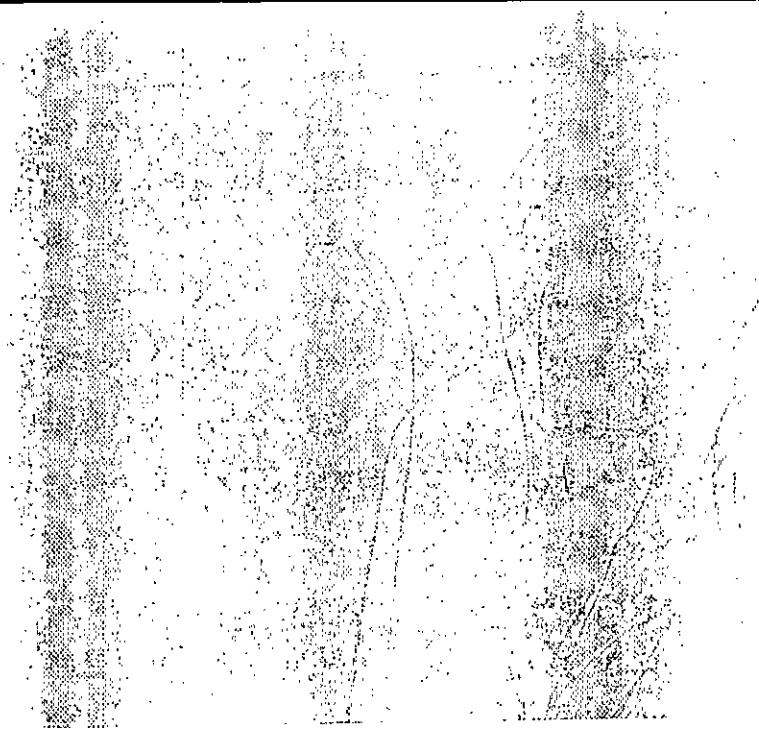

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1. Article Addressed to

Mr. Richard Coyle
Director of Operations
Tropicana Products, Inc.
6500 Glades Cutoff Road
Ft. Pierce, FL 34981

COMPLETE THIS SECTION ON DELIVERY

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10-24-01

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6500 Glades Cutoff Road
City, State, ZIP+4
Ft. Pierce, FL 34981

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PS Form 3800, May 2000 See Reverse for Instructions

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

October 19, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Coyle
Director of Operations
Tropicana Products, Inc.
6500 Glades Cutoff Road
Ft. Pierce, Florida 34981

Re: Request for Additional Information
DEP File No. 1110004-004-AC, PSD-FL-303A
Addition of Process Steam Boiler

Dear Mr. Coyle:

On September 17, 2001, the Department received your response to our request for additional information dated August 17, 2001. The Department further received the modeling input and output files discussed in this response on October 10, 2001. The application is incomplete. Based on your output files and the SO_2 24-hour background value of 34 ug/m^3 in the Technical Evaluation and Preliminary Determination for PSD-FL-303, the predicted maximum project impact is 261 ug/m^3, which is still predicted to violate the SO_2 24-hour ambient air quality standard (AAQS) of 260 ug/m^3. Please recommend means for reducing SO_2 impacts either from this project or the previous project in order to reduce maximum impacts below the AAQS. In order to continue processing your application, the Department will need the additional information requested. Should your response require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Material changes to the application should also be accompanied by a new certification statement by the authorized representative or responsible official. Permit applicants are advised that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call Cleve Holladay (meteorologist) at 850/921-8986.

Sincerely,

Cleve Holladay, Meteorologist
New Source Review Section

/ch

cc: Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS
Mr. Isidore Goldman, P.E., DEP SE District
Mr. Ken Kosky, P.E., Golder Associates

Golder Associates Inc.

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

September 17, 2001

0137568

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Fl 32399-2400

Attention: Mr. Joseph Kahn, P.E.

RE: TROPICANA PRODUCTS, INC., FORT PIERCE PROCESSING FACILITY,
PROCESS STEAM BOILER
DEP FILE NO. 110004-004-AC, PSD-FL-303A
ADDITIONAL INFORMATION

Dear Joe:

This correspondence provides the information requested in the Department's August 17, 2001 letter. The information is supplied in the same order as requested.

1. **Air Quality Impact Analysis**: An ambient air quality impacts analysis (AAQS) was performed for sulfur dioxide (SO_2) for the 24-hour averaging time. The process steam boiler emissions were added to the previously submitted model runs from permit number 1110004-003-AC, PSD-FL-303. The previous highest second-highest (HSH) concentration was determined to be 224.3 $\mu g/m^3$, and 246.3 $\mu g/m3$ with the added background concentration. With the inclusion of the process steam boiler, the HSH impact was determined to be 227.1 $\mu g/m3$, and 249.1 $\mu g/m3$ with the added background concentration. The modeling output files will be set to Mr. Holladay.
2. **Manufacturer Guarantees:** The manufacturer of the boiler, ABCO Industries, Inc. have provided the attached letter with the guarantees for the NOx and CO emission rates provided in the application.
3. **Flue Gas Recirculation (FGR), Operating Range, Turndown and Burner Design:** The FGR system is operated when firing oil and natural gas firing. It recirculates 5 percent of the flue gas to reduce flame temperature and meet the proposed NOx emission rate of 0.1 lb NOx/MMBtu. Steam atomization will also be used for oil firing. The operating range for the boiler is from 25 percent load to 100 percent load (see manufacturer's letter). The design turndown ratio is 10 to 1 for gas firing and 8 to 1 for oil firing. The burner system will be supplied by COEN Company, Inc. The COEN package is their QLN burner assembly including flame safety system, windbox mounted forced draft fan and fully metered combustion controls.

4. **Sulfuric Acid Mist Emission Factor for Natural Gas:** The emission factor for sulfuric acid mist for natural gas firing was listed in Table 1-1 is 3.6 x 10 lb/MMBtu. This emission factor is not correct and should have been 2.15 x 10^{-4} lb/MMBtu. This emission factor is based on 5 percent conversion of SO_2 to sulfuric acid mist. The calculation is as follows: 1 grain sulfur/100 scf x scf/1,020 Btu x lb/7,000 grains x 10^6/MM x 0.05 x 98/32 = 2.15 x 10^{-4} lb/MMBtu. The mass emission rates are 0.0214 lb/hr and 0.094 tons/year. Table 1-1 (attached) has been corrected to reflect this change.
5. **Heat Input:** The maximum rated heat input for the boiler at 100 percent load is 99.8 MMBtu/hr when firing natural gas and 95.7 MMBtu/hr when firing oil, both based on high heating value. This maximum heat input is associated with the maximum rating of the boiler of 85,000-lb/hr steam flow. Performance data sheets are attached. Since the maximum heat input is not greater than 100 MMBtu/hr the NSPS in Subpart Db is not applicable.

Your expeditious review of the additional information would be appreciated. Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Kennard F. Kosky, P.E.
Principal
Professional Engineer No. 14996

SEAL

KFK/lsh

Enclosures

cc: Richard Coyle, Tropicana Products, Inc.
Douglas Foster, Tropicana Products, Inc.

P:\Projects\2001\0137568 Tropicana\4\4.1\L091701.doc

E. Swee ✓
C. Halladay ✓
J. Goldman, SE District ✓
G. Harley, EPA ✓
A. Bunyak, NPS ✓

Table 1-1 Rev. 1. Future Maximum Emissions from the Process Steam Boiler, Tropicana Products, Inc.

Regulated Pollutant	Natural Gas Combustion						No. 2 Fuel Oil Combustion						Maximum Annual Emissions Due to Any Combination[d] (TPY)
	Emission Factor ($lb/10^6$ scf)	Emission Factor (lb/MMBtu)	Ref.	Activity Factor[a] (MMBtu/hr)	Hourly Emissions (lb/hr)	Annual Emissions[b] (TPY)	Emission Factor (lb/1000 gal)	Emission Factor (lb/MMBtu)	Ref.	Activity Factor[a] (MMBtu/hr)	Hourly Emissions (lb/hr)	Annual Emissions[c] (TPY)	
Particulate Matter (PM)	1.9	1.86E-03	1	99.8	0.19	0.81	--	0.015	5	95.7	1.40	6.15	6.15
Particulate Matter (PM_{10})	1.9	1.86E-03	1	99.8	0.19	0.81	--	0.015	5	95.7	1.40	6.15	6.15
Sulfur dioxide (SO_2)	1	grains S/100 scf	2	99.8	0.28	1.22	0.05% sulfur	0.0519	2	95.7	4.97	21.75	21.75
Nitrogen oxides (NO_x)	--	0 055	3	99.8	5.49	24.03	--	0.10	3	95.7	9.57	41.91	41.91
Carbon monoxide (CO)	--	0.18	3	99.8	18.4	80.4	--	0.18	3	95.7	17.4	76.3	80.4
VOC	5.5	0 01	1	99.8	0.54	2.36	--	0.001	5	95.7	0.14	0.61	2.36
Sulfuric acid mist (SAM)	--	2.15E-04	4	99.8	0.0215	0.0940	--	0.0026	6	95.7	0.25	1.08	1.08
Lead (Pb)		4.90E-07	1	99.8	4.89E-05	2.14E-04	--	9.00E-06	5	95.7	8.61E-04	3.77E-03	3.77E-03
Mercury (Hg)	2.6E-04	2.55E-07	1	99.8	2.54E-05	1.11E-04	--	3.00E-06	5	95.7	2 87E-04	1.26E-03	1.26E-03
Fluorides (Fl)	Neg	--		--	--	--	--	Neg		--	--	--	--

References:

1. Factors for natural gas combustion from AP-42, Tables 1 4-1, 1.4-2 and 1 4-4 (7/98). Factors were converted to lb/MMBtu by dividing by 1,020 Btu/scf.
2. Basis (grains S/100 scf-gas) = 1 and 0.05%S-diesel; typical maximum sulfur content for pipeline natural gas and distillate fuel oil.
3. Proposed emission limits based on emission guarantees from vendor. CO limit is 200 ppm at 3% O_2 (ABCO Industries, Inc., 2001)
4. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. 5% of SO_2 becomes SO_3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80)
5. Factors for No. 2 fuel oil combustion, AP-42 Table 1.3-1, 1.3-3, and 1.3-10 (9/98). A heating value of 136,000 Btu/gal and a maximum sulfur content of 0.05% were used for the No. 2 fuel oil.
6. The emission factor for SO_3 emissions from a No. 2 fuel fired boiler with low NOx burners (5.7S $lb/10^3$ gal where S is the sulfur content) was multiplied by the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).

Footnotes:

[a] The proposed maximum permitted heat input rate is 99.8 MMBtu/hr for natural gas and 95.7 MMBtu/hr for fuel oil.

[b] Based on maximum proposed operation of 8,760 hours on natural gas.

[c] Based on maximum proposed operation of 8,760 hours on fuel oil.

[d] Maximum emissions predicted for either natural gas combustion only, No. 2 fuel oil combustion only, or a combination of No. 2 fuel oil and natural gas combustion.

Sample Calculations:

Hourly Emissions = Emission Factor x Activity Factor

Annual Emissions = Hourly Emissions x hours of operation (hrs/yr) / 2,000 (lb/ton)

Annual Emissions due to firing both fuels = Annual Emissions due to fuel oil + [(Hourly emissions due to natural gas x (8,760 hrs/yr - 2,880 hrs/yr)/ 2,000 (lb/ton)

Neg = Negligible Concentration

abco industries, inc.
2675 E. Hwy 80 P.O. Box 266
Abilene, Texas 79604-0266
Phone 915/677-2011
Fax 915/677-1420
a subsidiary of Peerless Mfg. Co.

To : Mr. Ken Kmac
Tropicana Products, Inc.

From : Vasu Devan
Date : 9/10/2001

Ph : 941 742 3246
Fax: 941 749 3953

Page 1 of 1

CC: Mr. E. Gorman / Golder Associates

Fax : 352 336 6603

Dear Ken:

Sub: Emission guarantees for the D-type package boiler supplied to Tropicana Products (ABCO job# 201006).

Based on the unit being operated to the conditions specified in our proposal and with the specified fuels, we guarantee that the following emission parameters will be met.

1. NOx = 0.055 lb/mmBtu on Natural gas firing.
   NOx = 0.1 lb/mmBtu on #2 Oil firing

2. CO = 0.18 lb/mmBtu on Natural gas firing.
   CO = 0.18 lb/mmBtu on #2 Oil firing

NOTES:
1. Guarantees are from 25 to 100%MCR only.

If you need any additional information / clarification, please call us.
Best regards,

Vasudevan

Vasu Devan

BOILER PREDICTED PERFORMANCE SUMMARY PROJECT TROPICAN

FUEL - OIL Remarks:		**date : 05-24-01**		
Boiler load - %	100	75	50	25
boiler duty - MM Btu/h	84.29	63.22	42.14	21.07
amb temp - F	80	80	80	80
rel hum -%	60	60	60	60
excess air %	15	15	15	35
flue gas recir %	5	5	5	5
fuel input (hhv)-MM Btu/h	95.68	71.51	47.6	24.08
Ht rel rate-Btu/ft3h (HHV)	56618	42315	28164	14249
Ht rel rate-Btu/ft2h-(HHV)	98970	73968	49232	24908
steam flow - lb/h	85000	63750	42500	21250
process steam - lb/h	0	0	0	0
steam press - psig	175	175	175	175
steam temp - F	377	377	377	377
feed wat temp - F	240	240	240	240
water temp lvg eco - F	301	292	284	285
blow down %	2	2	2	2
boiler exit gas temp -F	518	472	429	400
eco exit gas temp - F	298	280	265	257
air flow -lb/h	82307	61514	40943	24317
flue gas to stack -lb/h	87142	65128	43348	25534
flue gas thro' boiler-lb/h	91500	68385	45516	26811
stack flue gas vol-acfm	27971	20423	13324	7759
Flue Gas Analysis,Losses,Efficiency - %				
dry gas loss	4.4	4.05	3.75	4.2
air moisture	.11	.1	.1	.11
fuel moisture	6.7	6.65	6.61	6.59
casing loss	.3	.4	.6	1.2
unacc/margin	.4	.4	.4	.4
efficiency - % lhv	94.12	94.45	94.6	93.49
efficiency - % hhv	88.09	88.4	88.54	87.5
furnace back pr-in wc	6.	3.35	1.49	.52
% vol co2	11.57	11.57	11.57	9.93
h2o	12.29	12.29	12.29	10.84
n2	73.63	73.63	73.63	74.2
o2	2.51	2.51	2.51	5.03
so2	.	.	.	.

FUEL analysis: OIL -% weight

carbon=87.
hydrogen=13.
sulfur=.
oxygen=.
deg API=32
LHV -Btu/lb=18463
HHV -Btu/lb=19727

HEATING SURFACE - ft2:

furnace (proj. area)- 966
evaporator (screen + convection) - 4851
superheater (total) - 0
economizer - 8504
Furnace length - ft =26. width =6.5 height =10. volume -ft3 =1690

Above performance is only predicted. for guarantees see elsewhere. At loads below 50 %,due to poorer gas/steam side flow distribution and variations in excess air,PCR rates, steam/gas temperatures may vary from those shown above. V.Ganapathy

BOILER PREDICTED PERFORMANCE SUMMARY PROJECT TROPICAN

FUEL - GAS Remarks:		**date : 05-24-01**		
Boiler load - %	100	75	50	25
boiler duty - MM Btu/h	84.29	63.22	42.14	21.07
amb temp - F	80	80	80	80
rel hum -%	60	60	60	60
excess air %	15	15	15	35
flue gas recir %	5	5	5	5
fuel input (hhv)-MM Btu/h	99.77	74.58	49.64	25.13
Ht rel rate-Btu/ft3h (HHV)	59037	44128	29374	14867
Ht rel rate-Btu/ft2h-(HHV)	103198	77138	51346	25988
steam flow - lb/h	85000	63750	42500	21250
process steam - lb/h	0	0	0	0
steam press - psig	175	175	175	175
steam temp - F	377	377	377	377
feed wat temp - F	240	240	240	240
water temp lvg eco - F	300	292	285	286
blow down %	2	2	2	2
boiler exit gas temp -F	506	463	425	399
eco exit gas temp - F	296	280	266	257
air flow -lb/h	83868	62689	41728	24793
flue gas to stack -lb/h	88066	65827	43817	25851
flue gas thro' boiler-lb/h	92470	69118	46008	27143
stack flue gas vol-acfm	29356	21466	14017	8131
Flue Gas Analysis,Losses,Efficiency - %				
dry gas loss	4.05	3.74	3.48	3.93
air moisture	.11	.1	.09	.11
fuel moisture	10.66	10.59	10.53	10.49
casing loss	.3	.4	.6	1.2
unacc/margin	.4	.4	.4	.4
efficiency - % lhv	93.64	93.96	94.1	92.96
efficiency - % hhv	84.48	84.77	84.9	83.87
furnace back pr-in wc	6.44	3.59	1.59	.55
% vol co2	8.29	8.29	8.29	7.15
h2o	18.17	18.17	18.17	15.96
n2	71.07	71.07	71.07	71.94
o2	2.46	2.46	2.46	4.96
so2	.	.	.	.

FUEL analysis: GAS- % volume

methane= 97
ethane= 2
propane= 1
LHV -Btu/lb=21439
HHV -Btu/lb=23764

HEATING SURFACE - ft2:

furnace (proj. area)- 966
evaporator (screen + convection) - 4851
superheater (total) - 0
economizer - 8504
Furnace length - ft =26. width =6.5 height =10. volume -ft3 =1690

Above performance is only predicted. For guarantees see elsewhere. At loads below 50 %,due to poorer gas/steam side flow distribution and variations in excess air,PGR rates, steam/gas temperatures may vary from those shown above. V.Ganapathy

Memorandum

Florida Department of Environmental Protection

To: Al Linero

From: Joe Kahn

Date: August 20, 2001

Re: Tropicana Ft. Pierce
Application for Addition of Process Steam Boiler
1110004-004-AC, PSD-FL-303A

This project involves the addition of a process steam boiler of less than 100 mmBtu/hr capacity at an existing citrus juice processing plant, that will fire either natural gas or 0.05% sulfur distillate fuel oil, with no synthetic limitations on fuel consumption. The application states that this boiler is part of the previous PSD permitting project for expansion of the plant, so it is being treated as modification of that permit. The application was received on July 18, 2001 and a request for additional information was sent on August 17th. Letters requesting comment from EPA and NPS/FWS were sent on July 20th. No comments have been received to date.

As part of the previous permitting action, it appears that BACT review is required for NOx, CO, PM/PM_{10}, SO_2, and VOC emissions. The applicant proposed BACT to be:

Pollutant	**Limit**	**Comment**
NOx	0.055 lb/mmBtu	Gas firing
NOx	0.10 lb/mmBtu	Oil firing
CO	200 ppm @3% O_2 (0.18 lb/mmBtu)	Gas or oil firing
PM/PM_{10}	VE limit of 10% opacity	Gas firing
PM/PM_{10}	VE limit of 20% opacity	Oil firing
SO_2	Work practice, fuel quality	Gas or oil firing
VOC	No proposed BACT	

The major issues noted in the request for additional information were the need for a complete ambient air impacts analysis for SO_2 for the 24 hour averaging time, and supporting information for the NOx control, emission rates and heat input capacity of the boiler.

Status: Awaiting additional information.

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

July 20, 2001

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

RE: Tropicana Products, Inc.
Fort Pierce Facility
DEP File No. 1110004-004-AC, PSD-FL-~~322~~ 303A

Dear Mr. Worley:

Enclosed for your review and comment is an application for a PSD source submitted by Tropicana Products, Inc.. The proposed project is a new steam boiler at the company's existing facility in Ft. Pierce, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Joe Kahn, review engineer, at 850/921-9509.

Sincerely,

Patty Adams for

Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Joe Kahn

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

July 20, 2001

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

RE: Tropicana Products, Inc.
Fort Pierce Facility
DEP File No. 1110004-004-AC, PSD-FL-~~322~~ 303A

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for a PSD source submitted by Tropicana Products, Inc.. The proposed project is a new steam boiler at the company's existing facility in Ft. Pierce, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Joe Kahn, review engineer, at 850/921-9509.

Sincerely,

Patty Adams

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Joe Kahn