wiper blades
  - Drive Dodge Quantis No.HB48-26.53
    - 2HP, 230/460/3/60, TEFC
    - Final drive is 30 RPM
- 3. (1) Twin City Blower 445 class 22 backward inclined. Fan complete with:
  - \* 200-HP, 1750 rpm, 230/460v, TEFC motor (meets EPACT Energy Efficiency Requirements)
  - \* V-belt drive with guard
- 4. (1) Lot of concrete embeds for supports, for installation by customer's contractor. (JHC will provide layout only)
- 5. (1) Lot of pipe, elbows, breechings, hangers and miscellaneous fittings to complete the Installation for Dust Collection.
- 6. (1) Lot duct work for (7) exhaust stacks for Roll Coat Line
- 7. (1) Lot duct work for (6) exhaust stacks for Spray Line
- 8. (1) Lot duct work to Cefla Hepa Filter from (6) pick up points.
- 9. Foundation location drawings
- 10. Miscellaneous equipment and tools, such as welding machines, cutting torches, etc.
- 11. Freight on JHC provided material

NOTE: JHC ships extra materials such as pipe and elbows in case of changes on the job. All Materials not used are the property of JHC and we reserve the right to have them Shipped to our factory

#### **INSTALLATION**

JHC (Seller), can quote to install the above items for Sea Ray Boats (Buyer), using mechanics well experienced on this class of work, thus insuring First Class Workmanship throughout. In the event Seller is prevented from making the installation with its own personnel because of labor dispute by others, and it becomes necessary to bring in outside parties at extra costs and expense to complete the installation, Buyer agrees to pay all extra costs and expense incidental hereto.

Installation to be on foundation provided by Buyer. Modification to existing foundation if required will be by Buyer.

Seller shall not be liable hereunder for any acts beyond Seller's control, such as, an act of God, war, act of government, act of Buyer, priorities or allocations, fire, flood, strike or labor trouble, sabotage, delay in obtaining labor, materials, equipment or transportation.

The Seller agrees to carry public liability insurance for the duration of the contract, protecting the Seller against liability imposed by law for bodily injury to persons other than Seller's employees and property damage.

#### **PIPING/SYSTEM SPECIFICATIONS:**

#### **DIAMETER OF STRAIGHT DUCT:**

#### U.S. STD. GUAGE FOR STEEL DUCT:

up to 6"	24 ga.	Galv.
over 6" to 12"	22 "	"
over 12" to 17"	20 "	44
over 17" to 20"	18 "	
over 20" to 30"	16 "	"
over 30" to 40"	14 "	"
over 40"	12 "	"

All ductwork, unless otherwise stated, is to be fabricated from galvanized steel to the following minimum gauge specifications:

All breechings shall have a 30-degree entry angle where possible.

All duct, elbows and fittings shall be free of obstructions on the interior.

All ductwork inside and outside of the building shall be supported as required by installer.

All structural steel shall be primed and painted. All welds shall be painted.

All elbows shall have a minimum centerline radius of 2.0 times the normal duct diameter, unless a shorter radius is required to meet special circumstances.

All pipe, elbows and fittings will have angle ring flanged connections. Hood connections shall be with flexible tubing to provide easy access. May not apply on special hooding or chutes. Flex not quoted, will furnish for cost + 10%.

#### **MACHINES TO BE PIPED:**

1) Grinder

1) Panel Board Cleaner

1) CNC Router

1) Denibber

2) Sanders

1) CNC Router Future

1) Edge Bander

1) 8,543CFM Future

1) Edge Roll

1) Edge Banding/Trim

#### ITEMS PROVIDED BY THE CUSTOMER

- 1. Concrete pads
- 2. All electrical installations
- 3. Plumbing for filter sprinklers.
- 4. Curbs for Exhaust stacks.
- 5. 110 volt power supply for field crew.
- 6. Movement of any existing mechanical lines such as air, water, steam or electrical.
- 7. Secure and all permits necessary for this installation, including air pollution permits.
- 8. All pick-up hoods on machines.
- 9. Occasional use of forklift.
- 10. Any building modifications or alterations required.
- 11. Joe Hill Co. Inc to be listed under local General Contractor
- 12. A stable work area around the equipment able to support heavy cranes, lifts and materials. In addition, a stable access road suitable for flatbed tractor-trailers and cranes is required. A clean lay down area is needed to store and stage materials.

#### **SHIPMENT**

Shipment of equipment can begin in approximately 5 to 6 weeks from receipt of signed contract or purchase order and down payment. Installation should take 5 weeks depending on the availability of the work area and JHC field crews. If buyer has a specific time frame in which work is to be done or complete, a review at time of award or contract, schedule can be reviewed and adjusted accordingly based upon Seller's work force or crew availability at that time. Seller will use its best efforts to meet the estimated shipping dates, but it shall not be held responsible for its failure to do so. Seller shall be subjected to no penalty or liability and shall in no event be held responsible for loss or profits, or damages incurred by Buyer, its customers or other consequential damages resulting from Seller's failure to deliver within time specified.

**Note:** Shipping dates are approximate and based upon current schedules and conditions.

#### **LIMITED WARRANTY**

Limited Express warranty: Seller warrants that the Goods will conform to the specifications described or referenced on Seller's Proposal and will be free from any defects in design (if designed by Seller), materials or workmanship (if fabricated by Seller) or installation (if installed by Seller). Should any failure to conform with Seller's warranty appear within one year after the date of completion of installation or initiation of use, whichever first occurs, Seller shall, upon receipt of written notification made within ten (10) days after discovery of such failure or defect, correct such non-conformities at its own expense. Said notification shall be sent via certified mail, return receipt requested, to Seller's business address. In making such corrections, Seller shall have the option of either repairing or replacing the defective Goods. Compliance with the aforestated warranty shall constitute fulfillment of all liabilities and obligations of Seller to Buyer with respect to the Goods whether based on statute, law, contract, negligence, strict liability in tort, or otherwise. The sole purpose of this exclusive remedy shall be to provide Buyer with free replacement and/or repair of defective Goods in the manner provided herein. This sole and exclusive remedy shall not be deemed to failure of its essential account so long as Seller is willing and able to correct non-conformities in the prescribed manner.

With respect to Goods installed by Seller that it did not design or fabricate, Seller warrants only title. Any other warranties are those of the designed or fabricator, not Seller. In such case, any express and implied warranties made by designed and fabricator are assigned and transferred to Buyer.

<u>Disclaimer of Warranties</u>: Other than the warranties set froth above, Seller hereby expressly disclaims all warranties, either express or implied, including and implied warranty or merchantability or fitness for a particular purpose, and Seller neither assumes nor authorizes any other person to assume fir it any liability in connection with the sale of said goods. Any suit for breach of warranty arising out of this transaction must be commenced within one (1) year after the date of completion of installation or initiation of use, whichever first occurs. Seller shall not be responsible for any incidental consequential damages or other damages arising hereunder. Including, but not limited to: loss of profits, loss of use of the goods or any associated product, cost of capital, cost of substitute products, facilities or services, downtime costs, or claims of customers of buyer for such damage.

Seller shall not, under any circumstances, be liable for any labor charges pertaining to warranty or repairs, or any replacement part costs, without its prior written consent.

#### TITLE AND INSURANCE

Buyer grants Seller a security interest in the Goods including, but not limited to, accessories, attachments, and appurtenances now or hereafter attached thereto or used in connection therewith and all proceeds thereof, regardless of mode of attachment to reality or other property. Seller retains said security interest and title to, ownership of, and the right to possess such Goods until the entire purchase price has been paid in full and all covenants and agreements contained herein have been performed. Buyer agrees to do such acts and things as Seller may request to establish or maintain said security interest in the Goods which valid and superior to all liens and claims whatsoever including Without limitation, execution of U.C.C. financing statements. Upon delivery (F.O.B. point) of any of the Goods, a;, risk of loss or damage shall pass to Buyer and Buyer shall procure and maintain for the benefit of Seller and Buyer, as their interests may appear, insurance on the Goods against such risks and causalities, in such amounts, and written by such companies as required by the Seller. If Buyer fails to pay any premium on such insurance, Seller may do so for Buyer's account and the amount thereof shall be added to the debt secured hereby. Buyer hereby assigns to Seller any monies which may become payable under the policy of insurance including the return of unearned premium applied and directs any insurer to make payment directly to Seller as Buyer's duly appointed agent and attorney in fact, to be applied against the indebtedness described in this agreement, whether or not due.

#### **TERMS**

Subject to credit approval, the terms of payment are:

30% down-payment with order, Progressive payments, Balance on Completion.

The contract shall not become binding until accepted and approved by JHC at their place of business in Knoxville, Tennessee. Acceptance of the order shall be conditioned on the approval of the Credit Department of the Seller. It shall be deemed to have been executed and consummated in the State of Tennessee and shall be governed and construed in accordance with the laws of the State of Tennessee,

Any proposed changes or alterations to this contract must be in writing and accepted by Seller. Buyer agrees that Seller shall be entitled to additional charges, at its regular rates, for any extra work request, changes or alterations to the contract approved by JHC.

If Buyer refuses to accept delivery of the Goods, Seller shall be entitled to retain full amount of the deposit tendered by Buyer, as liquidated damages, it being recognized by the parties that this is a reasonable amount in light of the anticipated harm caused by such a breach, the difficulties involved in ascertaining the amount of actual damages, and the inconvenience in obtaining an adequate remedy. In the event that Buyer defaults in the payment of any installment due hereunder or in the performance of any condition or agreement contained in this agreement, or if the Goods should be removed, resold or abandoned without the written consent of Seller; or if there should be loss, theft, substantial damage or destruction to or of the Goods, then in any such event, the remaining unpaid contract balance shall, at the option of Seller or its assigns, without demand or notice of any kind, become immediately due and payable, or Seller or its assigns shall have the right to enter upon the premises where the Goods are located and to take immediate and exclusive possession of the Goods without hindrance. In addition, upon default, Seller or its assigns shall have and may exercise any or all of the rights and remedies afforded to a secured party by the Uniform Commercial Code as in effect in the applicable jurisdiction. Buyer shall pay all costs and expenses incurred by Seller in collecting the contract balance and

enforcing its right hereunder, including reasonable attorney's fees and legal expenses. No failure or delay on the part of Seller in exercising any of its rights and remedies hereunder or otherwise shall constitute a waiver thereof.

#### **SELLING PRICE**

F.O.B. Merritt Island, FL \$286,866.00 Prices quoted are firm for a period of ten (10) days from date of this proposal.

#### Optional:

1) Motor Control Center	\$	15,500.00
2) Spark detection & Suppression System	\$	8,240.00
3) Return Air	. \$	26,780.00

#### **TAXES**

This proposal does not include any federal, state, or local sales, use or other excise taxes or duty of any nature that may apply. Any taxes that the Seller is required to collect will be invoiced to the Buyer (unless acceptable Exemption Certificate is furnished).

There are no agreements, conditions or understandings outside this contract, and, when duly executed and accepted by both parties, shall constitute the entire agreement between parties.

Buyer may use original copy as purchase order subject to acceptance by Seller at home office.

Submitted by

Purchaser

By

Accepted by Joe Hill Co., Inc

Date



## Twin City Fan & Blower

A Twin City Fan Company

5959 Trenton Lane · Minneapolis, MN 55442-3238 Phone (763) 551-7600 · Fax (763) 551-7601 · www.tcf.com



Customer:

Southern Pneumatics

Job Name: Job ID:

Sea Ray

October 17, 2006

Page: 1

Fan Description
Tag Sea Ray
Type BCS
Size 445
Width SWSI
Class
Wheel diameter (in.)
Drive method 60 Hz belt drive
Percentage width 100%
Percentage diameter 100%

Fan Performance
CFM 50,000
Operating SP (in.wg)
Standard SP (in.wg) 16
RPM
Tip Speed (fpm)
Oper. BHP
Standard BHP
Outlet area (sq. ft)
Outlet Velocity (fpm) 4,390
Temperature (°F)
Altitude (ft)
Density (lb/ft³) 0.075
Max RPM for Class
Static Efficiency 78.95
Mechanical Efficiency

Modifiers

Compressibility

Sound

Sound Power Levels in dB re. 10 -12 Watts:

Octave Bands	1	2	3	4	5	6	7	8	LwA
Level at Inlet	114	108	107	106	106	104	98	92	110

Estimated sound pressure level in dBA (re: 0.0002 microbar) based on a single\* ducted installation:

Distance in ft	1	3	5
dBA at Inlet	110	100	96

\*To estimate dBA level for ducted inlet and ducted outlet (into and out of the room) type installation, deduct 20 from the LWA value shown.

Using a directivity factor of 1.

Estimated Sound Pressure based on free field, spherical (Q = 1) radiation at the stated distance.

Definitions:

dBA

LwA The overall (single value) fan sound power level, 'A' weighted.

The environment for each fan installation influences its measured sound value, therefore dBA levels cannot be guaranteed. Consult AMCA Publication 303 for further details.

A fan's dBA is influenced by nearby reflective surfaces.







