DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

November 5, 1985

NOV 7 1985

BAQM

Mr. Bruce Mitchell
Bureau of Air Quality Management
State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahasse, Florida 32301

Re: **Anheuser-Busch, Inc.**
Power Boilers 1 - 4

Dear Mr. Mitchell:

The following comments are provided concerning the captioned facility's request for a BACT determination on the captioned sources:

(1) The review of past Department of Environmental Regulation (DER) determinations for BACT on similar size and fuel type boilers does not support a fuel sulphur content of 2.27% by weight as BACT.

(2) It is suggested that a mass emission limit be established as BACT for particulate matter and a mass emission limit be established as BACT for SO_2. Under this scenario the particulate matter limit could be met by using varying types of fuel oil, combustion controls, or control equipment. A mass emission limit for particulate matter would eliminate the uncertainties of relying solely upon sulphur content of fuel oil to comply with a mass particulate matter emission limit.

Likewise a mass emission limit for SO_2 would allow the source options in meeting the standard (i.e. sulphur content in the oil or control equipment).

(3) Bio-Environmental Services Division (BESD) recommends the following:

Particulate BACT - 0.12 to 0.13 $lb/10^6$ BTU heat input.

SO_2 BACT - 1.60 to 1.70 $lb/10^6$ BTU heat input.

Note: The above limits are approximately equivalent to using 1.5% sulphur content fuel oil according to AP-42 calculations and assuming 152 x 10^3 BTUs/Gal of oil.

If BESD may be of further assistance in this matter, please advise.

Very truly yours,

Jerry E. Woosley
Associate Engineer

JEW/ecr

cc: Mr. Mort Benjamin, DER
BESD/File 1060-B

ANHEUSER-BUSCH COMPANIES

October 23, 1985

Mr. Bruce Mitchell
Bureau of Air Quality Management
State of Florida
Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Jacksonville Brewery
Boiler Particulate Emission Compliance

Dear Bruce:

In response to your July 17, 1985 letter and in accordance with our meeting on October 9, 1985, attached is an economic analysis of the various sulfur content fuel oils and pollution control equipment available, a historical listing of boiler fuel oil usage by vendor since January 1976, and actual annual emissions of sulfur dioxide and particulate matter from the boilers since 1976.

This letter shall also serve as a request to amend the existing boiler operating permits to incorporate the proposed BACT level of 2.27% sulfur residual fuel oil and 0.18 lbs/MMBTU particulate matter.

As discussed in my January 30, 1985 letter to the Jacksonville Bio-Environmental Services Division, the relaxation in allowable or permitted particulate emissions to 0.18 lbs/MMBTU should not be considered as an increment consumer since actual emissions of particulate and sulfur dioxide will not be increased. As shown in the attached table, actual annual emissions from the boilers have decreased substantially since the baseline year of 1978. For these reasons, an increment consumption analysis has not been prepared.

As shown in the economic impact analysis, various sulfur fuel oils are available by blending high and low sulfur oils. Breaks were chosen at 1.0% to correspond with a 0.1 lb/MMBTU particulate limit, 1.5, 1.8, and 2.0% to represent previous BACT determinations, and 2.27% sulfur which is the current operating permit limitation. Compliance with the permit limitation of 0.1 lb/MMBTU particulate can also be achieved by installation of an electrostatic precipitator. The estimated cost for this control is included in the analysis.

Anheuser-Busch Companies, Inc
Executive Offices
One Busch Place
St. Louis, MO U.S.A. 63118-1852
Telex 447 117 ANBUSCH STL

Since there are no definite breaks in the cost-effectiveness data, retention of the permitted fuel oil sulfur content of 2.27% and particulate matter emission level of 0.18 lbs/MMBTU are proposed as BACT for the following reasons:

1. Achievement of the current permit limitation of 0.1 lbs/MMBTU is not cost effective;

2. Dispersion modeling submitted in January and July 1985 indicates that the proposed levels will not have a significant impact on the particulate non-attainment area and will not violate any applicable ambient air quality standards.

I would like to again extend my appreciation for your cooperation and patience and hope this information will help provide a final resolution to this issue.

Sincerely,

ANHEUSER-BUSCH COMPANIES, INC.

John V. Stier
Supervisor
Environmental Affairs

JVS/bkb

Enc.

cc: Mr. Jerry Woosely, BESD w/att.
Mr. John Wilchek, Anheuser-Busch, Inc. w/att.

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
BOILER AIR EMISSIONS INVENTORY

Year	Oil Consumed (MM Gals)	Actual Annual Emissions (tons) SO_2	Particulates
1984	8.36	1210	80
1983	7.44	1157	76
1982	8.67	1370	100
1981	8.89	1513	110
1980	10.01	1680	122
1979	10.12	1734	126
1978	9.78	1647	120
1977*	8.34	1353	99
1976	8.39	1494	108

*Baseline date is December 27, 1977

JVS 10/10/85

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

% Sulfur Fuel Oil	$/Gal	PM (tons)	Annual* Cost ($)	Incremental Cost ($)	Cost Effectiveness ($/ton Removed)
2.27	0.5940	98.95	4,574,167	Baseline	Baseline
2.0	0.6131	88.55	4,720,833	146,667	14,109
1.8	0.6226	80.85	4,794,167	220,000	12,158
1.5	0.6310	69.30	4,858,333	284,167	9,586
1.0	0.6548	50.05	5,041,667	467,500	9,561
Electrostatic Precipitator		50.05	5,564,034	989,867	20,243
South Coast Air Quality Management District BACT Guideline					5,300

*Annual cost based upon projected 1985 fuel oil usage of 7.7 MM gallons.

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY

RESIDUAL FUEL OIL RECORDS
JANUARY 1976 - JULY 1985

YEAR	MONTH	EASTERN SEABOARD GALLONS	% SULFUR	BTU/GAL	AMERADA HESS GALLONS	% SULFUR	BTU/GAL	TOTAL GALLONS	SO2 (TONS)	PM (TONS)
1985	JUNE	376,202	1.26	151,984	198,543	1.58	150,504	574,745	61.79	4.23
	MAY	458,514	1.43	153,674	207,490	1.51	149,682	666,004	77.69	5.25
	APRIL	472,902	1.38	147,150	195,268	1.42	150,241	668,170	73.00	4.94
	MARCH	471,340	1.40	150,360	196,375	1.48	152,746	667,715	74.62	5.05
	FEBRUARY	432,407	1.36	146,566	138,198	1.51	148,652	570,605	62.55	4.19
	JANUARY	476,269	1.02	152,060	195,410	2.12	145,401	671,679	70.65	4.79
	TOTAL	2,689,634			1,129,288			3,818,922	420.29	28.46
1984	DECEMBER	378,321	1.15	150,139	220,801	1.53	151,576	599,122	60.67	4.20
	NOVEMBER	390,095	1.92	150,281	195,795	1.55	149,873	585,890	82.77	5.57
	OCTOBER	431,957	2.00	151,875	214,097	1.95	151,012	646,054	100.59	6.73
	SEPTEMBER	457,665	1.44	153,360	163,887	2.12	149,921	621,552	79.01	5.28
	AUGUST	499,892	1.84	151,614	182,091	1.87	145,557	681,983	98.93	6.57
	JULY	532,032	1.76	150,529	163,834	1.92	150,673	695,866	98.20	6.50
	JUNE	517,953	2.15	150,777	170,525	1.57	149,380	688,478	112.45	7.42
	MAY	576,017	2.13	150,957	166,883	1.91	149,646	742,900	121.33	7.98
	APRIL	485,413	2.13		157,718	1.80		643,131	103.45	6.83
	MARCH	522,952	1.36	150,511	140,999	1.27	149,695	663,951	78.10	5.19
	FEBRUARY	852,337	2.13	149,735	168,609	1.85	151,498	1,020,936	167.13	10.90
	JANUARY	580,149	1.85	147,353	194,218	1.32	151,109	774,367	107.43	7.13
	TOTAL	5,324,783			2,139,457			8,384,240	1210.07	80.28
1983	DECEMBER	350,889	1.68		152,872	1.98		503,761	70.04	4.59
	NOVEMBER	365,451	2.06		165,378	1.80		530,837	82.47	5.50
	OCTOBER	384,533	2.15		147,261	1.98		531,794	87.79	5.81
	SEPTEMBER	388,575	2.21		133,650	2.00		522,335	88.41	5.83
	AUGUST	567,246	1.92		615,451	1.80		1,182,697	172.46	11.91
	JULY	550,430	2.20		73,011	1.80		623,441	105.38	6.82
	JUNE	564,934	1.72		73,088	2.07		638,020	88.15	5.72
	MAY	515,998	1.51		73,050	2.07		589,048	104.23	6.75
	APRIL	237,386	2.20		24,319	2.01		262,205	44.92	2.90
	MARCH	493,627	2.21		66,997	2.01		560,624	96.21	6.23
	FEBRUARY	503,238	2.27		60,775	2.25		564,663	116.34	7.63
	JANUARY	647,754	1.68		77,909	2.20		725,693	98.88	6.42
	TOTAL	5,771,351			1,663,757			7,435,118	1157.28	75.21
1982	DECEMBER		2.10			2.05		622,852	101.45	7.40
	NOVEMBER		2.18			2.05		614,576	102.04	7.42
	OCTOBER		2.24			1.94		667,335	109.49	7.97
	SEPTEMBER		1.58			2.32		667,492	102.18	7.51
	AUGUST		1.50			0.80		731,202	66.01	5.30
	JULY		1.49			2.27		764,362	112.80	8.33
	JUNE		1.86			2.34		762,792	125.75	9.15
	MAY		2.12			2.12		706,212	117.53	8.55
	APRIL		2.18			2.18		777,572	133.13	9.65
	MARCH		2.16			2.07		732,626	121.64	8.85
	FEBRUARY		2.16			2.25		855,420	148.40	10.74
	JANUARY		2.13			2.13		772,026	129.09	9.38
								8,674,867	1369.50	100.24

1981	DECEMBER	2.17	2.10	652,247	109.31	7.94
	NOVEMBER	2.21	2.09	535,529	107.43	7.80
	OCTOBER	2.35	2.14	522,195	107.45	7.78
	SEPTEMBER	2.22	2.27	811,777	143.06	10.33
	AUGUST	2.27	2.27	775,581	138.20	9.97
	JULY	2.24	2.24	817,913	143.82	10.39
	JUNE	2.25	2.25	737,767	130.31	9.41
	MAY	2.21	1.98	783,566	128.86	9.36
	APRIL	2.18	1.99	764,978	125.20	9.12
	MARCH	2.07	2.07	809,467	131.53	9.59
	FEBRUARY	2.13	2.13	743,866	124.38	9.04
	JANUARY	2.14	2.14	733,011	123.14	8.94
				8,888,891	1512.71	109.68
1980	DECEMBER	2.09	2.09	681,752	111.86	8.15
	NOVEMBER	2.09	2.09	665,033	109.11	7.95
	OCTOBER	2.05	2.05	847,055	136.31	3.95
	SEPTEMBER	2.17	2.17	879,516	149.82	10.66
	AUGUST	2.07	2.07	900,660	146.35	10.67
	JULY	1.87	1.87	851,099	124.94	9.23
	JUNE	2.27	2.27	813,068	144.86	10.45
	MAY	2.27	2.27	804,112	143.29	10.33
	APRIL	2.27	2.27	849,787	151.43	10.92
	MARCH	2.36	2.10	896,465	156.93	11.34
	FEBRUARY	2.15	2.11	868,563	148.64	10.80
	JANUARY	2.15	2.11	933,259	156.05	11.34
				10,010,827	1579.61	122.00
1979	DECEMBER	2.27	2.27	778,597	138.74	10.00
	NOVEMBER	2.27	2.27	804,818	143.41	10.34
	OCTOBER	2.27	2.27	924,143	164.68	11.88
	SEPTEMBER	2.19	2.19	811,674	139.54	10.11
	AUGUST	2.19	2.19	895,013	153.87	11.14
	JULY	1.20	2.27	897,124	122.19	9.13
	JUNE	2.27	2.27	812,946	144.86	10.45
	MAY	2.27	2.27	823,023	146.68	10.58
	APRIL	2.27	2.11	852,113	146.49	10.61
	MARCH	2.27	2.11	890,029	153.01	11.08
	FEBRUARY	2.27	2.11	777,190	133.61	9.58
	JANUARY	2.27	2.11	852,190	146.50	10.61
				10,118,860	1733.55	125.60
1978	DECEMBER	2.20	2.15	670,350	114.56	8.30
	NOVEMBER	2.20	2.15	760,069	129.77	9.41
	OCTOBER	2.13	2.23	916,016	156.76	11.36
	SEPTEMBER	2.13	2.23	902,029	154.36	11.19
	AUGUST	2.02	2.23	979,513	163.40	11.88
	JULY	2.02	2.23	838,837	139.93	10.17
	JUNE	1.88	2.17	748,637	119.01	8.70
	MAY	1.83	2.17	972,502	154.59	11.31
	APRIL	1.89	2.17	843,148	134.02	9.80
	MARCH	2.24	2.27	713,859	126.37	9.12
	FEBRUARY	2.24	2.27	683,331	120.96	8.73
	JANUARY	2.24	2.27	750,398	132.83	9.59
				9,779,389	1646.56	119.55

1977	DECEMBER	1.65	2.20	523,866	79.16	5.83
	NOVEMBER	1.65	2.20	621,454	93.91	6.91
	OCTOBER	1.65	2.20	633,386	95.71	7.05
	SEPTEMBER	2.27	2.18	630,000	110.04	7.95
	AUGUST	2.27	2.16	667,900	116.66	8.43
	JULY	2.27	2.18	755,500	131.96	9.54
	JUNE	1.55	2.11	762,500	112.41	8.33
	MAY	2.20	2.27	834,500	146.48	10.58
	APRIL	0.98	2.27	783,500	99.95	7.54
	MARCH	2.27	2.27	788,700	140.54	10.13
	FEBRUARY	2.27	2.27	592,200	105.53	7.61
	JANUARY	1.65	2.25	752,400	121.08	8.84
				8,366,306	1353.42	98.75
1976	DECEMBER	2.27	2.27	631,600	112.55	8.12
	NOVEMBER	2.27	2.27	587,800	104.74	7.55
	OCTOBER	2.27	2.27	773,200	137.78	9.94
	SEPTEMBER	2.27	2.27	882,900	157.33	11.35
	AUGUST	2.27	2.27	892,100	158.97	11.46
	JULY	2.27	2.27	964,900	171.94	12.40
	JUNE	2.27	2.27	695,900	124.01	8.94
	MAY	2.27	2.27	645,800	115.08	8.30
	APRIL	2.27	2.27	457,100	81.45	5.87
	MARCH	2.27	2.27	284,500	50.70	3.66
	FEBRUARY	2.27	2.27	667,900	119.02	8.58
	JANUARY	2.27	2.27	902,600	160.84	11.60
				8,385,300	1494.40	107.76

P 408 530 283

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. John V. Stier	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 7/17/85	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

● **SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

Mr. John V. Stier
Anheuser-Busch Companies
Mail Code 202-4, One Busch Place
St. Louis, Missouri 63118

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail	P 408 530 283

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X *John V. Stier*

6. Signature – Agent
X

7. Date of Delivery

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 17, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John V. Stier
Supervisor, Environmental Affairs
Anheuser-Busch Companies, Inc.
Mail Code 202-4
One Busch Place
St. Louis, Missouri 63118

Dear Mr. Stier:

Re: Boilers Nos. 1-4, Jacksonville Plant

In order to reconcile the existing situation with the operational and permitted parameters applicable to the above referenced sources, the following information will have to be submitted:

- Request an amendment to the existing operating permit(s), which will include your recommendation for a best available control technology (BACT) determination. Submit this request to the City of Jacksonville Bio-Environmental Services Division;

- Provide a justification for your recommendation for BACT by completing the BACT section of the enclosed application forms. It should include an economic analysis of the various sulfur content fuel oils available from the ABC's Jacksonville plant's vendor(s);

- Compile on a monthly basis, from January 1982 to present, the sulfur content, by weight (average), and the amount of the fuel oil received per vendor; and,

- Demonstrate that an increase in the sulfur content, by weight, from the compliance 1% sulfur oil to the requested BACT level, will not violate PSD increments for both PM (particulate matter) and SO_2. This is usually done by modeling.

If there are any questions, please call Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/ks

cc: J. Woosley, BES
J. Brown, NE District

May 8, 1985 by: Bruce Mitchell

Subj.: Oil Market Survey for Anheuser-Busch Company Project

See: John V. Stier's letter + attachment dated January 30, 1985

A. ABC purchases their petroleum products from

1. Amarado Hess in New Jersey

704-393-2202 contact: Vicki (receptionist)

Ron Rhodes

2. Eastern Seaboard Petroleum in Fax

904-355-9675 contact: Ron Seaton

Kevin Purcell

B. I asked, "what would I pay per barrel on a 1.0% and a 2.27% sulfur content fuel oil?"

1. Amarado Hess

1.0% - 27.20 /bbl

1.5% - 27.65 /bbl 27.20

2.0% - 27.05 /bbl 26.25

2.3% - 26.25 /bbl $1.45 /bbl difference

2.5% - 26.05 /bbl ÷42 gals/bbl = $0.0345/gal

2. Eastern Seaboard Petroleum

1.0% - 29.50 /bbl

2.25% - 28.05 /bbl

$1.45 /bbl difference

÷ 42 gals/bbl = $0.0345/gal

c. The following calculations present the costs per ton of removal as a comparison to what ABC contends.

For 1% sulfur fuel oil considered No. 6 (residual) and 2.27% sulfur fuel oil considered No. 6 (residual).

I assume: AP-42, Table 1.3-1 8.01 x 10^6 gals. used 1984

[10 (S) + 3 lb / 10^3 gals]

8.01 x 10^6 gals x 10 (1.0%) + 3 / 10^3 gals x ton / 2000 gals = 102.9 Tons

8.01 x 10^6 gals x 10 (2.27) + 3 / 10^3 gals x ton / 2000 gals = 93.1 Tons

8.01 x 10^6 gals x #0.0345 = #276,345

#276,345 / (102.9 - 93.1) = #5740 / Ton removed

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial	Date
1. TO: (NAME, OFFICE, LOCATION) Larry George		
2.		
3.		
4.		

REMARKS:

I would like you to take the lead on Sorting out this one,

My concerns are:

① Did they need a permit back when they got one

② If we give them relief, will it be a different policy than we have given Jax Kraft or others in NAA

③ Would EPA have any problem with this?

④ Are their cost saving arguments legitimate?

please give high priority to this —

INFORMATION	
	Review & Return
	Review & File
	Initial & Forward

DISPOSITION	
	Review & Respond
	Prepare Response
	For My Signature
	For Your Signature
	Let's Discuss
	Set Up Meeting
	Investigate & Report
	Initial & Forward
	Distribute
	Concurrence
	For Processing
	Initial & Return

FROM: Clair

DATE 2/27

PHONE

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

February 13, 1985

Mr. Clair Fancy, P.E.
Central Air Permitting Section
Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32301-8241

Re: Anheuser Busch, Inc.
Four Steam Generating Boilers
Jacksonville, Florida

Dear Mr. Fancy:

The Bio-Environmental Services Division (BESD) staff has reviewed John Stier's letter dated January 30, 1985 concerning exceedances of the permitted particulate emission limiting standard of 0.1 lbs/10^6 BTU heat input. It is requested that your staff complete the review of the modelling results and determine the appropriate course of action to take concerning the operating permit.

BESD recommends revision of the current operating permit based on the following reasons:

(1) Anheuser Busch is exempt from RACT since ambient impact is less than significance levels.

(2) The four boilers:

(a) Did not originally have a construction permit
(b) Did not require construction permit AC16-39951, because according to definitions, changes performed pursuant to issuance of this permit, did not constitute a modification.
(c) Original applications indicated a maximum steam production of 80 X 10^3 lbs/hr (each boiler) which is approximately equivalent to 100 X 10^6 BTUs/hr heat input even though heat input given on applications was average usage.

The revised permit should stipulate allowable limit for particulates as that emission level necessary to keep ambient impact in TSP Non-Attainment area below significance levels.

Your favorable response is requested in order that this situation may be

resolved in an expeditious manner.

Please direct all questions concerning the above to the undersigned.

Very truly yours,

Jerry E. Woosley

Jerry E. Woosley
Assistant Engineer

JEW/cb

cc: Mr. John Stier
Mr. John Mueller
Mr. John Brown
BESD File/ 1060-B

ANHEUSER-BUSCH COMPANIES

DER

FEB 4 1985

BAQM

January 30, 1985

Mr. Jerry Woosely
Department of Health & Welfare
and Bio-Environmental Services
Air and Water Pollution Control
515 West 6th Street
Jacksonville, Florida 32206

Dear Jerry:

Pursuant to our January 17th meeting in Tallahassee, Anheuser-Busch contracted with Radian Corporation in Austin, Texas to perform an air quality impact analysis for the Jacksonville particulate non-attainment area. Attached are the results of this analysis.

As indicated in the letter from Radian Corporation, particulate emissions from the brewery complex have a maximum 24-hour impact of 4.7 ug/m^3 and are therefore exempt from the RACT requirements under 17-2.650(2). This exemption is available under 17-2.650(2)(b)2.

As you are well aware, the Anheuser-Busch, Inc. brewery in Jacksonville has spent considerable time and expense in an attempt to meet the current boiler particulate emission limitation of 0.1 lb/MMBTU. As indicated in the January 17th meeting, the only options remaining are to switch to a 1% sulfur fuel oil at considerable expense, or request a relaxation of the boiler emission limitation to a level consistent with the combustion of the permitted 2.27% sulfur oil.

Anheuser-Busch requests a relaxation in the boiler emission limitation to 0.18 lb/MMBTU since:

1. Considerable effort has been spent in an attempt to comply with the existing unrealistic permit condition;
2. Dispersion modeling indicates that particulate emissions from the brewery do not significantly impact the non-attainment area; and
3. The cost to comply with the existing permit condition is estimated to be $457,000 per year. This results in an exhorbitant cost-effectiveness value of $9,000 per ton of particulate removed.

Also attached is a copy of the original permits issued for the four boilers. The relaxation to 0.18 lb/MMBTU should not be considered a modification subject to PSD review, since actual emissions of particulate will not be increased. In addition, the original permits are for four boilers rated at 80,000 pounds of steam per hour each. As discussed at the January 17th meeting, the permit history for the boilers is somewhat confusing. Based upon the attached permits, it appears that the BES office can issue this relaxation as an administrative change and resolve this issue.

Anheuser-Busch appreciates the patience and suggestions offered by the BES during the past year and hopes this information will be adequate to make a final determination.

Sincerely,

ANHEUSER-BUSCH COMPANIES

John V. Stier
Supervisor, Environmental Affairs

JVS:cd

cc: J. Mueller- Anheuser-Busch, Inc. w/att.
C. Fancy - DER, Tallahassee w/att.

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY BOILER EMISSIONS
PARTICULATE COST-EFFECTIVENESS

ASSUMPTIONS:

1. Average 1984 price upcharge of $0.057 per gallon for 1.0% versus 2.27% sulfur residual oil.

2. 1984 residual fuel oil usage of 8.01 million gallons.

3. Average oil heat content of 143,500 BTU per gallon.

4. AP-42 particulate emission factor of 10(S) + 3 lbs per 1000 gallons.

CALCULATIONS:

$$8.01 \text{ MM gals} \times \frac{10\,(2.27\%S) + 3}{\text{M gals}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 102.9 \text{ Tons}$$

$$8.01 \text{ MM gals} \times \frac{10\,(1.0\%S) + 3}{\text{M gals}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 52.1 \text{ Tons}$$

$$8.01 \text{ MM gals} \times \frac{\$0.057}{} = \$457{,}000$$

$$\frac{\$457{,}000}{102.9\text{-}52.1 \text{ Tons}} = \$9{,}000 \text{ per Ton Removed}$$

RADIAN
CORPORATION

DISPERSION MODELING ANALYSIS OF PARTICULATE EMISSIONS IMPACTS ON THE JACKSONVILLE, FLORIDA NON-ATTAINMENT AREA

Anheuser-Busch, Inc. Jacksonville Brewery

Prepared by:
Radian Corporation

January 30, 1985

1.0 INTRODUCTION

Anheuser-Busch, Inc., operates a brewery in Jacksonville, Florida approximately seven kilometers north of an area designated as non-attainment for total suspended particulate (TSP). Particulate matter (PM) is emitted at the brewery from four oil-fired boilers, grain and dust handling systems, and spent grain drying operations.

Anheuser-Busch desires to modify its existing permit to operate to allow PM emissions from the boilers of 0.18 pounds per million Btu (lb/MM Btu) of heat input. To ensure that reasonable progress is being made toward attaining compliance with the TSP standard in the non-attainment area, PM emissions from the brewery complex may not have a significant impact on the designated area.

Anheuser-Busch has requested Radian Corporation to perform a dispersion modeling analysis of the impacts on the non-attainment area from PM emissions from the brewery facility. This report presents the emissions used in the analysis, the modeling methodology employed, and the resultant TSP impacts.

2.0 EMISSIONS INVENTORY

The emissions characteristics of the brewery's sources are presented in Table 1. All data were supplied by Anheuser-Busch. To facilitate the modeling effort, adjacent sources with identical stack characteristics were consolidated into a single source, e.g., the four boilers were modeled as one source.

TABLE 1. PARTICULATE MATTER EMISSIONS INVENTORY

Source	Stack Height (m)	Stack Diameter (m)	Stack Exit Temp (°K)	Stack Velocity (m/s)	Particulate Emissions (g/sec)
Boiler #1	30.4	1.07	488.9	16.2	2.27
Boiler #2	30.4	1.07	488.9	16.2	2.27
Boiler #3	30.4	1.07	488.9	16.2	2.27
Boiler #4	30.4	1.07	488.9	16.2	2.27
Grain Dryer #1	21.3	1.7	322	9.6	0.88
Grain Dryer #2	21.3	2.0	327	9.0	1.26
Grain Unloading #1	9.8	0.2	Ambient	25.5	.011
Grain Unloading #2	9.8	0.3	Ambient	14.2	.011
Grain Conv. #1	9.8	0.15	Ambient	17.0	.004
Grain Conv. #2	9.8	0.15	Ambient	17.0	.004
Grain Dust Coll. #1	36.6	0.33	Ambient	36.2	.014
Grain Dust Coll. #2	36.6	0.33	Ambient	36.2	.014
Vacuum Clng. #1	36.6	0.15	Ambient	5.7	0.142
Vacuum Clng. #2	36.6	0.15	Ambient	5.7	0.142

(Continued)

TABLE 1. Continued

Source	Stack Height (m)	Stack Diameter (m)	Stack Exit Temp (°K)	Stack Velocity (m/s)	Particulate Emissions (g/sec)
Grain Dust Conveying	18.3	0.3	Ambient	2.8	0.060
Lime Unloading (Brewery)	14.0	0.2	Ambient	6.4	0.019
Lime Unloading (L. A.)	9.3	0.2	Ambient	19.1	0.028
Bulk Salt Unloading	4.9	0.5	Ambient	1.5	0.048
Cooling Coll. #1	15.2	0.5	Ambient	15.3	0.006
Cooling Coll. #2	15.2	0.6	Ambient	21.6	0.007
Dried Grain Conv. & Sto.	15.5	0.2	Ambient	12.7	0.009
Dried Grain Loadout	15.5	0.2	Ambient	15.9	0.015

3.0 MODELING METHODOLOGY

Dispersion modeling was performed utilizing the Industrial Source Complex - Short-term (ISC-ST) model (Bowers et al, 1979). The model was executed following the guidelines set forth in the above referenced User's Guide and the Draft Guideline on Air Quality Models (EPA, 1984).

Source input parameters were based on the emissions inventory presented in Table 1. To evaluate the culpability of selected groups of sources for a given impact, their contribution was determined by grouping sources according to the brewery operations that they serve. Four source groups were evaluated for their culpability; boilers, grain dryers, grain and miscellaneous dust handling, and spent grain handling.

To more accurately simulate the advection and diffusion of PM emissions, the effects of gravitational settling and particle deposition should be evaluated. A distribution of settling velocities by particle size categories is required for modeling of particle settling in the ISC-ST model.

Particle size distribution data were obtained for oil-fired boilers (API, 1983). However, these data were based on combustion of oil with a slightly different composition than that burned at the brewery. Thus, to avoid compromising the representativeness and accuracy of the modeling and to ensure conservatism, deposition was not applied to the boiler emissions.

Particle size data for grain dryer PM emissions were provided by Anheuser-Busch. These data, based upon measurements at the grain dryer scrubber outlet, were used to calculate settling velocities which were subsequently input into the model.

The effects of building induced downwash and turbulent wakes and eddies were evaluated for those sources whose stacks would be affected by nearby structures. Building dimensions and locations were provided by Anheuser-Busch.

Meteorological data input consisted of hourly data based on surface observations from 1970 through 1974 at Jacksonville and upper air observations at Waycross, Georgia.

Modeling was performed with receptors located along the northern, western and eastern boundaries of the non-attainment area. Receptors were also located within the area. Spacing of these receptors ranged from 1/2 to 3/4 kilometer.

Maximum 24-hour and annual impacts were determined for each of the five years of input meteorological data. The meteorological data for those time periods which were identified as producing maximum impacts for each year were evaluated for excessive occurrences of calm winds. The impacts predicted for days with excessive calms were recalculated utilizing the procedure recommended in the Modeling Guideline (EPA, 1984). This metehodology was utilized to identify the maximum 24-hour impact for the five year period of record.

4.0 MODELING RESULTS

The results of the dispersion modeling analysis are presented in Table 2. The maximum 24-hour impact was predicted to occur at the northern boundary of the non-attainment area, 6900 meters and 170° (clockwise from north) from the brewery's boiler stacks on day 278 in 1973. The maximum annual impact was predicted at 6800 meters and 174° from the boiler stacks.

TABLE 2. 24-HOUR AND ANNUAL TSP CONCENTRATIONS (ug/m^3)

	Total Concentration	Source Contribution			
		Boilers	Grain Dryers	Grain & Dust Handling	Spent Grain Handling
24-Hour	4.7	3.3	1.1	0.3	< 0.05
Annual	0.4	0.3	0.1	< 0.05	< 0.05

5.0 CONCLUSIONS

The modeling results indicate that with boiler PM emission rates of 0.18 lb/MM Btu, the maximum TSP impact in the non-attainment area from all PM sources will be less than the 24-hour and annual significance levels of 5.0 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively. Thus, modification of the existing permit to operate the brewery boilers at the 0.18 lb/MM Btu PM emission rate will not have a significant impact on the non-attainment area and will not prevent further progress toward attaining compliance with the TSP standard.

REFERENCES

Bowers, J. F., et al, 1979, Industrial Complex (ISC) Dispersion Model User's Guide, U.S. EPA, Research Triangle Park, North Carolina.

Environmental Protection Agency, 1984, Guideline on Air Quality Models (Revised) - Draft, Research Triangle Park, North Carolina.

American Petroleum Institute, 1983, Characterization of Particulate Emissions from Refinery Process Heaters and Boilers, Washington, D.C.

#4

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL

2562 EXECUTIVE CENTER CIRCLE, EAST
MONTGOMERY BUILDING, TALLAHASSEE, FLORIDA 32301

PETER P. BALJET
EXECUTIVE DIRECTOR

January 28, 1974
Duval County AP
Anheuser-Busch, Inc.
Boiler #4

DAVID H. LEVIN
CHAIRMAN

Mr. J. Mueller, Plant Manager
Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, Florida 32229

Dear Mr. Mueller:

Pursuant to your recent application, enclosed is Permit No.A016-2156, dated January 4, 1974 to operate the subject pollution source.

This permit will expire on 11-16-78 and will be subject to the conditions, requirements and restrictions checked or indicated otherwise on the attached sheet entitled "Permit Conditions."

This permit is issued under the authority of Florida Statutes 403.061(16). The time limits imposed herein are a condition to this permit and are enforceable under Florida Statute 403.161. You are hereby placed on Notice that the Department will review this permit before the scheduled date of expiry and will seek court action for any violation of the conditions and requirements of this permit.

You have ten days from the date of receipt hereof within which to seek a review of the conditions and requirements contained in this permit.

In future communication please refer to your permit number. Your continued cooperation is appreciated.

Very truly yours,

Frank Watkins

Frank Watkins, Jr., P.E.
Regional Engineer
3426 Bills Road
Jacksonville, Florida 32207

FWjr:vk
cc: Central Files Tallahassee
G. E. Paradies, P.E.
Bio Environmental Services

JOHN R. MIDDLEMAS
BOARD MEMBER

GEORGE RUPPEL
BOARD MEMBER

JAMES F. REDFORD, JR.
BOARD MEMBER

W.D. FREDERICK, JR.
BOARD MEMBER

STATE OF FLORIDA
DEPARTMENT OF
POLLUTION CONTROL

OPERATION PERMIT

FOR Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, Florida 32229

PERMIT NO. A016-2156 DATE January 4, 1974

PURSUANT TO THE PROVISIONS OF SECTION 403.061 (16) OF CHAPTER 403 FLORIDA STATUTES AND CHAPTER 17-4 FLORIDA ADMINISTRATIVE CODE, THIS PERMIT IS ISSUED TO:

J. Mueller, Plant Manager

FOR THE OPERATION OF THE FOLLOWING:

One steam generator (boiler), 80,000 lbs/hr., Model No. 23814
Boiler #4.

LOCATED AT: 111 Busch Drive, Jacksonville, Duval County, Florida

UTM: E 7437860 N 3366810

IN ACCORDANCE WITH THE APPLICATION DATED 11-16-73

AND IN CONFORMITY WITH THE STATEMENTS AND SUPPORTING DATA ENTERED THEREIN, ALL OF WHICH ARE FILED WITH THE DEPARTMENT AND ARE CONSIDERED A PART OF THIS PERMIT.

THIS PERMIT SHALL BE EFFECTIVE FROM THE DATE OF ITS ISSUANCE UNTIL 11-16-78 OR UNTIL REVOKED OR SURRENDERED AND SHALL BE SUBJECT TO ALL LAWS OF THE STATE AND THE RULES AND REGULATIONS OF THE DEPARTMENT.

W. W. Honour, Division Chief
Bio-Environmental Services
City of Jacksonville

Frank Watkins
Regional Engineer

REGIONAL ENGINEER

FORM 1-1

OPERATION PERMIT CONDITIONS
FOR AIR POLLUTION SOURCES

(An "X" indicates applicable conditions)

DATE: January 4, 1974 PERMIT NO.: AO16-2156

(X) 1. The density of visible emissions for existing sources, until July 1, 1975, shall not exceed a Ringelmann Number Two or an equivalent 40% opacity. The density of visible emissions for all sources after July 1, 1975, shall not exceed a Ringelmann Number One or an equivalent 20% opacity. If the presence of uncombined water is the only reason for failure to meet these visible emissions standards, such a failure shall not be in violation of this rule. (Cahpter 17-2.04(1)(a)(b)(d); Chapter 552.202(a)(b)(c)).

( ) 2. Test the emissions for the following pollutant(s) at intervals of _____ from the date of this permit and submit four (4) copies of test results to the Air Pollution Engineer of this agency within fifteen (15) days of such testing. (Chapter 17-2.07(1); Chapter 552.104(f)).

( ) Particulates
( ) Flourides
( ) Plume Density
( ) Sulfur Oxides
( ) Nitrogen Oxides
( ) Hydrocarbons
( ) Others _____

(X) 3. All air pollution control devices and systems shall be properly and consistently maintained in order to maintain emissions in compliance with the Board's Rules and Regulations. (Chapter 17-2.03(7); Chapter 552.102).

(X) 4. Submit for this facility, each calander year, on or before October 1, an emission report for the preceding calander year containing the following information.

A. Annual amount of materials and/or fuels utilized

B. Annual emissions

C. Any changes in the information contained in the permit application

(X) 5. Fugitive particulate from all sources shall be effectively controlled or eliminated. (Chapter 17-2.04(3); Chapter 552.204)

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL

APPLICATION TO OPERATE/CONSTRUCT POLLUTION SOURCES

SECTION I – GENERAL INFORMATION FOR ALL POLLUTION SOURCES

I TO BE FILLED IN BY APPLICANT

Source Type: Air Pollution

Type application: [X] Operation [ ] Temporary Operation [ ] Construction

Status Source: [X] New [ ] Existing [ ] Modification

Source Name: ANHEUSER-BUSCH, INC. County: DUVAL

Source Location: Street: 111 Busch Drive City: Jacksonville, Florida

(Water Source Only) Lat: ° ' " Long: ° ' "

(Air Source Only) UTM: East 4-37860 North 33-66810

Appl. Name and Title:

Appl. Address: Post Office Box 18017, A.M.F., Jacksonville, Florida 32229

II TO BE FILLED IN BY REGION (*BY BUREAU OF PERMITTING)

Control No: Region County Type *Project

Type Permit	Date Rec'd	*Permit No.	*Issue Date	*Compl. Date	*Exp. Date

Source Description:

Control Equipment:

Water Permits

Receiving Body Code: Surface Water Code:

Station No.: Influent: Effluent:

Effluent:	Average	Design	% Reduction
Flow rate, MGD			
BOD, lbs/day			
Susp. Sol., lbs/day			
Other:			

Air Permits

Operating Time: [ ] Continuous [ ] Intermittent

Fuel: Type M-BTU/hr. In Put

Incinerator: Capacity, tons/day Type Waste

Mfg. & Model

Pollutant Emissions, lbs/day	Actual	Design	Allowable
Particulate			
Sulfur Oxides			
Other:			

Implementation: Estimated Appl. Filing Date

Estimated Start of Const. Estimated Compliance Date

DESCRIPTION OF PROPOSED PROJECT

A. Describe the nature and extent of the proposed project. Refer to existing pollution control facilities, DPC permits, conditions, orders and notices, expected improvement in performance of the facilities and state whether the proposed project will result in full compliance of the source. Attach additional sheet if necessary.

Permit is for Steam Generator No. 4 (Identical to three existing - See Item D below).

Babcock & Wilcox Co.
Oil and Gas Burner
Capacity 80,000 lbs./hr.
Design Pressure, 250 psi
Steam Temperature, 406° F
Boiler Heating Surface 5,863 sq. ft.
Built 1973.
National Board No. 23814

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Federally or State Financed Projects only:

Planning Complete _____

Financing Program Complete _____

Indicate other local, state and/or federal agency approvals and dates _____

All projects:

Start of Construction June, 1973

Completion of Construction November, 1973

C. Costs of Construction (Show a breakdown of costs for individual components/units of the proposed project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Cost of Steam Generator, Stack, piping and associated control equipment is approximately $125,000.

D. Indicate any previous DPC permits, issuance dates, and expiration dates.

AO 16-245	3/10/72	- Steam Generator #1	12/1/74
AO 16-246	3/10/72	- Steam Generator #2	12/1/74
AO 16-247	3/10/72	- Steam Generator #3	12/1/74

AIR POLLUTION SOURCES & CONTROL DEVICES

A. Identification of Air Contaminants

1) [XX] Particulates
   a) [ ] Dust b) [XX] Fly Ash c) [ ] Smoke d) [ ] Other (Identify)

2) [XX] Sulfur Compounds
   a) [XX] SO_x as SO_2 b) [ ] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [XX] Nitrogen Compounds
   a) [XX] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [ ] Odor

7) [XX] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify): _____

B. Raw Materials and Chemicals Used (Be Specific)

NOTE: Steam Generator #4 is potential pollution source.

Description	Utilization Tons/day, lbs./day, etc.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	

C. Process Weight:

1) Total Process Weight Rate 80,000 *(Maximum as steam)* lbs./hr. [See Sec. 17-2.04(2)]

2) Product Weight 7,000 bbls./day ~~XXXX~~ expressed as BEER

3) Normal Operating Time _____, if seasonal describe: _____
   24 hrs./day, 7 days/wk.

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual Discharge	Discharge Criteria*	Allowable Discharge*	Relate Location to Flow Diagram
Particulate		0.1#/M-BTU/Hr.	3.47#/Hr.	Boiler #4
SO_2		0.8#/M-BTU/Hr.	27.8#/Hr.	Boiler #4
NO_2	No Standard - See Technical Memorandum No. 8-14, June 26, 1972			
	(State of Florida, Department of Pollution Control).			

* Refer to Chapter 17-2 Florida Administrative Code
(Discharge Criteria: Process Weight Rate, #/tonP_2O_5, #/M BTU/hr etc.)

E. Control Devices:

Name *See Below.	Eff.	Conditions of Operation, Particle Size Range, etc.	Relate to Flow Diagram

F. Fuels:

Type (Be specific)	Daily Consumption	Heat Input BTU/hr.	Relate to Flow Diagram
#6 Fuel Oil	5,700 Gals.	34,724,875	To Boiler No. 4
NOTE: Normal operation is that 3 of the 4 identical boilers are on line at indicated firing rate with fourth boiler on standby.			(See Figure No. 1).

G. Describe briefly, without revealing trade secrets, the unit processes/operations generating the airborne emissions identified in this application:

Boiler generates steam used in production of beer.

H. Indicate liquid or solid wastes generated and method of disposal.

All liquids discharged are routed to #3 station city sewage facility. Storm sewers empty into Broward River and contain no contamination.

* Boiler No. 4 is one of four identical boilers with automatic controls to be operated as designed by Babcock & Wilcox. The boiler is rated at 80,000 lbs. of 150 psig steam per hour and has a design efficiency of 82.8%. The air fuel ratio is automatically adjusted by Bailey Metering Systems, controls are checked and calibrated routinely.

STATEMENTS BY APPLICANT AND ENGINEER

A. Applicant

The undersigned owner or authorized representative of * ANHEUSER-BUSCH, INC.
is fully aware that the statements made in this application for an Operation permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

J. Mueller
J. MUELLER — Signature of the Owner or Authorized Representative

J. MUELLER, Plant Manager
Name and Title (Please Type)

Date: 11/21/73 Telephone No.: 751-0640

* Attach a letter of authorization

B. Professional Engineer Registered in Florida:

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the control and discharge of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution source(s) with appropriate control facilities, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the installation covered in this application.

Signature G. E. Paradies

Mailing Address: P. O. Box 18017, A.M.F.
Jacksonville, Florida 32229

Name: G. E. PARADIES (please type)

Telephone No.: A/C 904 751-0640

Florida Registration Number 16135 (Please affix seal)
July 9, 1971

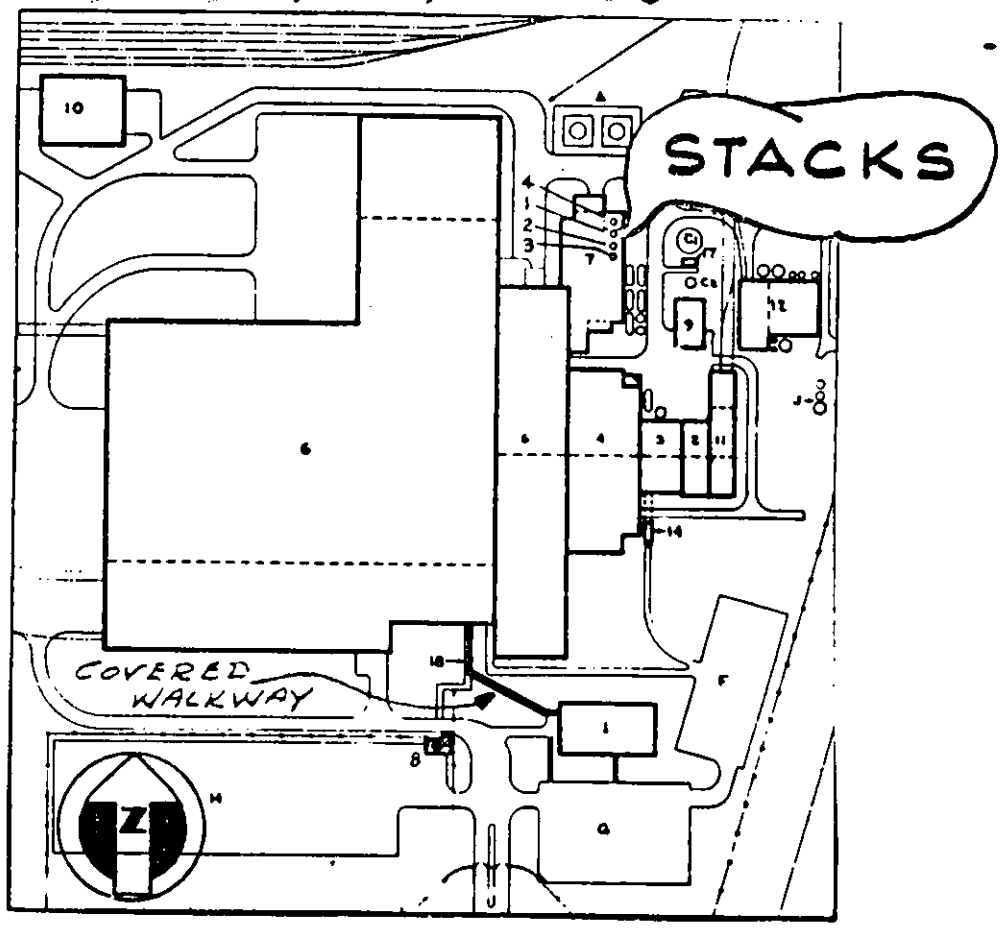
Date: 11/16/73

PERMITTED
BY
NORTHEAST REGION
DEPT. OF POLLUTION CONTROL
PERMIT NO. AO16-2156
DATE 1/4/74

Anheuser-Busch, Inc.

REPLY TO:

ANHEUSER-BUSCH, INC.
P. O. Box 18017 A.M.F.
JACKSONVILLE, FLORIDA 32229



KEY:

BLDG. NO.	BUILDING NAME:
1	Administration
2	Grains Handling Building
3	Brewhouse
4	Stockhouse No. 1
5	Stockhouse No. 2
6	B.P.& S.
7	Power House
8	Guard House
9	Chip Storage Building
10	Yards Building
11	Track Shed
12	Grains Drying Building
14	Tour Facility
17	Diesel Pump House
18	Covered Walkway
A	Fuel Oil Storage Tanks
B	Cooling Tower
C	Fire Water Tank
C2	Elevated Water Tank
F	Tour Parking Lot
G	Administration Parking Lot
H	Employees Parking Lot

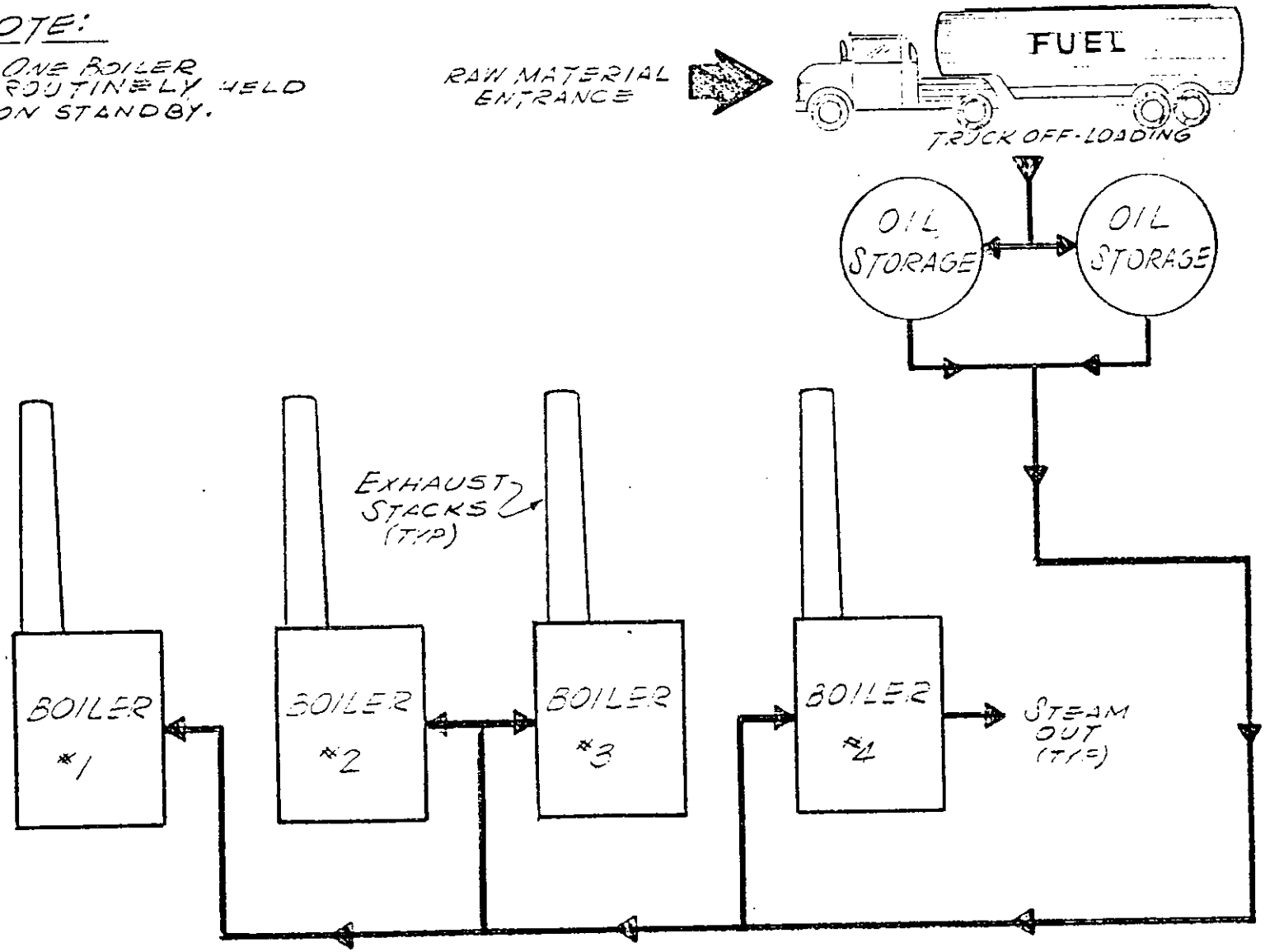
Keep America Beautiful

Pitch In!

TM:br 7/20/73

NOTE:

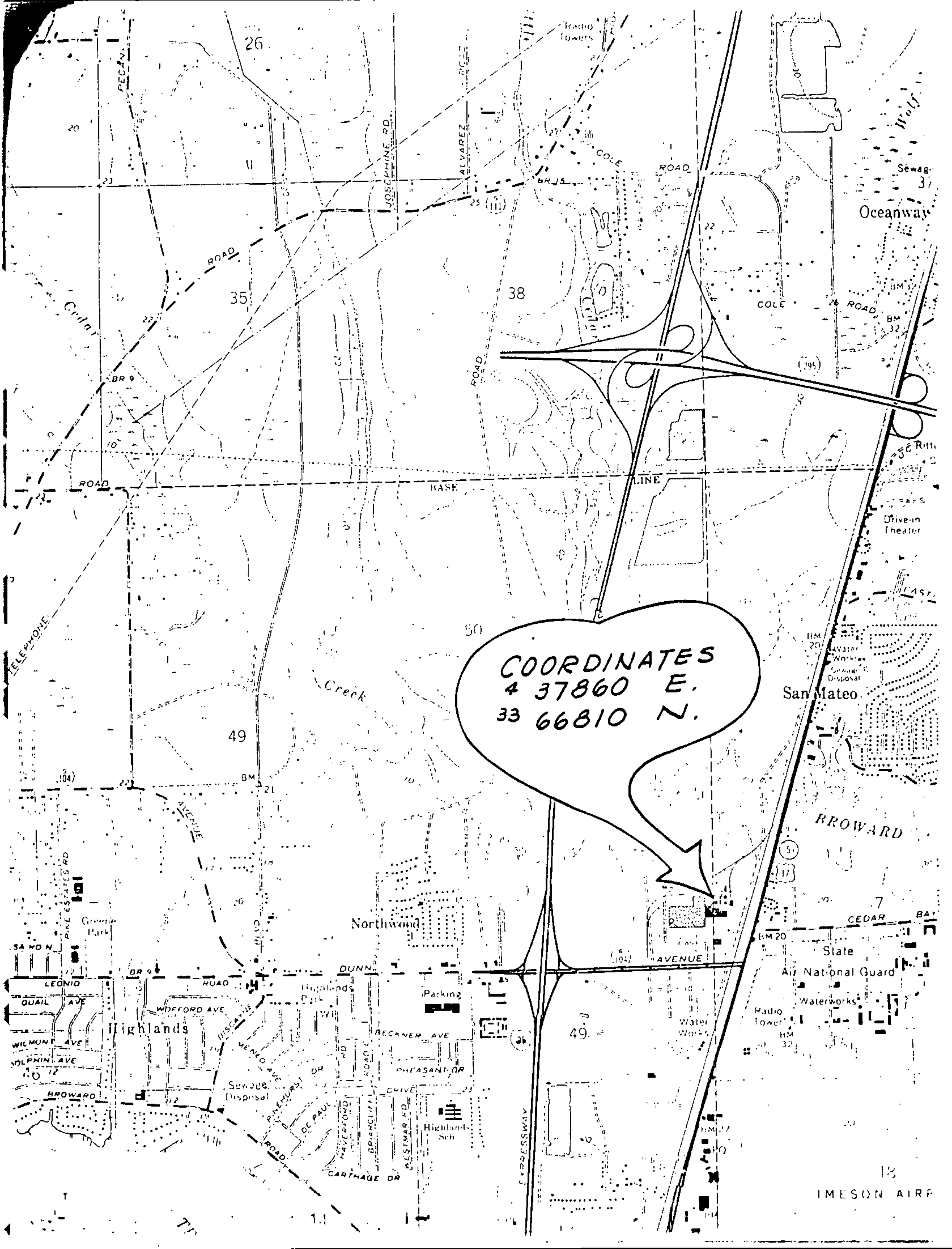
ONE BOILER ROUTINELY HELD ON STANDBY.



GASEOUS EMISSION

FIGURE 1

ANHEUSER BUSCH, INC.
BOILER FLOW DIAGRAM
JACKSONVILLE, FLORIDA


COORDINATES
4 37860 E.
33 66810 N.
Radio Towers
COLE ROAD
Oceanway
Sewage
JOSEPHINE RD.
ALVAREZ
PECAN
ROAD
BASE LINE
Drive-in Theater
San Mateo
Water Works
Sewage Disposal
BROWARD
Creek
Northwood
CEDAR BAY
State Air National Guard
Waterworks
Radio Tower
DUNN AVENUE
AVENUE
Parking
Highlands Park
Highlands
Green Park
WOFFORD AVE
WILMONT AVE
DOLPHIN AVE
QUAIL AVE
LEONID
PINE ESTATES RD
BECKNER AVE
PHEASANT DR
DRIVE
Highlands Sch
Sewage Disposal
PINEHURST DR
DE PAUL
HAVERFORD
BRIARCLIFF
WESTMAR RD
CARTHAGE DR
EXPRESSWAY
Water Works
TELEPHONE
Cedar
IMESON AIRF

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
SUITE 300, TALLAHASSEE BANK BUILDING
315 SOUTH CALHOUN STREET, TALLAHASSEE, FLORIDA 32301

VINCENT D. PATTON
EXECUTIVE DIRECTOR

DAVID H. LEVIN
CHAIRMAN

OPERATION PERMIT CONDITIONS
FOR FOSSIL FUEL STEAM GENERATORS

PERMIT NUMBER: AO 16-246 DATE: 3/10/72

[X] 1. Report any problems encountered in the operation of the Fossil Fuel Steam Generator to the DPC regional office and cease operation forthwith if such problems result in the discharge of stack effluents whose quality does not conform to the provisions of Chapter 17-2 Florida Administrative Code.

[X] 2. The owner shall perform the prescribed tests on the emissions from the Fossil Fuel Steam Generator as and when required by this agency.

[X] 3. This permit is issued on the basis of the existing requirements of this agency as set forth in Chapters 17-2 (revised January 18, 1972), Florida Administrative Code.

The revised Chapter 17-2 requires the following for Fossil Fuel Steam Generators:

[ ] A. Greater than 250 million BTU/hr. heat input
i.) The emission-limiting standards:
Pounds pollutant/million BTU Heat Input,
Max. 2 hr. Average

	Particulate		Sulfur Dioxide		Nitrogen Oxides		
Source	Liquid Fuel	Solid Fuel	Liquid Fuel	Solid Fuel	Gaseous Fuel	Liquid Fuel	Solid Fuel
New	0.1	0.1	0.8	1.2	0.2	0.3	0.7
Existing	0.1	0.1	1.1	1.5	0.2	0.3	0.7

To be obtained as expeditiously as possible, but no later than July 1, 1975. [Chapter 17-2.04(6)(e) 1 & 2]

ii.) Visible emissions (new and existing) shall not exceed Ringelmann Number One (20 per cent opacity), except for two minutes in any hour during which emissions shall not exceed Ringelmann Number Two (40 per cent opacity), effective January 18, 1972. [Chapter 17-2.04 (6)(e) 1b & 2b]

[X] B. Less than 250 million BTU/hr. heat input
i.) The emission-limiting standards for particulate, sulfur dioxide and nitrogen oxides shall be those obtained by the latest technology as determined by this department [Chapter 17-2.03(1) & 17-2.04(6)(e) 3b]

ii.) Visible emissions same as (3)(A) ii above [Chapter 17-2.04 (6)(e) 3a]

[X] 4.* Identify the Fossil Fuel Steam Generator and/or control equipment by its manufacturer, Model Number, Serial Number, Capacity (Maximum BTU heat input) and any other information.

[ ] 5.* Identify the location of the Fossil Fuel Steam Generator either by the Universal Transverse Mercator (UTM) Grid System to the nearest [illegible] or by latitude and longitude. Attach four copies of the appropriate USGS map with the exact location marked in red.

OPERATION PERMIT CONDITIONS
FOR FOSSIL FUEL STEAM GENERATORS

[X] 6. This permit is not transferable. Upon the sale or legal transfer of the Fossil Fuel Steam Generator covered by this permit, the new owner must apply by letter for a transfer of this permit within thirty days.

[X] 7. Submit on or before 5/1/72 a schedule indicating what steps have been or will be taken to insure compliance with Chapter 17-2 (revised 1/18/72).

* Submit the information required by these items within thirty (30) days from the date of this permit.

Please Reply to:

Department of Pollution Control
Northeast Regional Office

4441 Emerson Street
Jacksonville, Florida 32207
Phone: 904/396-6959

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
SUITE 300, TALLAHASSEE BANK BUILDING
315 SOUTH CALHOUN STREET, TALLAHASSEE, FLORIDA 32301

VINCENT D. PATTON
EXECUTIVE DIRECTOR

DAVID H. LEVIN
CHAIRMAN

OPERATION PERMIT CONDITIONS FOR FOSSIL FUEL STEAM GENERATORS

PERMIT NUMBER: AO 16-247 DATE: 3/10/72

[X] 1. Report any problems encountered in the operation of the Fossil Fuel Steam Generator to the DPC regional office and cease operation forthwith if such problems result in the discharge of stack effluents whose quality does not conform to the provisions of Chapter 17-2 Florida Administrative Code.

[X] 2. The owner shall perform the prescribed tests on the emissions from the Fossil Fuel Steam Generator as and when required by this agency.

[X] 3. This permit is issued on the basis of the existing requirements of this agency as set forth in Chapters 17-2 (revised January 18, 1972), Florida Administrative Code.

The revised Chapter 17-2 requires the following for Fossil Fuel Steam Generators:

[ ] A. Greater than 250 million BTU/hr. heat input
i.) The emission-limiting standards:
Pounds pollutant/million BTU Heat Input,
Max. 2 hr. Average

	Particulate		Sulfur Dioxide		Nitrogen Oxides		
Source	Liquid Fuel	Solid Fuel	Liquid Fuel	Solid Fuel	Gaseous Fuel	Liquid Fuel	Solid Fuel
New	0.1	0.1	0.8	1.2	0.2	0.3	0.7
Existing	0.1	0.1	1.1	1.5	0.2	0.3	0.7

To be obtained as expeditiously as possible, but no later than July 1, 1975. [Chapter 17-2.04(6)(e) 1 & 2]

ii.) Visible emissions (new and existing) shall not exceed Ringelmann Number One (20 per cent opacity), except for two minutes in any hour during which emissions shall not exceed Ringelmann Number Two (40 per cent opacity), effective January 18, 1972. [Chapter 17-2.04 (6)(e) 3a & 3b]

[X] B. Less than 250 million BTU/hr. heat input
i.) The emission-limiting standards for particulate, sulfur dioxide and nitrogen oxides shall be those obtained by the latest technology as determined by this department [Chapter 17-2.03(1) & 17-2.04(6)(e) 3b]

ii.) Visible emissions same as (3)(A) ii above [Chapter 17-2.04 (6)(e) 3a]

[X] 4.* Identify the Fossil Fuel Steam Generator and/or control equipment by its manufacturer, Model Number, Serial Number, Capacity (Maximum BTU heat input) and any other information.

[ ] 5.* Identify the location of the Fossil Fuel Steam Generator either by the Universal Transverse Mercator (UTM) Grid System to the nearest 100 meter or by latitude and longitude. Attach four copies of the appropriate USGS map with the exact location marked in red.

OPERATION PERMIT CONDITIONS
FOR FOSSIL FUEL STEAM GENERATORS

[X] 6. This permit is not transferable. Upon the sale or legal transfer of the Fossil Fuel Steam Generator covered by this permit, the new owner must apply by letter for a transfer of this permit within thirty days.

[X] 7. Submit on or before 5/1/72 a schedule indicating what steps have been or will be taken to insure compliance with Chapter 17-2 (revised 1/18/72).

* Submit the information required by these items within thirty (30) days from the date of this permit.

Please Reply to:

Department of Pollution Control
Northeast Regional Office

4-41 Emerson Street
Jacksonville, Florida 32207
Phone: 904/396-6959

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL

SUITE 300, TALLAHASSEE BANK BUILDING
315 SOUTH CALHOUN STREET, TALLAHASSEE, FLORIDA 32301

VINCENT D. PATTON
EXECUTIVE DIRECTOR

March 13, 1972

DAVID H. LEVIN
CHAIRMAN

Duval County-AP
Anheuser-Busch, Inc. (Boiler #1,2&3)

Please Reply to:

Department of Pollution Control
Northeast Regional Office

4441 Emerson Street
Jacksonville, Florida 32207
Phone: 904/396-6959

Mr. John Mueller
Plant Manager
Anheuser-Busch, Inc.
P. O. Box 18017 AMF
Jacksonville, Florida

Dear Mr. Mueller:

With reference to your recent application, please find enclosed the following permits for the subject air pollution sources:

Permit # & Date	Source	Location	Date of Expiry
AO 16-245 3/10/72	Steam Generator #1	111 Busch Dr.,Jax.	12/1/74
AO 16-246 3/10/72	Steam Generator #2	111 Busch Dr.,Jax.	12/1/74
AO 16-247 3/10/72	Steam Generator #3	111 Busch Dr.,Jax.	12/1/74

These permits will expire on 12/1/74 and may be renewed after complying with the conditions and requirements checked or indicated otherwise in the attached sheet entitled "Operation Permit Conditions."

These permits are issued under the authority of Florida Statute 403.061 (16). The time limits imposed herein are a condition to these permits and are enforceable under Florida Statute 403.161 (1)(b). You are hereby placed on Notice that the Department will review these permits before the scheduled date of expiry and will seek court action for violation of the conditions and requirements of these permits.

You have ten days from the date of receipt hereof within which to seek a review of the conditions and requirements contained in these permits.

Your continued cooperation in this matter is appreciated.

Very truly yours,

W. E. Linne, Acting Chief
Bureau of Permitting

WEL:mns

cc: DPC Northeast Region
Mr. Edward F. Forhan, Jr.
Duval County Pollution Control

JOHN R. MIDDLEMAS
BOARD MEMBER

GEORGE RUPPEL
BOARD MEMBER

JAMES F. REDFORD, JR.
BOARD MEMBER

A. D. VINCENT
BOARD MEMBER

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
SUITE 300, TALLAHASSEE BANK BUILDING
315 SOUTH CALHOUN STREET, TALLAHASSEE, FLORIDA 32301

VINCENT D. PATTON
EXECUTIVE DIRECTOR

DAVID H. LEVIN
CHAIRMAN

OPERATION PERMIT CONDITIONS FOR FOSSIL FUEL STEAM GENERATORS

PERMIT NUMBER: AO 16-245

DATE: 3/10/72

[X] 1. Report any problems encountered in the operation of the Fossil Fuel Steam Generator to the DPC regional office and cease operation forthwith if such problems result in the discharge of stack effluents whose quality does not conform to the provisions of Chapter 17-2 Florida Administrative Code.

[X] 2. The owner shall perform the prescribed tests on the emissions from the Fossil Fuel Steam Generator as and when required by this agency.

[X] 3. This permit is issued on the basis of the existing requirements of this agency as set forth in Chapters 17-2 (revised January 18, 1972), Florida Administrative Code.

The revised Chapter 17-2 requires the following for Fossil Fuel Steam Generators:

[ ] A. Greater than 250 million BTU/hr. heat input
i.) The emission-limiting standards:
Pounds pollutant/million BTU Heat Input,
Max. 2 hr. Average

	Particulate		Sulfur Dioxide		Nitrogen Oxides		
Source	Liquid Fuel	Solid Fuel	Liquid Fuel	Solid Fuel	Gaseous Fuel	Liquid Fuel	Solid Fuel
New	0.1	0.1	0.8	1.2	0.2	0.3	0.7
Existing	0.1	0.1	1.1	1.5	0.2	0.3	0.7

To be obtained as expeditiously as possible, but no later than July 1, 1975. [Chapter 17-2.04(6)(e) 1 & 2]

ii.) Visible emissions (new and existing) shall not exceed Ringelmann Number One (20 per cent opacity), except for two minutes in any hour during which emissions shall not exceed Ringelmann Number Two (40 per cent opacity), effective January 18, 1972. [Chapter 17-2.04 (6)(e) 1b & 2b]

[X] B. Less than 250 million BTU/hr. heat input
i.) The emission-limiting standards for particulate, sulfur dioxide and nitrogen oxides shall be those obtained by the latest technology as determined by this department [Chapter 17-2.03(1) & 17-2.04(6)(e) 3b]

ii.) Visible emissions same as (3)(A) ii above [Chapter 17-2.04 (6)(e) 3a]

[X] 4.* Identify the Fossil Fuel Steam Generator and/or control equipment by its manufacturer, Model Number, Serial Number, Capacity (Maximum BTU heat input) and any other information.

[ ] 5.* Identify the location of the Fossil Fuel Steam Generator either by the Universal Transverse Mercator (UTM) Grid System to the nearest 1/4 minute of latitude and longitude. Attach four copies of the appropriate USGS map with the exact location marked in red.

OPERATION PERMIT CONDITIONS
FOR FOSSIL FUEL STEAM GENERATORS

[X] 6. This permit is not transferable. Upon the sale or legal transfer of the Fossil Fuel Steam Generator covered by this permit, the new owner must apply by letter for a transfer of this permit within thirty days.

[X] 7. Submit on or before 5/1/72 a schedule indicating what steps have been or will be taken to insure compliance with Chapter 17-2 (revised 1/18/72.)

* Submit the information required by these items within thirty (30) days from the date of this permit.

Please Reply to:

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