

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

November 6, 2003

CERTIFIED MAIL

Mr. William A. Raiola, V.P. of Sugar Processing Operations
United States Sugar Corporation, Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Unites States Sugar Corporation, Clewiston Sugar Mill and Refinery
Boiler 4, Modified Fuel Oil System
Air Permit No. 0510003-018-AC

Dear Mr. Raiola:

On November 3, 2003, the Department received a letter from Golder Associates Inc. requesting approval for the addition of an 80,000 acfm auxiliary fan to provide sufficient combustion air for the modified fuel oil firing system being added to Boiler 4. On November 5, 2003, the Department received by fax a copy of the manufacturer's specification sheets for the proposed fan. The addition of this fan will allow the system to achieve the target steam production of 225,000 lb/hour when firing oil. This will not affect the maximum emission rates, which the Department relied upon in issuing the permit. Although not specifically proposed in the original project, the Department agrees that the addition of this fan is within the scope of work authorized by Air Permit No. 0510003-018-AC. Therefore, the Department does not believe it is necessary to modify the permit to perform this work. If you have any questions regarding this matter, please contact Jeff Koerner at 850/921-9536.

Sincerely,

Trina Vielhauer, Chief
Bureau of Air Regulation

cc: Mr. Don Griffin, U.S. Sugar Corp.
Mr. Peter Briggs, U.S. Sugar Corp.
Mr. David Buff, Golder Associates Inc.
Mr. Ron Blackburn, SD Office

"More Protection, Less Process"

Printed on recycled paper.

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

October 25, 2003

RECEIVED



**Golder
Associates**

NOV 03 2003

0337546

Florida Department of Environmental Protection BUREAU OF AIR REGULATION
Department of Air Resources Management
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

Attention: Mr. Jeffery Koerner, P. E.

RE: UNITED STATES SUGAR CORPORATION (U.S. SUGAR) – CLEWISTON MILL
BOILER NO. 4 FUEL OIL BURNING INCREASE
AIR PERMIT NO. 0510003-018-AC

Dear Mr. Koerner:

U. S. Sugar was granted an air construction permit No. 0510003-018-AC on June 6, 2003, for the upgrading of the fuel oil burning system on Boiler No. 4 at the Clewiston Mill. The permit authorized the installation of two multi-stage fuel oil burners each with a flame scanner, fuel/steam valve train, oil gun with ignitor and flame proving rod, windbox, pump set, and a burner management system.

U. S. Sugar has installed the authorized equipment and has entered the shakedown period for the equipment. Based on oil-firing performance tests, the maximum desired steam rate when firing fuel oil only (225,200 lb/hr steam) could not be achieved. Through further investigation, it was determined that insufficient combustion air was being provided at the two burner windboxes to support the maximum firing rate. As installed, the two windboxes do not have air fans. Combustion air is pulled in through the windboxes based on the negative pressure in the boiler created by the ID fan.

In order to correct this problem, an air fan must be installed to provide combustion air to the windboxes. The manufacturer has proposed a single auxiliary fan of approximately 80,000 cfm capacity (i.e., 40,000 cfm per windbox at maximum capacity). During operations, the fan speed will be adjusted appropriately to provide the correct amount of combustion air, based on load and oil firing rate.

This change will not affect any of the other specifications provided in the construction permit application for this project. The proposed maximum fuel oil firing rate and heat input rate will not be affected. Further, the estimated emissions for the fuel oil burning project will not be affected.

We request that the Department approve the request to add the auxiliary fan and appurtenances, in order to achieve the design steaming rate for fuel oil firing in Boiler No. 4. Please call or e-mail me if you have any questions concerning this request.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

David A. Buff, P.E., Q.E.P.
Principal Engineer
Florida P. E. # 19011

DB/jkw
Enclosure

cc: Don Griffin
Ron Blackburn, DEP

Y:\Projects\2003\0337546 US Sugar Blr 7414.1\1103103.doc

Golder Associates Fax

To: Jeffery Koerner, P. E.

Fax Number: 850-921-9533

Company: FDEP, Tallahassee

Date: November 5, 2003

From: David Buff

e-mail: @golder.com

Our ref: 003-7653-0100

Voice Mail:

RE: Twin City Fan & Blower

Total pages (including cover): 5

Hard copy to follow

MESSAGE



6241 NW 23rd St., Suite 500
Gainesville, FL 32653
U.S.A.
Telephone: (352) 336-5600
Fax: (352) 336-6603

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Twin City Fan & Blower

A Twin City Fan Company

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



Customer: United States Sugar Corp.
 Job Name: US Sugar Unit 4 Fan
 Job ID: US Sugar Unit 4

October 20, 2003
 Page: 1

Fan Description	Fan Performance	Motor Data
Tag Unit # 4 Fan	CFM 81,250	HP 200
Quantity 1	Operating SP (in.wg) 6	RPM 1200
Type BCS	Standard SP (in.wg) 6.34	Voltage 480V
Size 542	RPM 1184	Phase 3
Width SWSI	Tip Speed (fpm) 16,816	Hz 60
Arrangement 8	Oper. BHP 144.48	Enclosure TEFC
Class 17	Standard BHP 152.64	Efficiency Prm.Eff.
Rotation W/A	Outlet area (sq. ft) 16.4	Frame 449T
Discharge W/A	Outlet Velocity (fpm) 4,953	
Wheel diameter (in.) 54.25	Temperature (°F) 100	
Drive method . 60 Hz direct drive	Altitude (ft) 0	
Percentage width 91%	Density (lb/ft³) 0.071	
Percentage diameter 100%	Max RPM for Class 1335	
	Static Efficiency 53.04	
	Mechanical Efficiency 65.84	

Modifiers

Compressibility, % width: 91%, Nested Vane

Sound

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

Octave Bands	1	2	3	4	5	6	7	8	LWA
Level at Inlet	110	106	107	106	105	103	96	88	109

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	109	99	95

*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:

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

dBA 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.

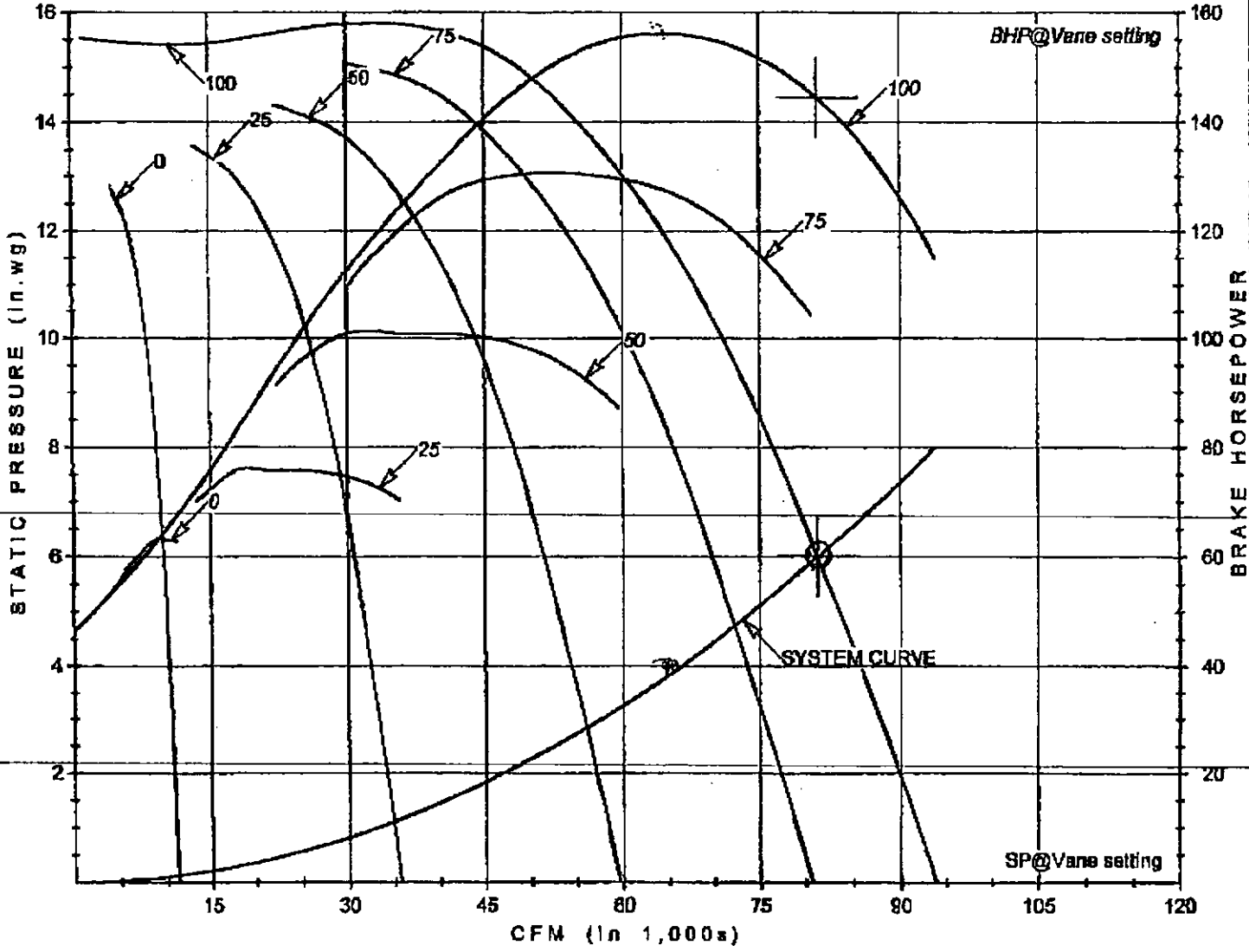


Customer: United States Sugar Corp.
 Job ID: US Sugar Unit 4
 Represented By: Derek Embody & Company (813) 960-2270

Fan Tag: Unit # 4 Fan
 Model: 542 BCS

CFM: 81,250
 SP: 8 in.wg
 RPM: 1184
 BHP: 144.46
 Outlet Velocity: 4.953
 Density: 0.071

TWIN CITY FAN AND BLOWER PERFORMANCE CURVE



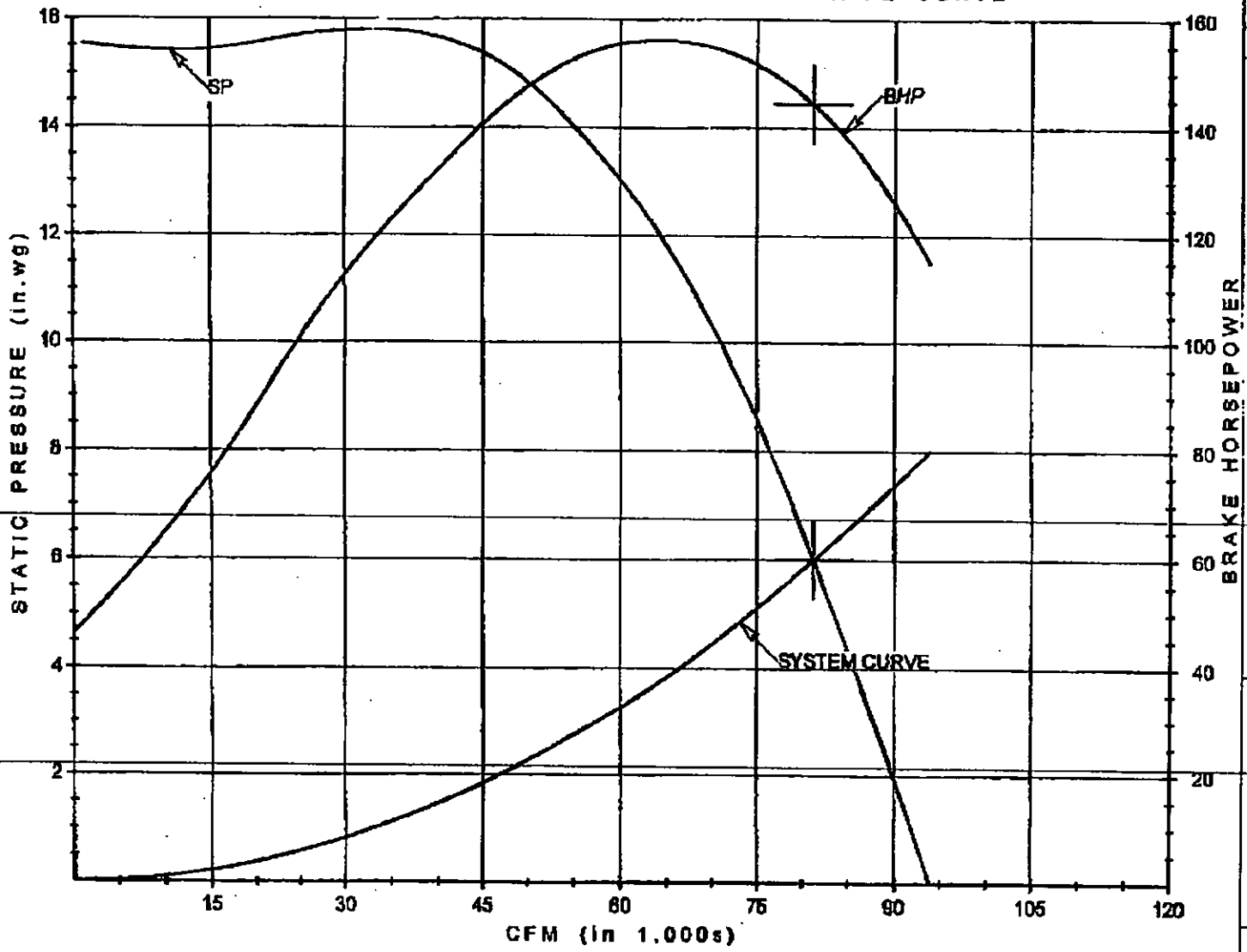
Corrected for:
 Compressibility
 % width: 91%
 Nested Vane
 Temperature 100°F

10/20/03 17:20



Customer: United States Sugar Corp.	Fan Tag: Unit # 4 Fan	CFM: 81,250
Job ID: US Sugar Unit 4	Model: 542 BCS	SP: 8 in.wg
Represented By: Derek Embody & Company (813) 980-2270		RPM: 1184
		BHP: 144.46
		Outlet Velocity: 4,953
		Density: 0.071

TWIN CITY FAN AND BLOWER PERFORMANCE CURVE



Corrected for:
Compressibility
% width: 91%
Nasted Vane
Temperature 100°F

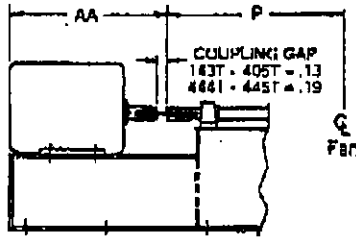
Inlet Sound Power	
Octave	Level
1	110
2	106
3	107
4	106
5	105
6	103
7	96
8	88

in db re 10⁻¹² watts

10/20/03 17:20

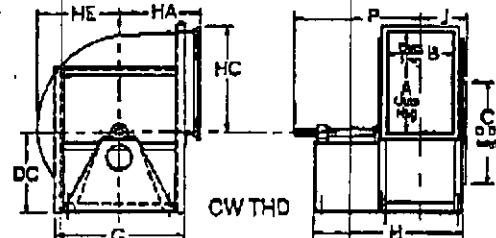
Dimensional Data

Type BCS

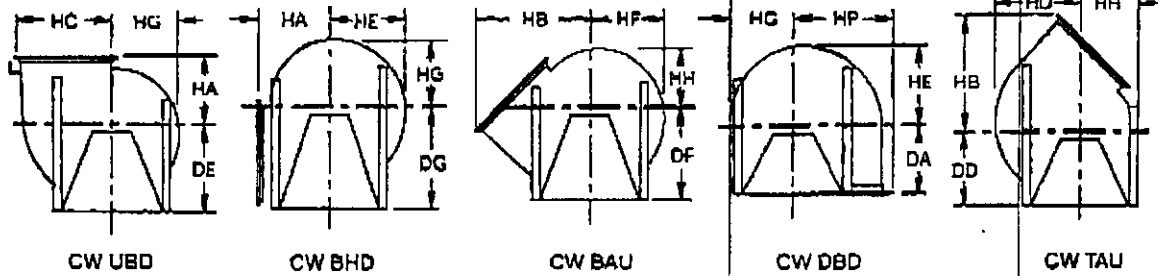


FRAME NPL	AA	
	ODF	ICPD
143T-145T	14.50	14.50
182T-184T	14.75	16.38
215T-215T	17.38	20.38
264T-266T	22.63	25.88
284T-288T	25.50	29.00
324T-326T	28.63	32.13
364T-366T	29.88	34.50
404T-405T	34.38	41.38
444T-445T	40.18	49.79

ARRANGEMENT 8 PEDESTAL



ARRANGEMENT 1



SIZE	A	B	C	DA	DC	DD	DF	DI	DE	GC	HA
270	28.88	21.58	28.80	21.44	22.00	23.50	24.75	26.25	21.50	38.00	21.44
300	32.00	23.94	31.83	23.81	24.80	26.00	27.50	28.50	24.75	42.00	23.81
330	35.44	26.31	34.75	26.28	27.00	28.50	30.00	32.25	27.75	45.00	26.25
360	39.00	28.12	38.50	29.00	29.50	31.50	33.50	35.50	31.50	48.00	29.00
402	42.94	30.08	42.44	32.00	33.00	35.25	37.00	39.50	35.00	52.50	32.00
445	47.44	32.44	46.88	35.38	35.50	38.60	40.00	43.25	38.50	57.50	35.38
490	52.25	34.88	51.69	38.00	39.00	42.25	44.00	47.50	41.75	62.50	38.00
542	57.69	37.13	57.13	43.08	43.50	46.50	48.00	52.25	45.25	68.00	43.08
600	63.81	39.58	63.13	47.89	48.00	51.25	54.00	57.50	48.25	74.00	47.89
660	70.00	42.44	69.38	52.44	52.50	55.75	60.00	63.00	51.75	81.00	52.44
730	77.50	45.81	76.75	58.00	57.00	61.75	64.50	69.50	55.25	89.00	58.00
807	85.99	49.88	84.88	64.19	63.00	67.50	72.00	76.50	60.50	98.50	64.19
890	94.38	54.25	93.38	70.00	69.25	73.75	78.25	85.00	67.25	107.50	70.00

SIZE	HU	HC	DU	HF	HP	HG	HD	HE	HC	HP	HA
270	38.89	30.89	24.81	23.31	21.94	20.56	19.19	31.69	14.81	40.06	37.31
300	40.75	33.81	27.50	25.81	24.31	22.81	21.31	33.81	17.00	44.75	40.50
330	44.88	37.18	30.25	28.50	26.81	25.13	23.41	37.19	18.19	48.44	43.89
360	49.31	40.75	33.89	31.83	29.75	27.88	26.00	40.75	19.56	51.56	47.56
402	54.23	44.69	37.13	34.81	32.75	30.69	28.63	44.69	22.06	56.06	51.56
445	59.81	48.19	41.06	38.28	36.13	33.88	31.83	48.19	24.76	61.75	57.25
490	65.75	52.00	45.00	42.31	39.81	37.31	34.61	52.00	26.44	66.44	62.88
542	72.81	56.84	49.84	46.81	44.08	41.31	38.56	56.84	28.56	72.56	69.08
600	80.44	61.81	55.13	51.81	48.75	46.89	42.83	61.81	30.81	78.81	75.81
660	88.19	67.25	60.56	56.84	53.50	50.06	46.83	67.25	33.25	85.25	82.50
730	97.38	73.75	67.08	63.00	59.25	56.50	51.75	73.75	35.84	92.44	89.81
807	107.56	80.84	74.19	69.83	65.90	61.38	57.25	80.84	38.84	99.44	97.44
890	117.81	88.63	81.89	76.75	72.18	67.88	63.06	88.63	42.13	107.13	105.88

NOTES:

1. CW rotation shown, CCW rotation similar but opposite.
2. Punched outlet flange is standard on all sizes.
3. Maximum dimensions are shown.
4. Dimensions are not to be used for construction. Certified drawings available upon request.
5. Please use the Twin City Fan Selector Program or contact your Twin City Fan & Blower sales representative for standard drawings for fans in Arrangement 1 and Arrangement 9F.

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<p>1. Article Addressed to:</p> <p>Mr. William A. Raiola Vice President of Sugar Processing Operations United States Sugar Corp./ Clewiston Sugar Mill and Refinery 111 Ponce DeLeon Avenue Clewiston, FL 33440</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>	
<p>2. Article Number (Copy from service label) 7000 2870 0000 7028 3376</p>		
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Sent To William A. Raiola
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City, State, ZIP+4 Clewiston, FL 33440

PS Form 3800, May 2000 See Reverse for Instructions