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

		EASTERN SEABOARD			AMERADA HESS			TOTAL	SO2	PM
YEAR	MONTH	GALLONS	% SULFUR	BTU/GAL	GALLONS	% SULFUR	BTU/GAL	GALLONS	(TONS)	(TONS)
1985	JUNE	378,202	1.26	151,984	196,543	1.58	150,504	574,745	61.79	4.23
	MAY	458,514	1.43	153,674	207,490	1.61	149,682	666,004	77.69	5.26
	APRIL	472,902	1.38	147,160	195,268	1.42	150,241	668,170	73.00	4.94
	MARCH	471,340	1.40	150,360	196,379	1.48	152,746	667,719	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	149,401	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	1.56	149,875	585,890	82.77	5.57
	OCTOBER	431,957	2.00	151,876	214,097	1.95	151,012	646,054	100.59	6.73
	SEPTEMBER	457,665	1.44	153,560	163,887	2.12	149,921	621,552	79.01	5.28
	AUGUST	499,892	1.84	151,614	182,091	1.87	149,557	681,983	98.93	6.57
	JULY	532,032	1.76	150,529	163,834	1.92	150,678	695,866	98.20	6.50
	JUNE	517,953	2.15	150,777	170,525	1.87	149,380	688,478	112.45	7.42
	MAY	576,017	2.13	150,967	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	522,962	1.56	150,611	140,999	1.27	149,695	663,961	78.10	5.19
	FEBRUARY	852,327	2.13	149,735	168,609	1.86	151,498	1,020,936	167.13	10.90
	JANUARY	580,149	1.85	147,253	194,218	1.52	151,109	774,367	107.43	7.13
	TOTAL	6,224,783			2,139,457			8,364,240	1210.07	80.28
1983	DECEMBER	350,889	1.68		152,872	1.98		503,761	70.04	4.69
	NOVEMBER	365,461	2.06		165,376	1.80		530,837	82.47	5.50
	OCTOBER	384,533	2.15		147,261	1.98		531,794	87.79	5.81
	SEPTEMBER	388,675	2.21		133,660	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		73,086	2.07		638,020	88.15	5.72
	MAY	615,998	1.91		73,050	2.07		689,048	104.23	6.75
	APRIL	237,886	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	603,888	2.27		60,775	2.25		664,663	118.34	7.63
	JANUARY	647,784	1.68		77,909	2.20		725,693	98.88	6.42
	TOTAL	5,771,351			1,663,767			7,435,118	1157.28	76.21
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		777,972	133.13	9.65
	MARCH		2.16			2.07		732,626	121.64	8.85
	FEBRUARY		2.16			2.26		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	636,529	107.43	7.80
	OCTOBER	2.26	2.14	622,195	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	9.38
	APRIL	2.18	1.99	764,972	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	681,792	111.86	8.15
	NOVEMBER	2.09	2.09	665,033	109.11	7.95
	OCTOBER	2.05	2.05	847,055	136.31	9.95
	SEPTEMBER	2.17	2.17	879,516	149.82	10.86
	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	813,066	144.88	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	888,983	148.64	10.80
	JANUARY	2.15	2.11	933,259	156.05	11.34
				10,010,827	1679.61	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	146.66	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	9.68
	JANUARY	2.27	2.11	852,190	146.50	10.61
				10,118,860	1733.56	125.60
1978	DECEMBER	2.20	2.15	670,950	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	1.88	2.17	972,502	154.59	11.31
	APRIL	1.88	2.17	843,148	134.03	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
				9,779,289	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	2.18	667,900	116.66	8.43
	JULY	2.27	2.18	755,500	131.96	9.54
	JUNE	1.55	2.11	782,500	112.41	8.33
	MAY	2.20	2.27	834,900	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	1.85	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 J. Conard

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% - 27.70 /bbl
1.5% - 27.65 /bbl
2.0% - 27.05 /bbl
2.3% - 26.25 /bbl
2.5% - 26.05 /bbl

27.70
26.25
#1.45 /bbl difference
÷ 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)

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

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

$$8.01 \times 10^6 \text{ gals} \times \frac{10(1.0\%)+3 \text{ lb}}{10^3 \text{ gals}} \times \frac{\text{ton}}{2000 \text{ gals}} = 102.9 \text{ Tons}$$

$$8.01 \times 10^6 \text{ gals} \times \frac{10(2.27)+3 \text{ lb}}{10^3 \text{ gals}} \times \frac{\text{ton}}{2000 \text{ gals}} = 52.1 \text{ Tons}$$

$$8.01 \times 10^6 \text{ gals} \times \#0.0345 = \#276,345$$

$$\#276,345 / (102.9 - 52.1) = \#5440 / \text{Ton removed}$$

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

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

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 NWD

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.

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

September 11, 1984

Mr. Jeff Pallas
Environmental Protection Agency
Air Compliance Branch - Region IV
345 Courtland St., N.E.
Atlanta, Georgia 30365

Dear Mr. Pallas:

Enclosed is a review of Anheuser-Busch's request for construction and operation permits for Boiler No.'s 1 through 4 at the Jacksonville plant. The following comments are provided:

1. The particulate emission limit in pounds per hour per boiler is based upon 0.1 lbs. per 10^6 BTU heat input rate as stated in the November 3, 1981 letter.

2. As stated in the Summary Item (1), the applicable Rule at the time of permit application was 0.1 lbs. of particulate per 10^6 BTU heat input (Enclosed is a copy of such Rule: Table II, Page 05-18. Florida Administrative Code(FAC)).

3. If modification requests were submitted at the present time, BACT would be applicable in accordance with Rule 17-2.600(6)(b) FAC.

4. The permits do not specifically limit particulate emissions to 0.1 lbs/ 10^6 BTU heat input.

In conclusion the primary difference in the applicable rules is that the term plants has been changed to read source(s). This change is quite significant since under the current rules the 0.1 lbs of particulates per 10^6 BTU heat input only applies to individual steam generators with a heat input $\geq$ 250 X 10 BTUs per hour.

Please direct all questions or comments to the undersigned.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj
Enclosure

cc: Mr. Doug Dutton - DER, without enclosure
cc: Mr. John Mueller - A.B., without enclosure
cc: Ms. Nancy Wright - OGC, without enclosure
cc: Ms. Carol Forthman - OGC, without enclosure
cc: Mr. Bill Thomas - DER, with enclosure
cc: BESD/File 1060-B, with enclosure

1984

heat input.

c. Owners of fossil fuel steam generators shall monitor their emissions and the effects of the emissions on ambient concentrations of sulfur dioxide, in a manner, frequency, and locations approved, and deemed reasonably necessary and ordered by the Department.

4. Nitrogen Oxides, expressed as NO_2, maximum two hour average;

a. Jacksonville Electric Authority's Northside Generating Station Unit 3 - 0.30 pounds per million Btu heat input.

b. Manatee County, Florida Power and Light Company's Manatee Generating Station - 0.30 pounds per million Btu heat input.

c. City of Tallahassee's A. B. Hopkins Station Unit 2 - 0.30 pounds per million Btu heat input.

d. Tampa Electric Company's Big Bend Station Unit #3 - 0.70 pounds per million Btu heat input.

e. A rule for limiting nitrogen oxide emissions from existing fossil fuel steam generators will be considered by the Environmental Regulation Commission by July 1, 1982.

(6) Fossil Fuel Steam Generators With Less than 250 Million Btu per Hour Heat Input, New and Existing Sources.

(a) Visible Emissions - Visible emissions with a density of Number 1 on the Ringelmann Chart (20 percent opacity) except that a density of 30 percent opacity shall be allowed for Monsanto Textiles Company boiler units 2 and 4, Escambia County, while burning fuel oil in conjunction with waste material derived from waste streams previously discharged into underground wells. A density of 40 percent opacity is permitted for not more than two minutes in any one hour.

(b) Particulate Matter - Best available control technology as determined pursuant to Section 17-2.630 shall be applied.

(c) Sulfur Dioxide - Best available control technology as determined pursuant to Section 17-2.630 shall be applied.

(7) Portland Cement Plants

(a) Existing kilns and coolers - as provided in the Process Weight Table, Section 172.610(1).

(b) New Sources.

1. Kilns - 0.3 pounds of particulate matter per ton of feed to the kiln.

2. Clinker coolers - 0.1 pounds of particulate matter per ton of feed to the kiln.

(8) Nitric Acid Plants - These limits are applicable to new and existing sources producing weak nitric acid (50 to 70 percent) by pressure or atmospheric pressure process.

(a) Visible emissions - 10 percent opacity.

(b) Nitrogen Oxides - 3 pounds per ton of acid produced (100 percent basis).

(9) Sulfur Recovery Plants - These limits are applicable to plants recovering sulfur from crude oil gas.

(a) New Plants - 0.004 pounds of sulfur dioxide per pound of sulfur input to the recovery system or 0.004 pounds of sulfur dioxide per pound of sulfur removed from an oil well.

(b) Existing Plants (for which a valid Department Construction permit was issued prior to July 1, 1973) - 0.08 pounds of sulfur dioxide per pound of sulfur input to the recovery system or 0.08 pounds of sulfur dioxide per pound of sulfur removed from crude oil or gas

1980

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Sulfur dioxide per million BTU heat input	Nitrogen oxides, per million BTU heat input, Maximum 2 hr. avg. expressed as NO_2
E. FOSSIL FUEL STEAM GENERATORS				
(1) Plants with more than 250 million BTU per hour heat input	0.1 pounds per million BTU heat input, maximum two hour average	Density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 percent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 percent opacity) shall be permissible for no more than 2 minutes in any hour. The preceding sentence notwithstanding, an owner or operator of a facility may request the Department to determine opacity of emissions from the facility during initial performance tests. Upon receipt from such owner or operator of the written re-report of the re-		
(a) New sources burning				
1. Liquid fuel			0.8 pounds maximum two hour average	0.30 pounds
2. Solid fuel			1.2 pounds maximum two hour average	0.70 pounds
3. Gaseous fuel				0.20 pounds

Anheuser-Busch
Steam Generators 1-4
Permit Review

Operation Permits			Expiration Date
Particulate limit not established	Boiler #1	A016-2435	6/30/80
	Boiler #2	A016-2436	6/30/80
	Boiler #3	A016-2437	6/30/80
	Boiler #4	A016-12824	8/31/84

May 1, 1980	Applied for renewal operation permits for boiler numbers 1, 2, and 3. Note: AB indicated that each boiler should be permitted at 100 X 10^6 BTUs/hr heat input.
June 4, 1980	BESD requested additional information.
July 23, 1980	AB letter stating that a heat input limit of 375 X 10^6 and 300 X 10^6 BTUs/hr for all three boilers on a 3 hour and 24 hour average respectively is acceptable to avoid PSD.
August 6, 1980	BESD letter stating 3 hour and 24 hour averaging periods for maximum firing rates is satisfactory.
February 11, 1981	AB withdraws renewal permit applications for Boiler numbers 1, 2, and 3 and submits one modification permit application for boiler numbers 1, 2, 3, and 4.
March 16, 1981	BESD additional information letter sent.
March 18, 1981	BESD sends letter to DER which forwards application to DER for processing. Included is BESD update on modelling, stack height, boiler capacity, and PSD applicability.
April 3, 1981	Part of the information requested in March 16, 1981 BESD letter is received by BESD.
April 15, 1981	AB letter to DER stating position on permitting thus far.
May 22, 1981	Particulate stack tests submitted to BESD - 0.1 lb/10^6 BTU limit passed.
May 28, 1981	AB letter stating that work on stack height increase to commence soon.

June 3, 1981	BESD letter to AB stating that maximum heat input on each boiler is limited to the test capacity plus 10%.
September 18, 1981	Preliminary Determination issued by DER. (Note: Permit limited fuel use to permitted allowable at 66.1 X 10^6 BTU/hr heat input on an annual basis for all four boilers combined. Therefore, PSD and BACT did not apply. Limit should have been to 1979 actual not allowable usage to preclude any net increase of pollutants).
October 8, 1981	BESD comments on Preliminary Determination.
October 22, 1981	DER Final Determination issued (Construction Permit AC16-39951).
November 3, 1981	AB comments on Construction Permit AC16-39951. Note: AB requests annual particulate limit of 28.95 T/yr/boiler which is based upon 0.1 lb/10^6 BTU particulate limit 66.1 X 10^6 BTU/hr heat input limit 8760 hours per year.
March 2, 1982	BESD letter requesting AB to submit application for operation permit.
March 30, 1982	Application for Operation Permit received by BESD. Permit deviations noted.
June 8, 1982	BESD requested AB to sign Waiver of 90 Day processing to 9/30/82.
June 14, 1982	Waiver executed by AB.
July 19, 1982	DER letter to AB outlining problems with operation permit application (see letter for details).
September 1, 1982	BESD letter to AB enclosing draft operation permit - Basis for permit emission limits also outlined.
September 16, 1982	AB requests surrogate tests for particulate and SO_2.
September 20, 1982	Operation permit issued based upon Construction Permit (Max. annual fuel oil consumption figure lowered to correspond to 1979 usage.

(FOD?)

old PSD rules did not address actual emis.

September 22, 1982	AB requests particulate SO_2 and NO_x bubble limit (four boilers) on an annual basis.
September 29, 1982	DER grants bubble limit. (Note: BESD did not change operation permit to reflect bubble limits. BESD questions DER authority to issue bubble limits).

Summary

(1) At the time of the permit application, the applicable rule limited part emissions to 0.1 $lb/10^6$ BTU heat input at Plants with steam gen. capacity boilers rated at $>250 \times 10^6$ BTUs/hr heat input total.

(2) Particulate emission limitations in Construction Permit were written as follows:

(A) (0.1 $lbs/10^6$ BTU) (100 $\times 10^6$ BTU/hr) = 10 lbs/hr Maximum per boiler

(B) 21.4 T/yr per boiler limitation based on base year 1979 fuel consumption and corresponding emission rate at 0.1 $lb/10^6$ BTU input. Assume 150,000 BTU/gallon, this eliminates PSD and BACT review.

(C) Fuel consumption based on 1979 Boiler #1 usage X 4 [Baseline]

Possible Alternate Considerations

(1) Bring boilers in compliance with 0.1 $lb/10^6$ BTU limit.

(2) Modify permit (through application and public notice) increasing allowable limit to: for example 0.17 $lb/10^6$ BTU* or higher. This would involve a BACT determination. Also, the annual SO_2 limit could not be raised more than 40 tons (significance level) without triggering PSD review. Fuel consumption limit would have to be altered depending on the particulate $lb/10^6$ BTU limit established. Non Attainment area impact modelling must be redone using higher emission limit of particulate.

*Depending on BACT determination

Main File

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

May 11, 1984

Mr. John Mueller
Plant Manager
Anheuser-Busch, Inc.
P. O. Box 18017
Jacksonville, Florida 32229

Dear Mr. Meuller:

The bureau has received your letter dated April 25, 1984, requesting a meeting with us. You may call us at any time and arrange a meeting.

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/BM/s

cc: N. Wright
J. Woosley
D. Dutton

Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

April 25, 1984

DER
APR 27 1984
BAQM

Mr. Clair Fancy
Deputy Bureau Chief
Central Air Permitting Section
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blairsone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

We corresponded with you on March 13, 1984, relative to a problem we are having with our package boilers in meeting particulate emission limits. We requested at that time that you advise us as to when and where we could formulate a proposed meeting to discuss the subject matter.

We have not heard from you to date, and would appreciate your acknowledgement of our correspondence.

Very truly yours,

J. Mueller

John Mueller
Plant Manager

cb

Anheuser-Busch, Inc.
P. O. Box 18017
AMF
Jacksonville, FL 32229

Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

March 13, 1984

Mr. Clair Fancy
Deputy Bureau Chief
Central Air Permitting Section
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blairsone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

The Jacksonville Brewery of Anheuser-Busch, Inc. has been experiencing difficulties in meeting the particulate emission limits as they relate to our package boilers. These limitations are currently specified in our permits as 0.1 lbs. per MMBTU. At the suggestion of of Messrs. Wayne Tutt and Jerry Woosley of the Jacksonville Bio-Environmental Services Division, we would like to arrange a meeting with you and the local Jacksonville Department of Environmental Regulation personnel to discuss our efforts to meet the existing limitations and the possibility of negotiating permit revisions.

Would you please be so kind as to advise when and where the proposed meeting could take place.

Very truly yours,

John Mueller

John Mueller
Plant Manager

cb

cc: Messrs. T. Martin
W. Tutt
J. Woosley
D. DeHart

Anheuser-Busch, Inc
P O Box 18017
AMF
Jacksonville FL 32229

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
From: _____ Date: _____		
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

ASP file

TO: Bill Thomas

THRU: Bill Blommel WB
Clair Fancy

FROM: Bruce Mitchell RBM

DATE: March 26, 1984

SUBJ: ASP for Anheuser-Busch Companies, Inc.

I spoke with Jerry Woosley on March 23, 1984, about the above referenced company. He feels the following points are pertinent to the company's request in their attempt to obtain an ASP:

- Each boiler is < 250 x 10^6 Btu heat input/hour
- Since each boiler would be a small boiler, a BACT for PM would need to be done per boiler (he said that a check was done and the current BACT PM emission rate was found to be approximately 0.17 lb/10^6 Btu heat input/hr; currently, the units are under a PM emission rate of 0.1 lb/10^6 Btu heat input/hr)
- BACT would be required for SO_2 (currently they have a fuel sulfur limit of 2.5% content by weight)
- ABC, Inc., and BES want a meeting with the BAQM, which will be arranged by BES

BM/s

Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

DER
MAR 15 1984
BAQM

March 13, 1984

3/20 Bill - Please call them & set up at your convenience - no guide be out for 2 weeks. make sure BES is invited. Clair

Mr. Clair Fancy
Deputy Bureau Chief
Central Air Permitting Section
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blairsone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

The Jacksonville Brewery of Anheuser-Busch, Inc. has been experiencing difficulties in meeting the particulate emission limits as they relate to our package boilers. These limitations are currently specified in our permits as 0.1 lbs. per MMBTU. At the suggestion of of Messrs. Wayne Tutt and Jerry Woosley of the Jacksonville Bio-Environmental Services Division, we would like to arrange a meeting with you and the local Jacksonville Department of Environmental Regulation personnel to discuss our efforts to meet the existing limitations and the possibility of negotiating permit revisions.

Would you please be so kind as to advise when and where the proposed meeting could take place.

Very truly yours,

John Mueller

John Mueller
Plant Manager

cb

cc: Messrs. T. Martin
W. Tutt
J. Woosley
D. DeHart

Anheuser-Busch, Inc.
P. O. Box 18017
AMF
Jacksonville, FL 32229

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

Bill

February 23, 1984

Mr. John Mueller, Plant Manager
Anheuser - Busch, Inc.
P.O. Box 18017
AMF
Jacksonville, Florida 32229

DER
FEB 24 1984
BAQM

Re: Power Boilers

Dear Mr. Mueller:

Receipt of your letter of February 14, 1984, with attached chronology, is acknowledged. The proposed action plan, including the emulsifier tests, and/or the use of more detailed tests by B&W, is reasonable and acceptable to this Office. In reviewing the permitting decisions which have led to the present permitted emission limits, the Bio-Environmental Services Division(BESD) staff feels that there are some alternate options available to Anheuser-Busch.

If you wish to discuss this matter, please contact this Office to arrange a meeting, and we will be happy to review the situation with you.

Very truly yours,

Wayne E. Tutt
Associate Engineer

WET/vj

cc: Mr. C. Fancy, P.E.
cc: Mr. Doug Dutton - DER

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

July 14, 1983

Bill

Mr. Clair Fancy, P.E.
Deputy Director
Central Air Permitting Section
Dept. of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32301

DER
JUL 18 1983
BAQM

Re: Anheuser Busch Boilers,
Jacksonville

Dear Mr. Fancy:

The testing requirements presented in Mr. DeHart's letter dated July 8, 1983 are generally acceptable. I do recommend the following minor changes in the proposed testing protocol:

(1) During PM testing of a base loaded boiler (90%-100% of design capacity) VE tests should be performed on all four boilers (by a minimum of two observers). This procedure should be followed for each boiler when base loaded.

(2) In lieu of the SO_2 stack tests, a percent sulfur content analysis of fuel oil would suffice. This test should be performed according to standard ASTM method D-129 or D-2622.

(3) In regards to testing the boilers during soot blowing, Mr. DeHart has indicated that soot blowing takes less than 5 minutes per shift per boiler. If this is the case, separate soot blowing particulate and VE tests would not be practical.

If you would like to discuss this matter further, please contact Wayne Tutt or me.

Very truly yours,

Jerry E. Woosley

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: Mr. Doug Dutton - DER
cc: Mr. Don DeHart - Anheuser Busch

ANHEUSER-BUSCH COMPANIES

July 8, 1983

DER
JUL 11 1983
BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Requested Alternate Procedures; File Number ASP-F01-82

Dear Mr. Fancy:

Your letter of March 2, 1983, detailed a series of simultaneous particulate matter (PM), SO_2, and visible emission (VE) tests that the Department of Environmental Regulation (DER) believes is needed in order to properly evaluate Anheuser-Busch's request to use the VE test as a surrogate test for measuring PM emissions. Recently by phone, Mr. Bruce Mitchell and I discussed what the DER was attempting to evaluate in the testing series. One of the major concerns expressed by Mr. Mitchell was that the boilers may be properly adjusted to give satisfactory test results at one load range, like near 100% of capacity, but be improperly adjusted at a different load, like 50% of capacity, so that unsatisfactory test results would be obtained.

Your letter requested simultaneous tests at four different boiler loads for each boiler. For Anheuser-Busch, this would involve 16 complete EPA Method 5 tests. That many tests would require about three weeks of testing and cost an estimated $30,000. In actuality, the Anheuser-Busch boilers do not operate for long periods at constant loads as are used in PM compliance testing. The boilers are continually responding to changing process steam demands. In any given hour, the boilers normally operate over their entire load range from 10% to 100% of capacity in the random frequency at any single load.

As an attempt to better represent the actual boiler operation and to maintain reasonable costs, Anheuser-Busch proposes an abbreviated testing program to be performed concurrently with the PM emissions tests that are now needed for the renewal of the boilers' operating permit. Mr. Mitchell indicated that the DER would need to evaluate the data submitted before finalizing its acceptance of the abbreviated program.

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

The test program proposed by Anheuser-Busch involves performing the simultaneous PM, SO_2 and VE tests as described in your March 2 letter, but only at 90% to 100% of the maximum operating capacity. This is the PM test requirement for the permit renewal. Before and/or after each of the above simultaneous tests (on the same day), VE tests would be performed on the other operating boilers, one at a time. An estimated ten (10) VE tests would be conducted on the variable load boilers. The steam output charts for these tested boilers will be included with the VE test results.

This concept is practical because, during the required PM tests, the one boiler being tested is set for constant operation near its capacity. The other two or three operating boilers then vary their loads automatically in response to the steam demand. In this way, the VE tests on the variable load boilers will be representative of their actual operation over their entire capacity range.

At this time, Anheuser-Busch is planning to conduct the simultaneous tests during the week of September 12, 1983. The testing will be coordinated with the Jacksonville Bio-Environmental Services so that they may observe the tests. Testing in September will allow Anheuser-Busch to complete some needed boiler repairs before performing the PM compliance tests.

If there are any questions concerning this proposal or the subsequent data that is submitted, you can contact me at the St. Louis office. My phone number is (314) 577-4158.

Very truly yours,

Donald M. DeHart

Donald M. DeHart
Senior Environmental Engineer

DMD:cmh

cc Mr. J. E. Woosley - Jacksonville Bio-Environmental Services

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

March 2, 1983

Mr. Donald M. DeHart
Senior Environmental Engineer
Anheuser-Busch Companies, Inc.
One Busch Place
St. Louis, Missouri 63118

Re: Alternate Standards and Procedures Requested by Anheuser-Busch Companies, Inc.; File Number ASP-F01-82.

Dear Mr. DeHart:

The Bureau received your package containing stack tests and VE (visible emissions) tests for ABC's (Anheuser-Busch Companies, Inc.) facility in Jacksonville, Florida, on February 14, 1983. The following comments are a result of the review of the data submitted:

1. The stack tests for the four boilers for particulate matter (PM) were conducted independently of the VE tests, making it impossible to directly correlate the opacity limit with a specific PM emission rate per boiler,

2. The steam output recording disc of each boiler was not submitted along with the stack test data, and

3. Stack tests for SO_2 were not submitted.

Therefore, the following data shall be required and submitted to the Bureau before further processing of your requests will resume:

1. While firing fuel oil, individual boiler stack tests for PM and SO_2 are to be conducted isokinetically and concurrently with a VE test at loads of 30%, 50%, 75% and 100% of the maximum rated capacity:

   a. One complete EPA Method 5 and 6 test per boiler per load is required,
   b. Fuel oil samples must be taken from the inlet fuel oil feed line during each test,

c. Lab analysis reports of the fuel oil samples must include the heat capacity, the density, the percent content by weight of the sulfur, ash, moisture, nitrogen, and metals; state the ASTM Procedure used,
d. EPA Reference Methods, Appendix A, 40 CFR 60, Nos. 1-4, 5, 6 and 9 are to be performed,
e. The boilers' steam output recording discs must be maintained during each boiler's stack test(s) and accompany the stack test reports,
f. The completed stack test reports must include the raw test data, the operating parameters (i.e., excess air range, MM Btu/hr heat input, etc), the calculations, any assumptions, the conclusions and pertinent data involved with performing the stack test(s), and
g. A VE test consists of opacity readings taken during a minimum of a one(1) hour observation per stack,

2. If stack continuous opacity monitors exist, submit the recordings taken during each stack test, and

3. Submit a proposed fuel oil sampling scheme, including method of extraction, location of sampling point, sampling frequency, and the ASTM Procedure to be used in the lab analyses.

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/BM/ks

cc: Jerry Woosley
Doug Dutton
Bill Blommel

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered.....¢
- ☐ Show to whom, date and address of delivery....¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered.....¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery $.75

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Donald M. DeHart
One Busch Place
St. Louis, Missouri 63118

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157981	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

Gary L. Hampton

4. DATE OF DELIVERY 3-4

POSTMARK

ST. LOUIS, MO. MAR 4 1981 RIVERVILLE STATION

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-300-459

No. 0157981

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Mr. Donald M. DeHart

STREET AND NO.
One Busch Place

P.O., STATE AND ZIP CODE
St. Louis, MO 63118

POSTAGE		$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$

POSTMARK OR DATE

PS Form 3800, Apr. 1976

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

December 3, 1982

Mr. Bruce Mitchell
Central Air Permitting Section
Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301

DER
DEC 06 1982
BAQM

Re: Anheuser-Busch - Jacksonville
Boilers #1 - #4

Dear Mr. Mitchell:

Enclosed is the particulate and visible emissions test information on the subject sources as you requested.

If I may be of further assistance, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj
Enclosure

TABLE I

EMISSION SUMMARY

ANHEUSER BUSCH, INC.-JACKSONVILLE, FLA.

DATE	SOURCE	RUN NO.	PARTICULATE EMISSIONS LBS./HR.	MILLION BTU/HR.	LBS./MM BTU	VOLUMETRIC AIR FLOW ACFM	SCFMD
4/21/81	NO.1						
	BOILER	1	13.36	85.3	0.157	41460	21205
4/21/81		2	7.66	85.3	0.090	36685	19607
4/21/81		3	8.46	86.4	0.098	37337	19692
		MEAN	9.83	85.7	0.115	38494	20168
4/23/81	No. 2	1	8.49	78.7	0.108	41027	21174
4/23/81	Boiler	2	5.27	78.1	0.068	37733	19383
4/23/81		3	5.96	74.8	0.079	37589	19372
		MEAN	6.57	77.2	0.085	38783	19976
4/23/81	NO. 3	1	4.18	82.6	0.051	34463	18849
4/23/81	BOILER	2	5.47	82.8	0.066	33853	18391
4/23/81		3	6.81	79.6	0.086	34565	18906
		MEAN	5.49	81.7	0.068	34294	18715
4/22/81	NO. 4	1	9.86	89.3	0.110	31733	16217
4/22/81	BOILER	2	5.45	79.8	0.068	30689	15987
4/22/81		3	5.17	75.0	0.069	29908	15686
		MEAN	6.83	81.4	0.082	30777	15963

ALLOWABLE EMISSION = 0.10 LBS./MM BTU

Tel. (904) [illegible]

TECHNICAL SERVICES, INC.
ENVIRONMENTAL CONSULTANTS

Air and Water Pollution Sampling, Surveys, Testing and Analytical Services

10307 STOCKTON STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

March 22, 1982

VISIBLE EMISSIONS TEST DATA

FOR: ANHEUSER BUSCH,INC.

PLANT ADDRESS: P.O. Box 18017 AMF, Jacksonville, Fl 32218

SOURCE IDENTIFICATION: Boilers No. 1, 2, 3, and 4

COMPANY OFFICIAL CONTACT: Mr. Tom Martin

TEST CONDUCTED BY: William H. Hoffmann

OBSERVATION MADE FROM: See field data sheets

COMMENTS: _____

A copy of William H. Hoffmann's State of Florida Certification is attached to this report.

William H. Hoffmann
OBSERVER'S SIGNATURE

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

THIS IS TO CERTIFY THAT

William H. Hoffman has completed the STATE OF FLORIDA visible emissions evaluation training and is a qualified observer of visible emissions as specified by EPA reference method 9.

This certificate expires on March 31, 1982

Judi Sears
Certification Officer

William H. Hoffman
Bearer's Signature

DER Form PERM 5-9 (Jun 79)

Tel. (904) 353-5761
103-7 STOCKTON STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

TECHNICAL SERVICES, INC.

VISIBLE EMISSIONS FIELD DATA SHEET

Company Name A. Bosch
Source #1 Boiler

Date 3/19/82
Time 1010 - 1110

Wind Direction and Speed SE 0-5
Observer's Signature William D. Hoffmann

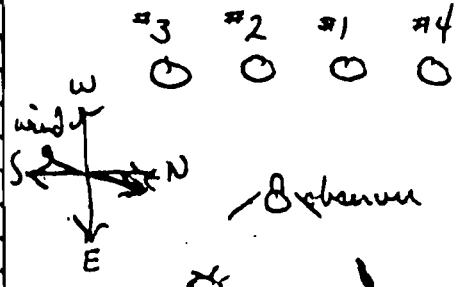
min. \ sec.	0	15	30	45
0	0	0	5	0
1	0	0	0	5
2	0	5	0	0
3	5	5	5	0
4	5	5	5	5
5	5	5	0	0
6	0	0	0	0
7	5	5	0	0
8	0	0	5	5
9	5	5	5	5
10	5	5	5	5
11	5	5	5	5
12	0	0	0	0
13	0	0	0	5
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	5	0	0	0
19	0	0	0	0
20	0	5	5	5
21	5	5	5	5
22	5	5	5	5
23	5	5	5	5
24	5	5	5	0
25	0	5	0	0
26	5	5	10	5
27	0	0	0	0
28	0	0	5	5
29	0	0	0	0

min. \ sec.	0	15	30	45
30	0	0	5	5
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	5	5	5	0
38	0	0	0	0
39	0	0	0	0
40	5	5	0	5
41	5	5	5	5
42	5	5	5	5
43	0	5	0	0
44	5	5	5	10
45	10	10	10	5
46	5	5	5	5
47	0	0	0	0
48	5	0	0	0
49	5	5	0	0
50	0	0	0	0
51	5	5	5	5
52	5	5	5	5
53	5	5	5	5
54	5	5	5	0
55	0	0	0	0
56	0	5	5	5
57	5	5	5	5
58	5	5	5	5
59	5	5	5	5

Height of Stack: 75'
Distance to Stack: 200'
Color of Plume: Clear to White
Condensed water: Yes (No)
Point of Opacity Reading: outlet of stack

Background Description: Blue Sky

Opacity = Sum of nos. recorded / Total nos. readings
= 605/240 = 2.5%



Tel. (904) 353-5761
103-7 STOCKTON STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

TECHNICAL SERVICES, INC.

VISIBLE EMISSIONS FIELD DATA SHEET

Company Name A. Busch
Source #2 Boiler

Date 3/19/82
Time 1010 - 1110

Wind Direction and Speed SSE 0-5
Observer's Signature William J. Hoffman

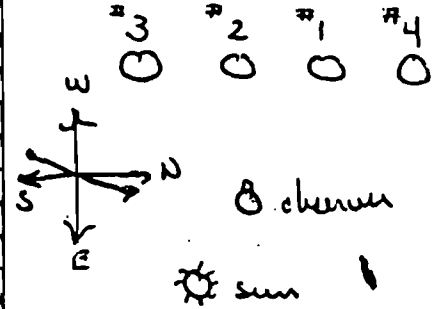
min. \ sec.	0	15	30	45
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	5	5	5	5
22	5	5	5	5
23	5	5	5	5
24	0	0	0	0
25	0	5	5	0
26	5	5	5	5
27	0	0	5	5
28	0	0	5	5
29	0	0	5	5

min. \ sec.	0	15	30	45
30	0	0	5	5
31	0	0	5	0
32	0	0	5	5
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	5	5	5
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	5	5	5	5
48	5	5	5	5
49	5	5	5	5
50	5	5	5	5
51	5	5	5	5
52	5	5	5	5
53	5	5	5	5
54	5	5	5	5
55	0	0	0	0
56	0	0	0	0
57	5	0	0	0
58	0	0	5	5
59	5	5	5	5

Height of Stack: 75'
Distance to Stack: 200'
Color of Plume: clear-white
Condensed water: Yes (NO)
Point of Opacity Reading: outlet of stack

Background Description: Blue Sky

Opacity = Sum of nos. recorded / Total nos. readings
= 360/240 = 1.5%



Tel. (904) 353-5761
103-7 STOCKTON STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

TECHNICAL SERVICES, INC.

VISIBLE EMISSIONS FIELD DATA SHEET

Company Name A. Busch
Source #3 Boiler

Date 3/19/82
Time 1010 – 1110

Wind Direction and Speed SSE-0-5
Observer's Signature William H. Hoffman

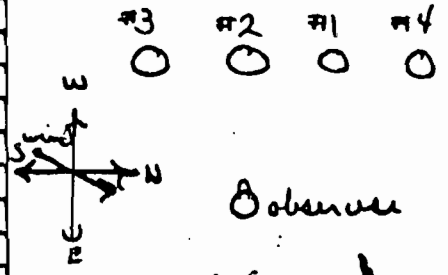
min. \ sec.	0	15	30	45
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	5	5	0	5
21	5	5	5	5
22	5	5	5	5
23	5	5	5	5
24	5	5	5	0
25	5	0	5	5
26	25	20	15	10
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0

min. \ sec.	0	15	30	45
30	0	0	0	0
31	0	0	0	0
32	0	0	5	5
33	5	5	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	5
37	0	0	5	5
38	0	0	0	5
39	0	0	0	0
40	0	0	5	5
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	5	5	0
45	5	5	5	0
46	5	5	5	5
47	5	5	5	5
48	5	5	5	5
49	5	5	5	5
50	5	5	5	5
51	5	5	5	15
52	15	10	10	10
53	10	10	15	5
54	5	5	5	0
55	0	0	0	0
56	0	0	0	5
57	5	15	5	5
58	5	5	5	5
59	0	0	5	5

Height of Stack: 75'
Distance to Stack: 200'
Color of Plume: Clear-wht
Condensed water: Yes (No)
Point of Opacity Reading: outlet of stack

Background Description: Blue Sky

Opacity = Sum of nos. recorded / Total nos. readings
= 535/240 = 2.2 %



* Sun

Tel. (904) 353-5761
103-7 STOCKTON STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

TECHNICAL SERVICES, INC.

VISIBLE EMISSIONS FIELD DATA SHEET

Company Name A. Busch
Source #4 Boiler

Date 5/19/82
Time 1010 - 1110

Wind Direction and Speed SSE 0-5 mph
Observer's Signature William W. Johnson

min. \ sec.	0	15	30	45
0	5	5	10	10
1	5	5	5	5
2	5	5	5	5
3	5	0	0	5
4	5	0	0	0
5	0	0	0	5
6	5	0	5	5
7	0	5	5	5
8	5	5	5	5
9	5	5	5	5
10	5	5	5	0
11	0	0	5	5
12	10	10	10	10
13	5	10	5	5
14	0	0	0	0
15	0	0	0	0
16	0	0	5	5
17	5	5	5	5
18	5	5	5	5
19	5	5	5	5
20	10	10	10	5
21	10	10	10	10
22	10	10	10	10
23	10	10	10	10
24	10	10	5	5
25	5	5	0	5
26	10	10	5	5
27	5	5	5	10
28	5	5	5	10
29	10	10	10	10

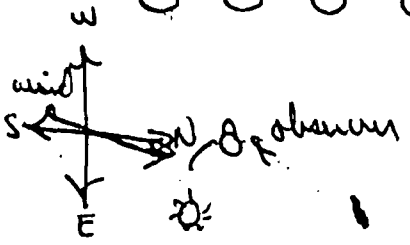
min. \ sec.	0	15	30	45
30	10	10	10	10
31	10	10	10	10
32	10	10	10	10
33	10	10	5	10
34	5	5	0	0
35	0	0	0	0
36	0	0	0	0
37	0	5	0	0
38	0	0	0	0
39	0	0	0	0
40	5	5	5	5
41	5	5	5	5
42	5	5	5	5
43	0	0	0	0
44	0	5	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	5	0	0
49	5	5	5	5
50	5	5	5	5
51	5	5	5	5
52	10	10	5	5
53	5	5	5	0
54	0	0	0	0
55	0	5	5	5
56	10	10	10	5
57	5	5	5	5
58	5	5	5	5
59	5	5	5	0

Height of Stack: 75'
Distance to Stack: 200'
Color of Plume: Clear-black
Condensed water: Yes (NO)
Point of Opacity Reading: outlet of Stack

Background Description: Blue Sky

Opacity = Sum of nos. recorded / Total nos. readings
= 1085/240 = 4.5%

#3 #2 #1 #4
O O O O



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

December 7, 1982

Mr. Donald M. DeHart
Senior Environmental Engineer
Anheuser-Busch Companies, Inc.
One Busch Place
St. Louis, Missouri 63118

Re: Requests for Surrogate Test Methods - ASP-J01-82

Dear Mr. DeHart:

The Bureau has received your request for approval of two (2) surrogate test methods. In order to complete the reviews, submit the complete package of data of the last two (2) mass emission stack tests for each of the boilers, Nos. 1, 2, 3 and 4. Also, submit the last two (2) visible emission tests performed on the same boilers.

Processing of your requests will resume upon receipt of the requested data. If you have any questions, call Bruce Mitchell at (904) 488-1344 or write to me at the above address.

Sincerely,

John P. Svec, P.E.
for

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

CHF/BM/bjm

cc: Bill Blommel
Jerry Woosley
Johnny Cole
Martha Harrell Hall

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: Bruce Mitchell

THRU: Bill Blommel WB

FROM: Jim Manning JM

SUBJECT: Alternate Standards and Procedures Requested by Anheuser-Busch Company. File Number ASP-J01-82

DATE: October 15, 1982

In response to Mr. Blommel's memo dated 9/22/82, I am submitting the following comments on the subject request:

1. A visible emissions test should be substituted for a particulate emissions test for compliance verification purposes only after a maximum opacity level has been determined that corresponds to the maximum particulate emission rate from a particular unit. This correlated opacity limit should be determined (not assumed) by a series of stack tests at several (minimum 4) boiler loads, including one at maximum capacity. The correlated opacity limit should be accompanied by certain operating parameters recorded during the stack tests (i.e., excess air range, fuel analysis) and if any of those parameters change substantially, a new series of correlating tests should be conducted to establish a new correlated opacity limit. If a CEM is in operation, the data correlating with the stack tests should also be submitted. It should also be established in the Order that a violation of the correlated VE limit will be considered a violation of the mass emission limit and will result in appropriate enforcement action. A correlated opacity limit should only be allowed on a unit that exhausts through its own distinct stack or, if not possible, a system devised so that each unit can be evaluated individually, i.e. opacity monitors. For compliance verification, the company should be required to conduct a VE test quarterly and it should consist of three 1-hour observations by a qualified observer. The regulatory agency responsible for that source must have the right to make observations at any time and also require a stack test at any time if there is reason to believe all requirements of the Order are not being met.

2. If fuel oil analysis is substituted for SO_2 stack tests, then the analysis should be the basis for the finding of violation of the SO_2 mass limit and should be used for enforcement action. The company should be required to submit a proposed fuel oil sampling scheme, including method of extraction, location of sampling point and sampling intervals, for agency evaluation prior to approval of this request.

These items should be addressed by the company prior to the decision to approve or deny the request.

JM/dt

TO Bill Blommell BAQM
Bruce Mitchell BAQM

FROM John Ketteringham
N.E. District

SUBJECT SURROGATE TEST FOR PM&SO2

DATE 10-8-82

MESSAGE Ref your memo 9-16-82
LET DISTRICT / LOCAL PROGRAM DECIDE.
OUR RULE IS BECOMING CLUTTERED WITH SPECIFICS.
IT CANNOT ADDRESS ALL CASES.
DUVAL BES HAS AN EXCELLENT TRAINED STAFF
AND THEIR RECOMMENDATION IS IN FAVOR OF THE
APPLICANTS REQUEST.
I CONCUR
ATTACHED IS STAN MAZUR'S COMMENT. HE DOES
NOT CONCUR.

SIGNED J. Ketteringham
DATE

REPLY

SIGNED

NATIONAL SNAP-A-PART 47-213

THIS COPY FOR PERSON ADDRESSED

MADE IN U. S. A.

To: Bill Blommel
Thru: J. Ketteringham

My response to your letter of 22 Sept 1982 concerning alternate procedures and standards requested by Anheuser-Busch Co. [file number ASP-301-82] is:

1. I approve of using As-Fired Fuel Analysis in lieu of SO2 emissions testing providing:
   A. the as-fired fuel sample is analyzed for % Sulfur content and gross calorific value using the most recent revision or designation of ASTM procedure ASTM-D-240.
   B. timely, accurate and certified submittals of fuel usage are submitted per permit specific conditions.
2. I disapprove of any opacity standard in lieu of particulate emissions testing as assurance or verification of compliance.
3. I do tolerate a 0% opacity in lieu of particulate emissions testing. A source continually operating at their permit rate, with no visible emissions, is emitting essentially no particulate matter. Limiting, reducing and/or eliminating particulate emissions is one of DER's goals and the concerned public.

My disapproval above is based on the Completion of Construction tests conducted during April 1982 and Permit conditions stipulating that 3 boilers will operate simultaneously. Boilers 1, 2, & 4 emitted 21.5# TSP/hr (94TPY) while operating from 82 to 86% of the requested heat input. This emission is 86% of the allowable estimate of 24.9# TSP/hr. No VE observations were noted or submitted for the tests. These test results indicate marginal compliance with less than requested heat input and is no indication of compliance with the higher requested heat input.

ASP

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

	INITIAL / DATE
1. TO: (NAME, OFFICE, LOCATION) BRUCE MITCHELL BAQM	
2.	
3.	
4.	

REMARKS:

DER

OCT 12 1982

BAQM

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 & REPT
	INITIAL & FORWARD
	DISTRIBUTE
	CONCURRENCE
	FOR PROCESSING
	INITIAL & RETURN

FROM: John K.

DATE

PHONE

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee

To: _____ Loctn.: SD-B
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____

Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: _____ Date Due: _____

OCT 20 1982
BAQM

TO : Bruce Mitchell

FROM : Jack Preece Jack

DATE : October 6, 1982

SUBJECT: Alternate Standards and Procedures Requested by Anheuser-Busch Companies - File No. ASP-J01-82

As requested in subject file, we offer the following comments.

1. The size of the boilers are not mentioned nor is the particulate standard which is to be replaced or the visible emissions standard proposed. Also, to judge this request one should have a record of past particulate tests v.s. concurrent visible emission observations.

Comments on a few hypothetical situations are:

a. If the boilers exceed 250 MMBtu/hr the answer is No.

b. If below 250 MMBtu/hr - O.K. to specify a V.E. standard that has been demonstrated during stack testing which proved compliance (not more than 20% and preferably much less).

2. Fuel oil sulfur content as a substitute for SO_2 emission tests should be approved. If the allowed sulfur content to meet the SO_2 standard exceeds that used during particulates testing, requirement to notify prior to actual use and ~~perform~~ particulate tests should be performed.

JP/jps

STATE OF FLORIDA

hrs DEPARTMENT OF

Bob Graham, Governor

Health & Rehabilitative Services

District Nine
P. O. Box 29

Palm Beach County Health Dept.
West Palm Beach, Florida 33402

Please Address
Reply to:

DER

OCT 08 1982

BAQM

October 4, 1982

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

RE: Alternative Standards
and Procedures
Anheuser-Bush Companies-File #ASP-J01-82

Dear Mr. Mitchell:

This agency has reviewed Mr. Bill Blommels memorandum of September 22, 1982 and attachments regarding the above referenced matter.

This agency is in agreement with both Anheuser-Bush's petition and the Jacksonville local programs' approval to use visible emission and fuel oil analysis (% sulfur content) as surrogate test for particulate and sulfur. dioxide testing.

Sincerely,

For the Division Director
Environmental Sciences & Engineering

Michael J. Martin
Air Pollution Control

FJG/MJM/mc

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: Victoria J. Tschinkel, Secretary

FROM: Steve Smallwood, Bureau Chief, BAQM

DATE: September 29, 1982

SUBJ: Approval and signature of a modification to the construction permit, No. AC 16-39951, for Anheuser-Busch Companies, Inc., issued October 22, 1981.

Enclosed is an amendment to the referenced construction permit that has been approved by the Bureau.

SS/bmm

Enclosure

September 29, 1982

Mr. Donald M. DeHart
Senior Environmental Engineer
Anheuser-Busch Companies, Inc.
One Busch Place
St. Louis, Missouri 63118

Re: Modification of Construction Permit AC 16-39951

Dear Mr. DeHart:

The Bureau is in receipt of your request for a modification of your construction permit, No. AC 16-39951, issued October 22, 1981. The request is acceptable and the condition is changed and added as follows:

Specific Condition:

From: No. 1: Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Ton/yr.
Particulate	10 lb/hr (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

To: No. 1: Maximum allowable emissions from the facility shall not exceed:

Pollutant	lb/hr.	TPY
Particulate	10 (per boiler)	84.8 (total-4 boilers)
SO_2	250 (per boiler)	2120.0 (total-4 boilers)
NO_2	40 (per boiler)	340.0 (total-4 boilers)

Attachments to be included are:

2. Don DeHart's letter dated May 12, 1982.

3. Jerry Woosley's letter dated June 8, 1982.

4. Steve Smallwood's letter dated July 19, 1982.

5. Don DeHart's letter dated September 22, 1982.

This letter and attachments must be attached to your permit (AC 16-39951) and becomes a part of that permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/bmm

cc: Jerry Woosley
John Ketteringham
Martha Harrell Hall

ANHEUSER-BUSCH COMPANIES

September 22, 1982

Mr. Clair H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Permit AC16-39951
Boiler Modification
Jacksonville Brewery

Dear Mr. Fancy:

Pursuant to my phone conversation today with Mr. Bruce Mitchell of your office, Anheuser-Busch requests that the Construction Permit AC16-39951 be amended. This amendment will not increase the allowable emissions from the facility as stated in the permit.

Anheuser-Busch requests that Specific Condition No. 1 be amended so that the annual maximum allowable emissions from the facility be 84.8 tons particulates, 2120.0 tons SO_2, and 340.0 tons NO_x. This Condition presently specifies the annual maximum allowable emissions on a per-boiler basis.

This change in Specific Condition No. 1 would allow our brewery personnel more flexibility in that each boiler could be used unequally if circumstances required it. This amendment will also coordinate better with Specific Condition No. 4 which contains a facility limitation on the quantity of fuel oil that can be used in any calendar year. In addition, the facility's annual maximum emissions will remain the same.

I understand that, if this request is granted, the construction permit amendment will result in a similar change in the operating permit. The Jacksonville Bio-Environmental Services Division is presently preparing to issue the operating permit for this facility.

Anheuser-Busch Companies, Inc.
721 Pestalozzi Street
St. Louis, MO 63118

Your prompt consideration of the request for permit amendment will be appreciated. If you have any questions or need additional information, please contact me at the St. Louis office. My phone number is (314) 577-4158.

Very truly yours,

ANHEUSER-BUSCH COMPANIES, INC.

Donald M. DeHart
Environmental Engineer

DMD:cmh

cc Mr. J. E. Woosley
Jacksonville Bio-Environmental Services

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

September 1, 1982

DER
SEP 07 1982
BAQM

Mr. Don DeHart
Engineer
Anheuser-Busch, Inc.
721 Pestalozzi St.
St. Louis, Missouri 63118

Re: Boilers, Jacksonville Brewery

Dear Mr. DeHart:

Enclosed is the draft copy of the Operation Permit for the #1-#4 power boilers at the Jacksonville Brewery. The following comments are provided concerning the emission and operational limitations imposed:

(1) Each boiler is limited to a maximum heat input per hour based on the stack tests conducted during April 1981. The maximum heat input is set at the testing rate plus 10%.

(2) The particulate, SO_2, and NO_x pounds per hour limitations are based upon the following emission factors:

(A) 0.1 lbs particulate per million BTU heat input.
(B) 2.5 lbs SO_2 per million BTU heat input (equivalent to the use of 2.28% Sulfur content fuel oil).
(C) 60 lbs NO_x per 1000 gallons oil burned (AP-42 emission factors).

(3) In order to avoid a Prevention of Significant Deterioration (PSD) review, the tons per year limitations are imposed using the above emission factors and a fuel restriction of 11,312,000 gallons per year total. This total fuel consumption figure was derived from the 1979 fuel consumption figure of 2,828,000 gallons(in the construction permit application) for boiler #1 as a representative base figure (2,828,000 gallons per year X 4 boilers equals 11,312,000 gallons per year).

(4) The 24 hour fuel restriction (57,920 gallons) assumes all 4 boilers operating at maximum permitted capacity 24 hours per day and 150,000 BTU's per gallon of fuel utilized.

If you have any questions concerning this matter, please contact me on or before September 9, 1982.

Very truly yours,

JEW/vj
Enclosure

Jerry E. Woosley
Assistant Engineer

cc: Mr. Tom Martin (Anheuser-Busch)
cc: Mr. Bruce Mitchell (DER) with enclosure

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
SUBDISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

APPLICANT: Anheuser-Busch, Inc.
P. O. Box 18017, A.M.F.
Jacksonville, Florida 32229

PERMIT/CERTIFICATION
NO. A016-54240

COUNTY: Duval

PROJECT: Four (4) Oil Fired
Power Boilers

	APIS
Boiler 1	31-16-0006-01
Boiler 2	31-16-0006-02
Boiler 3	31-16-0006-03
Boiler 4	31-16-0006-04

DRAFT

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the operation of four (4) #6 oil fired boilers for the production of steam.

Located at 111 Busch Drive, Jacksonville, Florida 32229
UTM E - 7439.300 N - 3366.820

In accordance with the application received on March 31, 1982, and additional information received on May 11, 1982 and August 23, 1982.

PERMIT NO.: A016-54240
APPLICANT: Anheuser-Busch, Inc.

DRAFT

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

Permit No.: A016-54240
Applicant : Anheuser-Busch, Inc.

Specific Condition:

1. Supporting documents are retained in the office file to which they were submitted and not attached as stated in the leading paragraph and General Condition No. 2. They are as follows:

   A. Plot plans and diagrams
   B. Permit AC16-39951 and attachments

2. The maximum allowable emission rate for each pollutant is as follows:

Pollutant	Emission Rate	Maximum Allowable Emission
	See Specific Condition No. 8	

DRAFT

3. Testing of emissions shall be accomplished at 90% to 100% of the permitted capacity. If testing is performed at a rate less than 90% of the permitted capacity, operation shall be limited to that capacity until such time as an acceptable test is performed at 90% to 100% of permitted capacity. When operation is restricted to a lower capacity, because of testing at such a level, the Department/Bio-Environmental Services Division, upon advanced notification, will allow operation at higher capacities if such operation is for demonstrating compliance at a higher capacity (never to exceed design capacity).

4. Notify the Jacksonville Bio-Environmental Services Division (BESD) 14 days prior to source testing. Copies of the test report(s) shall be submitted to BESD within 30 days after completion of testing.

5. The following pollutant(s) shall be tested at intervals indicated from the date of July 1, 1982.

   Particulates - On request
   *Visible Emissions - 12 months
   **Sulphur Dioxide - 12 months

   *Boilers 1 through 4
   **Fuel oil analysis may be substituted

9/7/82 3:15-3:27 PM Steve Par

6. Submit an annual operation report to BESD for this source on the form supplied for each calendar year on or before March 1.

7. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

Permit No.: A016-54240
Applicant : Anheuser-Busch, Inc.

DRAFT

Specific Conditions:

8. Maximum allowable emissions are as follows:

Boiler	Particulate lbs/hr	Particulate T/yr	Sulphur Dioxide lbs/hr	Sulphur Dioxide T/yr	Nitrogen Oxide lbs/hr	Nitrogen Oxide T/yr
1	9.5	21.2	237.5	530	38.0	85
2	8.6	21.2	215.0	530	34.4	85
3	9.1	21.2	227.5	530	36.4	85
4	9.0	21.2	225.0	530	36.0	85

9. The maximum fuel oil input per day (24 hours) shall be 57,920 gallons. The maximum fuel oil input per year shall be 11,312,000 gallons.

10. The sulphur content of the fuel oil is limited to 2.28% by weight.

11. Operation is limited to 8760 hours per year per boiler; 35,040 hours per year total.

12. Anheuser-Busch, Inc. shall keep records of the following parameters:

    (A) Fuel consumed per boiler per calendar quarter.

    (B) Operating hours per boiler per calendar quarter.

    These records shall be submitted to BESD in conjunction with Specific Condition No. 6.

13. Boilers 1-4 are limited to a maximum input of 95, 86, 91, and 90 million BTUs per hour respectively.

14. Visible emissions are limited to 20% opacity on each boiler.

Expiration Date: July 31, 1987 Issued this ___ day of _____ 19____

City of Jacksonville
Bio-Environmental Services

State of Florida
Department of Environmental Regulation

Donald C. Bayly, Division Chief

Doug Dutton, Subdistrict Manager

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

July

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 19, 1982

Mr. Don Dehart
Senior Environmental Engineer
Environmental Engineering and Resources
c/o Anheuser Busch Companies, Inc.
One Busch Place
St. Louis, Missouri 63118

RE: Construction Permit AC 16-39951 issued on October 22, 1981, for Anheuser Busch, Inc. - Jacksonville, Florida

Dear Mr. Dehart:

As requested, the following items were discussed by telephone on May 27, 1982, concerning your company's request for an operating permit to Bio-Environmental Services (BES) of Jacksonville, Duval County, Florida:

1. The "application to operate an air pollution source" to BES requested allowable emission limits that exceeded those limits contained in the referenced construction permit, which was "Public Noticed". The "Public Noticed" emission limits are based on a representative year, 1979, chosen by your company to reflect the historical actual emissions as part of the initial prevention of significant deterioration (PSD) review. The company's intent was to avoid PSD review by not increasing any pollutant emissions above the historical actual emissions. This is how the current construction permit was issued and accepted by the company (no comments were received during the allowed comment period). Therefore, if your request for an operating permit is not amended to reflect the maximum allowable emission limits contained in the referenced construction permit, the operating permit cannot be granted in accordance with Chapter 17-2.500(6)(b), Florida Administrative Code (FAC).

2. If your company does want allowable emission limits above those contained in the referenced construction permit, submit to the BAQM-DER an application to "construct/modify an air pollution source". A review for PSD will be required according to Chapter 17-2.500, Florida Administrative Code (FAC) and the "Technical Review and Preliminary Determination" will be "Public Noticed" for the required 30-day period.

3. There were, as discussed, two typographical errors contained in the referenced construction permit:

a. Specific Condition No. 2: Total boiler operation hours should have read 35,040 hours.

b. Specific Condition No. 4: The correct maximum fuel allowed to be fired by Boilers 1-4, totally, should have read 15.441 X 10^6 gallons per year (42,304 maximum gallons per 24-hour period), which is based on 2,316,144 X 10^6 Btu Heat Input, total annual maximum allowed for the 4 boilers (66.1 X 10^6 Btu Heat Input maximum per boiler per hour), 8760 hours per year per boiler, and 150,000 Btu per gallon (heat content).

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

Sincerely,

for Steve Smallwood, P.E.
Bureau Chief
Bureau of Air Quality Management

SS/RBM/bjm

cc: Jerry Woosley
Doug Dutton
Martha Harrell Hall

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

June 8, 1982

Mr. John Mueller, Plant Manager
Anheuser Busch, Inc.
P.O. Box 18017
AMF
Jacksonville, Florida 32229

Re: Permit AC16-39951 - (Four Boilers)

Dear Mr. Mueller:

The Operation Permit application for the four boilers at your facility is currently under review by Mr. Don Dehart of your St. Louis office and Mr. Bruce Mitchell, Department of Environmental Regulation, Tallahassee, Florida. The emission limits applied for in the Operation Permit differ appreciably from the emission limits imposed in Construction Permit AC16-39951.

In order to allow sufficient time for resolution of these differences, I have enclosed a waiver form which, when properly executed, will extend the permit processing period to September 30, 1982. Please complete the waiver form in full and return to this Agency on or before June 18, 1982. Failure to submit a duly executed waiver in the time frame outlined, could result in the issuance of a letter of Intent to Deny the subject permit application.

If I can be of further assistance in this matter, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

Enclosure

cc: Mr. Don Dehart, without enclosure
cc: Mr. Bruce Mitchell, without enclosure
cc: Mr. Doug Dutton, without enclosure

BIO–ENVIRONMENTAL SERVICES
Air and Water Pollution Control
515 W. 6th Street
Jacksonville, Florida 32206–4397

Mr. Bruce Mitchell
Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301

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

May 12, 1982

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

Re: Anheuser Busch - No. 1-4 Boilers

Dear Mr. Fancy:

During my review of the Operation Permit application for the captioned sources, some discrepancies have been noted between the Construction Permit AC16-39951 and the information provided in the Operating Permit application. The discrepancies are listed as follows:

Specific Condition No. 1

Pollutant	Construction Permit	Operating Permit Application
Particulate	21.2 T/yr (per boiler)	28.95 T/yr (per boiler)
Sulfur Dioxide	530 T/yr (per boiler)	723.8 T/yr (per boiler)
Nitrogen Oxides	85 T/yr (per boiler)	115.8 T/yr (per boiler)

Specific Condition No. 2

16,528 total boiler hours per year	35,040 total boiler hours per year

Specific Condition No. 4

44.5×10^6 gallons per year	15.5×10^6 gallons per year

It is noted that the 15.5×10^6 gallons per year fuel consumption is approximately equivalent to the previous permitted maximum allowable firing rate of 66.1×10^6 BTU per hour per boiler operating 8760 hours per year.

It is requested that your office make a determination as to the proper emission limits and proper wording for the Specific Conditions. If you have any questions concerning the Operation Permit application, please contact Mr. Don Dehart at (314) 577-4158 or write to him at:

Mr. Don Dehart
Senior Environmental Engineer
Environmental Engineering and

Resources Department
Anheuser Busch Companies, Inc.
One Busch Place
St. Louis, Mo. 63118

In order to complete the processing of the Operation Permit in a timely manner, it is requested that these issues be resolved by May 30, 1982.

If I may be of further assistance, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: Mr. Don Dehart (Anheuser Busch)
cc: Mr. Tom Martin (Anheuser Busch)
cc: Mr. Bruce Mitchell (DER)

Anheuser-Busch
St. Louis
Don DeHart
(314) 241-1885

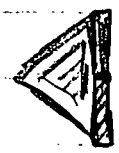
State & Federal

E. Baldacci indicated in telecon on March 19 that all four boilers will undergo increase in capacity from 66 to 100 MMBTU, and stack increases to 100 ft.

Permit renewals were withdrawn in Jax and one new application for all 4 boilers entered at Jax - also fee coming to Jax, then Ed will send over. See his letter of incompleteness

Ed B. thinks SO_2 will increase by 81.5 TPY per boiler; TSP to increase by ~ 12.3 TPY per boiler according to him - maybe less. Under 50 TPY increase in Particulate? (close)

100 BTU or 80,000 # steam



ANHEUSER-BUSCH COMPANIES

Inter-Office Correspondence

March 19, 1982

TO: Mr. T. Martin

cc: Messrs. J. Mueller
R. R. Imsande
J. L. Stein

FROM: Mr. D. M. DeHart

Operating Permit for
Jacksonville Boilers

Enclosed is a Certificate of Completion of Construction which accompanied Mr. J. E. Woosley's March 2, 1982 letter to me. You also received a copy of this letter. I have filled out the Certificate to reflect our current situation as far as the test results and maximum firing rates for each boiler are concerned. The construction permit dates may seem unusual but those were the dates requested by Mr. Woosley of the Jacksonville Bio-Environmental Services (JBES). This Certificate is ready to be signed by Mr. Mueller and then sealed by a Florida professional engineer.

Accompanying the Certificate are several pages of calculations and discussion which point out the minor changes that have been made to the maximum firing rate for each boiler and which attempt to correct errors in the construction permit AC 16-39951 and to clarify how the annual boiler emission limits can be written for maximum flexibility. I have also included two letters dated August 5, 1981 and November 3, 1981, which were referenced in the discussion. This entire "package" should accompany the Certificate when it is submitted to the JBES.

The accompanying "package" should satisfy Item (4) of Mr. Woosley's letter. Item (3) is included on the filled out Certificate. You have stated that you will take care of Items (2) and (5). Once the Certificate is signed and sealed then Item (1) will be complete.

Please submit all of the required items to the JBES per Mr. Woosley's letter. If you have any questions, don't hesitate to call.

D. M. DeHart

DMD/bkb
Enc.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC 16-39951 DATE: January 25, 1982

Company Name: Anheuser-Busch, Inc. County: Duval

Source Identification(s): Boilers 1, 2, 3, and 4

Actual costs of serving pollution control purpose: $ -0- *million (10^6) BTU/hr

Max. Allowable Operating Rates: No. 1 - 95* No. 3 - 91* No. 2 - 86* No. 4 - 90*

Design Capacity: 100 x 10^6 BTU/hr/boiler

Expected Normal ____ During Compliance Test No. 1 - 85.7* No. 3 - 81.7* No. 2 - 77.2* No. 4 - 81.4*

Date of Compliance Test: April 21, 22, 23, 1981 (Attach detailed test report) Submitted to JBES on 5/22/81

Test Results:

Boiler No.	Pollutant	Actual Discharge	Allowed Discharge
1	Particulate	8.06 lb/hr**	8.57 lb/hr
2	Particulate	6.57 lb/hr	7.72 lb/hr
3	Particulate	5.49 lb/hr	8.17 lb/hr
4	Particulate	6.83 lb/hr	8.14 lb/hr

Date plant placed in operation: November 10, 1981

**Disregarded 1st run of 3.

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC 16-39951 dated September 22, 1981.

A. Applicant:

John Mueller — Name of Person Signing (Type)

Plant Manager — Signature of Owner or Authorized Representative and Title

Date: ____ Telephone: (904) 751-0700

B. Professional Engineer:

CHARLES M. NOLAN — Name of Person Signing (Type)

Charles M. Nolan — Signature of Professional Engineer

Pat Nolan & Associates — Company Name

Florida Registration No. 19889

Date: 3-26-82

(Seal)

8141 Sierra Madre Dr.W., Jax., Fla. 32217 — Mailing Address

(904) 737-7468 — Telephone Number

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
Permit AC16-39951
Permit Deviations
March 18, 1982

1. Maximum Allowable Firing Rate (Input)

Based on firing rates for emissions test of April 21, 22, 23, 1981.

Boiler No.	Input during test, 10^6 BTU/hr ave.	Maximum allowable Input, 10^6 BTU/hr*
1	85.7	95
2	77.2	86
3	81.7	91
4	81.4	90
	Total, Facility	362

*See Mr. E. P. Balducci's letter of August 5, 1981

2. Maximum Hourly Oil Usage

Bases: The maximum allowable input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

Boiler No.	Max. Input, 10^6 BTU/hr		Oil heat content, gal/10^6 BTU		Max. oil usage, gal/hr
1	95	x	6.6667	=	633.3
2	86	x	6.6667	=	573.3
3	91	x	6.6667	=	606.7
4	90	x	6.6667	=	600.0
				Total, Facility	2,413.3

3. Maximum Hourly Emissions

a. Particulate

Boiler No.	Max. Input, 10^6 BTU/hr		Florida allowable, lb/10^6 BTU Input		Max. Emissions lb/hr
1	95	x	0.1	=	9.5
2	86	x	0.1	=	8.6
3	91	x	0.1	=	9.1
4	90	x	0.1	=	9.0
			Total, Facility		36.2

b. SO_2

Boiler No.	Max. Input, 10^6 BTU/hr		Florida allowable, lb/10^6 BTU Input		Max. Emissions lb/hr
1	95	x	2.5	=	237.5
2	86	x	2.5	=	215.0
3	91	x	2.5	=	227.5
4	90	x	2.5	=	225.0
			Total, Facility		905.0

c. NO_x

Boiler No.	Max. oil use gal/hr		AP-42 Factor, lb/gal		Max. Emissions lb/hr
1	633.3	x	60/1000	=	38.0
2	573.3	x	0.060	=	34.4
3	606.7	x	0.060	=	36.4
4	600.0	x	0.060	=	36.0
			Total, Facility		144.8

4. Actual Annual Emissions

The facility (all 4 boilers combined) actual emissions shown in the revised Emission Calculations that accompanied the construction permit application are correct. (Refer to page 2, revision 2 dated 11/2/81). This is equivalent to 15.5×10^6 gal/yr of No. 6 fuel oil for the facility. Also the actual emissions per boiler shown in the same calculation is acceptable for particulate SO_2, and NO_x if the per boiler emission is averaged over all four boilers. This averaging will allow for unequal boiler use while still maintaining the overall facility emission limit. See my letter of November 3, 1981 to Mr. Carl Bock.

5. Potential Emissions

a. Hourly Potential Emissions equal the Maximum Hourly Emissions of Section 3 as there are no additional emission control devices on the boilers.

b. Annual Potential Emissions assume continuous operation or 8760 hr/yr at the presently permitted maximum input of 66.1×10^6 BTU/hr/boiler.

	Allowable Emissions, lb/10^6 BTU		Permit Limit, 10^6 BTU/hr		Operating Time, hr/yr		Factor, Ton/2000 lb		Annual Potential Emissions, Tons/hr/boiler
Particulate	0.1	x	(66.1	x	8760	x	0.0005)	=	28.95
SO_2	2.5	x	(		289.518		)	=	723.8
NO_x	$\frac{0.060 \text{ lb}}{\text{gal}}$	x	(289.518		$\left[\frac{6.6667 \text{ gal}}{10^6 \text{ BTU}}\right]$		)	=	115.8

6. Allowable Emissions

Basis for allowable emission rates has not changed from page 3 (dated 1/22/81) of the Emission Calculations. Only the maximum firing rates of the boilers have changed. The allowable emissions for particulate and SO_2 on a per boiler basis is identical to the emissions shown in Sections 3a and 3b. Again there is no limit specified for NO_x.

ANHEUSER-BUSCH COMPANIES

November 3, 1981

Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Boiler Operation Modification
Permit AC 16-39951

Dear Mr. Bock:

Please recall our phone conversations of October 26 and 28, 1981 concerning the above mentioned permit. As we discussed, several areas of the permit were not correctly worded if Anheuser-Busch was to maintain the same annual firing capacity as was allowed in the most recent permits. These permits were referenced in the application revision of 4/14/81 in paragraph IID.

In order to obtain the proper allowance for the firing rates allowed in the previous permits, you requested that the Actual annual emissions in Par. IIIC of the application be amended to show the annual emissions when operating the boilers at the permitted firing rate; namely, 66.1 X 10^6BTU/hr/boiler input. It is the Actual annual emissions listed by the permittee that is used as a basis for the emission limits of the new permit.

Accordingly, I have enclosed a revised Page 3 of the application plus a revised Page 2 of the Emission Calculations to reflect this change. This should allow you to rewrite Specific Condition 1 of the pending permit to allow the previously permitted annual emissions. As you indicated by phone, the new annual limits would be 28.95 tons particulate/yr/boiler, 723.8 tons SO_2/yr/boiler, and 115.8 tons NO_x/yr/boiler. The hourly emission rates were okay.

If you will be writing these annual emission limits on a per boiler basis, I offer this suggestion. Make the annual emission limits as an average for the four boilers. This will allow for unequal use of the boilers and still maintain the emission limit for the entire facility.

As for the other permit Specific Conditions that we discussed, changing Condition No. 2 to "...not to exceed 35,040 hours per year." is acceptable. Also, in Condition No. 4, correcting the total fuel consumption to "...not to exceed 15.5 X 10^6 gal. in a calendar year." is equivalent to all four boilers operating continuously at 66.1 X 10^6BTU/hr/boiler input. As for the reporting and record keeping in Conditions No. 5 and 6, you indicated that this should be worked out with the Jacksonville Bio-Environmental Services

Anheuser-Busch Companies, Inc.
721 Pestalozzi Street
St. Louis, MO 63118

when we are ready to get the operating permit. With the revised conditions noted above, some of the compliance reporting appears to be unnecessary.

Hopefully, these revisions will lead us to our goal; namely, more flexibility in boiler operation while maintaining the emissions allowed in the current and previous permits. It has been a pleasure working with you even if only by phone and letter. Your continuing cooperation and assistance is appreciated. As before, if any new questions or issues arise, please contact me at my St. Louis office.

Yours truly,

D. M. DeHart
Senior Environmental
Engineer

DMD/bkb

Enc.

cc: Mr. R. S. Pace
Jacksonville Bio-Environmental
Services w/enc.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 2, 11/2/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 86,000 lb/hr max (water-steam)
   - 86,000 lb/hr max (steam)
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	28.95	Use 17-2.05(6) Table II	10	10.0	28.95	1,2,3,4
Sulfur Dioxide	250**	723.8	Source "E"(1)(b)	250	250	723.8	
			1.a.** (per Mr. E.				
			Balducci)				
Nitrogen Oxide	40.0	115.8	None specified	--	40.0	115.8	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate/10^6 BTU input.
2.5 lb SO_2/10^6 BTU input

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

D. Maximum Emissions

	(Florida allowable) ($lb/10^6$ BTU input)	x	(capacity input) (100 x 10^6 BTU/hr input)	= Max. Emissions
Particulate	0.1	x	100	= 10.0 lb/hr/boiler or 40.0 lb/hr/facility
SO_2	2.5	x	100	= 250 lb/hr/boiler or 1000 lb/hr/facility
NO_x (Par. IA Factor)	0.060 lb/gal	x	(100/(0.150 x 10^6 BTU/gal)	= 40.0 lb/hr/boiler or 160.0 lb/hr/facility

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 66.1 x 10^6 BTU/hr/boiler for four (4) boilers as limit for permits listed in Par. IID. This is equivalent to an input of 579 x 10^9 BTU/boiler/yr and 2,316 x 10^9 BTU/yr for the facility.

	(Florida allowable) ($lb/10^6$ BTU input)	x	(annual input) $\left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$ (2,316 x 10^9 BTU)/2000	= Facility Actual Emissions
Particulate	0.1	x	(2,316,000/2000)	= 115.8 tons/yr or 28.95 tons (ave)/yr/boiler
SO_2	2.5	x	1158	= 2895 tons/yr or 723.8 tons (ave)/yr/boiler
NO_x (Par. IA Factor)	$\frac{0.060 \text{ lb}}{\text{gal}}$	x	$\frac{1158}{(0.15 \times 10^6 \text{ BTU/gal})}$	= 463.2 tons/yr or 115.8 tons (ave)/yr/boiler

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr at the presently permitted maximum of 66.1 x 10^6 BTU/hr/boiler (based on an annual fuel usage.)

$$\left(\begin{matrix}\text{Hourly}\\ \text{Potential}\\ \text{Emission}\end{matrix}\right) \times \left(\frac{\text{Permit Limit}}{\text{Capacity}}\right) \times \left(\begin{matrix}\text{Operating}\\ \text{Time}\end{matrix}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{lb/hr} \times \left(\frac{66.1 \times 10^6 \text{ BTU/hr}}{100 \times 10^6 \text{ BTU/hr}}\right) \times \left(\frac{8760 \text{ hr}}{\text{yr}}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	10.0	x	0.661(8760/2000)	= 28.95 tons/yr/boiler
SO_2	250	x	2.895	= 723.8 tons/yr/boiler
NO_x	40.0	x	2.895	= 115.8 tons/yr/boiler

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
From: _____ Date: _____		
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: File - Anheuser-Busch Company, Inc.
(Jacksonville - Duval County)

FROM: Bruce Mitchell BM

DATE: February 22, 1982

SUBJ: Construction Permit #AC 16-39951 - Correction of Specific Condition No. 4.

The correct total consumption of No. 6 Fuel Oil per day (24 hours) should be 64,512 gallons, not the 64,152 gallons as found in the permit issued October 22, 1981.

BM:caa

cc: Jerry Woosley, BES
J. Ketteringham, SJRS - Jax
D.M. Dehart, Anheuser-Busch Company, Inc.

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

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

October 22, 1981

Mr. John Mueller
Anheuser-Busch, Inc.
P. O. Box 18017, A.M.F.
Jacksonville, Florida 32229

Enclosed is Permit Number AC 16-39951, dated October, 1981
to Anheuser-Busch, Inc.
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

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

cc: Pat Nolan, Pat Nolan & Associates
Johnny Cole, FDER, St. Johns River Subdistrict
Steve Pace, BES, Jacksonville, FL

DER Form 17-1.122(65)

FINAL DETERMINATION

Anheuser-Busch Incorporated
Jacksonville, Florida

Construction Permit
Application Number
AC 16-39951

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting
October 20, 1981

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 16-39951
Anheuser-Busch, Inc.
Jacksonville, Florida

DATE OF ISSUANCE

September 22, 1981

DATE OF EXPIRATION

January 25, 1982

DER FORM PERM 11-42

Anheuser-Busch Construction Permit Final Determination

Anheuser-Busch's Construction Permit Application for the modification of four (4) existing process steam boilers at the Jacksonville plant has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's intent to issue was published in the Florida Times Union on September 18, 1981. Copies of the preliminary determination were available for public inspection at the Duval County Department of Health, Welfare and Bio-Environmental Services, (BES), the Florida Department of Environmental Regulation (FDER, St. Johns River Subdistrict office), and at the Bureau of Air Quality Management.

Comments on the preliminary determination were received from BES and from the applicant. The comments were discussed with both parties and the following amendments to the preliminary determination were made in preparing the Departments Final Determination:

1. The upgrading of the subject boilers are for the process steam boilers rather than for power generation. The wording in the description has been changed to reflect this difference. It does not change the permitted emissions, only qualifying the specific use of the subject boilers.

2. The specific conditions as stated in the preliminary conditions require a 10% opacity limitation. This is incorrect and should be 20%. The final determination reflects this change. This is in compliance with 17-2.05 (b) (2) for existing fossil fuel steam generators.

3. The maximum heat input value requested by the applicant per boiler was 100 MMBTU. Past tests have not been conducted in the preferred range of 10% $\pm$ of this value. The local agency would prefer that the compliance test be conducted in that range of the permitted value. Since there has been some modification to the boilers (mode of operation and stack alterations), the compliance tests prior to issuance of an operation permit will verify the capacity of the subject boilers. Therefore, there is no necessity to amend the permitted heat input value for the boilers.

4. The specific condition regarding compliance tests (#4) was expanded to include EPA Method 5 for particulate matter. It is the general policy of the Department to require a particulate test to assure the compliance with the emission limit established in the construction

permit. A surrogate test may be substituted after compliance is established.

The final Department action will be to issue the construction permit with the previously discussed comments account for.

Technical Evaluation
and
Preliminary Determination

Anheuser-Busch Companies
Permit Number AC 16-39951

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

September 18, 1981

PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested permit to Anheuser Busch Companies for the modification of four power boilers at the existing plant site in Duval County. The issuance of this permit is subject to public comment as a result of this public notice.

Any person wanting to comment on this section may do so by submitting such comments in writing to:

Clair Fancy
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing as set forth in Section 28-5.15 FAC (Copy attached) such petition must be filed within 14 days of the date of this notice with:

Mary Clark
Department of Environmental Regulation
Office of General Counsel
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

I. PROJECT DESCRIPTION

A. Applicant

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

B. Project and Location

The applicant's proposed construction consists of the upgrading of four (4) existing process boilers from a maximum heat input of 66 MMBTU per hour to 100 MMBTU per hour. The facility is located in Jacksonville, Duval County, Florida. The UTM coordinates are 743.93 km East and 3366.82 km North.

C. Process Description

The four power boilers at the Anheuser-Busch, Inc. plant in Jacksonville, Florida are fired on Number Six (6) fuel oil, presently at the permitted rate of 66 million BTU per hour. The modification will increase the potential firing rate to 100 million BTU per hour.

The heat of combustion is used to produce steam which in turn is used for processing within the facility. The exhaust gases are vented through a 100 foot stack from each boiler.

II. RULE APPLICABILITY

The proposed project is located in the area of influence of the Jacksonville particulate nonattainment area. Duval County is also nonattainment for ozone. The project is classified as a modification pursuant to 17-2, Florida Administrative Code (FAC), as a change in the mode of operation. There are to be no projected increases in fuel usage and no net increase in emissions above the presently permitted annual emissions. Therefore no PSD or BACT determination will be necessary.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutants emitted by this source are particulate, sulfur dioxide and nitrogen oxides. The total emissions from the facility are as follows:

Pollutant	lb/hr	Tons/yr
Particulate	40.0	84.8
Sulfur Dioxide	1000.0	2120

Pollutant	lb/hr	Tons/yr
Nitrogen Oxides	160.0	340

The emission limitations are based on using 2.5% sulfur fuel oil in four boilers rated at a maximum of 100 MBTU/hr. The boilers will operate on a rotating schedule allowing all the four boilers to operate 24 hours a day but not to exceed 4132 hours (total) per year per boiler. On a normal operating schedule, only 3 boilers operate simultaneously. The total annual operating hours will not increase over the previous year nor will the total fuel consumption. Therefore, the annual emissions will not increase.

B. Air Quality Impacts

As there will be no increase in fuel consumption over the previous year, the construction and operation of this facility will not have any impact on ambient air quality standards. Air quality modeling performed by the company and reviewed by the Department confirms this.

IV. CONCLUSIONS

The emission limitations stated previously are based on the applicants estimated fuel consumption to be what it consumed the last calendar year. The fuel consumption and hours permitted to operate shall be stated as conditions of the permit.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2, F.A.C.

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

BOB GRAHAM
GOVERNOR
Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT:

Anheuser Busch Companies
111 Busch Drive
Jacksonville, Florida

PERMIT/CERTIFICATION
NO. AC 16-39951

COUNTY: Duval

PROJECT: Upgrading of 4 power boilers to 100 MBTU

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Modification of four process steam boilers, upgrading the heat capacity from 66.1 MBTU to 100 MBTU to provide electricity for the facility.

Attachments:

Application to Construct Air Pollution Sources, DER Form 17-1.122 (16).

PERMIT NO.:
APPLICANT:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO. AC 16-39951
APPLICANT: Anheuser Busch Companies

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Tons/yr.
Particulate	10 lb/hr. (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr. (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

2. Total combined operation of all boilers shall not exceed 16,528 hours per year.

3. Opacity shall not exceed 20%.

4. Compliance with the emission limitations shall be determined for particulates as per EPA Reference Method 5, 40 CFR Part 60. The visible emission test shall be EPA Reference Method 9, 40 CFR Part 60. The total consumption of fuel oil, (#6) shall not exceed 64,152 gal. per day 24 hour period not to exceed 44.5 M gal in a calendar year.

5. Monthly documentation shall be made available to the Department or its designee, Jacksonville Bio-Environmental Services (JBES) of the following operating parameters:

   (a). Fuel consumed per boiler.
   (b). Number of hours of operation per boiler.
   (c). Heat input per boiler based on a 24 hr. average.

6. A monthly report shall be submitted upon request beginning from the date of issuance of the operating permit to the Departments designee, JBES.

7. A visible emission test shall be performed to establish compliance with the opacity limitations prior to application for an operating permit.

8. A thirty day notice prior to emission testing shall be provided by the applicant to the Departments designee, JBES.

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

PERMIT NO.:
APPLICANT:

Expiration Date: January 25, 1982

Issued this 22 day of September, 1981.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

PAGE _____ OF _____.

DER FORM 17-1.122(63) 4/4 (1/80)

AC 16-39951

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan, P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION III: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe:

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	
		172 lbs	1.a.* (per Mr. E.				
		x4 = 688 lbs	Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (If any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. ____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

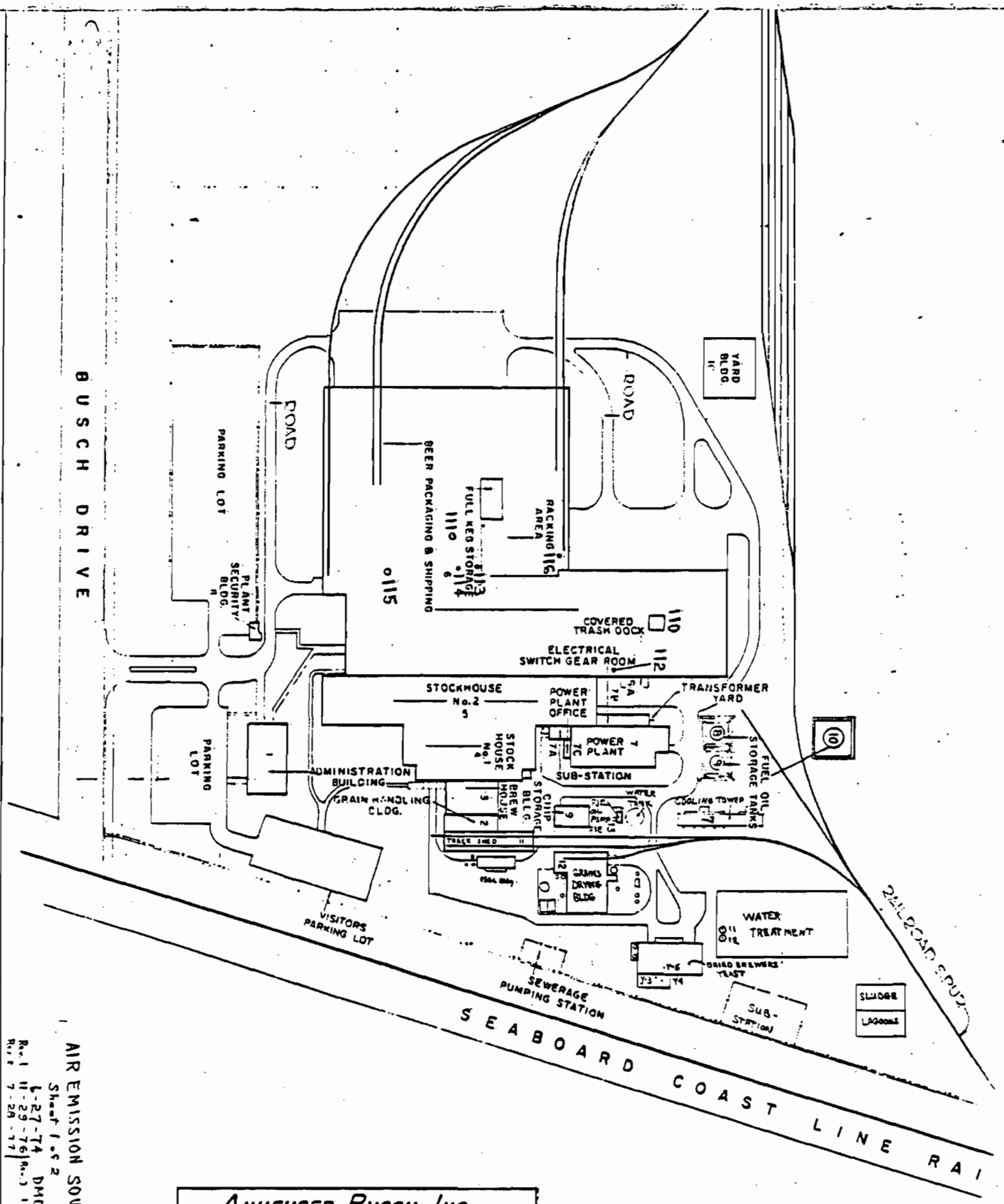
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.



AIR EMISSION SOURCE INVENTORY

Sheet 1 of 2

1-27-74 DMD

Rev 1 11-29-76 (Rev.) 1-22-81

Rev 2 7-28-77

ANHEUSER-BUSCH, INC.

111 Busch Dr., Jacksonville, Florida

Accuracy Certified By: _____ Secretary

Name & Capacity for Brewer

Date

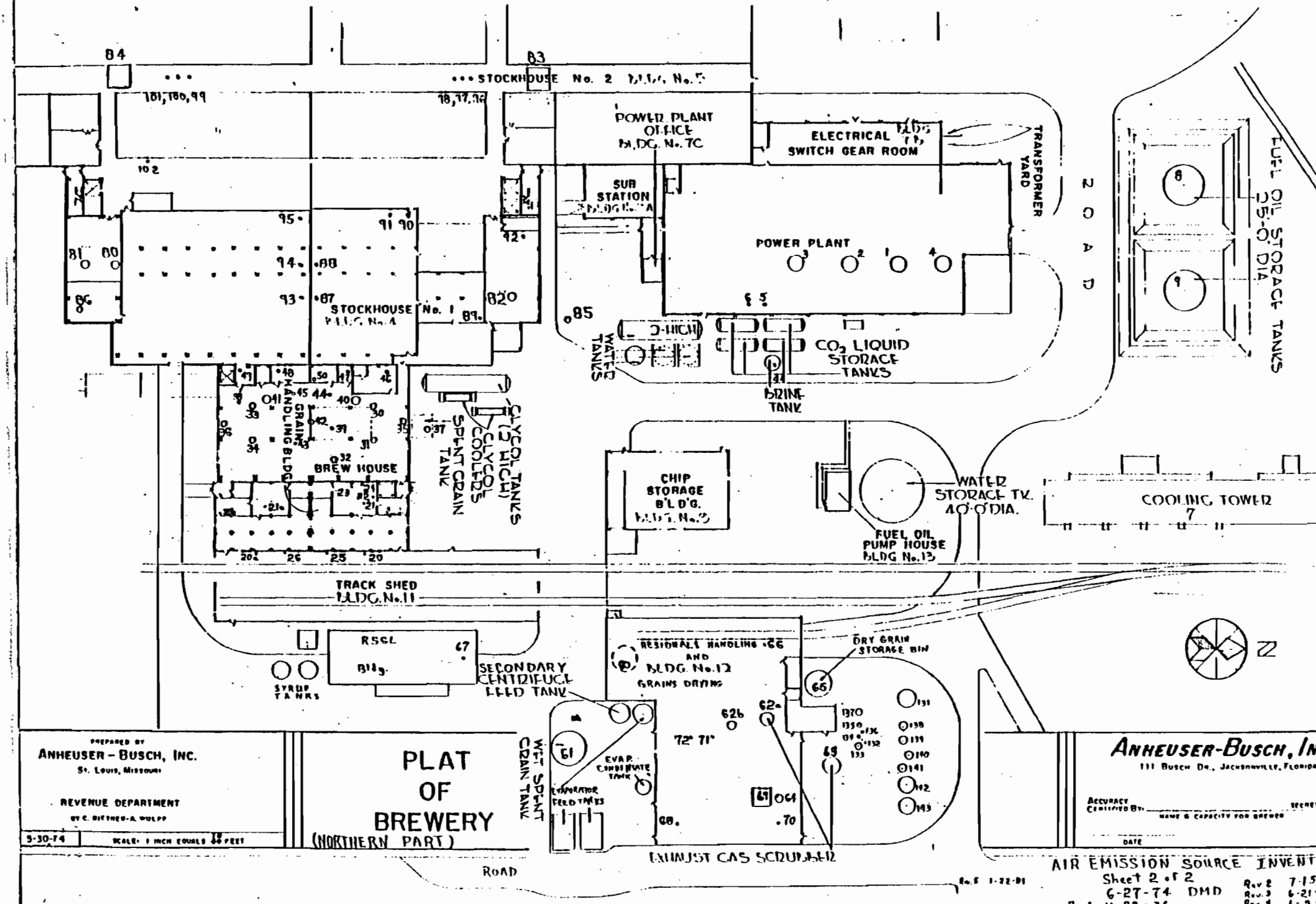
Sheet No. 1

PREPARED BY
ANHEUSER - BUSCH, INC.
St. Louis, Missouri

REVENUE DEPARTMENT

PLAT OF BREWERY LOCATION PLAT

Best Available Copy



PREPARED BY
ANHEUSER-BUSCH, INC.
St. Louis, Missouri

REVENUE DEPARTMENT
BY C. RIETHER-A. PULPP

5-30-74 | SCALE: 1 INCH EQUALS 40 FEET

PLAT OF BREWERY (NORTHERN PART)

ANHEUSER-BUSCH, IN
111 Busch Dr., Jacksonville, Florida

Accuracy Certified By: _____ Secret
Name & Capacity for Brewer
Date

AIR EMISSION SOURCE INVENT

Sheet 2 of 2
6-27-74 DMD
Rev 1 11-27-76
Rev 2 7-15
Rev 3 6-21
Rev 4 1-7

No. 5 1-22-81

TROUT RIVER QUADRANGLE
FLORIDA—DUVAL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
EMISSION CALCULATIONS PER BOILER

(Section III C and E)

I. Section IIIC and E

A. Emission Factors

From AP-42, 3rd. Ed. Table 1.3-1 For Industrial Residual Oil. Here S equals the percent by weight of sulfur in the oil.

Pollutant	Emission lb/1000 gal	Emission With 2.28% S oil, lb/1000 gal
Particulate	10(S) + 3	25.8
Sulfur Dioxide	157(S)	358.0
Nitrogen Oxides	60	60.0
Carbon Monoxide	5	5.0
Hydrocarbons	1	1.0

B. Sulfur Limit of Oil

SO_2 emissions limited to 2.5 lb $SO_2/10^6$ BTU input. This equates to:

$$\frac{2.5 \text{ lb } SO_2}{10^6 \text{ BTU}} \times \frac{.15 \times 10^6 \text{ BTU}}{\text{gal oil}} \times \frac{\text{gal oil}}{8.2 \text{ lb oil}} \times \frac{\text{lb S}}{2 \text{ lb } SO_2} = 0.02287 \frac{\text{lb S}}{\text{lb oil}} \text{ or } 2.28\% \text{ S}$$

C. Maximum Oil Usage

Bases: 100 x 10^6 BTU/hr max. input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

$$\frac{100 \times 10^6 \text{ BTU}}{\text{hr}} \times \frac{\text{gal}}{0.15 \times 10^6 \text{ BTU}} = 667 \text{ gal/hr.}$$

D. Maximum Emissions

	(Emission Factor) (lb/1000 gal)	x	(Max. oil usage) x(0.667 x 1000 gal)	=	Max. Emissions
Particulates	25.8	x	0.667	=	17.2 lb/hr
SO_2	358.0	x	0.667	=	239.0 lb/hr
NO_x	60.0	x	0.667	=	40.0 lb/hr

E. Actual Annual Emissions

Bases: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979.

$$\text{(Emission Factor)} \times \text{(Oil Used)} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Actual Emissions}$$

$$\text{(lb/1000 gal)} \times \text{(2,828 x 1000 gal)} \times \left(\frac{1}{2000}\right)$$

Particulate	25.8	x	(2,828/2000)	=	36.5 tons/yr
SO_2	358.0	x	(1.414)	=	506 tons/yr
NO_x	60.0	x	(1.414)	=	84.8 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left\{\begin{matrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Operating} \\ \text{Time}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left\{\begin{matrix}8760 \\ \text{hr/yr}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	17.2	x	(8760/2000)	=	75.4 tons/yr
SO_2	239.0	x	(4.38)	=	1046.0 tons/yr
NO_x	40.0	x	(4.38)	=	175.0 tons/yr

G. Allowable Emissions

Chapter 17-2.05(6) Table II Source E(2) states "apply latest technology" for particulate, sulfur dioxide, and nitrogen oxides. For plant locality per Mr. Ed Balducci on 4/22/80, we are to use limits of 0.1 lb. particulate and 2.5 lb SO_2 per 10^6 BTU input over a 2-hr average. No limit is specified for NO_x. From application, each boiler has input capacity of 100 x 10^6 BTU/hr.

	(Emission Limit) (lb/10^6 BTU)	x	(Input Capacity) (100 x 10^6 BTU/hr)	= Allowable Emissions
Particulate	0.1	x	(100)	= 10 lb/hr
SO_2	2.5	x	(100)	= 250 lb/hr

II. Section III H

Percent water in flue gases

Reference: Steam, Its Generation and Use by Babcock and Wilcox Co. 37th Ed., 1963. Chapter 4, Table 5 (page 4 - 9).

For fuel oil per 10,000 BTU as fired.

Theoretical dry air -- 7.46 lb

Fuel -- 0.54 lb

Resulting Moisture -- 0.51 lb

Incoming moisture (wet air) -- 0.0132 lb H_2O/lb dry air @ 60% RH and 80° F.

At 120 % of theoretical air (20% excess)

Total dry air -- 1.2(7.46) = 8.95 lb

Incoming H_2O -- 1.2(7.46)(0.0132) = 0.12 lb

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

2

ALL

```
LIST

 11/08/80. 16.36.17.
 LIST OF  RESULTS

PLANT NAME:<AB JACKSONVILLE BREWERY> POLLUTANT: SO2      EMISSION UNITS: GM/SEC    AIR QUALITY UNITS: GM/M**3
 THIS RUN COMBINES ALL 4 BOILER STACKS INTO A SINGLE SOURCE

              MET FILE     REQUESTED
             STN NO.  YR   STN NO.  YR
 SURFACE      13889  70     13889  70
 UPPER AIR    13861  70     13861  70
 LANT LOCATION: RURAL
 O TAPE OUTPUT
 ET DATA WILL NOT BE PRINTED

 AY-- 1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1


 * * * * * * * * * * * * * * * * * * * * * * N O T E * * * * * * * * * * * * * * * *

         ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN -ANNUAL- IN THE HEADING ARE BASED ONLY ON THOSE D

   DAYS  MARKED BY [1[ IN THE ABOVE TABLE

  RING DISTANCES(KM)=     .40     .60     .80    1.00    1.20

 LANT ELEVATION (FEET ABOVE SEA LEVEL)--        0.0          PLANT ELEVATION (METERS ABOVE SEA LEVEL)--        0.0
   RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)                  RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)

 IRECTION    RING"1    RING"2    RING"3    RING"4    RING"5              RING"1    RING"2    RING"3    RING"4    RING"5

    1          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    2          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    3          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    4          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    5          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    6          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    7          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    8          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    9          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   10          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   11          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   12          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   13          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   14          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   15          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   16          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   17          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   18          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   19          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   20          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   21          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   22          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   23          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   24          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   25          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   26          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   27          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   28          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   29          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   30          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   31          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   32          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   33          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   34          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   35          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
   36          0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
```

```
STACK "  1-- COMBINED BOILER STACK

 STACK     MONTH       EMISSION RATE        HEIGHT     DIAMETER  EXIT VELOCITY   TEMP       VOLUMETRIC FLOW
                         (GMS/SEC)          (METERS)   (METERS)     (M/SEC)     (DEG.K)      (M**3/SEC)

   1        ALL          126.0000            30.50      1.37        10.60        403.00         15.63
  PLANT NAME: AB JACKSONVILLE BREWERY   POLLUTANT: SO2          EMISSION UNITS: GM/SEC    AIR QUALITY UNITS: GM/M**3

                                                    M A X   H O U R L Y                          M A X   2 4 - H O U R

       DAY        RATIO     CONCENTRATION  DIRECTION  DISTANCE(KM)  HOUR     CONCENTRATION  DIRECTION  DISTANCE(K
*TRM*
*RDY*
$F.540


 YEARLY MAXIMUM 24-HOUR CONC=  2.1508E-04  DIRECTION=   5  DISTANCE=  1.2 KM  DA
*Y=223
*RDY*


$F.584
 YEARLY SECOND MAXIMUM 24-HOUR CONC=  2.0302E-04  DIRECTION=   5  DISTANCE=  1.0
* KM  DAY= 79
*RDY*


$F.628
 YEARLY MAXIMUM       3-HOUR CONC=  6.9294E-04  DIRECTION=  31  DISTANCE=   .6 KM
*  DAY=163    TIME PERIOD= 5
*RDY*


$F.672
 YEARLY SECOND MAXIMUM       3-HOUR CONC=  5.5427E-04  DIRECTION=  31  DISTANCE=
*   .3 KM  DAY=202    TIME PERIOD= 4
*RDY*
UNS RESULTS
*RDY*
BYE
CT = 01.03    SU-8 =      12.4
KCH =   45
A541001   LOG OFF.   16.43.41.
```

DAY 79 = 22 Hrs
M = 5

SECTION II: GENERAL PROJECT INFORMATION Rev. 1, 4/14/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The 4 identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that the higher stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Extending boiler stacks from the present height of 52.5 ft to 100 ft. - $130,000 (est.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
   a. If yes, has "offset" been applied? ____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? ____
   c. If yes, list non-attainment pollutants. ____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Rev. 1, 4/14/81

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Sulfur dioxide	250 lb/hr/boiler or 1000 lb/hr (maximum rate)

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: None
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration
Sulfur dioxide	165.15 lb/hr/boiler or 661 lb/hr (maximum permit rate)

*Explain method of determining D 3 above.

10. Stack Parameters At input of 66.1 x 10^6 BTU/hr (100 x 10^6 BTU/hr)

a. Height:	present 52.5 ft.	b. Diameter:	4.5 ft.
c. Flow Rate:	est. 21,000 (33,100) ACFM	d. Temperature:	390 (410) °F
e. Velocity:	22 (35) FPS		

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device: Stacks increased to height of 100 ft. and outlet diameter decreased to 3.5 ft.

b. Operating Principles: A taller stack (still less than GEP) will give better dispersion of SO_2 at ground level.

c. Efficiency*: NA (not applicable)

d. Capital Cost: $130,000 (est.)

e. Useful Life: 20 years

f. Operating Cost: ~ $ 0

g. Energy*: ~ $ 0

h. Maintenance Cost: none

i. Availability of construction materials ~~and process chemicals~~: stack materials are available

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels:

There is adequate space and support to install 100 ft. stacks.

2.

a. Control Device: Lower oil sulfur content to 1.5% from current 2.28%

b. Operating Principles: The SO_2 emissions from the firing of No. 6 fuel oil are directly proportional to the sulfur content of the oil.

c. Efficiency*: 33% $\left[\frac{(2.28 - 1.5)\ 100}{2.28}\right]$

d. Capital Cost: None

e. Useful Life: NA

f. Operating Cost: Est. $300,000/yr (current prices)

g. Energy**: None

h. Maintenance Costs: None

i. Availability of construction materials and process chemicals: No. 6 fuel oil with a 1.5% sulfur content is available in the Jacksonville area.

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels: NA

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

*Explain method of determining efficiency above.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Modeling results show that increasing the stacks on the four existing boilers to 100 ft. will allow all four boilers to operate simultaneously at capacity and not violate the Florida ambient air quality standards for SO_2.

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring ___/___/___ to ___/___/___
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01/ 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^2	126.0 grams/sec

E. Emission Data Used in Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^6 BTU/hr each) at 2.5 lb $SO_2/10^6$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

SECTION II: GENERAL PROJECT INFORMATION Rev. 2, 5/28/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The applicant desires to increase the allowable maximum firing rate to 100 x 10^6 BTU/hr per boiler. This is the input capacity for each boiler as indicated on all previous permit applications. Each boiler is currently permitted to operate at a maximum of 66.1 x 10^6 BTU/hr. The four (4) boilers are Babcock & Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that 100 ft. stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

_____

_____

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application.

A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr _____ ;

if seasonal, describe: _____

_____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? no
   a. If yes, has "offset" been applied? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants.

   _____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. no
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? no
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? no

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb SO_2/10^6 BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

D. Maximum Emissions

	(Florida allowable) ($lb/10^6$ BTU input)	x	(capacity input) (100 x 10^6 BTU/hr input)	= Max. Emissions
Particulates	0.1	x	100	= 10.0 lb/hr
SO_2	2.5	x	100	= 250 lb/hr

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979. At 150,000 BTU/gal, this is equivalent to 424.2 x 10^9 BTU input.

$$\begin{pmatrix}\text{Florida allowable}\\ (lb/10^6\text{ BTU input})\end{pmatrix} \times \begin{pmatrix}\text{annual input}\\ (424.2 \times 10^9\text{ BTU})/2000\end{pmatrix} \times \left(\frac{1\text{ ton}}{2000\text{ ton}}\right) = \text{Actual Emissions}$$

Particulate	0.1	x	(424,200/2000)	= 21.2 tons/yr
SO_2	2.5	x	212.1	= 530 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\begin{pmatrix}\text{Hourly}\\ \text{Potential}\\ \text{Emissions}\end{pmatrix} \times \begin{pmatrix}\text{Operating}\\ \text{Time}\end{pmatrix} \times \left(\frac{1\text{ ton}}{2000\text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$(lb/hr) \times \left(\frac{8760\text{ hr}}{yr}\right) / 2000$$

Particulate	10.0	x	(8760/2000)	= 43.8 tons/yr
SO_2	250	x	(4.38)	= 1095 tons/yr

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: The File

FROM: Clair Fancy

DATE: October 26, 1981

SUBJ: Anheuser Busch - Jacksonville

On October 20, 1981 John Stier, Environmental Engineer for Anheuser Busch Companies, talked to Bill Thomas and I about the addition of an over-varnish operation on all four of their can coating lines at the Jacksonville Facility. This over-varnish is necessary to prevent abrasion of the cans as this product is sent to different parts of the country.

This process will be an extra step in the inking process prior to the cans going to the drying ovens. The modification will not require extensive equipment changes.

At the maximum production rate of 800 cans per minute per line, this operation will increase VOC emissions by 95 tons per year, assuming annual operation of 8,760 hours per year.

This will be a nonattainment permit and will require a LAER determination and the assignment of New Source Allowance for the area.

RACT for this type of process is 2.8 pounds of VOC per gallon of coating less water. The company will be proposing a coating of 2.1 pounds of VOC per gallon less water.

The application will be formally submitted to the Department prior to the first of November. We indicated that, since modeling and extensive engineering review of this application shouldn't be necessary, we would attempt to issue the permit as expeditiously as possible.

cc: John Ketteringham
Steven Pace

CF:caa

Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

October 13, 1981

Mr. Carl Bock
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301

Re: Application for Permit to Modify Boiler Operation Conditions.

Dear Mr. Bock:

Please recall our phone conversation on October 8, 1981, regarding Mr. C. H. Fancy's letter on the application for a permit to modify boiler operating conditions. Two areas in this report need to be modified.

First, reference the "Technical Evaluation and Preliminary Determination" under Item I, C., "Process Description". The steam generators do not produce steam to drive a generator for the production of electricity. The steam is used for process heat throughout the Brewery.

The same modification should be made on page 1 of 2 of the Permit/Certification.

Second, on page 2 of 2 Permit/Certification under Specific Conditions, #3, opacity is limited to 10%. As per our conversation this is in error and should be 20%. Please modify accordingly.

Copies of the reference pages with modifications are attached.

If there is any questions regarding this, please contact me.

Very truly yours,

Tom Martin

Tom Martin
Asst. Resident Engineer

TM:br
Attachments
CC: Mr. J. Mueller
Mr. D. DeHart

CC: Mr. C. H. Fancy

Anheuser-Busch, Inc.
P. O. Box 18017
AMF
Jacksonville, FL 32229

I. PROJECT DESCRIPTION

A. Applicant

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

B. Project and Location

The applicant's proposed contruction consists of the upgrading of four (4) existing process boilers from a maximum heat input of 66 MMBTU per hour to 100 MMBTU per hour. The facility is located in Jacksonville, Duval County, Florida. The UTM coordinates are 743.93 km East and 3366.82 km North.

C. Process Description

The four power boilers at the Anheuser Busch, Inc. plant in Jacksonville, Florida are fired on Number Six (6) fuel oil, presently at the permitted rate of 66 million BTU per hour. The modification will increase the potential firing rate to 100 million BTU per hour.

The heat of combustion is used to produce steam which ~~in turn drives a turbine generator to produce electricity for~~* the brewery. The exhaust gases are vented through a 100 foot stack from each boiler.

*is used for process heat throughout the Brewery.

II. RULE APPLICABILITY

The proposed project is located in the area of influence of the Jacksonville particulate nonattainment area. Duval County is also nonattainment for ozone. The project is classified as a modification pursuant to 17-2, Florida Administrative Code (FAC), as a change in the mode of operation. There are to be no projected increases in fuel usage and no net increase in emissions above the presently permitted annual emissions. Therefore no PSD or BACT determination will be necessary.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutants emitted by this source are particulate, sulfur dioxide and nitrogen oxides. The total emissions from the facility are as follows:

Pollutant	lb/hr	Tons/yr
Particulate	40.0	84.8
Sulfur Dioxide	1000.0	2120

Pollutant	lb/hr	Tons/yr
Nitrogen Oxides	160.0	340

The emission limitations are based on using 2.5% sulfur fuel oil in four boilers rated at a maximum of 100 MBTU/hr. The boilers will operate on a rotating schedule allowing all the four boilers to operate 24 hours a day but not to exceed 4132 hours (total) per year per boiler. On a normal operating schedule, only 3 boilers operate simultaneously. The total annual operating hours will not increase over the previous year nor will the total fuel consumption. Therefore, the annual emissions will not increase.

B. Air Quality Impacts

As there will be no increase in fuel consumption over the previous year, the construction and operation of this facility will not have any impact on ambient air quality standards. Air quality modeling preformed by the company and reviewed by the Department confirms this.

IV. CONCLUSIONS

The emission limitations stated previously are based on the applicants estimated fuel consumption to be what it consumed the last calendar year. The fuel consumption and hours permitted to operate shall be stated as conditions of the permit.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2, F.A.C.

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT:

PERMIT/CERTIFICATION
NO. AC 16-39951

Anheuser Busch Companies
111Busch Drive
Jacksonville, Florida

COUNTY: Duval

PROJECT: Upgrading of 4 power boilers to 100 MBTU

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Modification of four power boilers, upgrading the heat capacity from 66.1 MBTU to 100 MBTU to provide ~~electricity for the facility~~. Process heat throughout the Brewery.

Attachments:

Application to Construct Air Pollution Sources, DER Form 17-1.122 (16).

PERMIT NO.:
APPLICANT:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO. AC 16-39951
APPLICANT: Anheuser Busch Companies

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Tons/yr.
Particulate	10 lb/hr. (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr. (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

2. Total combined operation of all boilers shall not exceed 16,528 hours per year.

3. Opacity shall not exceed ~~10%~~ 20%.

4. Compliance to the emission limitation shall be determined by a limitation on total fuel consumption and by visible emission test as per EPA Method 9, 40 CFR Part 60. The total consumption of fuel oil (#6) shall not exceed 64,512 gal. per any 24 hour period not to exceed 44.5 M gal. in a calendar year.

5. Monthly documentation shall be made available to the Department or its designee, Jacksonville Bio-Environmental Services (JBES) of the following operating parameters:

   (a). Fuel consumed per boiler.
   (b). Number of hours of operation per boiler.
   (c). Heat input per boiler based on a 24 hr. average.

6. A monthly report shall be submitted upon request beginning from the date of issuance of the operating permit to the Departments designee, JBES.

7. A visible emission test shall be performed to establish compliance with the opacity limitations prior to application for an operating permit.

8. A thirty day notice prior to emission testing shall be provided by the applicant to the Departments designee, JBES.

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

PERMIT NO.:
APPLICANT:

Expiration Date: January 25, 1982

Issued this _____ day of September, 1981.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PAGE _____ OF _____.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: John Mueller, Anheuser-Busch, Inc.
Johnny Cole, FDER St. Johns River Subdistrict
Pat Nolan, Nolan & Associates

FROM: C. H. Fancy, Deputy Chief, Bureau of Air Quality Management

DATE: September 24, 1981

SUBJ: Anheuser-Busch, Inc. Application for Permit to Modify Boiler Operating Conditions

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit to modify boiler operating conditions at the Anheuser-Busch facility in Jacksonville, Duval County, Florida.

Please submit any comments which you wish to have considered concerning this action, in writing, to Carl Bock of the Bureau of Air Quality Management.

CF:bjm

Attachment

PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested permit to Anheuser Busch Companies for the modification of four power boilers at the existing plant site in Duval County. The issuance of this permit is subject to public comment as a result of this public notice.

Any person wanting to comment on this section may do so by submitting such comments in writing to:

Clair Fancy
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing as set forth in Section 28-5.15 FAC (Copy attached) such petition must be filed within 14 days of the date of this notice with:

Mary Clark
Department of Environmental Regulation
Office of General Counsel
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Technical Evaluation
and
Preliminary Determination

Anheuser-Busch Companies
Permit Number AC 16-39951

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

September 18, 1981

I. PROJECT DESCRIPTION

A. Applicant

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

B. Project and Location

The applicant's proposed contruction consists of the upgrading of four (4) existing process boilers from a maximum heat input of 66 MMBTU per hour to 100 MMBTU per hour. The facility is located in Jacksonville, Duval County, Florida. The UTM coordinates are 743.93 km East and 3366.82 km North.

C. Process Description

The four power boilers at the Anheuser Busch, Inc. plant in Jacksonville, Florida are fired on Number Six (6) fuel oil, presently at the permitted rate of 66 million BTU per hour. The modification will increase the potential firing rate to 100 million BTU per hour.

The heat of combustion is used to produce steam which in turn drives a turbine generator to produce electricity for the brewery. The exhaust gases are vented through a 100 foot stack from each boiler.

II. RULE APPLICABILITY

The proposed project is located in the area of influence of the Jacksonville particulate nonattainment area. Duval County is also nonattainment for ozone. The project is classified as a modification pursuant to 17-2, Florida Administrative Code (FAC), as a change in the mode of operation. There are to be no projected increases in fuel usage and no net increase in emissions above the presently permitted annual emissions. Therefore no PSD or BACT determination will be necessary.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutants emitted by this source are particulate, sulfur dioxide and nitrogen oxides. The total emissions from the facility are as follows:

Pollutant	lb/hr	Tons/yr
Particulate	40.0	84.8
Sulfur Dioxide	1000.0	2120

Pollutant	lb/hr	Tons/yr
Nitrogen Oxides	160.0	340

The emission limitations are based on using 2.5% sulfur fuel oil in four boilers rated at a maximum of 100 MBTU/hr. The boilers will operate on a rotating schedule allowing all the four boilers to operate 24 hours a day but not to exceed 4132 hours (total) per year per boiler. On a normal operating schedule, only 3 boilers operate simultaneously. The total annual operating hours will not increase over the previous year nor will the total fuel consumption. Therefore, the annual emissions will not increase.

B. Air Quality Impacts

As there will be no increase in fuel consumption over the previous year, the construction and operation of this facility will not have any impact on ambient air quality standards. Air quality modeling preformed by the company and reviewed by the Department confirms this.

IV. CONCLUSIONS

The emission limitations stated previously are based on the applicants estimated fuel consumption to be what it consumed the last calendar year. The fuel consumption and hours permitted to operate shall be stated as conditions of the permit.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2, F.A.C.

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT:

Anheuser Busch Companies
111Busch Drive
Jacksonville, Florida

PERMIT/CERTIFICATION NO. AC 16-39951

COUNTY: Duval

PROJECT: Upgrading of 4 power boilers to 100 MBTU

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Modification of four power boilers, upgrading the heat capacity from 66.1 MBTU to 100 MBTU to provide electricity for the facility.

Attachments:

Application to Construct Air Pollution Sources, DER Form 17-1.122 (16).

PERMIT NO.:
APPLICANT:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

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9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

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11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

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13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO. AC 16-39951
APPLICANT: Anheuser Busch Companies

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Tons/yr.
Particulate	10 lb/hr. (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr. (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

2. Total combined operation of all boilers shall not exceed 16,528 hours per year.

3. Opacity shall not exceed 10%.

4. Compliance to the emission limitation shall be determined by a limitation on total fuel consumption and by visible emission test as per EPA Method 9, 40 CFR Part 60. The total consumption of fuel oil (#6) shall not exceed 64,512 gal. per any 24 hour period not to exceed 44.5 M gal. in a calendar year.

5. Monthly documentation shall be made available to the Department or its designee, Jacksonville Bio-Environmental Services (JBES) of the following operating parameters:

   (a). Fuel consumed per boiler.
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8. A thirty day notice prior to emission testing shall be provided by the applicant to the Departments designee, JBES.

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

PERMIT NO.:
APPLICANT:

Expiration Date: January 25, 1982

Issued this _____ day of September, 1981.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PAGE _____ OF _____.

DER FORM 17-1.122(63) 4/4 (1/80)

Best Available Copy

AC 16-39951

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan, P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe:

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	
		172 lbs	1.a.* (per Mr. E.				
		x4 = 688 lbs	Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A: Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D.3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^{2*} _____ Wind spd/dir

Period of monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

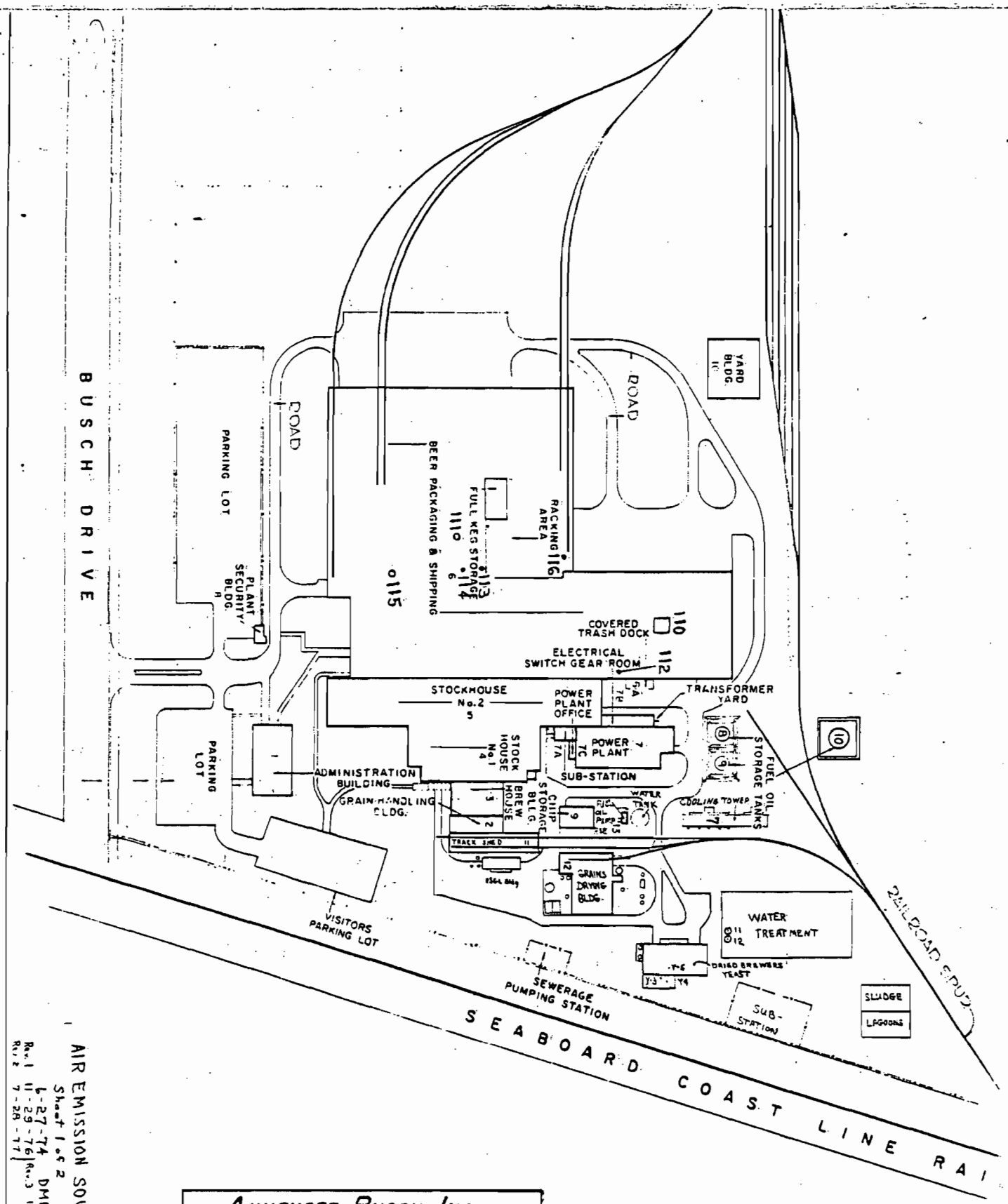
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.



AIR EMISSION SOURCE INVENTORY

Sheet 1 of 2

6-27-74 DMD

Rev.1 11-29-76 Rev.3 1-22-81

Rev.2 7-28-77

ANHEUSER-BUSCH, INC.

111 Busch Dr., Jacksonville, Florida

Accuracy Certified By: _____ Secretary

Name & Capacity for Brewer

Date

Sheet No. 1

PREPARED BY

ANHEUSER-BUSCH, INC.

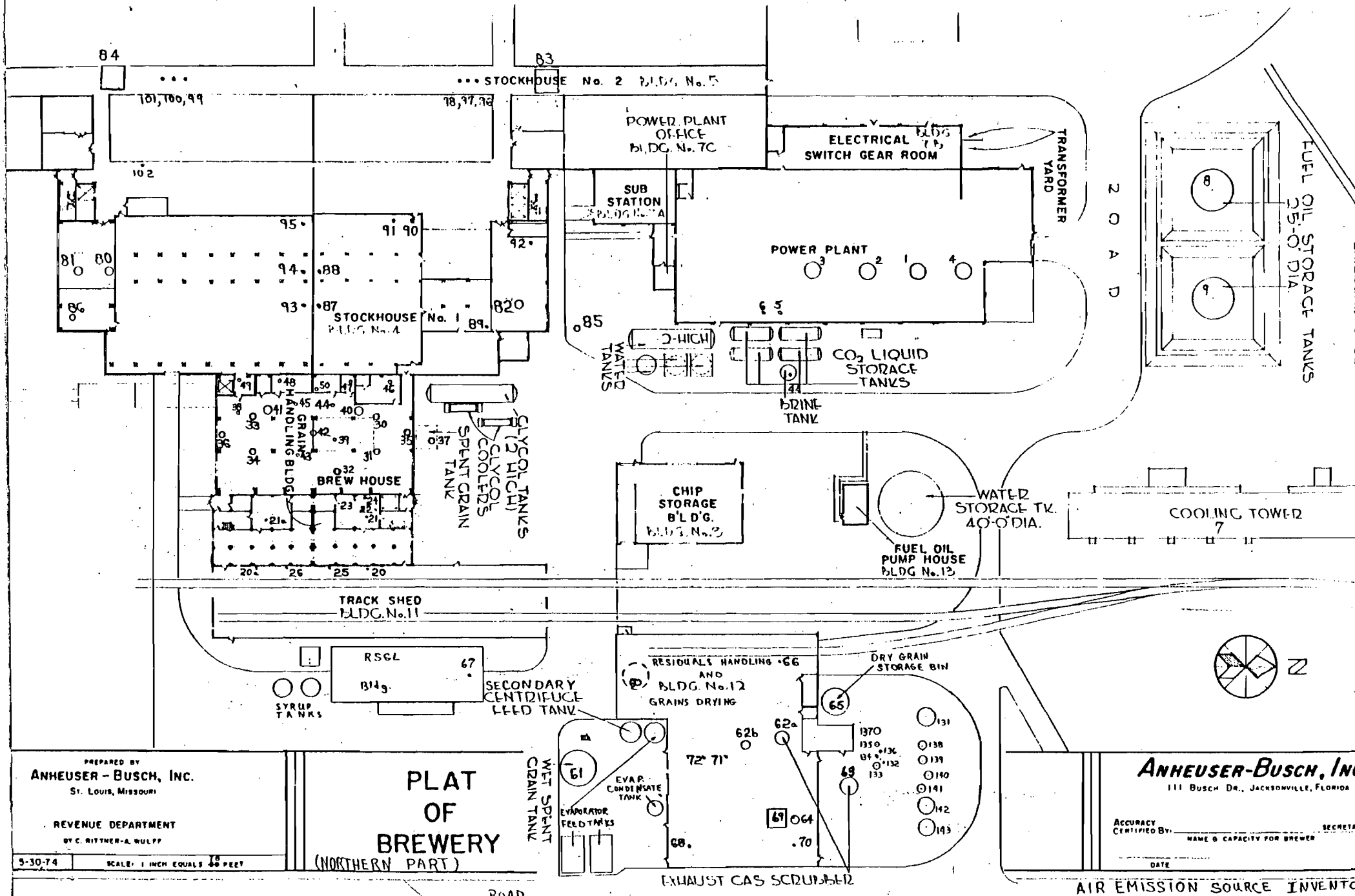
St. Louis, Missouri

REVENUE DEPARTMENT

BY C. RITTNER-A. WULFF

PLAT OF BREWERY LOCATION PLAT

Best Available Copy



PREPARED BY
ANHEUSER - BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

9-30-74 | SCALE: 1 INCH EQUALS 40 FEET

PLAT OF BREWERY (NORTHERN PART)

ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETA
NAME & CAPACITY FOR BREWER
DATE

AIR EMISSION SOURCE INVENTO

Sheet 2 of 2
6-27-74 DMD
Rev. 1 11-29-76
Rev. 2 7-15-
Rev. 3 6-21-
Rev. 4 1-9-

Rev. 5 1-22-81

Best Available Copy

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
EMISSION CALCULATIONS PER BOILER

(Section III C and E)

I. Section IIIC and E

A. Emission Factors

From AP-42, 3rd. Ed. Table 1.3-1 For Industrial Residual Oil. Here S equals the percent by weight of sulfur in the oil.

Pollutant	Emission lb/1000 gal	Emission With 2.28% S oil, lb/1000 gal
Particulate	10(S) + 3	25.8
Sulfur Dioxide	157(S)	358.0
Nitrogen Oxides	60	60.0
Carbon Monoxide	5	5.0
Hydrocarbons	1	1.0

B. Sulfur Limit of Oil

SO_2 emissions limited to 2.5 lb $SO_2/10^6$ BTU input. This equates to:

$$\frac{2.5 \text{ lb } SO_2}{10^6 \text{ BTU}} \times \frac{.15 \times 10^6 \text{ BTU}}{\text{gal oil}} \times \frac{\text{gal oil}}{8.2 \text{ lb oil}} \times \frac{\text{lb S}}{2 \text{ lb } SO_2} = 0.02287 \frac{\text{lb S}}{\text{lb oil}} \text{ or } 2.28\% \text{ S}$$

C. Maximum Oil Usage

Bases: 100×10^6 BTU/hr max. input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

$$\frac{100 \times 10^6 \text{ BTU}}{\text{hr}} \times \frac{\text{gal}}{0.15 \times 10^6 \text{ BTU}} = 667 \text{ gal/hr.}$$

D. Maximum Emissions

	(Emission Factor) (lb/1000 gal)	x	(Max. oil usage) x(0.667 x 1000 gal)	=	Max. Emissions
Particulates	25.8	x	0.667	=	17.2 lb/hr
SO_2	358.0	x	0.667	=	239.0 lb/hr
NO_x	60.0	x	0.667	=	40.0 lb/hr

E. Actual Annual Emissions

Bases: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979.

$$\text{(Emission Factor)} \times \text{(Oil Used)} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Actual Emissions}$$

$$\text{(lb/1000 gal)} \times \text{(2,828 x 1000 gal)} \times \left(\frac{1}{2000}\right)$$

Particulate	25.8	x	(2,828/2000)	=	36.5 tons/yr
SO_2	358.0	x	(1.414)	=	506 tons/yr
NO_x	60.0	x	(1.414)	=	84.8 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left\{\begin{matrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Operating} \\ \text{Time}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left\{\begin{matrix}8760 \\ \text{hr/yr}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	17.2	x	(8760/2000)	=	75.4 tons/yr
SO_2	239.0	x	(4.38)	=	1046.0 tons/yr
NO_x	40.0	x	(4.38)	=	175.0 tons/yr

G. Allowable Emissions

Chapter 17-2.05(6) Table II Source E(2) states "apply latest technology" for particulate, sulfur dioxide, and nitrogen oxides. For plant locality per Mr. Ed Balducci on 4/22/80, we are to use limits of 0.1 lb. particulate and 2.5 lb SO_2 per 10^6 BTU input over a 2-hr average. No limit is specified for NO_x. From application, each boiler has input capacity of 100 x 10^6 BTU/hr.

	(Emission Limit) ($lb/10^6$ BTU)	x	(Input Capacity) (100 x 10^6 BTU/hr)	= Allowable Emissions
Particulate	0.1	x	(100)	= 10 lb/hr
SO_2	2.5	x	(100)	= 250 lb/hr

II. Section III H

Percent water in flue gases

Reference: Steam, Its Generation and Use by Babcock and Wilcox Co. 37th Ed., 1963. Chapter 4, Table 5 (page 4 - 9).

For fuel oil per 10,000 BTU as fired.

Theoretical dry air -- 7.46 lb

Fuel -- 0.54 lb

Resulting Moisture -- 0.51 lb

Incoming moisture -- 0.0132 lb H_2O/lb dry air @ 60% RH and 80° F. (wet air)

At 120 % of theoretical air (20% excess)

Total dry air -- 1.2(7.46) = 8.95 lb

Incoming H_2O -- 1.2(7.46)(0.0132) = 0.12 lb

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

Best Available Copy

ALL

```
LIST

 11/08/80. 16.36.17.
 LIST OF  RESULTS

IPLANT NAME:<AB JACKSONVILLE BREWERY > POLLUTANT: SO2        EMISSION UNITS: GM/SEC     AIR QUALITY UNITS: GM/M**3
 THIS RUN COMBINES ALL 4 BOILER STACKS INTO A SINGLE SOURCE

              MET FILE      REQUESTED
             STN NO. YR    STN NO. YR
 SURFACE      13889  70     13889  70
 UPPER AIR    13861  70     13861  70
PLANT LOCATION: RURAL
NO TAPE OUTPUT
MET DATA WILL NOT BE PRINTED

DAY-- 1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1


 * * * * * * * * * * * * * * * * * * * * N O T E * * * * * * * * * * * * * * * * *

        ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN -ANNUAL- IN THE HEADING ARE BASED ONLY ON THOSE I

   DAYS  MARKED BY [1[ IN THE ABOVE TABLE

  RING DISTANCES(KM)=    .40    .60    .80   1.00   1.20

LANT ELEVATION (FEET ABOVE SEA LEVEL)--       0.0        PLANT ELEVATION (METERS ABOVE SEA LEVEL)--       0.0

    RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)              RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)

IRECTION    RING"1    RING"2    RING"3    RING"4    RING"5              RING"1    RING"2    RING"3    RING"4    RING"5

     1        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     2        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     3        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     4        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     5        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     6        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     7        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     8        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     9        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    10        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    11        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    12        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    13        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    14        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    15        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    16        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    17        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    18        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    19        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    20        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    21        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    22        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    23        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    24        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    25        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    26        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    27        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    28        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    29        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    30        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    31        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    32        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    33        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    34        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    35        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    36        0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
```

STACK " 1-- COMBINED BOILER STACK

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	126.0000	30.50	1.37	10.60	483.00	15.63

PLANT NAME: AB JACKSONVILLE BREWERY POLLUTANT: SO2 EMISSION UNITS: GM/SEC AIR QUALITY UNITS: GM/M**3

		MAX HOURLY				MAX 24-HOUR		
DAY	RATIO	CONCENTRATION	DIRECTION	DISTANCE(KM)	HOUR	CONCENTRATION	DIRECTION	DISTANCE(K

TRM
RDY
$F,540

YEARLY MAXIMUM 24-HOUR CONC= 2.1508E-04 DIRECTION= 5 DISTANCE= 1.2 KM DA
+Y=223
RDY

$F,584
YEARLY SECOND MAXIMUM 24-HOUR CONC= 2.0302E-04 DIRECTION= 5 DISTANCE= 1.0
+ KM DAY= 79
RDY

DAY 79 = 22 Hrs
M = 5

$F,628
YEARLY MAXIMUM 3-HOUR CONC= 6.9294E-04 DIRECTION= 31 DISTANCE= .6 KM
+ DAY=163 TIME PERIOD= 5
RDY

$F,672
YEARLY SECOND MAXIMUM 3-HOUR CONC= 5.5427E-04 DIRECTION= 31 DISTANCE=
+ .3 KM DAY=202 TIME PERIOD= 4
RDY
UNS RESULTS
RDY
BYE
CT = 01.03 SU-B = 12.4
KCH = 45
A541001 LOG OFF. 16.43.41.

SECTION II: GENERAL PROJECT INFORMATION Rev. 1, 4/14/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The 4 identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that the higher stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31,1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Extending boiler stacks from the present height of 52.5 ft to 100 ft. - $130,000 (est.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
   a. If yes, has "offset" been applied? ____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? ____
   c. If yes, list non-attainment pollutants. ____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Rev. 1, 4/14/81

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Sulfur dioxide	250 lb/hr/boiler or 1000 lb/hr (maximum rate)

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: None
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration
Sulfur dioxide	165.25 lb/hr/boiler or 661 lb/hr (maximum permit rate)

*Explain method of determining D 3 above.

10. Stack Parameters At input of 66.1 x 10^6 BTU/hr (100 x 10^6 BTU/hr)

a. Height: present 52.5 ft. b. Diameter: 4.5 ft.

c. Flow Rate: est. 21,000 (33,100) ACFM d. Temperature: 390 (410) °F

e. Velocity: 22 (35) FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device: Stacks increased to height of 100 ft. and outlet diameter decreased to 3.5 ft.

b. Operating Principles: A taller stack (still less than GEP) will give better dispersion of SO_2 at ground level.

c. Efficiency*: NA (not applicable) d. Capital Cost: $130,000 (est.)

e. Useful Life: 20 years f. Operating Cost: ~ $ 0

g. Energy*: ~ $ 0 h. Maintenance Cost: none

i. Availability of construction materials ~~and process chemicals~~: stack materials are available

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels:

There is adequate space and support to install 100 ft. stacks.

2.

a. Control Device: Lower oil sulfur content to 1.5% from current 2.28%

b. Operating Principles: The SO_2 emissions from the firing of No. 6 fuel oil are directly proportional to the sulfur content of the oil.

c. Efficiency*: 33% $\left[\frac{(2.28 - 1.5)\ 100}{2.28}\right]$ d. Capital Cost: None

e. Useful Life: NA f. Operating Cost: Est. $300,000/yr (current prices)

g. Energy**: None h. Maintenance Costs: None

i. Availability of construction materials and process chemicals: No. 6 fuel oil with a 1.5% sulfur content is available in the Jacksonville area.

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels: NA

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Modeling results show that increasing the stacks on the four existing boilers to 100 ft. will allow all four boilers to operate simultaneously at capacity and not violate the Florida ambient air quality standards for SO_2.

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION Rev. 1, 4/14/81

A. Company Monitored Data

1. _____ no sites _____ TSP _____( )SO^{2*} _____ Wind spd/dir

Period of monitoring ___/___/___ to ___/___/___
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01/ 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^2	126.0 grams/sec

E. Emission Data Used in Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^6 BTU/hr each) at 2.5 lb $SO_2/10^6$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

SECTION II: GENERAL PROJECT INFORMATION Rev. 2, 5/28/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The applicant desires to increase the allowable maximum firing rate to 100 x 10^6 BTU/hr per boiler. This is the input capacity for each boiler as indicated on all previous permit applications. Each boiler is currently permitted to operate at a maximum of 66.1 x 10^6 BTU/hr. The four (4) boilers are Babcock & Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that 100 ft. stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

_____

_____

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application.

A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr _____ ;

if seasonal, describe: _____

_____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? no
   a. If yes, has "offset" been applied? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants.

   _____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. no
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? no
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? no

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
   - 90,000 lb/hr max (steam)
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

D. Maximum Emissions

	(Florida allowable) $lb/10^6$ BTU input)	x	(capacity input) (100 x 10^6 BTU/hr input)	= Max. Emissions
Particulates	0.1	x	100	= 10.0 lb/hr
SO_2	2.5	x	100	= 250 lb/hr

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979. At 150,000 BTU/gal, this is equivalent to 424.2 x 10^9 BTU input.

	(Florida allowable) $lb/10^6$ BTU input)	x	(annual input) (424.2 x 10^9 BTU)/2000	x $\left(\frac{1 \text{ ton}}{2000 \text{ ton}}\right)$	= Actual Emissions
Particulate	0.1	x	(424,200/2000)		= 21.2 tons/yr
SO_2	2.5	x	212.1		= 530 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left(\begin{array}{c}\text{Hourly}\\ \text{Potential}\\ \text{Emissions}\end{array}\right) \times \left(\begin{array}{c}\text{Operating}\\ \text{Time}\end{array}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$(\text{lb/hr}) \times \left(\frac{8760 \text{ hr}}{\text{yr}}\right) / 2000$$

Particulate	10.0	x	(8760/2000)	=	43.8 tons/yr
SO_2	250	x	(4.38)	=	1095 tons/yr

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

FLC

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

FL. TIMES UNION
ONE RIVERSIDE AV.
JACKSONVILLE, FL 32202

9/15/81

Dear Sir:

We are forwarding to you a legal/~~classified~~ advertisement to be published:

ASAP - ONE TIME ONLY

Subject: CONSTRUCTION PERMIT

To ensure prompt payment, please send an invoice and proof of publication for legal ads to the address below:

Department of Environmental Regulation
PURCHASING OFFICE
2600 Blair Stone Road
Tallahassee, FL 32301

If you have any questions, please contact us at 904/488/0870.

Sincerely,

W. H. Wallace

William H. Wallace
Purchasing Office

SEP 1981
BUREAU
A O M

Enclosure: (1)

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to Anheuser-Busch Companies Inc. P. O. Box 18017 A.M.F. for the modification of boiler operating conditions to be located at 111 Busch Drive, Jacksonville, Florida in Duval County, Florida. A determination of Best Available Control Technology was not required. Copies of the Application, Technical Evaluation, and Departmental Intent are available for inspection at the following offices:

DER Bureau of Air Qual. Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

St. Johns River Subdistrict
3426 Bills Road
Jacksonville, Florida 32207

Comments on this action shall be submitted in writing to John Svec of the Tallahassee Office, within 30 days of this notice.

To appear in: Florida Times Union,
Jacksonville
on 9/18/81

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

August 5, 1981

Mr. D. M. DeHart
Senior Environmental Engineer
Anheuser-Busch Companies, Inc.
721 Pestalozzi Street
St. Louis, MO 63118

RE: Jacksonville Brewery Boiler No. 1-4

Dear Mr. DeHart:

I have received your July 21, 1981 letter documenting the maximum permitted firing rates for the four boilers at the Jacksonville Brewery. A reevaluation of the data shows that the figures discussed with you by telephone were incorrect due to a math error made on my part. The correct boiler firing rates are as follows:

Boiler Number	Maximum permitted firing rate 10^6 BTU/hr
1	95
2	86
3	91
4	90

If the Jacksonville Brewery wants to increase the firing rate of these boilers beyond the above rates, particulate testing must be performed at 90% or better, of the desired maximum firing rate.

Very truly yours,

E. P. Balducci

E. P. Balducci
Assistant Air Engineer

EPB/sg

cc: Mr. Carl Bock, BAQM w/enclosure
Doug Dutton, DER

Carl

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

June 30, 1981

Mr. D. M. DeHart
Senior Environmental Engineer
Anheuser-Busch Company, Inc.
721 Pestalozzi Street
St. Louis, MO 63118

RE: Jacksonville Brewery:
Boiler #1 (A016-2435)
Boiler #2 (A016-2436)
Boiler #3 (A016-2437)
Boiler #4 (A016-12829)

Dear Mr. DeHart:

By copy of this letter, I am recommending to the Florida Department of Environmental Regulation, that the captioned permits be modified to show a stack height of 100 feet and a discharge diameter of 3.5 feet, each, as per your May 28, 1981 letter of request. According to the revised permit application, the construction is due to begin July 6, 1981. Please notify this office of the expected completion date.

Please be advised that compliance testing must be performed at 90% of the desired permit rate as per Chapter 17-2.23 (1) (b) 2, FAC (copy enclosed). According to the April 21-23, 1981 particulate test results received, the maximum firing rate at which these boilers could be permitted is a rate 10% higher than that tested, specifically:

Boiler Number	Maximum Permitted Firing Rate (MBTU/hr)
1	94
2	86
3	91
4	83

These rates are not in accordance with the rates previously submitted in the permit applications. Please advise if these rates are acceptable. If these maximum levels are unacceptable, please advise as to when subsequent testing will be performed to show compliance at the desired permit rate.

/Continued . . . . . .

Please call me at (904) 633-3033 if you have questions regarding this matter.

Very truly yours,

E. P. Balducci

E. P. Balducci
Assistant Air Engineer

EPB/sg

cc: Mr. G. Doug Dutton, DER
Mr. Carl Bock, DER/BAQM. Tallahassee

BIO-ENVIRONMENTAL SERVICES
Air and Water Pollution Control
515 W. 6th Street
Jacksonville, Florida 32206

Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

~ 150,000 Btu/gal

66.1×10^6 Btu/hr

x

4

x

8760

2.316144×10^{12} Btu/yr.

÷ 150,000 Btu/gal

15.441×10^6 gal./yr.

Do Not Throw Away, James Bruce

7/30/82

To Bruce Mitchell

Date 7-15 Time 11:20

WHILE YOU WERE OUT

M Don Dehart

of Anheuser Busch

Phone _____
Area Code Number Extension

TELEPHONED	✓	PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	✓
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message He'll call you around 2:00 pm

BM
Operator

Send Don Dehart

Cpt. 17-2 ✓

Memo on conversation

to

- D. Dehart
- J. Woosley ?
  S. Pace
- Marty Hull

This morning 5/27/82

Aug 5, 1981

Emissions 10 Test rep. 1

Tested 2 80 x 10⁶

1979 Fuel usage for No. 1

Actual 21.2 TPY/Boiler

Actual Not as high as allowable

ANHEUSER-BUSCH COMPANIES

May 28, 1981

Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Bock:

Per our phone conversation of May 21st, I am enclosing revisions to pp. 2, 3 and 4 of the construction permit application submitted in February, 1981 for the boilers at the Jacksonville brewery. These revisions 1) delete the references to increasing the stack height (p.2) per your instructions of last week, 2) modify the actual emissions (p.3) to reflect the results of the April particulate tests (recently submitted by Mr. T. Martin at the Jacksonville brewery), 3) modify the potential emissions (p.3) by changing the method of calculation, and 4) show a reduction of the stack diameter at the outlet (p.4) to show the stacks as they will be constructed.

In a separate letter to Mr. E. P. Balducci, Jacksonville Bio-Environmental Services Division, I requested a modification of the present boiler permits to show the increase in the stack height. This was also in response to our May 21st phone conversation.

If there are any more questions or issues to be resolved, please contact me at my St. Louis office.

Yours truly,

D. M. DeHart

D. M. DeHart
Senior Environmental
Engineer

cc: Mr. E. P. Balducci
Jacksonville Bio-Environmental
Services Division (w/encl.)

encl.

DMD:de

Anheuser-Busch Companies, Inc.
721 Pestalozzi Street
St. Louis, MO 63118

ANHEUSER-BUSCH COMPANIES

May 28, 1981

Mr. E. P. Balducci
Assistant Air Pollution Engineer
Bio-Environmental Services Division
Air and Water Pollution Control
515 West 6th Street
Jacksonville, FL 32206

RE: Permits A016-2435, Boiler No. 1
A016-2436, Boiler No. 2
A016-2437, Boiler No. 3
A016-12829, Boiler No. 4

Dear Mr. Balducci:

Last week I spoke to Mr. Carl Bock of the Florida Department of Environmental Regulation (FDER) concerning the permit needs for increasing the stack heights on the boilers at the Jacksonville brewery. Hopefully by now, Mr. Bock has contacted you about this situation. Basically, the FDER now says that a construction permit is not needed to increase the stack height.

Per Mr. Bock's instructions, I am requesting that the existing boiler permits be modified to show a stack height of 100 ft. for each boiler. Also, at the discharge end, each of the four stacks is to be reduced to a 3.5 ft. diameter.

I anticipate that this request will allow us to proceed with the boiler stack height increase without any further problems. I understand that construction on this modification is scheduled to start the week of July 6, 1981.

If you have any questions or concerns about this modification, please do not hesitate to contact me at my St. Louis office or Mr. Tom Martin at the Jacksonville brewery.

Yours truly,

D. M. DeHart

D. M. DeHart
Sr. Environmental
Engineer

DMD:de

cc: Mr. Carl Bock, FDER

SECTION II: GENERAL PROJECT INFORMATION Rev. 2, 5/28/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The applicant desires to increase the allowable maximum firing rate to 100 x 10^6 BTU/hr per boiler. This is the input capacity for each boiler as indicated on all previous permit applications. Each boiler is currently permitted to operate at a maximum of 66.1 x 10^6 BTU/hr. The four (4) boilers are Babcock & Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that 100 ft. stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

_____

_____

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application.

A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr _____ ;

if seasonal, describe: _____

_____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? no
   a. If yes, has "offset" been applied? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants.

      _____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. no
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? no
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? no

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

D. Maximum Emissions

	(Florida allowable) ($lb/10^6$ BTU input)	x	(capacity input) (100 x 10^6 BTU/hr input)	= Max. Emissions
Particulates	0.1	x	100	= 10.0 lb/hr
SO_2	2.5	x	100	= 250 lb/hr

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979. At 150,000 BTU/gal, this is equivalent to 424.2 x 10^9 BTU input.

$$\left(\begin{array}{c}\text{Florida allowable}\\ \text{(lb/}10^6\text{ BTU input)}\end{array}\right) \times \left(\begin{array}{c}\text{annual input}\\ \text{(424.2 x }10^9\text{ BTU)/2000}\end{array}\right) \times \left(\frac{1\text{ ton}}{2000\text{ ton}}\right) = \text{Actual Emissions}$$

Particulate	0.1	x	(424,200/2000)	= 21.2 tons/yr
SO_2	2.5	x	212.1	= 530 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left(\begin{array}{c}\text{Hourly}\\ \text{Potential}\\ \text{Emissions}\end{array}\right) \times \left(\begin{array}{c}\text{Operating}\\ \text{Time}\end{array}\right) \times \left(\frac{1\text{ ton}}{2000\text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left(\frac{8760\text{ hr}}{\text{yr}}\right) / 2000$$

Particulate	10.0	x	(8760/2000)	= 43.8 tons/yr
SO_2	250	x	(4.38)	= 1095 tons/yr

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33567

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Anheuser-Busch, Inc. Date April 14, 1981

Address P.O. Box 18204 AMF Jacksonville, Fl Dollars $ 20.00
32229

Applicant Name & Address 111 Busch Drive Jacksonville, Fl

Source of Revenue

Revenue Code 0101 Application Number AC 16-39951

By Tim Powell

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000003996 COE# DER PROCESSOR:CARL BOCK DER OFFICE:TLH
FILE NAME:ANHEUSER-BUSCH, INC. DATE FIRST REC: 02/17/81 APPLICATION TYPE:AC
APPL NAME:JOHN MUELLER APPL PHONE:(904)751-0700 PROJECT COUNTY:16
ADDR:P. O. BOX 18017 CITY:JACKSONVILLE ST:FLZIP:32229
AGNT NAME:NOLAN, PAT, P.E. AGNT PHONE:(904)731-4288
ADDR:8282 WESTERN WAY CIRCLE, SUITE 111 CITY:JACKSONVILLE ST:FLZIP:32216

ADDITIONAL INFO REQ:03/16/81 / / / / REC:04/09/81 / / / /
APPL COMPLETE DATE: 04/09/81 COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 04/14/81 15:31:43
FEE PD DATE#1:04/09/81 $0020 RECEIPT#00033567 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:02/17/81
REMARKS: PROCESS STEAM BOILERS NOS. 1, 2, 3 AND 4. INCREASE IN CAPACITY W/ HIGH-
ER STACKS. SOURCE LOCATION: 111 BUSCH DRIVE, JACKSONVILLE; UTM: 743.793OE/
3366.820N. LAT/LONG: 30DEG25'59"N/81DEG38'47"W.

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating t Florida SO_2 ambient air qualit standard

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

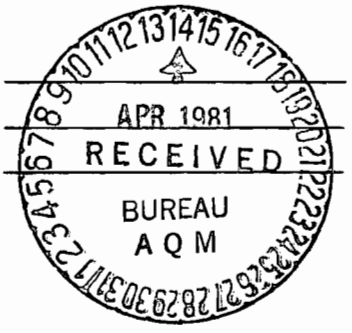
F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

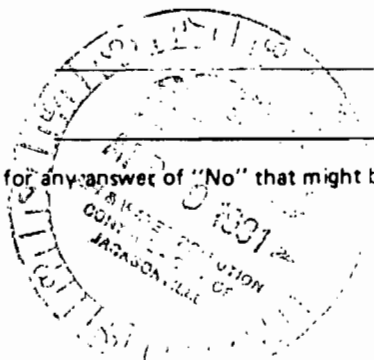
if seasonal, describe:

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

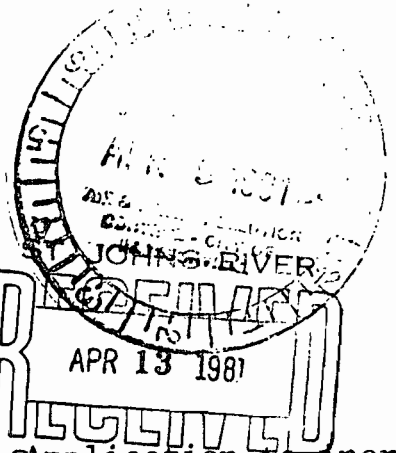
Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.





Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

April 3, 1981



Mr. E. P. Balducci
Assistant Pollution Control Engineer
Department of Health, Welfare &
Bio-Environmental Services
515 West 6th STreet
Jacksonville, Florida 32206

RE: Application to Increase Boiler Stack Height - Jacksonville Brewery.

Dear Mr. Balducci:

Please find enclosed a check for $20.00 and 5 copies of page 2 of our Application to Increase Stack Height. This takes care of items 1 & 2 in your letter of March 16, 1981 to Mr. J. Mueller. The remaining items, 3, 4, & 5 will be answered directly to you from Don DeHart in Corporate Headquarters, St. Louis.

Since the three boiler renewal permits were cancelled in lieu of consolidation, will we get credit for the $60.00 application fees?

Very truly yours,

Tom Martin

Tom Martin
Asst. Resident Engineer

TM:

Enclosure

CC: Mr. J. Mueller
Mr. D. DeHart

CC: Mr. Carl Back
Dept. Environmental Regulations
2600 Blairstone Road
Tallahassee, Fla. 32301

Anheuser-Busch, Inc
P. O. Box 18017
AMF
Jacksonville, FL 32229

Anheuser-Busch, Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

CHECK NUMBER
No. 23 0293

DATE April 8, 1981

PAY TO THE ORDER OF Florida Department of Environmental Regulation

$ **20.00

A-B INC EXPENSE ACCT

4.27
810 MANUFACTURERS BANK AND TRUST COMPANY, OF ST. LOUIS

[redacted]

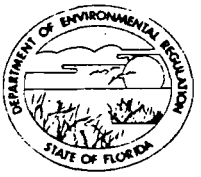
DETACH THIS VOUCHER BEFORE PRESENTING CHECK

C.V. NO. | CK'ED | APP

INVOICE	AMOUNT	DISCOUNT	OTHER DEDUCTIONS	NET TO PAY
Application fee to increase boiler stack height. Boilers #1 - #4.	20.00			20.00

Anheuser-Busch, Inc.
JACKSONVILLE, FLORIDA

AC 16-39951



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan, P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)

2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	-
			1.a.* (per Mr. E.				
			Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard

[4]Emission, if source operated without control (See Section V, Item 3)

[5]If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

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	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	
			1.a.* (per Mr. E.				
			Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

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Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard

[4]Emission, if source operated without control (See Section V, Item 3)

[5]If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? _____ Yes _____ No

b) Was instrumentation calibrated in accordance with Department procedures? _____ Yes _____ No _____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

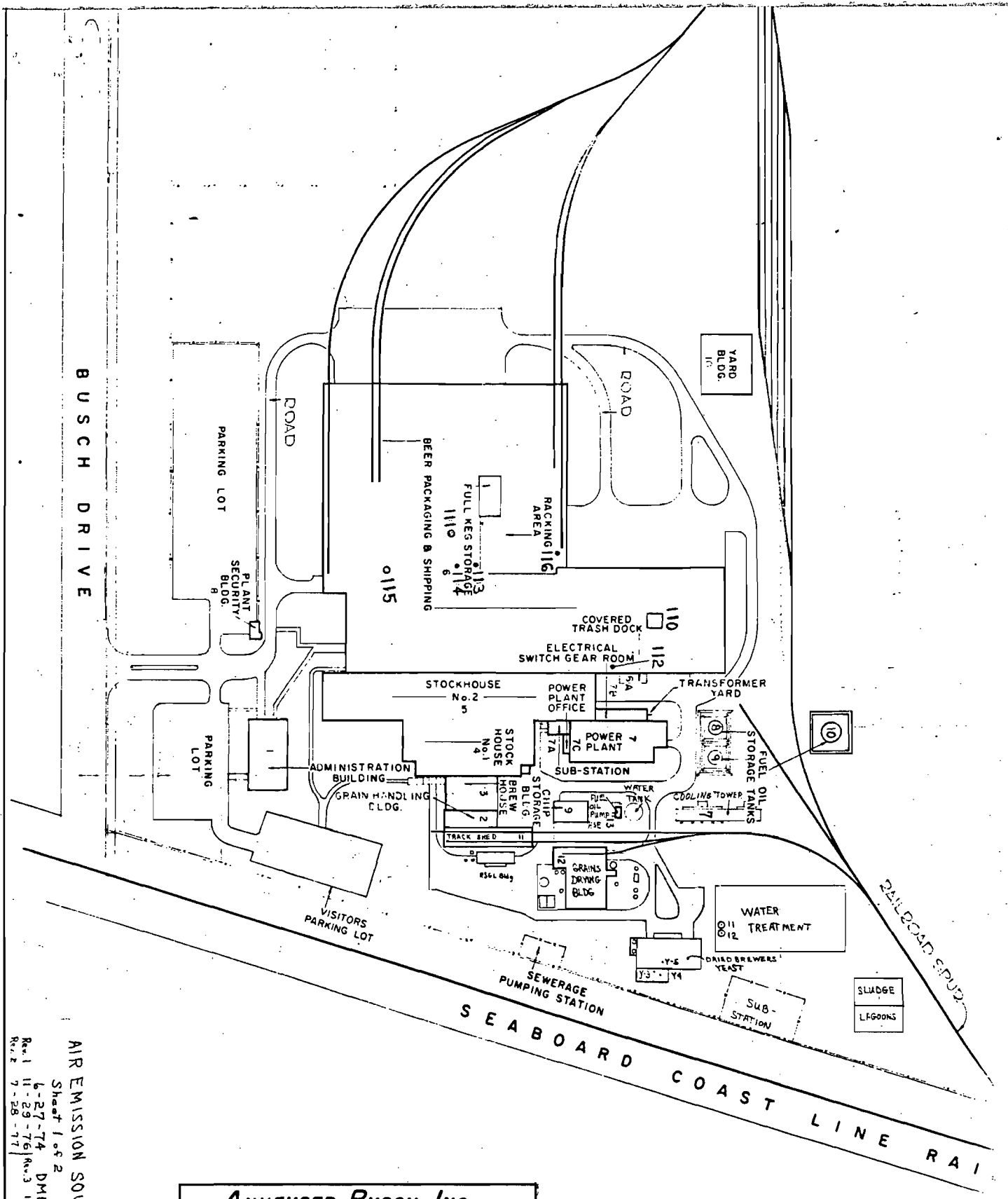
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.



AIR EMISSION SOURCE INVENTORY
Sheet 1 of 2
6-27-74 DMD
Rev.1 11-29-76 Rev.3 1-22-81
Rev.2 7-28-77

ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETARY
NAME & CAPACITY FOR BREWER
DATE

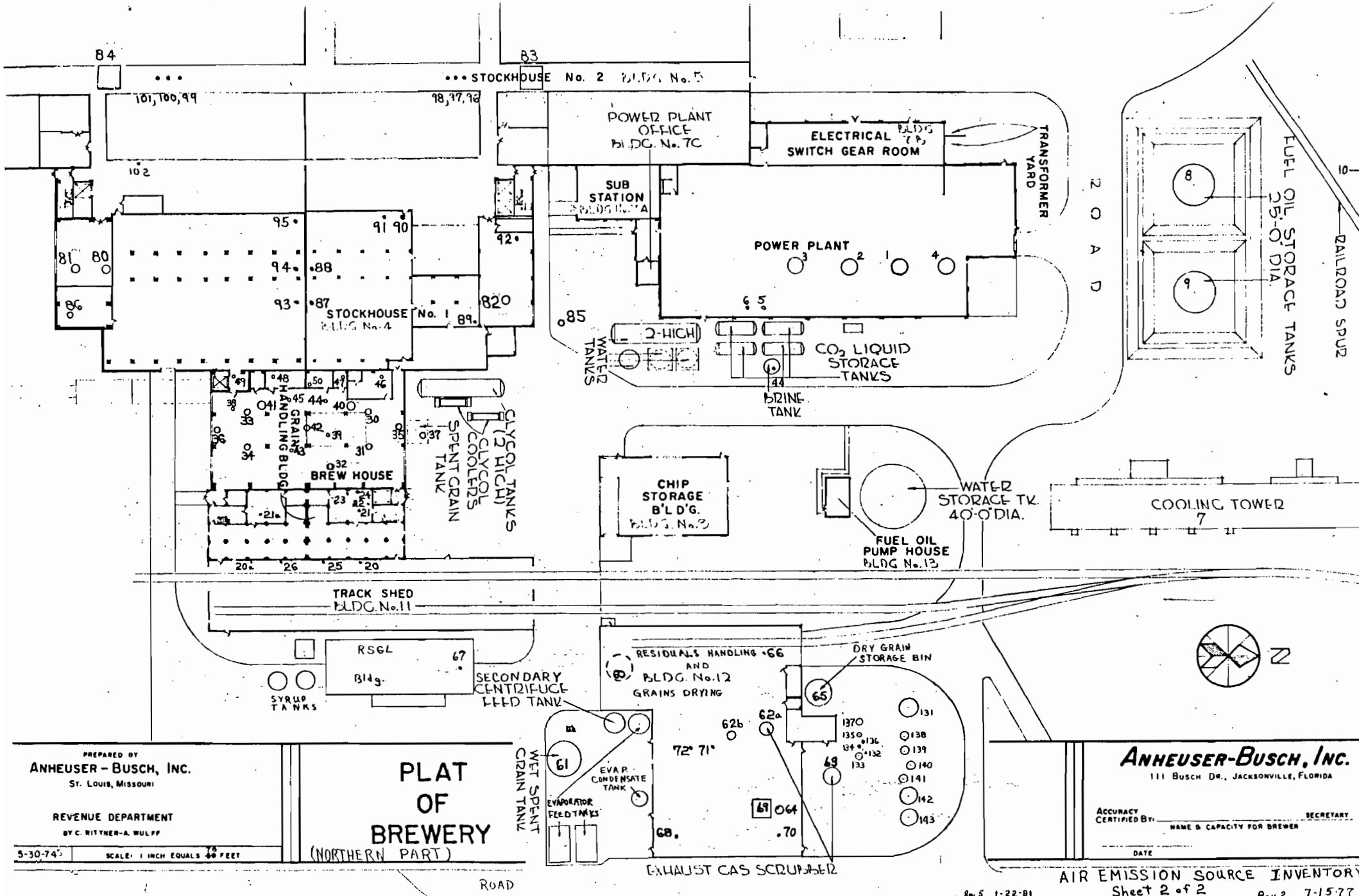
SHEET NO. 1

PREPARED BY
ANHEUSER - BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

DATE: 5-30-74 | SCALE: 1 INCH EQUALS 200 FEET

PLAT OF BREWERY LOCATION PLAT



PREPARED BY
ANHEUSER – BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

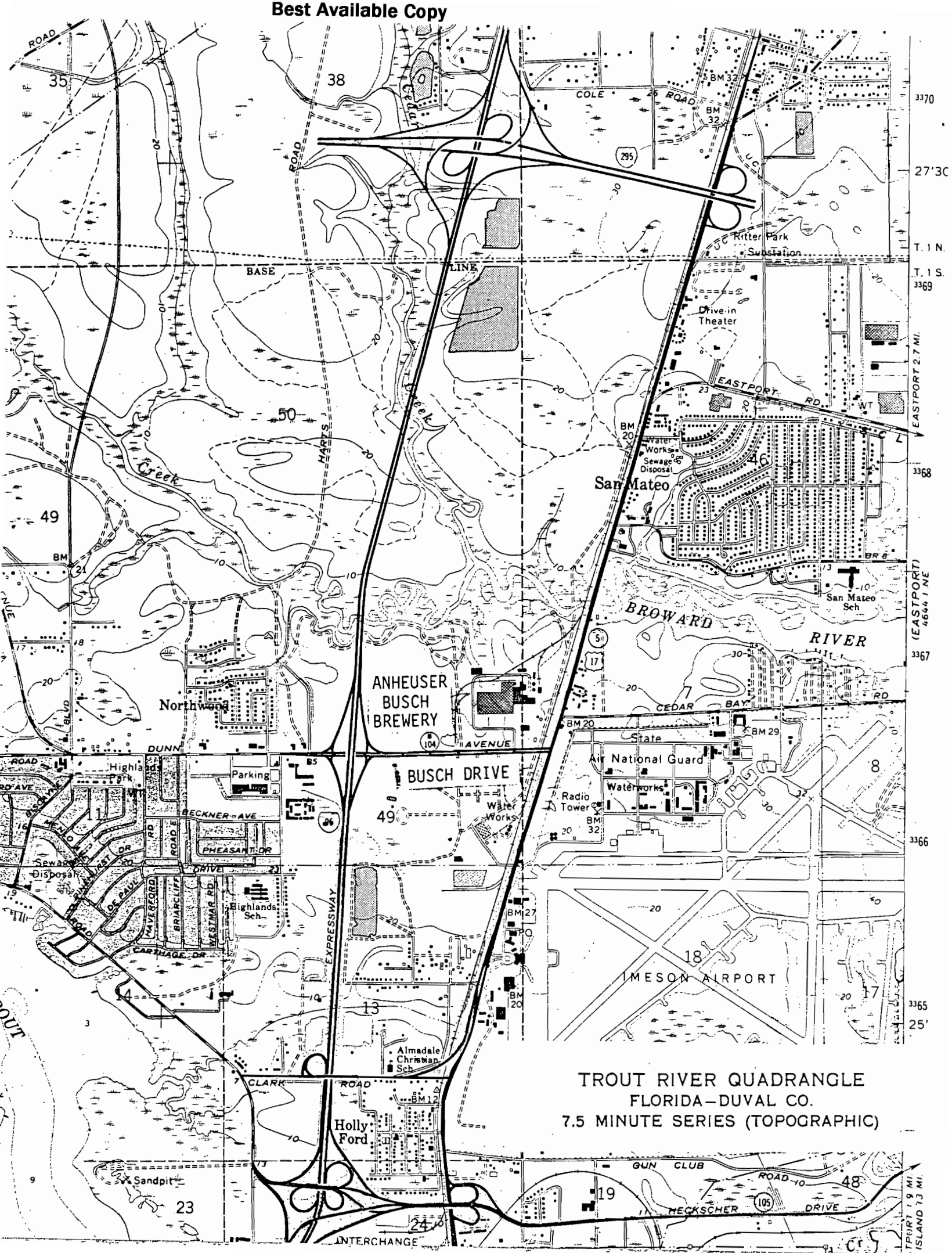
5-30-74 SCALE: 1 INCH EQUALS 100 FEET

PLAT OF BREWERY (NORTHERN PART)

ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETARY.
NAME & CAPACITY FOR BREWER
DATE

AIR EMISSION SOURCE INVENTORY
Sheet 2 of 2
6-27-74 DMD
Rev.1 11-29-76
Rev.5 1-22-81
Rev.2 7-15-77
Rev.3 6-21-79
Rev.4 1-9-80



ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
EMISSION CALCULATIONS PER BOILER

(Section III C and E)

I. Section IIIC and E

A. Emission Factors

From AP-42, 3rd. Ed. Table 1.3-1 For Industrial Residual Oil. Here S equals the percent by weight of sulfur in the oil.

Pollutant	Emission lb/1000 gal	Emission With 2.28% S oil, lb/1000 gal
Particulate	10(S) + 3	25.8
Sulfur Dioxide	157(S)	358.0
Nitrogen Oxides	60	60.0
Carbon Monoxide	5	5.0
Hydrocarbons	1	1.0

B. Sulfur Limit of Oil

SO_2 emissions limited to 2.5 lb $SO_2/10^6$ BTU input. This equates to:

$$\frac{2.5 \text{ lb } SO_2}{10^6 \text{ BTU}} \times \frac{.15 \times 10^6 \text{ BTU}}{\text{gal oil}} \times \frac{\text{gal oil}}{8.2 \text{ lb oil}} \times \frac{\text{lb S}}{2 \text{ lb } SO_2} = 0.02287 \frac{\text{lb S}}{\text{lb oil}} \text{ or } 2.28\% \text{ S}$$

C. Maximum Oil Usage

Bases: 100×10^6 BTU/hr max. input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

$$\frac{100 \times 10^6 \text{ BTU}}{\text{hr}} \times \frac{\text{gal}}{0.15 \times 10^6 \text{ BTU}} = 667 \text{ gal/hr.}$$

D. Maximum Emissions

	(Emission Factor) (lb/1000 gal)	x	(Max. oil usage) x(0.667 x 1000 gal)	=	Max. Emissions
Particulates	25.8	x	0.667	=	17.2 lb/hr
SO_2	358.0	x	0.667	=	239.0 lb/hr
NO_x	60.0	x	0.667	=	40.0 lb/hr

E. Actual Annual Emissions

Bases: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979.

$$\text{(Emission Factor)} \times \text{(Oil Used)} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Actual Emissions}$$

$$\text{(lb/1000 gal)} \times \text{(2,828 x 1000 gal)} \times \left(\frac{1}{2000}\right)$$

Particulate	25.8	x	(2,828/2000)	=	36.5 tons/yr
SO_2	358.0	x	(1.414)	=	506 tons/yr
NO_x	60.0	x	(1.414)	=	84.8 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left\{\begin{matrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Operating} \\ \text{Time}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left\{\begin{matrix}8760 \\ \text{hr/yr}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	17.2	x	(8760/2000)	=	75.4 tons/yr
SO_2	239.0	x	(4.38)	=	1046.0 tons/yr
NO_x	40.0	x	(4.38)	=	175.0 tons/yr

G. Allowable Emissions

Chapter 17-2.05(6) Table II Source E(2) states "apply latest technology" for particulate, sulfur dioxide, and nitrogen oxides. For plant locality per Mr. Ed Balducci on 4/22/80, we are to use limits of 0.1 lb. particulate and 2.5 lb SO_2 per 10^6 BTU input over a 2-hr average. No limit is specified for NO_x. From application, each boiler has input capacity of 100 x 10^6 BTU/hr.

	(Emission Limit) ($lb/10^6$ BTU)	x	(Input Capacity) (100 x 10^6 BTU/hr)	=	Allowable Emissions
Particulate	0.1	x	(100)	=	10 lb/hr
SO_2	2.5	x	(100)	=	250 lb/hr

II. Section III H

Percent water in flue gases

Reference: Steam, Its Generation and Use by Babcock and Wilcox Co. 37th Ed., 1963. Chapter 4, Table 5 (page 4 - 9).

For fuel oil per 10,000 BTU as fired.

Theoretical dry air -- 7.46 lb

Fuel -- 0.54 lb

Resulting Moisture -- 0.51 lb

Incoming moisture (wet air) -- 0.0132 lb H_2O/lb dry air @ 60% RH and 80° F.

At 120 % of theoretical air (20% excess)

Total dry air -- 1.2(7.46) = 8.95 lb

Incoming H_2O -- 1.2(7.46)(0.0132) = 0.12 lb

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

LIST

ALL

11/08/80. 16.36.17.
LIST OF RESULTS

1PLANT NAME: AB JACKSONVILLE BREWERY POLLUTANT: SO2 EMISSION UNITS: GM/SEC AIR QUALITY UNITS: GM/M**3
THIS RUN COMBINES ALL 4 BOILER STACKS INTO A SINGLE SOURCE

	MET FILE STN NO.	YR	REQUESTED STN NO.	YR
SURFACE	13889	70	13889	70
UPPER AIR	13861	70	13861	70

PLANT LOCATION: RURAL
NO TAPE OUTPUT
MET DATA WILL NOT BE PRINTED

DAY-- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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* N O T E * * * * * * * * * * * * * * * * *

ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN -ANNUAL- IN THE HEADING ARE BASED ONLY ON THOSE I

DAYS MARKED BY [1[IN THE ABOVE TABLE

RING DISTANCES(KM)= .40 .60 .80 1.00 1.20

PLANT ELEVATION (FEET ABOVE SEA LEVEL)-- 0.0 PLANT ELEVATION (METERS ABOVE SEA LEVEL)-- 0.0

	RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)					RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)				
DIRECTION	RING"1	RING"2	RING"3	RING"4	RING"5	RING"1	RING"2	RING"3	RING"4	RING"5
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STACK " 1-- COMBINED BOILER STACK

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	126.0000	30.50	1.37	10.60	483.00	15.63

PLANT NAME: AB JACKSONVILLE BREWERY POLLUTANT: SO2 EMISSION UNITS: GM/SEC AIR QUALITY UNITS: GM/M**3

	MAX HOURLY					MAX 24-HOUR		
DAY	RATIO	CONCENTRATION	DIRECTION	DISTANCE(KM)	HOUR	CONCENTRATION	DIRECTION	DISTANCE(K

TRM
RDY
$F,540

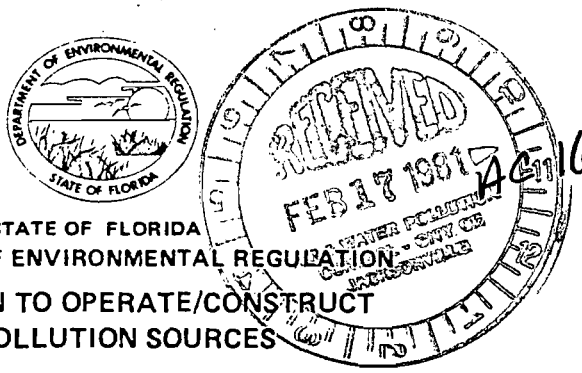
YEARLY MAXIMUM 24-HOUR CONC= 2.1508E-04 DIRECTION= 5 DISTANCE= 1.2 KM DA
+Y=223
RDY

$F,584
YEARLY SECOND MAXIMUM 24-HOUR CONC= 2.0302E-04 DIRECTION= 5 DISTANCE= 1.0
+ KM DAY= 79
RDY

DAY 79 = 22 Hrs
M = 3

$F,628
YEARLY MAXIMUM 3-HOUR CONC= 6.9294E-04 DIRECTION= 31 DISTANCE= .6 KM
+ DAY=163 TIME PERIOD= 5
RDY

$F,672
YEARLY SECOND MAXIMUM 3-HOUR CONC= 5.5427E-04 DIRECTION= 31 DISTANCE=
+ .8 KM DAY=202 TIME PERIOD= 4
RDY
UNS RESULTS
RDY
BYE
CT = 01.03 SU-B = 12.4
KCH = 45
A541001 LOG OFF. 16.43.41.



AC16-39951

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506.	Source "E"(1)(b)	250	239	1046	-
			1.a.* (per Mr. E.				
			Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
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	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	-
			1.a.* (per Mr. E.				
			Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

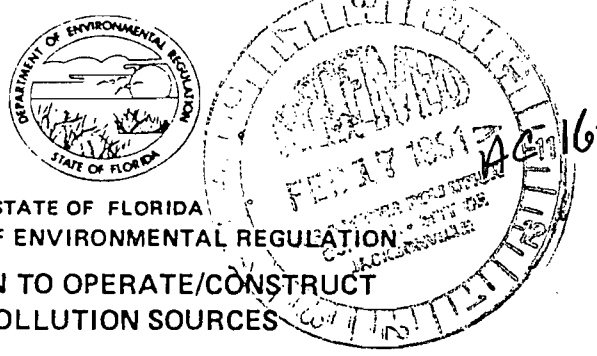
[3]Calculated from operating rate and applicable standard

[4]Emission, if source operated without control (See Section V, Item 3)

[5]If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input



AC 16-39951

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan, P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? ____
   a. If yes, has "offset" been applied? ____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? ____
   c. If yes, list non-attainment pollutants. ____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. ____
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ____
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? ____
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? ____

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

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F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)

2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	
		172 lbs	1.a.* (per Mr. E.				
		x4 = 688 lbs	Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb / 8.2 (nominal) $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

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Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A: Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

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Contaminant	Rate or Concentration

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Contaminant	Rate or Concentration

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1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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*Explain method of determining efficiency above.

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Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? _____ Yes _____ No

b) Was instrumentation calibrated in accordance with Department procedures? _____ Yes _____ No _____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

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month day year month day year

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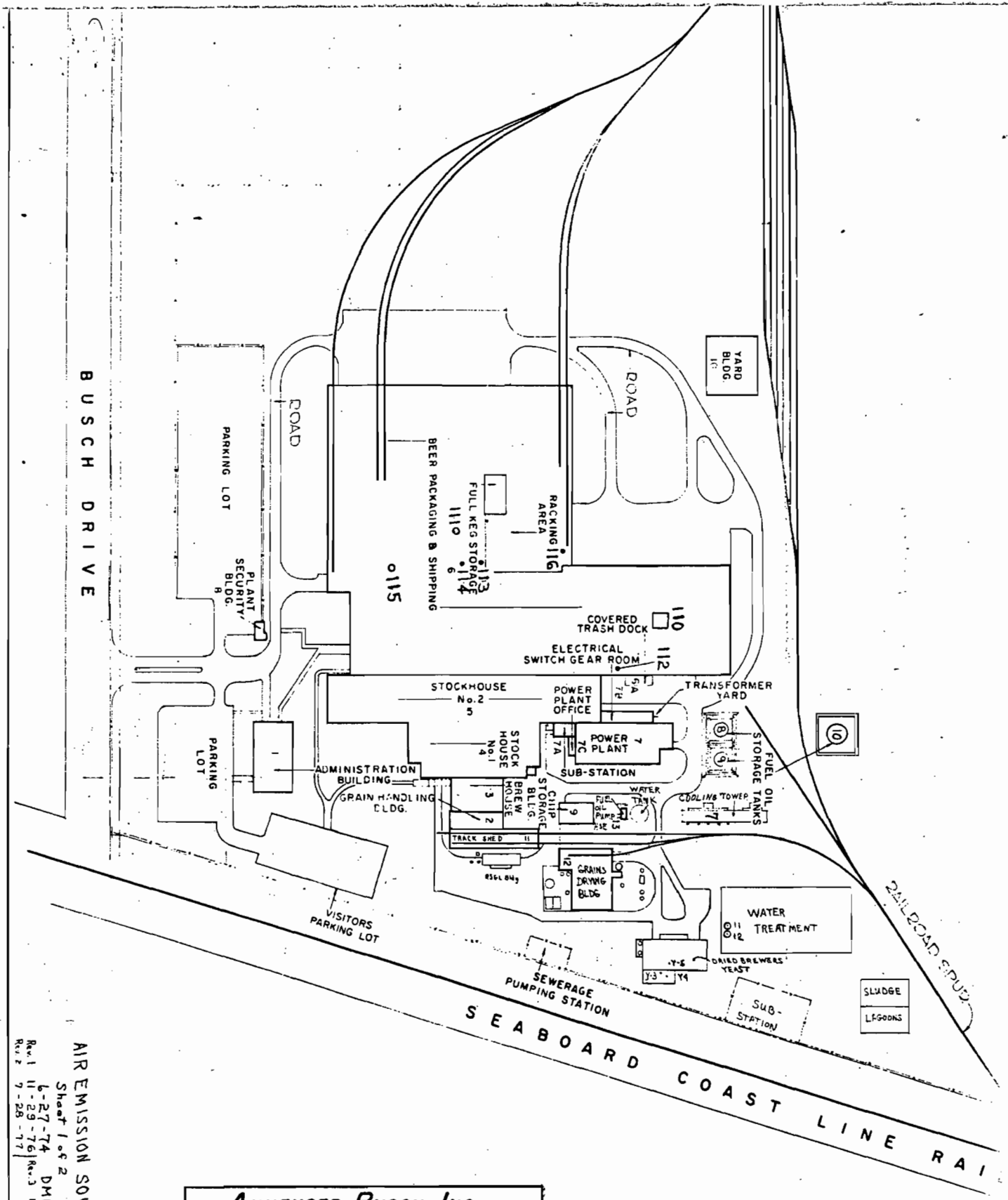
H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.



AIR EMISSION SOURCE INVENTORY
Sheet 1 of 2
6-27-74 DMD
Rev.1 11-29-76 Rev.3 1-22-81
Rev.2 7-28-77

ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETARY
NAME & CAPACITY FOR BREWER
DATE _____
SHEET NO. 1

N

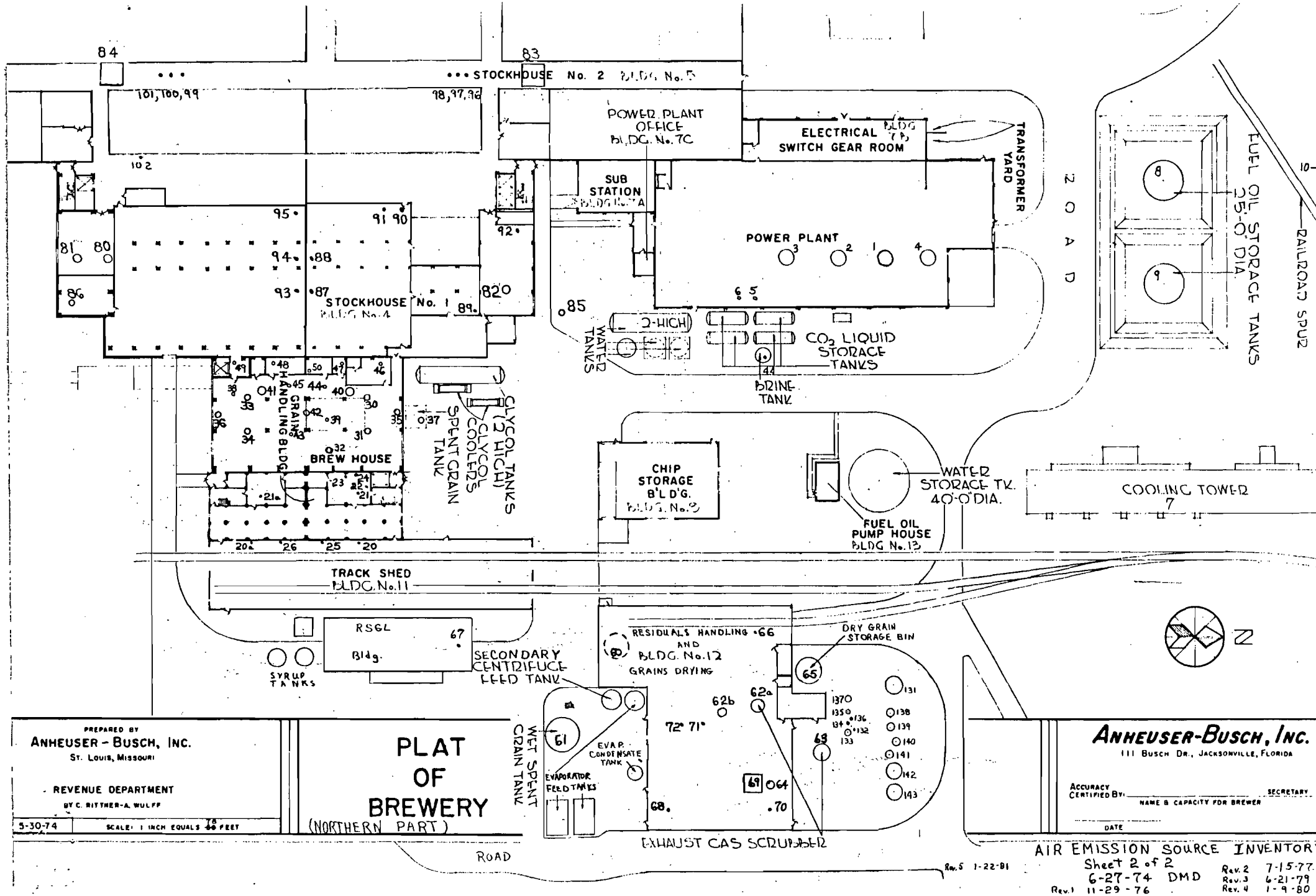
PREPARED BY
ANHEUSER - BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

DATE: 5-30-74 SCALE: 1 INCH EQUALS ~~300~~ 350 FEET

PLAT OF BREWERY LOCATION PLAT

Best Available Copy



PREPARED BY
ANHEUSER – BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

5-30-74 SCALE: 1 INCH EQUALS 40 FEET

PLAT OF BREWERY (NORTHERN PART)

ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETARY
NAME & CAPACITY FOR BREWER
DATE

AIR EMISSION SOURCE INVENTOR
Sheet 2 of 2
6-27-74 DMD
Rev.1 11-29-76
Rev.2 7-15-77
Rev.3 6-21-79
Rev.4 1-9-80
Rev.5 1-22-81

TROUT RIVER QUADRANGLE
FLORIDA–DUVAL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
EMISSION CALCULATIONS PER BOILER

(Section III C and E)

I. Section IIIC and E

A. Emission Factors

From AP-42, 3rd. Ed. Table 1.3-1 For Industrial Residual Oil. Here S equals the percent by weight of sulfur in the oil.

Pollutant	Emission lb/1000 gal	Emission With 2.28% S oil, lb/1000 gal
Particulate	10(S) + 3	25.8
Sulfur Dioxide	157(S)	358.0
Nitrogen Oxides	60	60.0
Carbon Monoxide	5	5.0
Hydrocarbons	1	1.0

B. Sulfur Limit of Oil

SO_2 emissions limited to 2.5 lb $SO_2/10^6$ BTU input. This equates to:

$$\frac{2.5 \text{ lb } SO_2}{10^6 \text{ BTU}} \times \frac{.15 \times 10^6 \text{ BTU}}{\text{gal oil}} \times \frac{\text{gal oil}}{8.2 \text{ lb oil}} \times \frac{\text{lb S}}{2 \text{ lb } SO_2} = 0.02287 \frac{\text{lb S}}{\text{lb oil}} \text{ or } 2.28\% \text{ S}$$

C. Maximum Oil Usage

Bases: 100 x 10^6 BTU/hr max. input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

$$\frac{100 \times 10^6 \text{ BTU}}{\text{hr}} \times \frac{\text{gal}}{0.15 \times 10^6 \text{ BTU}} = 667 \text{ gal/hr.}$$

D. Maximum Emissions

	(Emission Factor) (lb/1000 gal)	x	(Max. oil usage) x(0.667 x 1000 gal)	=	Max. Emissions
Particulates	25.8	x	0.667	=	17.2 lb/hr
SO_2	358.0	x	0.667	=	239.0 lb/hr
NO_x	60.0	x	0.667	=	40.0 lb/hr

E. Actual Annual Emissions

Bases: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979.

$$\text{(Emission Factor)} \times \text{(Oil Used)} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Actual Emissions}$$

$$\text{(lb/1000 gal)} \times \text{(2,828 x 1000 gal)} \times \left(\frac{1}{2000}\right)$$

Particulate	25.8	x	(2,828/2000)	=	36.5 tons/yr
SO_2	358.0	x	(1.414)	=	506 tons/yr
NO_x	60.0	x	(1.414)	=	84.8 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left\{\begin{matrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Operating} \\ \text{Time}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left\{\begin{matrix}8760 \\ \text{hr/yr}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	17.2	x	(8760/2000)	=	75.4 tons/yr
SO_2	239.0	x	(4.38)	=	1046.0 tons/yr
NO_x	40.0	x	(4.38)	=	175.0 tons/yr

G. Allowable Emissions

Chapter 17-2.05(6) Table II Source E(2) states "apply latest technology" for particulate, sulfur dioxide, and nitrogen oxides. For plant locality per Mr. Ed Balducci on 4/22/80, we are to use limits of 0.1 lb. particulate and 2.5 lb SO_2 per 10^6 BTU input over a 2-hr average. No limit is specified for NO_x. From application, each boiler has input capacity of 100 x 10^6 BTU/hr.

	(Emission Limit) (lb/10^6 BTU)	x	(Input Capacity) (100 x 10^6 BTU/hr)	=	Allowable Emissions
Particulate	0.1	x	(100)	=	10 lb/hr
SO_2	2.5	x	(100)	=	250 lb/hr

II. Section III H

Percent water in flue gases

Reference: Steam, Its Generation and Use by Babcock and Wilcox Co. 37th Ed., 1963. Chapter 4, Table 5 (page 4 - 9).

For fuel oil per 10,000 BTU as fired.

Theoretical dry air -- 7.46 lb

Fuel -- 0.54 lb

Resulting Moisture -- 0.51 lb

Incoming moisture (wet air) -- 0.0132 lb H_2O/lb dry air @ 60% RH and 80° F.

At 120 % of theoretical air (20% excess)

Total dry air -- 1.2(7.46) = 8.95 lb

Incoming H_2O -- 1.2(7.46)(0.0132) = 0.12 lb

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

ALL

```
LIST

 11/08/80. 16.36.17.
 LIST OF  RESULTS

1PLANT NAME:<AB JACKSONVILLE BREWERY> POLLUTANT: SO2       EMISSION UNITS: GM/SEC    AIR QUALITY UNITS: GM/M**3
 THIS RUN COMBINES ALL 4 BOILER STACKS INTO A SINGLE SOURCE

             MET FILE     REQUESTED
            STN NO. YR   STN NO. YR
 SURFACE     13889  70    13889  70
 UPPER AIR   13861  70    13861  70
 PLANT LOCATION: RURAL
 NO TAPE OUTPUT
 MET DATA WILL NOT BE PRINTED

 DAY-- 1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
       1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1


  * * * * * * * * * * * * * * * * * * * * N O T E * * * * * * * * * * * * * * *

        ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN -ANNUAL- IN THE HEADING ARE BASED ONLY ON THOSE I

    DAYS  MARKED BY [1[ IN THE ABOVE TABLE


   RING DISTANCES(KM)=    .40    .60    .80   1.00   1.20


 PLANT ELEVATION (FEET ABOVE SEA LEVEL)--       0.0        PLANT ELEVATION (METERS ABOVE SEA LEVEL)--       0.0

     RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)                RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)

 DIRECTION    RING"1    RING"2    RING"3    RING"4    RING"5             RING"1    RING"2    RING"3    RING"4    RING"5

      1          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      2          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      3          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      4          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      5          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      6          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      7          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      8          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
      9          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     10          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     11          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     12          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     13          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     14          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     15          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     16          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     17          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     18          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     19          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     20          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     21          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     22          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     23          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     24          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     25          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     26          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     27          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     28          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     29          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     30          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     31          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     32          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     33          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     34          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     35          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
     36          0.0       0.0       0.0       0.0       0.0                0.0       0.0       0.0       0.0       0.0
```

STACK " 1-- COMBINED BOILER STACK

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	126.0000	30.50	1.37	10.60	483.00	15.63

PLANT NAME: AB JACKSONVILLE BREWERY POLLUTANT: SO2 EMISSION UNITS: GM/SEC AIR QUALITY UNITS: GM/M**3

		MAX HOURLY				MAX 24-HOUR		
DAY	RATIO	CONCENTRATION	DIRECTION	DISTANCE(KM)	HOUR	CONCENTRATION	DIRECTION	DISTANCE(K

TRM
RDY
$F,540

YEARLY MAXIMUM 24-HOUR CONC= 2.1508E-04 DIRECTION= 5 DISTANCE= 1.2 KM DA
+Y=223
RDY

$F,584
YEARLY SECOND MAXIMUM 24-HOUR CONC= 2.0302E-04 DIRECTION= 5 DISTANCE= 1.0
+ KM DAY= 79
RDY

DAY 79 = 22 Has
M = 3

$F,628
YEARLY MAXIMUM 3-HOUR CONC= 6.9294E-04 DIRECTION= 31 DISTANCE= .6 KM
+ DAY=163 TIME PERIOD= 5
RDY

$F,672
YEARLY SECOND MAXIMUM 3-HOUR CONC= 5.5427E-04 DIRECTION= 31 DISTANCE=
+ .8 KM DAY=202 TIME PERIOD= 4
RDY
UNS RESULTS
RDY
BYE
CT = 01.03 SU-B = 12.4
KCH = 45
A541001 LOG OFF. 16.43.41.

SECTION II: GENERAL PROJECT INFORMATION Rev. 1, 4/14/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The 4 identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that the higher stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31,1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Extending boiler stacks from the present height of 52.5 ft to 100 ft. - $130,000 (est.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ; if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Rev. 1, 4/14/81

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Sulfur dioxide	250 lb/hr/boiler or 1000 lb/hr (maximum rate)

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: None
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration
Sulfur dioxide	165.25 lb/hr/boiler or 661 lb/hr (maximum permit rate)

*Explain method of determining D 3 above.

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (^oF)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

_____

_____

_____

_____

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

10. Stack Parameters At input of 66.1 x 10^6 BTU/hr (100 x 10^6 BTU/hr)

a. Height: present 52.5 ft. b. Diameter: 4.5 ft.

c. Flow Rate: est. 21,000 (33,100) ACFM d. Temperature: 390 (410) °F

e. Velocity: 22 (35) FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device: Stacks increased to height of 100 ft. and outlet diameter decreased to 3.5 ft.

b. Operating Principles: A taller stack (still less than GEP) will give better dispersion of SO_2 at ground level.

c. Efficiency*: NA (not applicable) d. Capital Cost: $130,000 (est.)

e. Useful Life: 20 years f. Operating Cost: ~ $ 0

g. Energy*: ~ $ 0 h. Maintenance Cost: none

i. Availability of construction materials ~~and process chemicals~~: stack materials are available

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels:

There is adequate space and support to install 100 ft. stacks.

2.

a. Control Device: Lower oil sulfur content to 1.5% from current 2.28%

b. Operating Principles: The SO_2 emissions from the firing of No. 6 fuel oil are directly proportional to the sulfur content of the oil.

c. Efficiency*: 33% $\left[\frac{(2.28 - 1.5)\ 100}{2.28}\right]$ d. Capital Cost: None

e. Useful Life: NA f. Operating Cost: Est. $300,000/yr (current prices)

g. Energy**: None h. Maintenance Costs: None

i. Availability of construction materials and process chemicals: No. 6 fuel oil with a 1.5% sulfur content is available in the Jacksonville area.

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels: NA

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device: Increasing boiler stack height to 100 ft. and decreasing outlet diameter to 3.5 ft.
2. Efficiency*: NA
3. Capital Cost: $130,000 (est.)
4. Life: 20 years
5. Operating Cost: ~ $ 0
6. Energy: ~ $ 0
7. Maintenance Cost: None
8. Manufacturer: Custom built
9. Other locations where employed on similar processes: The Corporation is not familiar with other locations which have increased stack heights specifically to meet ambient standards.

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Modeling results show that increasing the stacks on the four existing boilers to 100 ft. will allow all four boilers to operate simultaneously at capacity and not violate the Florida ambient air quality standards for SO_2.

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION Rev. 1, 4/14/81

A. Company Monitored Data

1. _____ no sites _____ TSP _____( ) SO^{2*} _____ Wind spd/dir

Period of monitoring ___/___/___ to ___/___/___
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01/ 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual & 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^2	126.0 grams/sec

E. Emission Data Used in Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^6 BTU/hr each) at 2.5 lb $SO_2/10^6$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION Rev. 1, 4/14/81

A. Company Monitored Data

1. _____ no sites _____ TSP _____( )SO^{2}* _____ Wind spd/dir

Period of monitoring ___/___/___ to ___/___/___
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01/ 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual & 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^{2}	126.0 grams/sec

E. Emission Data Used In Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^{6} BTU/hr each) at 2.5 lb $SO_2/10^{6}$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

SECTION II: GENERAL PROJECT INFORMATION Rev. 2, 5/28/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The applicant desires to increase the allowable maximum firing rate to 100 x 10^6 BTU/hr per boiler. This is the input capacity for each boiler as indicated on all previous permit applications. Each boiler is currently permitted to operate at a maximum of 66.1 x 10^6 BTU/hr. The four (4) boilers are Babcock & Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that 100 ft. stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

_____

_____

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application.

A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr _____ ;

if seasonal, describe: _____

_____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? no
   a. If yes, has "offset" been applied? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants.

      _____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. no
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? no
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? no

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
   - 90,000 lb/hr max (steam)
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

D. Maximum Emissions

	(Florida allowable) ($lb/10^6$ BTU input)	x	(capacity input) (100 x 10^6 BTU/hr input)	= Max. Emissions
Particulates	0.1	x	100	= 10.0 lb/hr
SO_2	2.5	x	100	= 250 lb/hr

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979. At 150,000 BTU/gal, this is equivalent to 424.2 x 10^9 BTU input.

$$\left(\begin{array}{c}\text{Florida allowable} \\ (lb/10^6 \text{ BTU input})\end{array}\right) \times \left(\begin{array}{c}\text{annual input} \\ (424.2 \times 10^9 \text{ BTU})/2000\end{array}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ ton}}\right) = \text{Actual Emissions}$$

Particulate	0.1	x	(424,200/2000)	= 21.2 tons/yr
SO_2	2.5	x	212.1	= 530 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left(\begin{array}{c}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{array}\right) \times \left(\begin{array}{c}\text{Operating} \\ \text{Time}\end{array}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$(lb/hr) \times \left(\frac{8760 \text{ hr}}{yr}\right) / 2000$$

Particulate	10.0	x	(8760/2000)	= 43.8 tons/yr
SO_2	250	x	(4.38)	= 1095 tons/yr

#4

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
2562 EXECUTIVE CENTER CIRCLE, EAST
MONTGOMERY BUILDING, TALLAHASSEE, FLORIDA 32301

PETER P. BALJET
EXECUTIVE DIRECTOR

DAVID H. LEVIN
CHAIRMAN

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

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

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
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	o.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) 1 & 2]

[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 1/2 meter or by latitude and longitude. Attach four copies of the appropriate USGS map with the exact location marked in red.

[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

March 13, 1972

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

Extended to 7/1/75 in 5/3/73

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,

for W. E. Linne, Acting Chief
Bureau of Permitting

WEL:mns

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

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 ten meters 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

[XX] 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

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 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 indicated firing rate with fourth boiler on standby.			are on line at (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

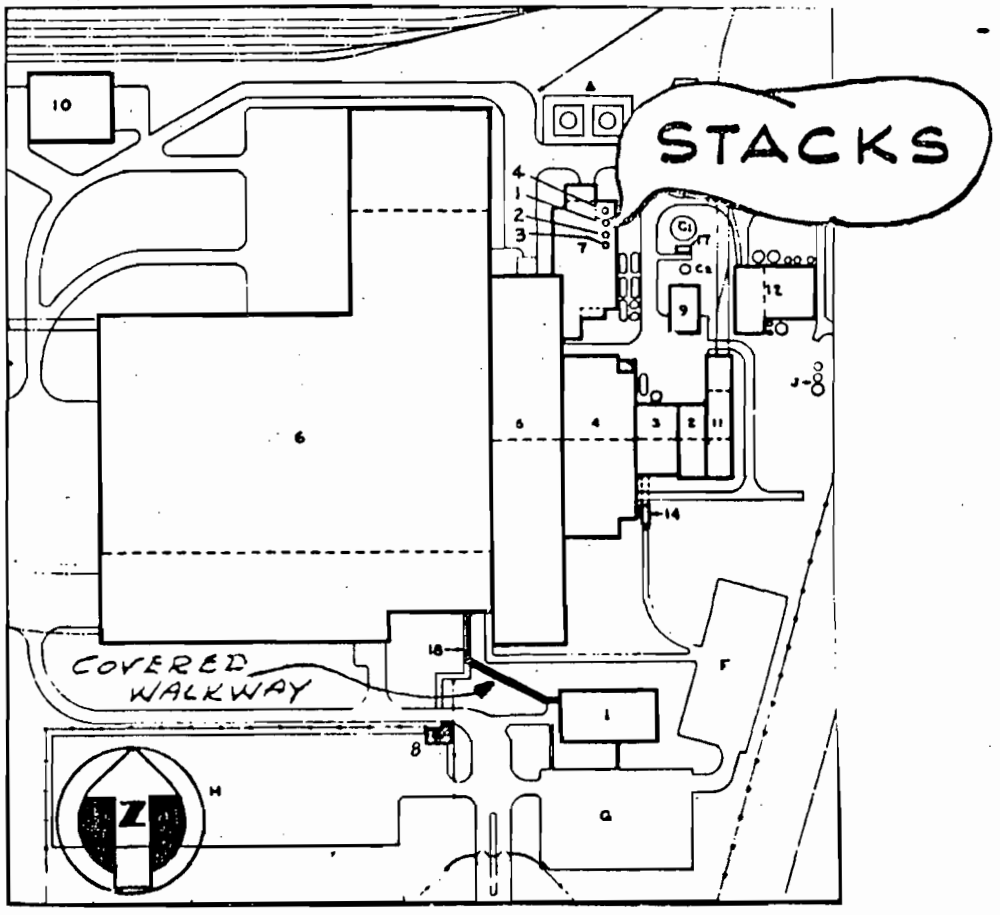
Date: 11/16/73

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:

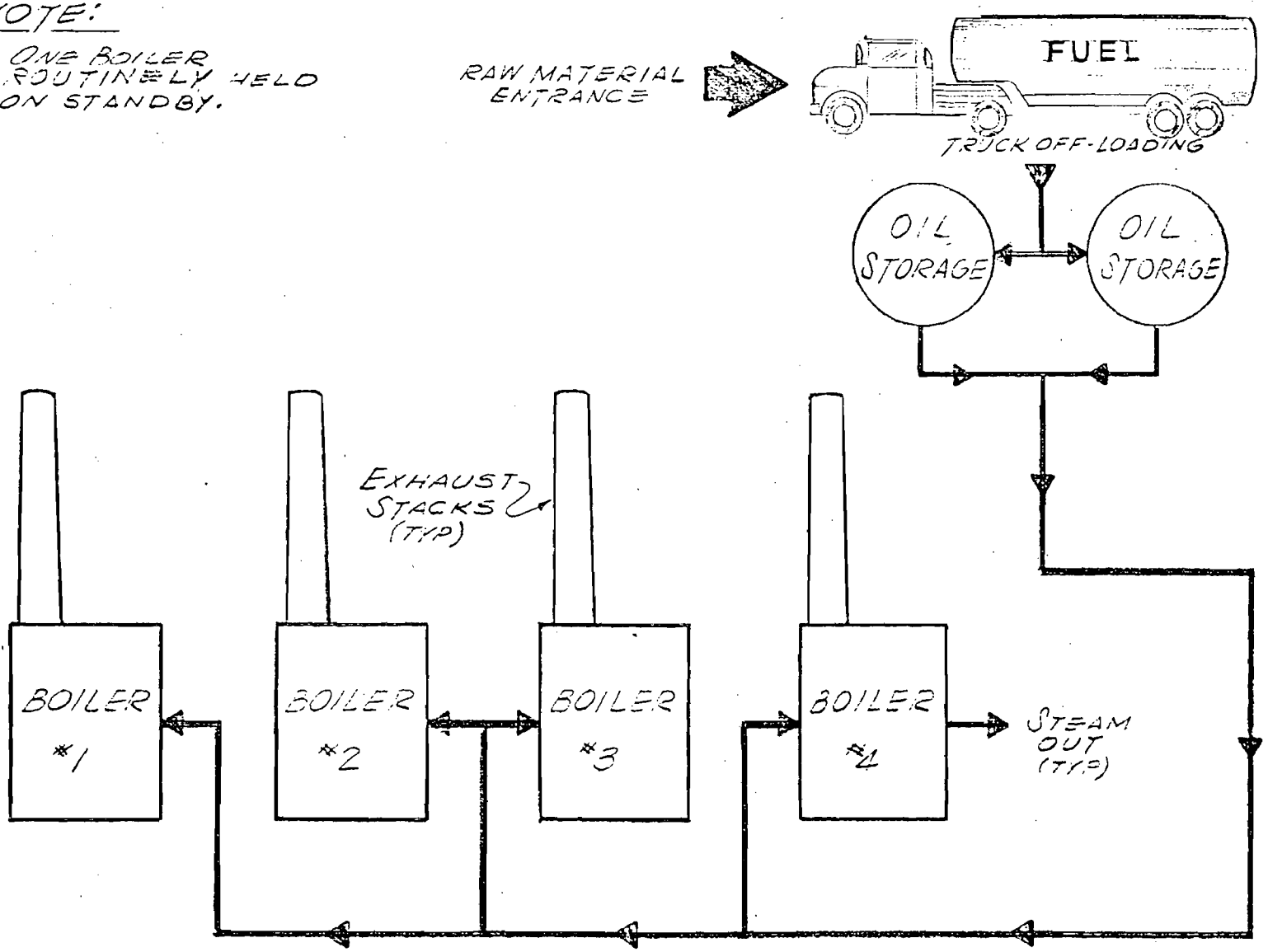
BLDG. NO.	BUILDING NAME:
1	Administration
2	Grains Handling Building
3	Brewhouse
4	Stockhouse No. 1
5	Stockhouse No. 2
6	B.P.& S.
7	Power House
8	Guard House
9	Chip Storage Building
10	Yards Building
11	Track Shed
12	Grains Drying Building
14	Tour Facility
17	Diesel Pump House
18	Covered Walkway
A	Fuel 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

TM:hr 7/20/73

NOTE:

ONE BOILER ROUTINELY HELD ON STANDBY.

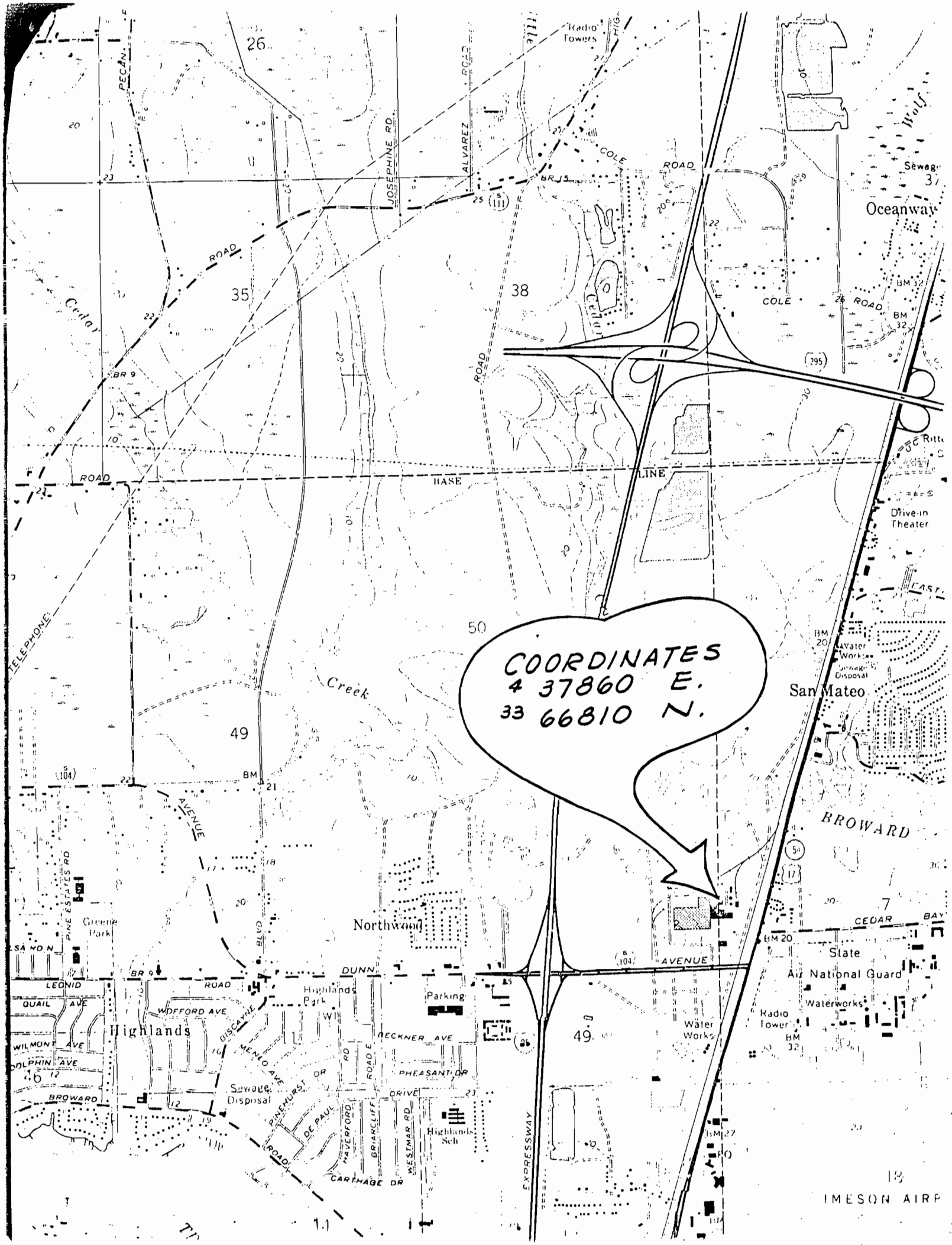


GASEOUS EMISSION

FIGURE 1

ANHEUSER BUSCH, INC.
BOILER FLOW DIAGRAM
JACKSONVILLE, FLORIDA

Best Available Copy



ANHEUSER-BUSCH COMPANIES

DER

APR 25 1986

BAQM

April 22, 1986

Mr. Bruce Mitchell
Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Re: Jacksonville Brewery
Boiler Particulate Emission Compliance

Dear Bruce:

As requested, attached is a table of 1985 fuel oil deliveries and sulfur content by vendor. Pollutant emissions have also been calculated based on these values.

If you have further questions or comments, please call me in St. Louis. As indicated in my March 13, 1986 letter to Clair Fancy on this subject, I would be happy to meet with you at any time to discuss these matters further and come to a final resolution to this situation.

Sincerely,

John V. Stier
Supervisor
Environmental Affairs

JVS/bkb

Enc.

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

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

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY

1985 RESIDUAL FUEL OIL RECORDS

YEAR	MONTH	EASTERN SEABOARD GALLONS	EASTERN SEABOARD % SULFUR	EASTERN SEABOARD BTU/GAL	AMERADA HESS GALLONS	AMERADA HESS % SULFUR	AMERADA HESS BTU/GAL	TOTAL GALLONS	SO2 (TONS)	PM (TONS)	NOx (TONS)	CO (TONS)	HC (TONS)
1985	DECEMBER	403,426	1.30	151,044	216,044	1.31	151,044	619,470	63.39	4.36	17.04	1.55	0.40
	NOVEMBER	370,544	1.23	151,708	197,268	1.49	151,708	567,812	58.85	4.04	15.61	1.42	0.36
	OCTOBER	455,903	1.42	149,904	226,768	1.38	149,904	682,671	75.39	5.14	18.77	1.71	0.44
	SEPTEMBER	377,745	1.39	151,798	208,988	1.50	151,798	586,733	65.83	4.51	16.14	1.47	0.38
	AUGUST	413,793	1.41	150,232	221,526	1.39	150,232	635,319	69.97	4.79	17.47	1.59	0.41
	JULY	459,532	1.38	152,684	215,464	1.46	152,684	674,996	74.48	5.07	18.56	1.69	0.43
	JUNE	378,202	1.26	151,984	196,543	1.58	150,504	574,745	61.79	4.23	15.81	1.44	0.37
	MAY	458,514	1.43	153,674	207,490	1.61	149,682	666,004	77.69	5.26	18.32	1.67	0.43
	APRIL	472,902	1.38	147,160	195,268	1.42	150,241	668,170	73.00	4.94	18.37	1.67	0.43
	MARCH	471,340	1.40	150,360	196,379	1.48	152,746	667,719	74.62	5.05	18.36	1.67	0.43
	FEBRUARY	432,407	1.36	146,566	138,198	1.51	148,652	570,605	62.55	4.19	15.69	1.43	0.37
	JANUARY	476,269	1.02	152,060	195,410	2.12	149,401	671,679	70.65	4.79	18.47	1.68	0.43
	TOTAL	5,170,577			2,415,346			7,585,923	828.19	56.37	208.61	18.96	4.85

Facilities north of Heckscher 2.27% 2.27%

south " 1.5%

JEA NS 120×10^6 Btu 1.8% S

No PM limit; controlled by sulfur content

4-25-86

Mike:
Here is the remaining values that need to be calculated. Thanks RR

OK 28 APRIL 1986

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY

1985 RESIDUAL FUEL OIL RECORDS

YEAR	MONTH	EASTERN SEABOARD GALLONS	EASTERN SEABOARD % SULFUR	EASTERN SEABOARD BTU/GAL	AMERADA HESS GALLONS	AMERADA HESS % SULFUR	AMERADA HESS BTU/GAL	S%	TOTAL GALLONS	SO2 (TONS)	PM (TONS)	NOx (TONS)	CO (TONS)	HC (TONS)
1985	DECEMBER	403,426	1.30	151,044	216,044	1.31	151,044	1.30	619,470	63.39	4.36	17.04	1.55	0.40
	NOVEMBER	370,544	1.23	151,708	197,268	1.49	151,708	1.32	567,812	58.85	4.04	15.61	1.42	0.36
Need to be calc.	OCTOBER	455,903	1.42	149,904	226,768	1.38	149,904	1.41	682,671	75.39	5.14	18.77	1.71	0.44
	SEPTEMBER	377,745	1.39	151,798	208,988	1.50	151,798	1.43	586,733	65.83	4.51	16.14	1.47	0.38
	AUGUST	413,793	1.41	150,232	221,526	1.39	150,232	1.40	635,319	69.97	4.79	17.47	1.59	0.41
	JULY	459,532	1.38	152,684	215,464	1.46	152,684	1.41	674,996	74.48	5.07	18.56	1.69	0.43
	JUNE	378,202	1.26	151,984	196,543	1.58	150,504	1.37	574,745	61.79	4.23	15.81	1.44	0.37
	MAY	458,514	1.43	153,674	207,490	1.61	149,682	1.49	666,004	77.69	5.26	18.32	1.67	0.43
Done	APRIL	472,902	1.38	147,160	195,268	1.42	150,241	1.39	668,170	73.00	4.94	18.37	1.67	0.43
	MARCH	471,340	1.40	150,360	196,379	1.48	152,746	1.42	667,719	74.62	5.05	18.36	1.67	0.43
	FEBRUARY	432,407	1.36	146,566	138,198	1.51	148,652	1.40	570,605	62.55	4.19	15.69	1.43	0.37
	JANUARY	476,269	1.02	152,060	195,410	2.12	149,401	1.34	671,679	70.65	4.79	18.47	1.68	0.43
	TOTAL	5,170,577			2,415,346				7,585,923	828.19	56.37	208.61	18.96	4.85

CROSS CREEK

To: Bruce Mitchell
Date: Oct. 23, 1985

WORK COPY
M.G.W.P.P.
18 April, 1986

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY

RESIDUAL FUEL OIL RECORDS
JANUARY 1975 - JULY 1985

YEAR	MONTH	EASTERN SEABOARD GALLONS	% SULFUR	BTU/GAL	AMERADA HESS GALLONS	% SULFUR	BTU/GAL	%	TOTAL GALLONS	SO2 (TONS)	PM (TONS)
			lbs/mo			lbs/mo					
1985	JUNE	378,202	39695 1.26	151,984	195,543	25,867 1.58	150,504	1.36	574,745	61.79	4.23
	MAY	458,514	54617 1.43	153,674	207,490	27,827 1.61	149,682	1.49	666,004	77.69	5.26
	APRIL	472,902	54,362 1.38	147,150	195,268	23,097 1.42	150,241	1.39	668,170	73.00	4.94
	MARCH	471,340	54,968 1.40	150,360	196,379	24,210 1.48	152,746	1.42	667,719	74.62	5.05
	FEBRUARY	432,407	48,986 1.35	146,565	138,198	17,383 1.31	148,652	1.40	570,605	62.55	4.19
	JANUARY	476,269	40,467 1.02	152,060	155,410	34509 2.12	149,401	1.34	671,679	70.65	4.75
	TOTAL	2,689,634	623971		1,129,288				3,818,922	420.29	28.46
1984	DECEMBER	378,321	34,241 1.15	150,139	220,801	28,141 1.53	151,576	1.29	599,122	60.67	4.20
	NOVEMBER	390,095	63,565 1.92	150,281	195,795	25,445 1.55	149,875	1.79	585,890	82.77	5.57
	OCTOBER	431,957	71,904 2.00	151,875	214,097	34,776 1.95	151,012	1.98	646,054	100.59	6.73
	SEPTEMBER	457,665	54,998 1.44	153,360	163,887	28,942 2.12	149,921	1.62	621,552	79.01	5.28
	AUGUST	499,892	76,619 1.84	151,614	182,091	28,364 1.87	149,557	1.85	681,983	98.93	6.57
	JULY	532,032	78,000 1.76	150,529	163,834	26,203 1.92	150,678	1.79	695,866	98.20	6.50
	JUNE	517,953	92,763 2.15	150,777	170,525	26,563 1.87	149,380	2.08	688,478	112.45	7.42
	MAY	576,017	102,202 2.13	150,957	166,883	24,552 1.91	149,646	2.08	742,900	121.33	7.98
	APRIL	485,413	82,126 2.13		157,718	23,648 1.80		1.97	643,131	103.45	6.83
	MARCH	522,962	67,958 1.56	150,511	140,999	14916 1.27	149,695	1.50	663,961	78.10	5.19
	FEBRUARY	15/227 852,327	+15,742 2.13	149,735	168,609	26,124 1.86	151,498	2.09	1,020,936	167.13	10.90
	JANUARY	580,149	89,404 1.85	147,253	194,218	24,591 1.32	151,109	1.76	774,367	107.43	7.13
	TOTAL	6,224,783			2,139,457				8,354,240	1210.07	80.28
1983	DECEMBER	350,889	49,105 1.68		152,872	25,214 1.98		1.77	503,761	70.04	4.69
	NOVEMBER	365,461	62,712 2.06		165,376	24,996 1.80		1.98	530,837	82.47	5.50
	OCTOBER	384,533	68,868 2.15		147,251	24,288 1.98		2.10	531,794	87.79	5.81
	SEPTEMBER	388,675	71,552 2.21		133,660	22,268 2.00		2.16	522,335	88.41	5.83
	AUGUST	567,246	90,725 1.92		615,451	92,281 1.80		1.86	1,182,697	172.46	11.91
	JULY	550,430	100,872 2.20		73,011	10,947 1.80		2.15	623,441	105.38	6.82
	JUNE	564,934	80,941 1.72		73,086	12,602 2.07		1.76	638,020	88.15	5.72
	MAY	615,998	98,007 1.91		73,050	12,594 2.07		1.93	689,048	104.23	6.75
	APRIL	237,886	43595 2.20		24,319	4,072 2.01		2.18	262,205	44.92	2.90
	MARCH	493,627	90873 2.21		66,997	11,217 2.01		2.19	560,624	96.21	6.23
	FEBRUARY	603,888	114,190 2.27		60,775	11,391 2.25		2.27	664,663	118.34	7.63
	JANUARY	647,784	90653 1.68		77,909	14277 2.20		1.74	725,693	98.88	6.42
	TOTAL	5,771,351			1,663,767				7,435,118	1157.28	76.21
1982	DECEMBER		2.10			2.05			682,682	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			764,382	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			777,972	133.13	9.65
	MARCH		2.16			2.07			732,626	121.64	8.85
	FEBRUARY		2.16			2.26			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	636,529	107.43	7.80
	OCTOBER	2.26	2.14	622,195	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	764,972	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	681,792	111.86	8.15
	NOVEMBER	2.09	2.09	665,033	109.11	7.95
	OCTOBER	2.05	2.05	847,055	136.31	9.95
	SEPTEMBER	2.17	2.17	879,516	149.82	10.86
	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	813,066	144.88	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	868,983	148.64	10.80
	JANUARY	2.15	2.11	933,259	156.05	11.34
				10,010,827	1679.61	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	146.66	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	9.68
	JANUARY	2.27	2.11	852,190	146.50	10.61
				10,118,860	1733.56	125.60
1978	DECEMBER	2.20	2.15	670,950	114.36	8.30
	NOVEMBER	2.20	2.15	760,059	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	1.88	2.17	972,502	154.59	11.31
	APRIL	1.88	2.17	843,148	134.03	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
				9,779,289	1646.36	119.35

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	2.18	667,900	115.66	8.43
	JULY	2.27	2.18	755,500	131.96	9.54
	JUNE	1.55	2.11	782,500	112.41	8.33
	MAY	2.20	2.27	834,900	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
				8,356,306	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
				8,386,300	1494.40	107.76

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

April 1, 1986

Mr. Don Bayly
Duval County Department of
Health, Welfare & Bio-
Environmental Services
Division of Bio-Environmental
Services
515 West Sixth Street
Jacksonville, FL 32206

Dear Mr. Bayly:

On March 28, 1986 representatives of CAMs and CAPs met to review the Anheuser Busch issue that I discussed with you during the annual air audit.

It was agreed that CAPs will expeditiously pursue a BACT determination for the four boilers of concern. Simultaneously, CAMs will review compliance with permit conditions. A cursory review of the sulfur content of the fuel used from 1982-June 1985 suggests that in recent years Anheuser Busch has operated with fuels that approximate the 1.5% sulfur content that would probably be required by BACT. CAPs is reviewing the sulfur content of the fuel used more thoroughly.

Please provide test summaries or test reports for all stack tests for particulate matter and sulfur dioxide that have been conducted since September 22, 1981. If tests were not accomplished as required by the permit conditions, please specify why. Also, please provide a copy of the most recent operating permit for power boilers permitted on September 20, 1982 under permit number AO 16-65240, if more recent than that date. It is proposed that we meet with your representatives to discuss appropriate action subsequent to our review of the data.

It is further requested that you provide copies of the two most recent NO_x stack tests and any visual emissions (V.E.) observations made during the last six months at Jacksonville Electric Authority Power boiler #3. For any V.E.'s or NO_x stack tests that indicate violations please specify any mitigating circumstances (startup, malfunction, etc.) that existed.

Please provide the requested information by April 15, 1986 to facilitate expeditious review. Your cooperation is appreciated.

Sincerely,

John C. Brown, Jr., P.E.
Deputy Bureau Chief
Compliance and Ambient
Monitoring
Bureau of Air Quality
Management

JCB:ht

cc: Steve Smallwood
Clair Fancy
Khurshid Mehta
Marshall Mott-Smith

ANHEUSER-BUSCH COMPANIES

March 13, 1986

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

Re: Jacksonville Brewery
Boiler Particulate Emissions

Dear Clair:

For some time now, Anheuser-Busch Companies, Inc. has had discussions and corresponded with DER staff regarding the existing limits on fuel oil sulfur content and particulate emissions in the Company's boiler operating permits.

Since the time its boiler permit was initially issued, Anheuser-Busch has believed that the permit's 2.27% sulfur limit was intended by DER to be the principal fuel-related parameter and that the limit satisfied the "latest technology" regulatory requirements then in effect. Believing further that the particulate limit was intended to be merely a derivative of the fuel oil sulfur content, the particulate emissions should have been limited to 0.18 lbs/MMBTU, rather than the 0.10 limit in the permit. A change for conforming the permit with Anheuser-Busch's understanding was requested on October 23, 1985.

In an attempt to resolve this issue, Anheuser-Busch has decided to no longer pursue a permit correction to incorporate a 0.18 particulate level, even though it believes the combustion of 2.27% sulfur fuel oil should be acceptable from both a legal and air quality standpoint. Instead, Anheuser-Busch would change its operations by purchasing 1.5% sulfur fuel oil, rather than the 2.27% sulfur oil now permitted. As presented in my October 23, 1985 letter on this subject, the switch to 1.5% sulfur oil is expected to increase annual fuel costs by over $250,000. This change would allow continuing compliance with the 0.10 lbs/MMBTU particulate limit. A confirmatory test would be conducted to verify compliance with the particulate emission level. A schedule for implementing this change is currently being developed.

Since after this change Anheuser-Busch would be operating consistent with the most stringent of its existing permit limits, a permit amendment should not be required. However, the Company would agree, if DER believes it preferable, to a change in its permit to reflect a lowering in the sulfur content limit.

To expedite the handling of this matter, I met on February 25, 1986 with Messrs. Thomas and Hanks of the DER staff, and provided a general outline of the suggestion discussed in this letter. In addition, I reviewed a proposal for making the facility changes that would be necessary for switching to natural gas use in the existing four boilers and for installing a gas-fired turbine. With regard to the use of natural gas, the meeting was intended as a pre-application discussion to facilitate the obtaining of permits so that construction could proceed as quickly as possible. These changes would, of course, further reduce emissions from the facility and contribute to an additional improvement in the air quality for the Jacksonville area. Although guidance was received from DER staff on the natural gas proposal, there appeared to be some uncertainty as to the particulate compliance issue.

At this point, we would very much appreciate an opportunity to meet with you to resolve the questions over the particulate limit in the existing permit, and to discuss expected future permit applications for obtaining necessary authorizations to use natural gas. I will call you within the next few days for the purpose of setting up a time to discuss these matters further.

Sincerely,

ANHEUSER-BUSCH COMPANIES, INC.

John V. Stier
Supervisor
Environmental Affairs

JVS/bkb

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

Anheuser-Busch
Steam Generators 1-4
Permit Review

Operation Permits			Expiration Date
Particulate limit not established	Boiler #1	A016-2435	6/30/80
	Boiler #2	A016-2436	6/30/80
	Boiler #3	A016-2437	6/30/80
	Boiler #4	A016-12824	8/31/84

May 1, 1980	Applied for renewal operation permits for boiler numbers 1, 2, and 3. Note: AB indicated that each boiler should be permitted at 100 X 10^6 BTUs/hr heat input.
June 4, 1980	BESD requested additional information.
July 23, 1980	AB letter stating that a heat input limit of 375 X 10^6 and 300 X 10^6 BTUs/hr for all three boilers on a 3 hour and 24 hour average respectively is acceptable to avoid PSD.
August 6, 1980	BESD letter stating 3 hour and 24 hour averaging periods for maximum firing rates is satisfactory.
February 11, 1981	AB withdraws renewal permit applications for Boiler numbers 1, 2, and 3 and submits one modification permit application for boiler numbers 1, 2, 3, and 4.
March 16, 1981	BESD additional information letter sent.
March 18, 1981	BESD sends letter to DER which forwards application to DER for processing. Included is BESD update on modelling, stack height, boiler capacity, and PSD applicability.
April 3, 1981	Part of the information requested in March 16, 1981 BESD letter is received by BESD.
April 15, 1981	AB letter to DER stating position on permitting thus far.
May 22, 1981	Particulate stack tests submitted to BESD - 0.1 lb/10^6 BTU limit passed.
May 28, 1981	AB letter stating that work on stack height increase to commence soon.

June 3, 1981	BESD letter to AB stating that maximum heat input on each boiler is limited to the test capacity plus 10%.
September 18, 1981	Preliminary Determination issued by DER. (Note: Permit limited fuel use to permitted allowable at 66.1 X 10^6 BTU/hr heat input on an annual basis for all four boilers combined. Therefore, PSD and BACT did not apply. Limit should have been to 1979 actual not allowable usage to preclude any net increase of pollutants).
October 8, 1981	BESD comments on Preliminary Determination.
October 22, 1981	DER Final Determination issued (Construction Permit AC16-39951).
November 3, 1981	AB comments on Construction Permit AC16-39951. Note: AB requests annual particulate limit of 28.95 T/yr/boiler which is based upon 0.1 lb/10^6 BTU particulate limit 66.1 X 10^6 BTU/hr heat input limit 8760 hours per year.
March 2, 1982	BESD letter requesting AB to submit application for operation permit.
March 30, 1982	Application for Operation Permit received by BESD. Permit deviations noted.
June 8, 1982	BESD requested AB to sign Waiver of 90 Day processing to 9/30/82.
June 14, 1982	Waiver executed by AB.
July 19, 1982	DER letter to AB outlining problems with operation permit application (see letter for details).
September 1, 1982	BESD letter to AB enclosing draft operation permit - Basis for permit emission limits also outlined.
~~Sept. 10, 1982~~ September ~~16~~ 10, 1982	~~A.B. requests perm. modifications~~ AB requests surrogate tests for particulate and SO_2.
Sept 16 September 20, 1982	BESD supports A.B. request Operation permit issued based upon Construction Permit (Max. annual fuel oil consumption figure lowered to correspond to 1979 usage.
Sept. 16, 1982	BESD to A.B. comments on Testing reg

Sept 22, 1982
September 22, 1982 — DER req. Comments on alternate Standards
AB requests particulate SO_2 and NO_x bubble limit (four boilers) on an annual basis.

September 29, 1982 — DER grants bubble limit.
(Note: BESD did not change operation permit to reflect bubble limits. BESD questions DER authority to issue bubble limits).

Summary

(1) At the time of the permit application, the applicable rule limited part emissions to 0.1 $lb/10^6$ BTU heat input at Plants with steam gen. capacity boilers rated at $>250 \times 10^6$ BTUs/hr heat input total.

(2) Particulate emission limitations in Construction Permit were written as follows:

(A) (0.1 $lbs/10^6$ BTU) (100 X 10^6 BTU/hr) = 10 lbs/hr Maximum per boiler

(B) 21.4 T/yr per boiler limitation based on base year 1979 fuel consumption and corresponding emission rate at 0.1 $lb/10^6$ BTU input. Assume 150,000 BTU/gallon, this eliminates PSD and BACT review.

(C) Fuel consumption based on 1979 Boiler #1 usage X 4 [Baseline]

Possible Alternate Considerations

(1) Bring boilers in compliance with 0.1 $lb/10^6$ BTU limit.

(2) Modify permit (through application and public notice) increasing allowable limit to: for example 0.17 $lb/10^6$ BTU* or higher. This would involve a BACT determination. Also, the annual SO_2 limit could not be raised more than 40 tons (significance level) without triggering PSD review. Fuel consumption limit would have to be altered depending on the particulate $lb/10^6$ BTU limit established. Non Attainment area impact modelling must be redone using higher emission limit of particulate.

*Depending on BACT determination

Dec. 7, 1982	DER req. more info from A.B. on surrogate test request
March 2, 1983	DER acknow. receipt of response (2/14/83) to 12/7/82 letter – More info needed
7/8/83	A.B. replies to DER 7/8/83 letter – Schedules PM & VE Testing on 9/12/83 wa
7/14/83	BESD comments on A.B. 7/8/83 letter – Generally accep table
2/3/84	BESD letter to A.B. req. info on PM violations & corrective actions to be Taken
2/15/84	A.B. responds to 2/3/84 letter outlining actions Taken and possible future actions

2/23/84	BESD letter acknow. rec'p of A.B 2/13/84 letter & suggesting options
2/24/84	A.B. letter desiring to set up meeting to discuss problem
2/27/84	BESD letter to DER (Bill Blommel) Submitting actions A.B. has accomplished & possible further Enf. Action
3/13/84	A.B. letter to Clair Fancy req meeting concerning permit revision
5/11/84	DER acknowledges A.B. req. for meeting
8/20 & 23	Phone conversations A.B w/ H. Wilson
11/6/84	A.B. / DER / BESD meet to discuss actions taken to come into Compliance Test results do not show compliance. Low sulphur oil next

12/7/84 — Phone conv. S. Pace and A.B. Oil used in test was special blend. will retest

1/17/85 — DER/BESD/A.B meet in Tall. to discuss events surrounding Power Boilers - see memo Exempt from RACT No original AC permit

7/26/85 — Letter from A.B on test req.

8/23/85 — BESD letter to A.B - postponement

10/23/85 — A.B. letter to DER Providing info re: BACT determination

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September 22, 1982 — AB requests particulate SO_2 and NO_x bubble limit (four boilers) on an annual basis.

September 29, 1982 — DER grants bubble limit. (Note: BESD did not change operation permit to reflect bubble limits. BESD questions DER authority to issue bubble limits).

COPY

Summary

(1) At the time of the permit application, the applicable rule limited part emissions to 0.1 lb/10^6 BTU heat input at Plants with steam gen. capacity boilers rated at >250 X 10^6 BTUs/hr heat input total.

(2) Particulate emission limitations in Construction Permit were written as follows:

(A) (0.1 lbs/10^6 BTU) (100 X 10^6 BTU/hr) = 10 lbs/hr Maximum per boiler

(B) 21.4 T/yr per boiler limitation based on base year 1979 fuel consumption and corresponding emission rate at 0.1 lb/10^6 BTU input. Assume 150,000 BTU/gallon, this eliminates PSD and BACT review.

(C) Fuel consumption based on 1979 Boiler #1 usage X 4 [Baseline]

Possible Alternate Considerations

(1) Bring boilers in compliance with 0.1 lb/10^6 BTU limit.

(2) Modify permit (through application and public notice) increasing allowable limit to: for example 0.17 lb/10^6 BTU* or higher. This would involve a BACT determination. Also, the annual SO_2 limit could not be raised more than 40 tons (significance level) without triggering PSD review. Fuel consumption limit would have to be altered depending on the particulate lb/10^6 BTU limit established. Non Attainment area impact modelling must be redone using higher emission limit of particulate.

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3/13/86 — A.B. letter to DER indicating compl. will be achieved using 1.5% S Oil

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
Steve BRM 7/1/85	
2. Bruce, Larry yw 7/1	Initial / Date
3. This will help on upcoming decision on Antelope — Clair	Initial / Date
4.	Initial / Date

REMARKS:

Comparison of 6 State Emission Limits for Boilers <250mBTU Heat Input for Criteria Pollutants: PM, SO_x, NO_x.

*Michigan, New York, Pennsylvania,

*Texas, Illinois, & Virginia.

(* Limits not readily comparable to other states.)

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: Mike

DATE 4 June 85

PHONE

MICHIGAN

TABLE 31

Particulate matter emission schedule

Source	Capacity rating for each unit	Maximum allowable emission at operating conditions[a] (lbs. particualte per 1,000 lbs. gas except as noted)	Applicable reference test method
A. Fuel burning equipment			
1. Pulverized coal (includes cyclone furnaces)	0-1,000,000 lbs. steam per hour.	See figure 31 for maximum emission limit.	5B or 5C
	Over 1,000,000 lbs. steam per hour.	Apply to commisison for specific emission limit.	
2. Other modes of firing coal (other than pulverized)	0-100,000 lbs. steam per hour.	0.65 until superseded by A.3 and A.4.	5B or 5C
	100,000-300,000 lbs. steam per hour.	0.65 - 0.45[b]	
	Over 300,000 lbs. steam per hour.	Apply to commission for specific emission limit.	
3. Other modes of firing coal (other than pulverized) Existing fuel-burning equipment that is in a single structure which has a combined coal-fired existing capacity less than 250,000,000 Btu per hour.	0-20,000,000 Btu per hour input.	0.65 effective immediately.	5B or 5C
	20,000,001-100,000,000 Btu per hour input.	0.45 compliance shall be achieved as expeditiously as practical, but not later than July 1, 1981.	5B or 5C
	Over 100,000,000 Btu per hour input.	0.30 compliance shall be achieved as expeditiously as practical, but not later than December 31, 1982.	5B or 5C
4. Other modes of firing coal (other than pulverized) Existing fuel-burning equipment that is in a single structure which has a combined existing capacity equal to or greater than 250,000,000 Btu per hour.	All sizes	0.30 compliance shall be achieved as expeditiously as practical, but not later than December 31, 1982.	5B or 5C
5. Other modes of firing coal (new sources)[f]	All sizes	0.10	5B or 5C
6. Wood (sawdust, shavings, hogged, other) where heat input of wood fuel 75% of total heat input		0.50	5B or 5C
All other combination fuel-burning equipment that uses wood as 1 of the fuels.		Apply to commission for specific emission limit.	
7. Combination fuel-firing or combination fuel/waste-firing (new sources)[f]	All sizes	Apply to commission for specific emission limit.	5B or 5C
B. Incinerators	Rating in lbs. waste per hour		
1. Residential apartments, commercial and industrial[c][d]	0-100	0.65	5B or 5C
	Over 100	0.30	5B or 5C
2. Municipal	All	0.30	5B or 5C
3. Pathological [d]		0.20	5A, 5B or 5C
4. Manure drying or incineration[d]		0.20	5A, 5B or 5C
5. Liquid waste incinerator		0.10 compliance shall be achieved as expeditiously as practical, but not later than December 31, 1982.	5B or 5C
6. Sewage sludge incinerator		0.20 compliance shall be achieved as expeditiously as practical, but not later than December 31, 1982.	5B or 5C
C. Steel manufacturing			
1. Open hearth furnaces		0.10	5B or 5C
2. Basic oxygen furnaces		0.10	5B or 5C
3. Electric furnaces		0.10	5B or 5C
4. Sintering plants		0.20	5B or 5C
5. Blast furnaces		0.15	5B or 5C
6. Heating and reheating furnaces		0.30	5B or 5C
7. Coke oven coal preheater equipment effective after July 1, 1979		0.45[g]	5B or 5C

TABLE 41

Sulfur in fuel limitations for fuel-burning equipment

Plant capacity[a] 1000 lbs. Steam per hour	Maximum sulfur content in fuel[b] Percent by weight[c]	
	July 1, 1975	July 1, 1978
0-500	2.0	1.5
Over 500	1.5	1.0

TABLE 42. Equivalent emission rates

% Sulfur in fuels[c]	Parts per million by volume Corrected to 50% excess air		Pounds of sulfur dioxide per Million Btu of heat input	
	Solid fuel[d] (12,000 Btu/lb)	Liquid fuel[e] (18,000 Btu/lb)	Solid fuel[d] (12,000 Btu/lb)	Liquid fuel[e] (18,000 Btu/lb)
1.0	590	420	1.67	1.11
1.5	890	630	2.50	1.67
2.0	1180	840	3.33	2.22

(a) For the purpose of this rule, "plant capacity" is defined as the total steam production capacity of all coal- and oil-burning equipment in a power plant as of August 17, 1971. A "power plant" is defined as a single structure devoted to steam or electric generation, or both, and may contain multiple boilers.

(b) "Maximum sulfur content in fuel" is defined as the average sulfur content in all fuels burned at any one time in a power plant. The sulfur content shall be calculated on the basis of 12,000 Btu per pound for solid fuels and 18,000 Btu per pound for liquid fuels.

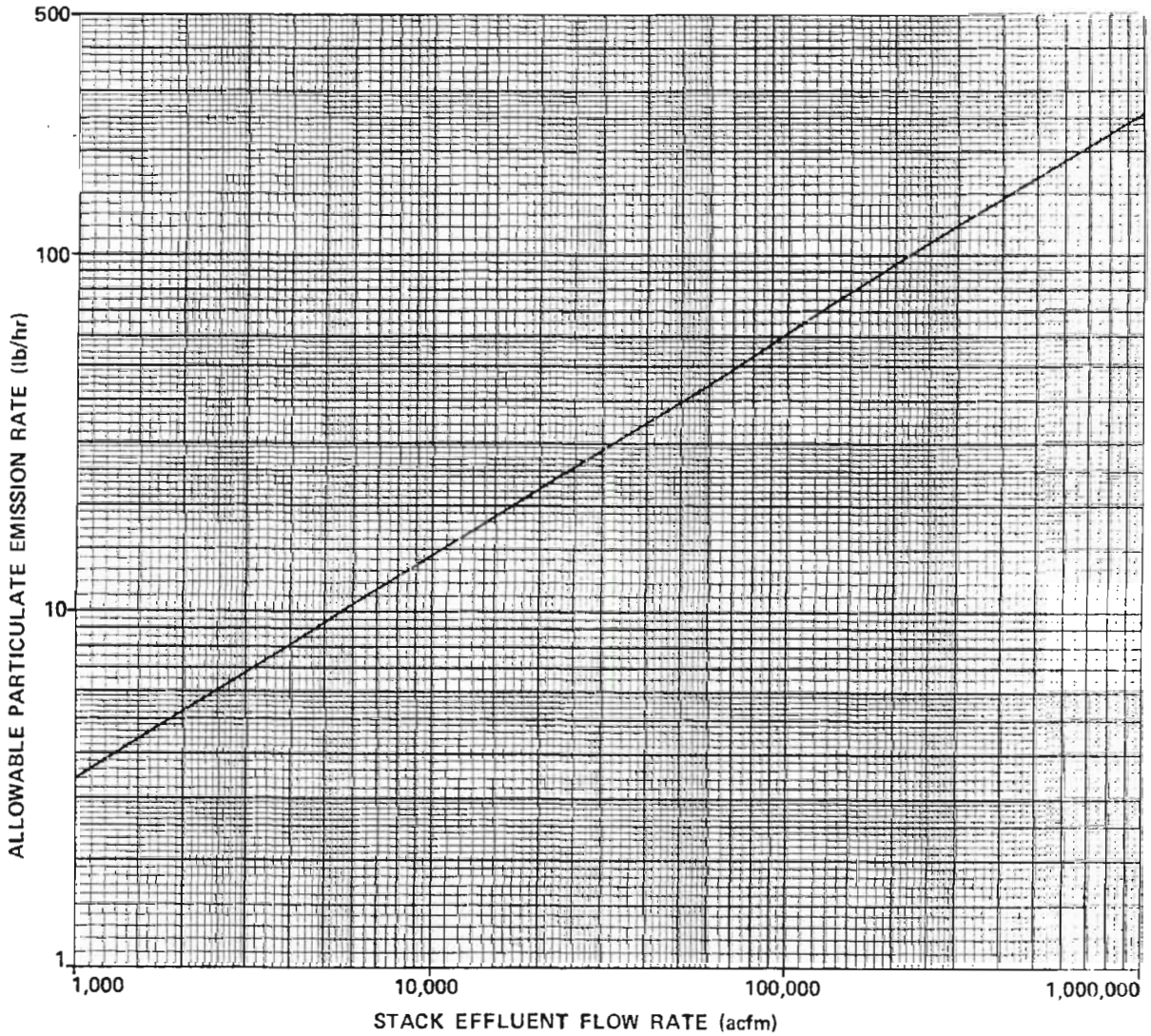
(c) The determination of sulfur content (percent by weight) of fuel shall be carried out in accordance with a procedure acceptable to the commission.

(d) Solid fuels include both pulverized coal and all other coal.

(e) Liquid fuels include distillate oil (No. 1 and No. 2), heavy oil (No. 4, No. 5, and No. 6), and crude oil.

FIGURE 1

ALLOWABLE PARTICULATE EMISSION RATES
FOR SPECIFIC FLOW RATES



§112.5 Allowable Emissions from Solid Fossil Fueled Boilers.

(a) Except as provided in subsection (b) of this section, no person may cause, suffer, allow, or permit emissions of sulfur dioxide from any solid fossil fuel-fired steam generator to exceed three pounds per million Btu heat input. New proven technology must be applied in removing sulfur dioxide from the emissions from solid fossil fuel-fired steam generators when it becomes available.

(b) No person may cause, suffer, allow, or permit emissions of sulfur dioxide from any solid fossil fuel-fired steam generator located in Milam County, which began operation prior to January 1, 1955, to exceed the following limits:

Period	SO_2 Emission Limit (lbs. per million Btu heat input)
On or before December 31, 1980	5.0
On or after January 1, 1981 and before January 1, 1982	4.5
On or after January 1, 1982	4.0

New proven technology must be applied in removing sulfur dioxide from the emissions from solid fossil fuel-fired steam generators when it becomes available.

NITROGEN COMPOUNDS

§117.1. Gas-Fired Steam Generating Rules.

(a) Subsections (b), (c), and (d) of this section shall apply only in the Dallas-Fort Worth and Houston-Galveston Air Quality Control Regions.

(b) No person may cause, suffer, allow or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from any "opposed fired" steam generating unit of more than 600,000 lbs/hour maximum continuous steam capacity to exceed 0.7 lbs/million Btu heat input, maximum two-hour average, at maximum steam capacity. An "opposed fired" steam generating unit is defined as a unit having burners installed on two opposite vertical firebox surfaces.

(c) No person may cause, suffer, allow or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from any "front fired" steam generating unit of more than 600,000 lbs/hour maximum continuous steam capacity to exceed 0.5 lbs/million Btu heat input, maximum two-hour average, at maximum steam capacity. A "front fired" steam generating unit is defined as a unit having all burners installed in a geometric array on one vertical firebox surface.

(d) No person may cause, suffer, allow or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from any "tangential fired" steam generating unit of more than 600,000 lbs/hour maximum continuous steam capacity to

exceed 0.25 lbs/million Btu heat input, maximum two-hour average, at maximum steam capacity. A "tangential fired" steam generating unit is defined as a unit having burners installed on all corners of the unit at various elevations.

(e) Existing gas-fired steam generating units of more than 600,000 lbs/hour but less than 1,100,000 lbs/hour maximum continuous steam capacity are exempt from the provisions of this section, provided the total steam generated from the unit during any one calendar year does not exceed 30 percent of the product of the maximum continuous steam capacity of the unit times the number of hours in a year. Written records of the amount of steam generated for each day's operation shall be made on a daily basis and maintained for at least three years from the date of each entry. Such records shall be made available for inspection by employees of state and local agencies during regular business hours.

§117.2. Nitric Acid Manufacturing.

No person may cause, suffer, allow or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from any nitric acid manufacturing plant to exceed 600 parts per million by volume.

§117.3. Modification Dates.

(a) Any person required to modify one steam generating unit to comply with §117.1 of this title (relating to Gas-Fired Steam Generating Rules) shall be in compliance by July 1, 1974.

NY mBtu = million Btu

PART 227

PM
- >50mBTU (<250mBTU)
- FUEL: OIL, COAL TAR, LIQUID FUEL DERIVED FROM COAL
- 0.20 lbs/mBTU

- FUEL: COAL/WOOD, COKE, OR ANY SOLID
- EMISSION: TABLE; MAX 0.60 lbs/mBTU (1-10 mBTU INPUT)

NO_x - NO STATE REG FOR <50mBTU

SO_x - NO STATE REG FOR

ILLINOIS

(<250mBTU)

PM EMISSION LIMIT: NOT TO EXCEED 30%
(EXCLUSIVE OF WATER VAPOR & START-UP)

SO_2 EMISSION LIMIT: NEW, SOLID FUEL 1.8 lbs/mBTU
" : NEW, LIQUID FUEL

SO_2 a) FUEL OIL: 1.55 kg/MW-hr (1.0 lbs/mBTU)

SO_2 b) DISTILLATE FUEL OIL: 0.46 kg/MW-hr (0.3 lbs/mBTU)

NO_x NONE NOTED

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

FILE COPY

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

FL. TIMES UNION

ONE RIVERSIDE AV.

JACKSONVILLE, FL 32202

9/15/81

Dear Sir:

We are forwarding to you a legal/~~classified~~ advertisement to be published:

ASAP - ONE TIME ONLY

Subject: CONSTRUCTION PERMIT

To ensure prompt payment, please send an invoice and proof of publication for legal ads to the address below:

Department of Environmental Regulation
PURCHASING OFFICE
2600 Blair Stone Road
Tallahassee, FL 32301

If you have any questions, please contact us at 904/488/0870.

Sincerely,

W. H. Wallace

William H. Wallace
Purchasing Office

Enclosure: (1)

PENNSYLVANIA

PM >2.5 BUT < 50 mBTU : 0.4 lbs / Btu

≥50 BUT < 600 mBtu : $A = 3.6\ E^{-0.56}$

.40 @ 50
.22 @ 100
.16 @ 250
.10 @ 600

A = ALLOWABLE EMISSIONS
E = HEAT INPUT (IN mBtu's /hr.)

SO_2 4 lbs / mBtu . OPERATION < 250 mBTU/hr MAY PETITION FOR VARIANCE.

NO_x NONE NOTED

VIRGINIA

-SOLID FUEL:

PM TOTAL CAPACITY $10^7 - 10^{11}$ Btu /hr

$$E = 1.0906H^{-0.2594}$$

H = CAPACITY (mBtu) #/mBtu

PM - LIQUID OR GASEOUS FUEL:

$$E = 0.9000H^{-0.2386} \quad \#/mBtu$$

.35 @ 10
.30 @ 100
.24 @ 1000
.10 @ 10,000

SO_2 -SOLID FUELED } $S = 2.64K$ S = SO_2 (#/hr)
- LIQ/GASEOUS FUEL } K = HEAT INPUT (mBtu)

NO_x NONE

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000039954 COE# DER PROCESSOR:CARL BOCK DER OFFICE:TLH
FILE NAME:ANHEUSER-BUSCH, INC. DATE FIRST REC: 02/17/81 APPLICATION TYPE:AC
APPL NAME:JOHN MUELLER APPL PHONE:(904)751-0700 PROJECT COUNTY:16
ADDR:P. O. BOX 18017 CITY:JACKSONVILLE ST:FLZIP:32229
AGNT NAME:NOLAN, PAT, P.E. AGNT PHONE:(904)731-4288
ADDR:8282 WESTERN WAY CIRCLE, SUITE 111 CITY:JACKSONVILLE ST:FLZIP:32216

ADDITIONAL INFO REQ:03/16/81 / / / / REC:04/09/81 / / / /
APPL COMPLETE DATE: 04/09/81 COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NFC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 04/14/81 15:31:43
FEE PD DATE#1:04/09/81 $0020 RECEIPT#00033567 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:02/17/81
REMARKS: PROCESS STEAM BOILERS NOS. 1, 2, 3 AND 4. INCREASE IN CAPACITY W/ HIGHER STACKS. SOURCE LOCATION: 111 BUSCH DRIVE, JACKSONVILLE; UTM: 743.793E/ 3366.820N. LAT/LONG: 30DEG25'59"N/ 81DEG38'47"W.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33567

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Anheuser-Busch, Inc. Date April 14, 1981

Address P.O. Box 18017 AMF Jacksonville Fl Dollars $ 20.00
32229

Applicant Name & Address 111 Busch Drive Jacksonville, Fl

Source of Revenue

Revenue Code 0101 Application Number AC 16-39951

By Tim Powell

Please call me at (904) 633-3033 if you have questions regarding this matter.

Very truly yours,

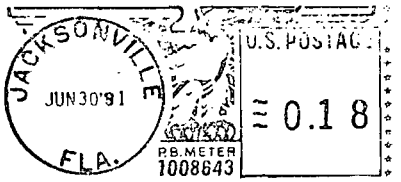
E. P. Balducci

E. P. Balducci
Assistant Air Engineer

EPB/sg

cc: Mr. G. Doug Dutton, DER
Mr. Carl Bock, DER/BAQM. Tallahassee

BIO-ENVIRONMENTAL SERVICES
Air and Water Pollution Control
515 W. 6th Street
Jacksonville, Florida 32206



Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

~ 150,000 Btu/gal

66.1 x 10^6 Btu/hr

x

4

x

8760

2.316144 x 10^{12} Btu/yr.

÷ 150,000 Btu/gal

15.441 x 10^6 gal./yr.

Do Not Throw Away, Thanks Bruce

7/30/82

To Bruce Mitchell

Date 7-15 Time 11:20

WHILE YOU WERE OUT

M Don Dehart

of Anheuser-Busch

Phone
Area Code Number Extension

TELEPHONED	✓	PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	✓
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message He'll call you around 2:00 pm

BM
Operator

Send Don Dehart

Cpt. 17-2 ✓

Memo on conversation to

- D. Dehart
- J. Woosley ?
  S. Pace ?
- Marty Hall

This morning 5/27/82

Aug 5, 1981
Emissions Test rep.
Tested 2 & 0 NOx

1979 Fuel usage for No. 1

Actual 21.5 TPY Boiler
Actual Not as high as allowable

wait to call:
Anheuser-Busch
St. Louis
Don DeHart
(314) 241-1885

PAQM

State + Federal

E. Baldrucci indicated in Telecon on March 19 that all four boilers will undergo increase in capacity from 66 to 100 MMBTU, and stack increases to 100 ft.

Permit renewals were withdrawn in Jax and one new application for all 4 boilers entered at Jax - also fee coming to Jax, then Ed will send over. See his letter of incompleteness

Ed B. thinks SO_2 will increase by 81.5 TPY per boiler; TSP to increase by ~ 12.3 TPY per boiler according to him - maybe less. Under 50 TPY increase in particulate? (close)

100 BTU or 80,000 # steam

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

June 8, 1982

DEP

JUN 14 1982

BAQM

Mr. John Mueller, Plant Manager
Anheuser Busch, Inc.
P.O. Box 18017
AMF
Jacksonville, Florida 32229

Re: Permit AC16-39951 - (Four Boilers)

Dear Mr. Mueller:

The Operation Permit application for the four boilers at your facility is currently under review by Mr. Don Dehart of your St. Louis office and Mr. Bruce Mitchell, Department of Environmental Regulation, Tallahassee, Florida. The emission limits applied for in the Operation Permit differ appreciably from the emission limits imposed in Construction Permit AC16-39951.

In order to allow sufficient time for resolution of these differences, I have enclosed a waiver form which, when properly executed, will extend the permit processing period to September 30, 1982. Please complete the waiver form in full and return to this Agency on or before June 18, 1982. Failure to submit a duly executed waiver in the time frame outlined, could result in the issuance of a letter of Intent to Deny the subject permit application.

If I can be of further assistance in this matter, please advise.

Very truly yours,

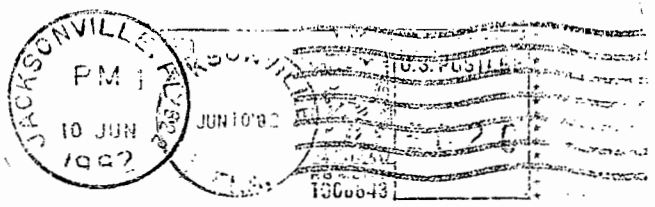
Jerry E. Woosley
Assistant Engineer

JEW/vj

Enclosure

cc: Mr. Don Dehart, without enclosure
cc: Mr. Bruce Mitchell, without enclosure
cc: Mr. Doug Dutton, without enclosure

BIO–ENVIRONMENTAL SERVICES
Air and Water Pollution Control
515 W. 6th Street
Jacksonville, Florida 32206–4397



Mr. Bruce Mitchell
Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301

September 29, 1982

Mr. Donald M. DeHart
Senior Environmental Engineer
Anheuser-Busch Companies, Inc.
One Busch Place
St. Louis, Missouri 63118

Re: Modification of Construction Permit AC 16-39951

Dear Mr. DeHart:

The Bureau is in receipt of your request for a modification of your construction permit, No. AC 16-39951, issued October 22, 1981. The request is acceptable and the condition is changed and added as follows:

Specific Condition:

From: No. 1: Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Ton/yr.
Particulate	10 lb/hr (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

To: No. 1: Maximum allowable emissions from the facility shall not exceed:

Pollutant	lb/hr.	TPY
Particulate	10 (per boiler)	84.8 (total-4 boilers)
SO_2	250 (per boiler)	2120.0 (total-4 boilers)
NO_2	40 (per boiler)	340.0 (total-4 boilers)

Attachments to be included are:

2. Don DeHart's letter dated May 12, 1982.

3. Jerry Woosley's letter dated June 8, 1982.

4. Steve Smallwood's letter dated July 19, 1982.

5. Don DeHart's letter dated September 22, 1982.

This letter and attachments must be attached to your permit (AC 16-39951) and becomes a part of that permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/bmm

cc: Jerry Woosley
John Ketteringham
Martha Harrell Hall

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Bruce Mitchell BAQM	INITIAL	
	DATE	
2.	INITIAL	
	DATE	
3.	INITIAL	
	DATE	
4.	INITIAL	
	DATE	

REMARKS:

DER
OCT 12 1982
BAQM

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 & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

FROM: John K.

DATE

PHONE

TO Bill Blommell BAQM
Bruce Mitchell BAQM

FROM John Ketteringham
N.E. District

SUBJECT SURROGATE TEST FOR PM&SO2

DATE 10-8-82

MESSAGE Ref your memo 9-16-82
LET DISTRICT / LOCAL PROGRAM DECIDE.
OUR RULE IS BECOMING CLUTTERED WITH SPECIFICS.
IT CANNOT ADDRESS ALL CASES.
DUVAL BES HAS AN EXCELLENT TRAINED STAFF
AND THEIR RECOMMENDATION IS IN FAVOR OF THE
APPLICANTS REQUEST.
I CONCUR
ATTACHED IS STAN MAZUR'S COMMENT. HE DOES
NOT CONCUR.

SIGNED J. Ketteringham
DATE

REPLY

SIGNED

To: Bill Bommer
Thru: J. Kettringham

My response to you your letter of 22 Sept 1982 concerning alternate procedures and standards requested by Anheuser-Busch Co. [file number ASP-501-82] is:

1. I approve of using As-Fired Fuel Analysis in lieu of SO_2 emissions testing providing:
   A. the as-fired-fuel sample is analyzed for % Sulfur content and gross caloric value using the most recent revision or designation of ASTM procedure ASTM-D-240.
   B. timely, accurate and certified submittals of fuel usage are submitted per permit specific conditions.
2. I disapprove of any opacity standard in lieu of particulate emissions testing as assurance or verification of compliance.
3. I do tolerate a 0% opacity in lieu of particulate emissions testing. A source continually operating at their permit rate, with no visible emissions, is emitting essentially no particulate matter. Limiting, reducing and/or eliminating particulate emissions is one of DER's goals and the concerned public.

My disapproval above is based on the Completion of Construction tests conducted during April 1982 and Permit conditions stipulating that 3 boilers will operate simultaneously. Boilers 1, 2, & 4 emitted 21.5# TSP/hr (94TPY) while operating from 82 to 86% of the requested heat input. This emission is 86% of the allowable estimate of 24.9# TSP/hr. No VE observations were noted or submitted for the tests. These test results indicate marginal compliance with less than requested heat input and is no indication of compliance with the higher requested heat input.

ASM

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered..... ¢
- ☐ Show to whom, date and address of delivery.... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery $____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Donald M. DeHart
One Busch Place
St. Louis, Missouri 63118

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157981	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. Gary L. Simpson
DATE OF DELIVERY 21
POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

ST. LOUIS, MO. BRENTWOOD STA. MAR 4 1983

☆GPO : 1979-300-459

No. 0157981

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Mr. Donald M. DeHart
STREET AND NO.
One Busch Place
P.O., STATE AND ZIP CODE
St. Louis, MO 63118

POSTAGE			$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		¢
	OPTIONAL SERVICES	SPECIAL DELIVERY	¢
		RESTRICTED DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES			$
POSTMARK OR DATE			

PS Form 3800, Apr. 1976

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

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

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 Jay Kraft or others in NAPA

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

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 J. Conrad

6. Signature – Agent
X

7. Date of Delivery

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

DOMESTIC RETURN RECEIPT

NY mBtu = million Btu

PART 227

PM
- >50mBTU (<250mBTU)
- FUEL: OIL, COAL TAR, LIQUID FUEL DERIVED FROM COAL
- 0.20 lbs/mBTU

- FUEL: COAL/WOOD, COKE, OR ANY SOLID
- EMISSION: TABLE; MAX 0.60 lbs/mBTU (1-10 mBTU INPUT)

NO_x
- NO STATE REG FOR <50mBTU

SO_x
- NO STATE REG FOR

ILLINOIS

(<250mBTU)

PM
EMISSION LIMIT: NOT TO EXCEED 30%
(EXCLUSIVE OF WATER VAPOUR & START-UP)

SO_2
EMISSION LIMIT: NEW, SOLID FUEL 1.8 lbs/mBTU
" : NEW, LIQUID FUEL

SO_2
a) FUEL OIL: 1.55 kg/MW-hr (1.0 lbs/mBTU)

SO_2
b) DISTILLATE FUEL OIL: 0.46 kg/MW-hr (0.3 lbs/mBTU)

NO_x
NONE NOTED

PENNSYLVANIA

PM

>2.5 BUT < 50 mBTU : 0.4 lbs / Btu

≥50 BUT <600 mBtu : $A = 3.6 E^{-0.56}$

.40	@ 50
.27	@ 100
.16	@ 250
.10	@ 600

A = ALLOWABLE EMISSIONS
E = HEAT INPUT (IN mBtu's /hr.)

SO_2

4 lbs / mBtu . OPERATION < 250 mBTU/hr MAY PETITION FOR VARIANCE.

NO_x

NONE NOTED

VIRGINIA

– SOLID FUEL:

PM

TOTAL CAPACITY $10^7 - 10^{11}$ Btu/hr

$$E = 1.0906 H^{-0.2594}$$

H = CAPACITY (mBtu) #/mBtu

PM

– LIQUID OR GASEOUS FUEL:

$$E = 0.9000 H^{-0.2386} \quad \#/mBtu$$

.35	@ 50
.30	@ 100
.24	@ 250
.10	@ 10,000

SO_2

– SOLID FUELED } $S = 2.64 K$ $S = SO_2$ (#/hr)

– LIQ/GASEOUS FUEL } ; K = HEAT INPUT (mBtu)

NO_x

NONE

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
Steve 7/1/85	
2. Bruce, Larry 7/1	Initial / Date
3. This will help on upcoming decision on Anheuser — Clair	Initial / Date
4.	Initial / Date

REMARKS:

Comparison of 6 State Emission Limits for Boilers <250mBTU Heat Input for Criteria Pollutants: PM, SO_x, NO_x.

*Michigan, New York, Pennsylvania,

*Texas, Illinois, & Virginia.

(* Limits not readily comparable to other states.)

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:

Mike

DATE 4 June 85

PHONE

Facilities north of Heckscher 2.27% 2.77%

south " " 1.5%

JEA NS 120 x 10^6 Btu 1.8 % S

No PM limit; controlled by sulfur content

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

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

October 22, 1981

Mr. John Mueller
Anheuser-Busch, Inc.
P. O. Box 18017, A.M.F.
Jacksonville, Florida 32229

Enclosed is Permit Number AC 16-39951, dated October, 1981
to Anheuser-Busch, Inc.
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

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

cc: Pat Nolan, Pat Nolan & Associates
Johnny Cole, FDER, St. Johns River Subdistrict
Steve Pace, BES, Jacksonville, FL

DER Form 17-1.122(65)

FINAL DETERMINATION

Anheuser-Busch Incorporated
Jacksonville, Florida

Construction Permit
Application Number
AC 16-39951

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting
October 20, 1981

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 16-39951
Anheuser-Busch, Inc.
Jacksonville, Florida

DATE OF ISSUANCE

September 22, 1981

Victoria J. Tschinkel

DATE OF EXPIRATION

January 25, 1982

Anheuser-Busch Construction Permit Final Determination

Anheuser-Busch's Construction Permit Application for the modification of four (4) existing process steam boilers at the Jacksonville plant has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's intent to issue was published in the Florida Times Union on September 18, 1981. Copies of the preliminary determination were available for public inspection at the Duval County Department of Health, Welfare and Bio-Environmental Services, (BES), the Florida Department of Environmental Regulation (FDER, St. Johns River Subdistrict office), and at the Bureau of Air Quality Management.

Comments on the preliminary determination were received from BES and from the applicant. The comments were discussed with both parties and the following amendments to the preliminary determination were made in preparing the Departments Final Determination:

1. The upgrading of the subject boilers are for the process steam boilers rather than for power generation. The wording in the description has been changed to reflect this difference. It does not change the permitted emissions, only qualifying the specific use of the subject boilers.

2. The specific conditions as stated in the preliminary conditions require a 10% opacity limitation. This is incorrect and should be 20%. The final determination reflects this change. This is in compliance with 17-2.05 (b) (2) for existing fossil fuel steam generators.

3. The maximum heat input value requested by the applicant per boiler was 100 MMBTU. Past tests have not been conducted in the preferred range of 10% $\pm$ of this value. The local agency would prefer that the compliance test be conducted in that range of the permitted value. Since there has been some modification to the boilers (mode of operation and stack alterations), the compliance tests prior to issuance of an operation permit will verify the capacity of the subject boilers. Therefore, there is no necessity to amend the permitted heat input value for the boilers.

4. The specific condition regarding compliance tests (#4) was expanded to include EPA Method 5 for particulate matter. It is the general policy of the Department to require a particulate test to assure the compliance with the emission limit established in the construction

permit. A surrogate test may be substituted after compliance is established.

The final Department action will be to issue the construction permit with the previously discussed comments account for.

Technical Evaluation
and
Preliminary Determination

Anheuser-Busch Companies
Permit Number AC 16-39951

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

September 18, 1981

PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested permit to Anheuser Busch Companies for the modification of four power boilers at the existing plant site in Duval County. The issuance of this permit is subject to public comment as a result of this public notice.

Any person wanting to comment on this section may do so by submitting such comments in writing to:

Clair Fancy
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing as set forth in Section 28-5.15 FAC (Copy attached) such petition must be filed within 14 days of the date of this notice with:

Mary Clark
Department of Environmental Regulation
Office of General Counsel
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

I. PROJECT DESCRIPTION

A. Applicant

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

B. Project and Location

The applicant's proposed construction consists of the upgrading fo four (4) existing process boilers from a maximum heat input of 66 MMBTU per hour to 100 MMBTU per hour. The facility is located in Jacksonville, Duval County, Florida. The UTM coordinates are 743.93 km East and 3366.82 km North.

C. Process Description

The four power boilers at the Anheuser-Busch, Inc. plant in Jacksonville, Florida are fired on Number Six (6) fuel oil, presently at the permitted rate of 66 million BTU per hour. The modification will increase the potential firing rate to 100 million BTU per hour.

The heat of combustion is used to produce steam which in turn is used for processing within the facility. The exhaust gases are vented through a 100 foot stack from each boiler.

II. RULE APPLICABILITY

The proposed project is located in the area of influence of the Jacksonville particulate nonattainment area. Duval County is also nonattainment for ozone. The project is classified as a modification pursuant to 17-2, Florida Administrative Code (FAC), as a change in the mode of operation. There are to be no projected increases in fuel usage and no net increase in emissions above the presently permitted annual emissions. Therefore no PSD or BACT determination will be necessary.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutants emitted by this source are particulate, sulfur dioxide and nitrogen oxides. The total emissions from the facility are as follows:

Pollutant	lb/hr	Tons/yr
Particulate	40.0	84.8
Sulfur Dioxide	1000.0	2120

Pollutant	lb/hr	Tons/yr
Nitrogen Oxides	160.0	340

The emission limitations are based on using 2.5% sulfur fuel oil in four boilers rated at a maximum of 100 MBTU/hr. The boilers will operate on a rotating schedule allowing all the four boilers to operate 24 hours a day but not to exceed 4132 hours (total) per year per boiler. On a normal operating schedule, only 3 boilers operate simultaneously. The total annual operating hours will not increase over the previous year nor will the total fuel consumption. Therefore, the annual emissions will not increase.

B. Air Quality Impacts

As there will be no increase in fuel consumption over the previous year, the construction and operation of this facility will not have any impact on ambient air quality standards. Air quality modeling performed by the company and reviewed by the Department confirms this.

IV. CONCLUSIONS

The emission limitations stated previously are based on the applicants estimated fuel consumption to be what it consumed the last calendar year. The fuel consumption and hours permitted to operate shall be stated as conditions of the permit.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2, F.A.C.

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

BOB GRAHAM
GOVERNOR
Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT:

Anheuser Busch Companies
111 Busch Drive
Jacksonville, Florida

PERMIT/CERTIFICATION NO. AC 16-39951

COUNTY: Duval

PROJECT: Upgrading of 4 power boilers to 100 MBTU

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Modification of four process steam boilers, upgrading the heat capacity from 66.1 MBTU to 100 MBTU to provide electricity for the facility.

Attachments:

Application to Construct Air Pollution Sources, DER Form 17-1.122 (16).

PERMIT NO.:
APPLICANT:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO. AC 16-39951
APPLICANT: Anheuser Busch Companies

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr.	Tons/yr.
Particulate	10 lb/hr. (per boiler)	21.2 (per boiler)
Sulfur Dioxide	250 lb/hr. (per boiler)	530.0 (per boiler)
Nitrogen Dioxide	40 lb/hr (per boiler)	85.0 (per boiler)

2. Total combined operation of all boilers shall not exceed 16,528 hours per year.

3. Opacity shall not exceed 20%.

4. Compliance with the emission limitations shall be determined for particulates as per EPA Reference Method 5, 40 CFR Part 60. The visible emission test shall be EPA Reference Method 9, 40 CFR Part 60. The total consumption of fuel oil, (#6) shall not exceed 64,152 gal. per day 24 hour period not to exceed 44.5 M gal in a calendar year.

5. Monthly documentation shall be made available to the Department or its designee, Jacksonville Bio-Environmental Services (JBES) of the following operating parameters:

   (a). Fuel consumed per boiler.
   (b). Number of hours of operation per boiler.
   (c). Heat input per boiler based on a 24 hr. average.

6. A monthly report shall be submitted upon request beginning from the date of issuance of the operating permit to the Departments designee, JBES.

7. A visible emission test shall be performed to establish compliance with the opacity limitations prior to application for an operating permit.

8. A thirty day notice prior to emission testing shall be provided by the applicant to the Departments designee, JBES.

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

PERMIT NO.:
APPLICANT:

Expiration Date: January 25, 1982

Issued this 22 day of September, 1981.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

PAGE _____ OF _____.

DER FORM 17-1.122(63) 4/4 (1/80)

Best Available Copy

AC 16-39951

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Anheuser-Busch, Inc. COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Process Steam Boilers Nos. 1, 2, 3 and 4

SOURCE LOCATION: Street 111 Busch Drive City Jacksonville

UTM: East 7437930 North 3366820 to 3366850

Latitude 30 ° 25 ' 59 "N Longitude 81 ° 38 ' 47 "W

APPLICANT NAME AND TITLE: Mr. John Mueller, Plant Manager

APPLICANT ADDRESS: P. O. Box 18017, A.M.F. Jacksonville, FL 32229

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Anheuser-Busch, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: John Mueller

John Mueller, Plant Manager
Name and Title (Please Type)

Date: _____ Telephone No. (904) 751-0700

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Charles M. Nolan, P.E.

PAT NOLAN, P.E.
Name (Please Type)

(Affix Seal)

Pat Nolan & Associates
Company Name (Please Type)

8282 Western Way Circle, Suite 111
Mailing Address (Please Type) Jax., Fla. 32216

Florida Registration No. 19889 Date: (904) Telephone No. 731-4288

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The four identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Computer modeling predicts that the higher stacks will allow the operation of all four boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? ____

   a. If yes, has "offset" been applied? ____

   b. If yes, has "Lowest Achievable Emission Rate" been applied? ____

   c. If yes, list non-attainment pollutants. ____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. ____

3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? ____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? ____

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)

2. Product Weight (lbs/hr): - 90,000 lb/hr max (steam)

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	17.2	36.5	Use 17-2.05(6) Table II	10	17.2	75.4	1,2,3,4
Sulfur Dioxide	239	506	Source "E"(1)(b)	250	239	1046	
		172 lbs	1.a.* (per Mr. E.				
		x4 = 688 lbs	Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

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Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A: Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D.3 above.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

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Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

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1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

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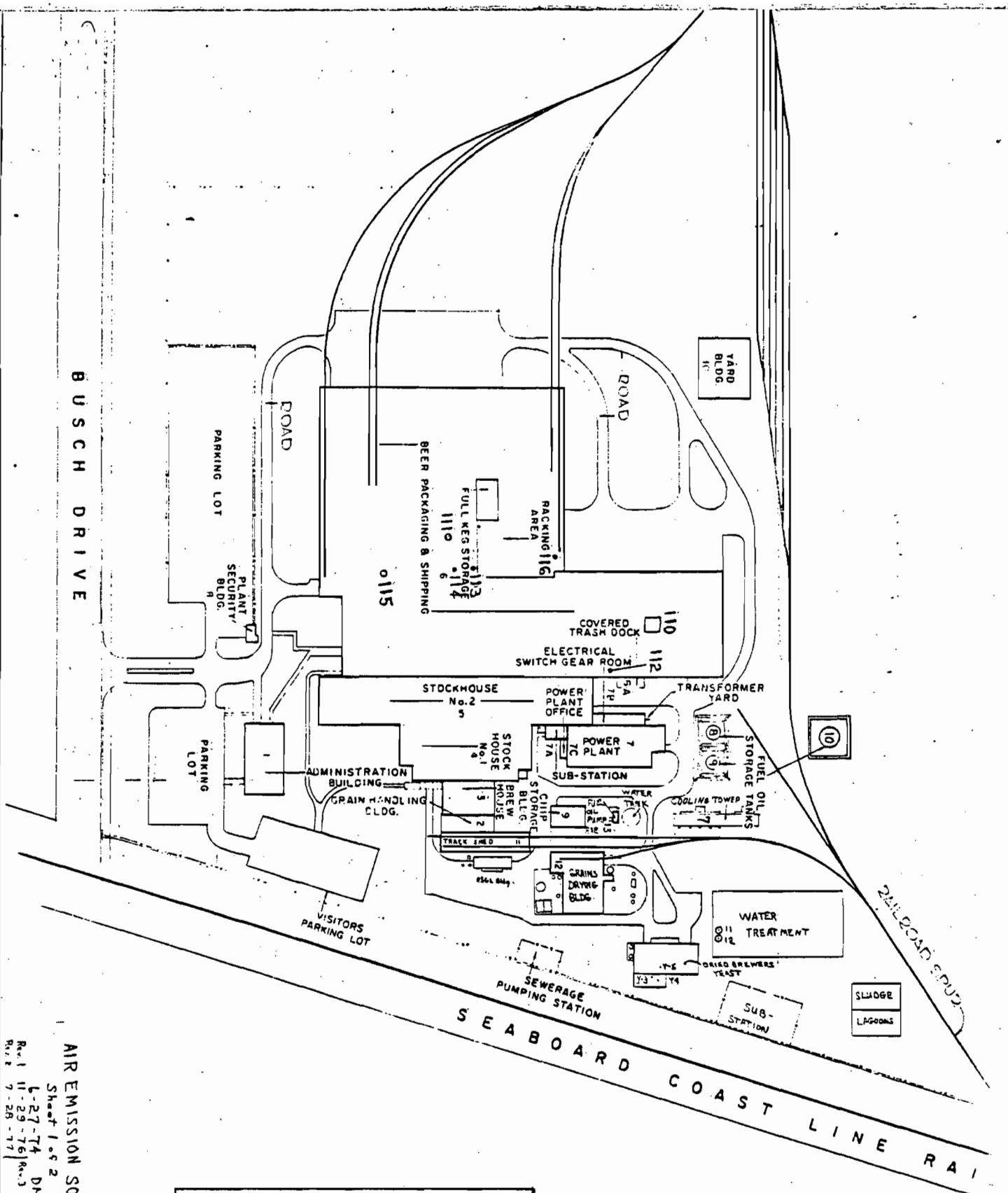


AIR EMISSION SOURCE INVENTORY

Sheet 1 of 2

6-27-74 DMD

Rev. 1 11-29-76 Rev. 2 7-28-77 Rev. 3 1-22-81

ANHEUSER-BUSCH, INC.

111 Busch Dr., Jacksonville, Florida

Accuracy Certified By: _____ Secretary

Name & Capacity for Brewer

Date

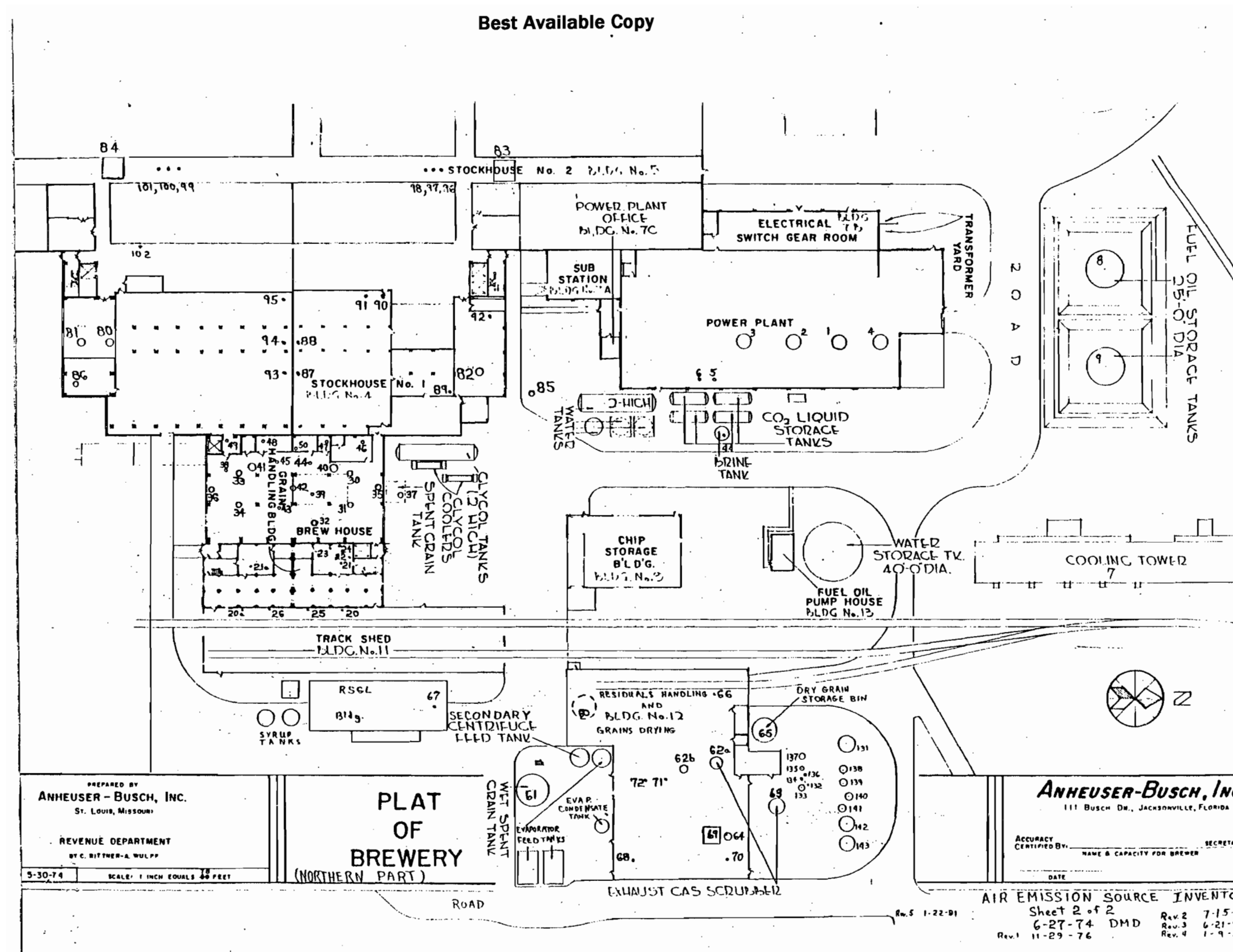
Sheet No. 1

PREPARED BY
ANHEUSER-BUSCH, INC.
St. Louis, Missouri

REVENUE DEPARTMENT
BY C. RITTNER-A. WULFF

PLAT OF BREWERY LOCATION PLAT

Best Available Copy



PREPARED BY
ANHEUSER - BUSCH, INC.
ST. LOUIS, MISSOURI

REVENUE DEPARTMENT
BY C. RITTNER-A. WULPP

5-30-74 | SCALE: 1 INCH EQUALS 40 FEET

PLAT OF BREWERY (NORTHERN PART)

Rev. 5 1-22-81

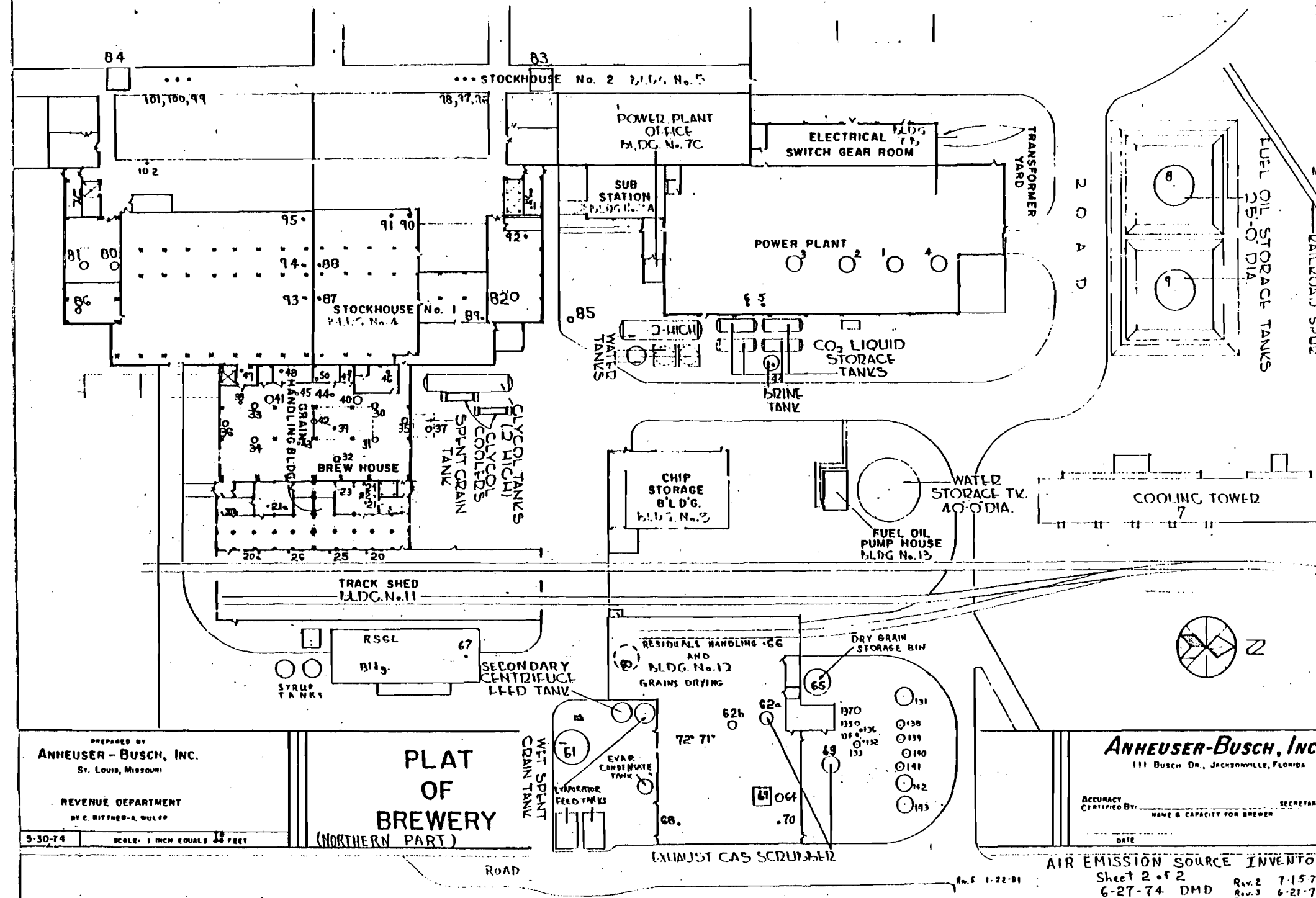
ANHEUSER-BUSCH, INC.
111 BUSCH DR., JACKSONVILLE, FLORIDA

ACCURACY CERTIFIED BY: _____ SECRETA
NAME & CAPACITY FOR BREWER
DATE

AIR EMISSION SOURCE INVENTO

Sheet 2 of 2
6-27-74 DMD
Rev. 1 11-29-76
Rev. 2 7-15-
Rev. 3 6-21-
Rev. 4 1-9-

Best Available Copy



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PLAT OF BREWERY (NORTHERN PART)

ANHEUSER-BUSCH, INC
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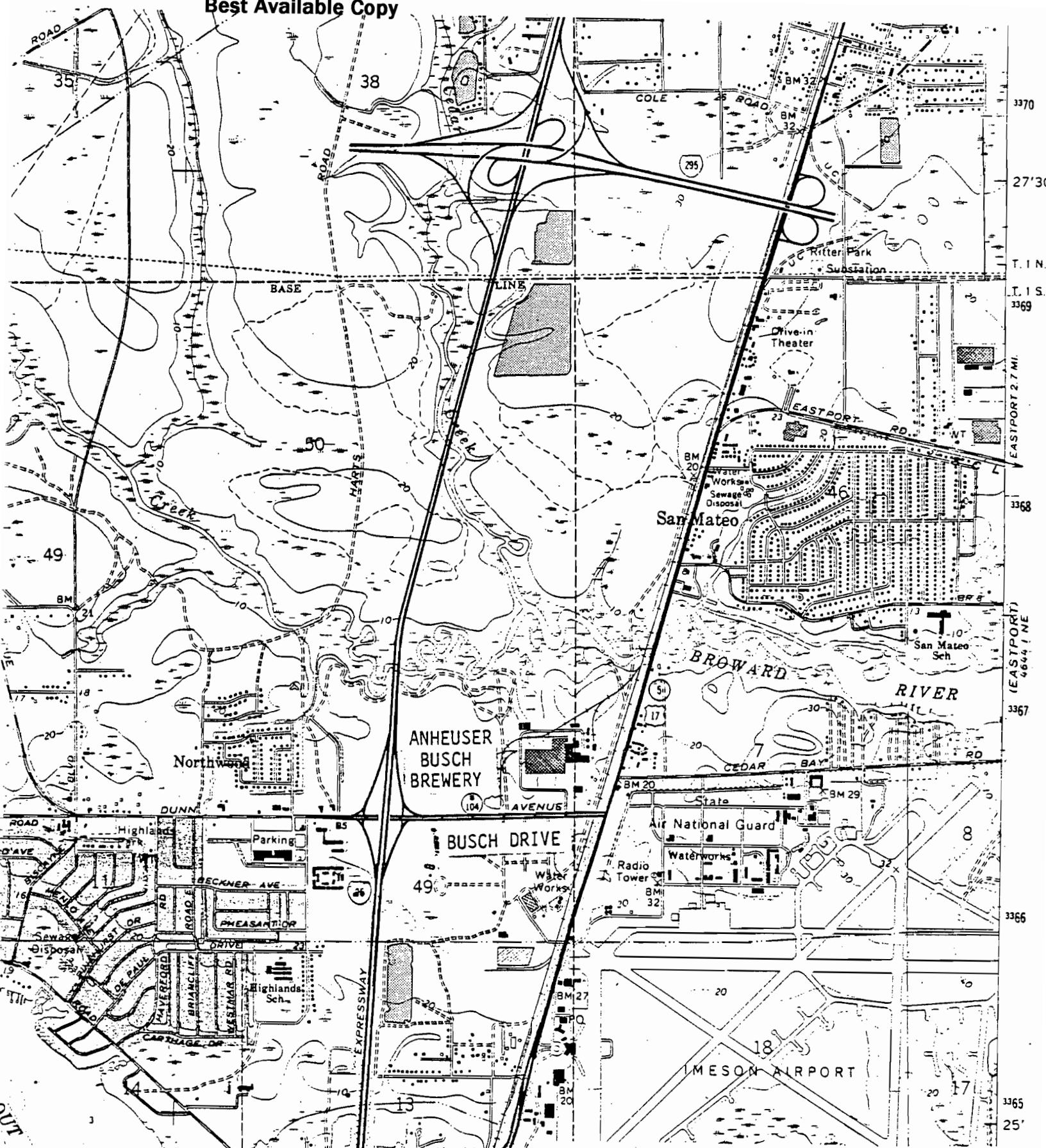
ACCURACY CERTIFIED BY: _____ SECRETARY
NAME & CAPACITY FOR BREWER
DATE

AIR EMISSION SOURCE INVENTO
Sheet 2 of 2
6-27-74 DMD
Rev. 1 11-29-76
Rev. 2 7-15-7
Rev. 3 6-21-7
Rev. 4 1-9-8
Rev. 5 1-22-81



TROUT RIVER QUADRANGLE
FLORIDA—DUVAL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

ANHEUSER-BUSCH, INC.
JACKSONVILLE BREWERY
EMISSION CALCULATIONS PER BOILER

(Section III C and E)

I. Section IIIC and E

A. Emission Factors

From AP-42, 3rd. Ed. Table 1.3-1 For Industrial Residual Oil. Here S equals the percent by weight of sulfur in the oil.

Pollutant	Emission lb/1000 gal	Emission With 2.28% S oil, lb/1000 gal
Particulate	10(S) + 3	25.8
Sulfur Dioxide	157(S)	358.0
Nitrogen Oxides	60	60.0
Carbon Monoxide	5	5.0
Hydrocarbons	1	1.0

B. Sulfur Limit of Oil

SO_2 emissions limited to 2.5 lb $SO_2/10^6$ BTU input. This equates to:

$$\frac{2.5 \text{ lb } SO_2}{10^6 \text{ BTU}} \times \frac{.15 \times 10^6 \text{ BTU}}{\text{gal oil}} \times \frac{\text{gal oil}}{8.2 \text{ lb oil}} \times \frac{\text{lb S}}{2 \text{ lb } SO_2} = 0.02287 \frac{\text{lb S}}{\text{lb oil}} \text{ or } 2.28\% \text{ S}$$

C. Maximum Oil Usage

Bases: 100×10^6 BTU/hr max. input per boiler and 150,000 BTU/gal for No. 6 fuel oil.

$$\frac{100 \times 10^6 \text{ BTU}}{\text{hr}} \times \frac{\text{gal}}{0.15 \times 10^6 \text{ BTU}} = 667 \text{ gal/hr.}$$

D. Maximum Emissions

	(Emission Factor) (lb/1000 gal)	x	(Max. oil usage) x(0.667 x 1000 gal)	=	Max. Emissions
Particulates	25.8	x	0.667	=	17.2 lb/hr
SO_2	358.0	x	0.667	=	239.0 lb/hr
NO_x	60.0	x	0.667	=	40.0 lb/hr

E. Actual Annual Emissions

Bases: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979.

$$\text{(Emission Factor)} \times \text{(Oil Used)} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Actual Emissions}$$

$$\text{(lb/1000 gal)} \times \text{(2,828 x 1000 gal)} \times \left(\frac{1}{2000}\right)$$

Particulate	25.8	x	(2,828/2000)	=	36.5 tons/yr
SO_2	358.0	x	(1.414)	=	506 tons/yr
NO_x	60.0	x	(1.414)	=	84.8 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\left\{\begin{matrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Operating} \\ \text{Time}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$\text{(lb/hr)} \times \left\{\begin{matrix}8760 \\ \text{hr/yr}\end{matrix}\right\} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right)$$

Particulate	17.2	x	(8760/2000)	=	75.4 tons/yr
SO_2	239.0	x	(4.38)	=	1046.0 tons/yr
NO_x	40.0	x	(4.38)	=	175.0 tons/yr

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NO_x	40.0	x	(4.38)	=	175.0 tons/yr

G. Allowable Emissions

Chapter 17-2.05(6) Table II Source E(2) states "apply latest technology" for particulate, sulfur dioxide, and nitrogen oxides. For plant locality per Mr. Ed Balducci on 4/22/80, we are to use limits of 0.1 lb. particulate and 2.5 lb SO_2 per 10^6 BTU input over a 2-hr average. No limit is specified for NO_x. From application, each boiler has input capacity of 100 x 10^6 BTU/hr.

	(Emission Limit) (lb/10^6 BTU)	x	(Input Capacity) (100 x 10^6 BTU/hr)	=	Allowable Emissions
Particulate	0.1	x	(100)	=	10 lb/hr
SO_2	2.5	x	(100)	=	250 lb/hr

II. Section III H

Percent water in flue gases

Reference: Steam, Its Generation and Use by Babcock and Wilcox Co. 37th Ed., 1963. Chapter 4, Table 5 (page 4 - 9).

For fuel oil per 10,000 BTU as fired.

Theoretical dry air -- 7.46 lb

Fuel -- 0.54 lb

Resulting Moisture -- 0.51 lb

Incoming moisture -- 0.0132 lb H_2O/lb dry air @ 60% RH and 80° F. (wet air)

At 120 % of theoretical air (20% excess)

Total dry air --	1.2(7.46)	=	8.95 lb
Incoming H_2O --	1.2(7.46)(0.0132)	=	0.12 lb

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

Thus, in flue gases

Total water -- 0.12 + 0.51 = 0.63 lb

Total gases -- 0.63 + 8.95 + 0.54 = 10.12 lb

So, water in flue gases -- $\frac{0.63}{10.12}$ (100%) = 6.2%

19

ALL

```
LIST

 11/08/80. 16.36.17.
 LIST OF  RESULTS

1PLANT NAME: AB JACKSONVILLE BREWERY  POLLUTANT: SO2       EMISSION UNITS: GM/SEC     AIR QUALITY UNITS: GM/M**3
 THIS RUN COMBINES ALL 4 BOILER STACKS INTO A SINGLE SOURCE

               MET FILE      REQUESTED
              STN NO.  YR   STN NO.  YR
 SURFACE        13889   70    13889   70
 UPPER AIR      13861   70    13861   70
 LANT LOCATION: RURAL
 O TAPE OUTPUT
 ET DATA WILL NOT BE PRINTED

 AY-- 1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1


    * * * * * * * * * * * * * * * * * * * * N O T E * * * * * * * * * * * * * * *

         ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN -ANNUAL- IN THE HEADING ARE BASED ONLY ON THOSE

   DAYS  MARKED BY [1[ IN THE ABOVE TABLE


  RING DISTANCES(KM)=    .40    .60    .80   1.00   1.20


 LANT ELEVATION (FEET ABOVE SEA LEVEL)--        0.0        PLANT ELEVATION (METERS ABOVE SEA LEVEL)--        0.0

    RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)                 RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)

 IRECTION   RING"1    RING"2    RING"3    RING"4    RING"5              RING"1    RING"2    RING"3    RING"4    RING"5

     1         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     2         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     3         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     4         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     5         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     6         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     7         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     8         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
     9         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    10         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    11         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    12         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    13         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    14         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    15         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    16         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    17         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    18         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    19         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    20         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    21         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    22         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    23         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    24         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    25         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    26         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    27         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    28         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    29         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    30         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    31         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    32         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    33         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    34         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    35         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
    36         0.0       0.0       0.0       0.0       0.0                 0.0       0.0       0.0       0.0       0.0
```

```
STACK "  1-- COMBINED BOILER STACK


  STACK     MONTH        EMISSION RATE        HEIGHT     DIAMETER  EXIT VELOCITY    TEMP       VOLUMETRIC FLOW
                           (GMS/SEC)          (METERS)   (METERS)     (M/SEC)      (DEG.K)       (M**3/SEC)

    1        ALL          126.0000             30.50       1.37        10.60        483.00          15.63
   PLANT NAME: AB JACKSONVILLE BREWERY    POLLUTANT: SO2        EMISSION UNITS: GM/SEC    AIR QUALITY UNITS: GM/M**3

                                                  M A X   H O U R L Y                          M A X   2 4 - H O U R

        DAY        RATIO     CONCENTRATION  DIRECTION  DISTANCE(KM)  HOUR    CONCENTRATION  DIRECTION  DISTANCE(K
-TRM*
-RDY*
$F,540


 YEARLY MAXIMUM 24-HOUR CONC=  2.1508E-04  DIRECTION=   5  DISTANCE=  1.2 KM  DA
+Y=223
*RDY*


$F,584
 YEARLY SECOND MAXIMUM 24-HOUR CONC=  2.0302E-04  DIRECTION=   5  DISTANCE=  1.0
+ KM  DAY= 79
*RDY*


$F,628
 YEARLY MAXIMUM      3-HOUR CONC=  6.9294E-04  DIRECTION=  31  DISTANCE=   .6 KM
+  DAY=163    TIME PERIOD= 5
*RDY*


$F,672
 YEARLY SECOND MAXIMUM      3-HOUR CONC=  5.5427E-04  DIRECTION=  31  DISTANCE=
+  .8 KM  DAY=202    TIME PERIOD= 4
*RDY*
UNS RESULTS
*RDY*
BYE
CT = 01.03    SU-B =      12.4
KCH =   45
AS41001   LOG OFF.   16.43.41.
```

DAY 79 = 22 Hrs
M = 5

```
STACK "  1-- COMBINED BOILER STACK


  STACK     MONTH       EMISSION RATE        HEIGHT     DIAMETER  EXIT VELOCITY   TEMP       VOLUMETRIC FLOW
                          (GMS/SEC)          (METERS)   (METERS)     (M/SEC)     (DEG.K)      (M**3/SEC)

     1        ALL          126.0000            30.50      1.37        10.60        483.00          15.63
   PLANT NAME: AB JACKSONVILLE BREWERY    POLLUTANT: SO2        EMISSION UNITS: GM/SEC    AIR QUALITY UNITS: GM/M**3

                                                  M A X   H O U R L Y                          M A X   2 4 - H O U R

        DAY        RATIO     CONCENTRATION  DIRECTION  DISTANCE(KM)  HOUR    CONCENTRATION  DIRECTION  DISTANCE(K
*TRM*
*RDY*
$F.540


 YEARLY MAXIMUM 24-HOUR CONC=  2.1508E-04  DIRECTION=   5  DISTANCE=  1.2 KM  DA
*Y=223
*RDY*


$F.584
 YEARLY SECOND MAXIMUM 24-HOUR CONC=  2.0302E-04  DIRECTION=   5  DISTANCE=  1.0
* KM  DAY= 79
*RDY*


$F.628
 YEARLY MAXIMUM      3-HOUR CONC=  6.9294E-04  DIRECTION=  31  DISTANCE=   .6 KM
*  DAY=163    TIME PERIOD= 5
*RDY*


$F.672
 YEARLY SECOND MAXIMUM      3-HOUR CONC=  5.5427E-04  DIRECTION=  31  DISTANCE=
*  .3 KM  DAY=202    TIME PERIOD= 4
*RDY*
UNS RESULTS
*RDY*
BYE
CT = 01.03    SU-B =      12.4
KCH =   45
AS41001   LOG OFF.   16.43.41.
```

DAY 79 = 22 Hrs
M = 5

SECTION II: GENERAL PROJECT INFORMATION Rev. 1, 4/14/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This construction will extend the height of each boiler stack from 52.5 ft to 100 ft. The 4 identical boilers are Babcock and Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that the higher stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1, 1981 Completion of Construction Aug. 31, 1981

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Extending boiler stacks from the present height of 52.5 ft to 100 ft. - $130,000 (est.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application. A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant; hrs/yr ____ ;

if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
   a. If yes, has "offset" been applied? ____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? ____
   c. If yes, list non-attainment pollutants. ____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Rev. 1, 4/14/81

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Sulfur dioxide	250 lb/hr/boiler or 1000 lb/hr (maximum rate)

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: None
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration
Sulfur dioxide	165.25 lb/hr/boiler or 661 lb/hr (maximum permit rate)

*Explain method of determining D 3 above.

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Rev. 1, 4/14/81

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Sulfur dioxide	250 lb/hr/boiler or 1000 lb/hr (maximum rate)

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: None
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration
Sulfur dioxide	165.15 lb/hr/boiler or 661 lb/hr (maximum permit rate)

*Explain method of determining D 3 above.

10. Stack Parameters At input of 66.1 x 10^6 BTU/hr (100 x 10^6 BTU/hr)

a. Height: present 52.5 ft. b. Diameter: 4.5 ft.

c. Flow Rate: est. 21,000 (33,100) ACFM d. Temperature: 390 (410) °F

e. Velocity: 22 (35) FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device: Stacks increased to height of 100 ft. and outlet diameter decreased to 3.5 ft.

b. Operating Principles: A taller stack (still less than GEP) will give better dispersion of SO_2 at ground level.

c. Efficiency*: NA (not applicable) d. Capital Cost: $130,000 (est.)

e. Useful Life: 20 years f. Operating Cost: ~ $ 0

g. Energy*: ~ $ 0 h. Maintenance Cost: none

i. Availability of construction materials ~~and process chemicals~~: stack materials are available

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels:

There is adequate space and support to install 100 ft. stacks.

2.

a. Control Device: Lower oil sulfur content to 1.5% from current 2.28%

b. Operating Principles: The SO_2 emissions from the firing of No. 6 fuel oil are directly proportional to the sulfur content of the oil.

c. Efficiency*: 33% $\left[\frac{(2.28 - 1.5)}{2.28} 100\right]$ d. Capital Cost: None

e. Useful Life: NA f. Operating Cost: Est. $300,000/yr (current prices)

g. Energy**: None h. Maintenance Costs: None

i. Availability of construction materials and process chemicals: No. 6 fuel oil with a 1.5% sulfur content is available in the Jacksonville area.

j. Applicability to manufacturing processes: NA

k. Ability to construct with control device, install in available space, and operate within proposed levels: NA

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION Rev. 1, 4/14/81

A. Company Monitored Data

1. _____ no sites _____ TSP _____( )SO^{2*} _____ Wind spd/dir

Period of monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01 / 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^2	126.0 grams/sec

E. Emission Data Used in Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^6 BTU/hr each) at 2.5 lb $SO_2/10^6$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Modeling results show that increasing the stacks on the four existing boilers to 100 ft. will allow all four boilers to operate simultaneously at capacity and not violate the Florida ambient air quality standards for SO_2.

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION Rev. 1, 4/14/81

A. Company Monitored Data

1. _____ no sites _____ TSP _____( )SO^{2*} _____ Wind spd/dir

Period of monitoring ___/___/___ to ___/___/___
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? ____ Yes ____ No

b) Was instrumentation calibrated in accordance with Department procedures? ____ Yes ____ No ____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. 1 Year(s) of data from 01 / 01/ 70 to 12 / 21 / 70
month day year month day year

Note: 5 years of data, 1970 thru 1974, were evaluated. 1970 gave the highest annual 3 hr. concentrations.

2. Surface data obtained from (location) 13889 Jacksonville, FL

3. Upper air (mixing height) data obtained from (location) 13861 Waycross, GA

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. CRSTER (not modified) Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	-- grams/sec
SO^2	126.0 grams/sec

E. Emission Data Used in Modeling This is the total emission from all four (4) boilers operating continuously at capacity (100 x 10^6 BTU/hr each) at 2.5 lb $SO_2/10^6$ BTU.

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

SECTION II: GENERAL PROJECT INFORMATION Rev. 2, 5/28/81

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The applicant desires to increase the allowable maximum firing rate to 100 x 10^6 BTU/hr per boiler. This is the input capacity for each boiler as indicated on all previous permit applications. Each boiler is currently permitted to operate at a maximum of 66.1 x 10^6 BTU/hr. The four (4) boilers are Babcock & Wilcox Co., Model FM 1035-79 (National Board No. 22857, 22856, 22855 and 23814). Modeling predicts that 100 ft. stacks will allow the operation of all 4 boilers at 100 x 10^6 BTU/hr input each (capacity) without violating the Florida SO_2 ambient air quality standard.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

_____

_____

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A016-2435, -2436, and -2437 expired 6/30/80. Renewal requested subject to SO_2 modeling evaluation. Renewals to be withdrawn at the time of this application.

A016-12824 expires 8/31/83.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes __X__ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr _____ ;

if seasonal, describe: _____

_____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? no
   a. If yes, has "offset" been applied? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants.

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. no
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ?
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? no
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? no

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Rev. 1, 5/28/81

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): for each of four boilers - 90,000 lb/hr max (water-steam)
   - 90,000 lb/hr max (steam)
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See attached Emission Calculations
EACH boiler at 100 x 10^6 BTU/hr input

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	10.0*	21.2	Use 17-2.05(6) Table II	10	10.0	43.8	1,2,3,4
Sulfur Dioxide	250**	530	Source "E"(1)(b)	250	250	1095	
			1.a.** (per Mr.				
			E. Balducci)				
Nitrogen Oxide	40.0	85	None specified	--	40.0	175	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

* Maximum allowable. Also see emission tests of April, 1981.

** 0.1 lb particulate per 10^6 BTU heat input.

2.5 lb SO_2 per 10^6 BTU heat input

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks)

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

E. Fuels

Rev. 1, 5/28/81

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 fuel oil	8 bbl	16 bbl	100 per boiler

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.28 (nominal based on 2.5 lb $SO_2/10^6$ BTU) Percent Ash: 0.1 max.

Density: 8.2 (nominal) lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb 150,000 (nominal) BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

About 10 GPM of boiler blowdown is routed in the sanitary sewer system to the District No. 2 City Sewage Treatment Plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (same data for each of four stacks

Stack Height: 100 ft. Stack Diameter: 4.5 (3.5 at outlet) ft.

Gas Flow Rate: 33,100 (est.) ACFM Gas Exit Temperature: 410 °F.

Water Vapor Content: 6.2 % Velocity: 35 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

D. Maximum Emissions

	(Florida allowable) $(lb/10^6$ BTU input)	x	(capacity input) $(100 \times 10^6$ BTU/hr input)	= Max. Emissions
Particulates	0.1	x	100	= 10.0 lb/hr
SO_2	2.5	x	100	= 250 lb/hr

NOTE: Particulate test results performed in April, 1981, confirm that the boilers meet this standard.

E. Actual Annual Emissions

Basis: 2,828,000 gallons of No. 6 fuel oil used in boiler No. 1 in 1979. At 150,000 BTU/gal, this is equivalent to 424.2×10^9 BTU input.

$$\begin{pmatrix}\text{Florida allowable} \\ (lb/10^6 \text{ BTU input})\end{pmatrix} \times \begin{pmatrix}\text{annual input} \\ (424.2 \times 10^9 \text{ BTU})/2000\end{pmatrix} \times \left(\frac{1 \text{ ton}}{2000 \text{ ton}}\right) = \text{Actual Emissions}$$

Particulate	0.1	x	(424,200/2000)	= 21.2 tons/yr
SO_2	2.5	x	212.1	= 530 tons/yr

F. Potential Emissions

1. Hourly Potential Emissions equal hourly Maximum Emissions (Par. D) as there are no additional emission control devices on the boilers.

2. Annual Potential Emissions assume continuous operation or 8760 hr/yr.

$$\begin{pmatrix}\text{Hourly} \\ \text{Potential} \\ \text{Emissions}\end{pmatrix} \times \begin{pmatrix}\text{Operating} \\ \text{Time}\end{pmatrix} \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = \text{Annual Potential Emissions}$$

$$(lb/hr) \times \left(\frac{8760 \text{ hr}}{\text{yr}}\right) / 2000$$

Particulate	10.0	x	(8760/2000)	= 43.8 tons/yr
SO_2	250	x	(4.38)	= 1095 tons/yr

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

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

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Power Boilers 1 - 4

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

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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