February 19, 1991

Mr. Willard Hanks
Bureau of Air Regulation
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
FEB 21 1991
DER-BAQM

Re: Okeelanta Corporation
Proposed Oil-Fired Boiler

Dear Mr. Hanks:

At your request, KBN is providing additional information to the Florida Department of Environmental Regulation (FDER) regarding Okeelanta Corporation's proposed oil-fired package boiler. The information relates to additional modeling analysis, the property boundary question, the proposed boiler's operating conditions, and boiler operating conditions that will be monitored in lieu of continuous NO_x monitoring.

Additional Modeling Analysis
It was requested by FDER that additional modeling analysis be performed to address the period of time when the proposed Okeelanta boiler may be operating in conjunction with other nearby sources (i.e., other sugar mills in the area). This analysis is presented in Attachment A.

Property Boundary Definition
Provided in Attachment B are copies of two memos EPA Region IV personnel provided with regard to the property boundary question. Of particular interest is the memo from G.T. Helms to Steve Rothblatt. This memo states that a river forms a sufficient natural boundary/barrier and that fencing is not necessary. However, the riverbank must be clearly posted and patrolled by plant security. Based on the information presented in the application and Okeelanta's description provided in our recent meeting, I believe Okeelanta's property boundaries as depicted in the permit application meet the intent of the ambient air policy.

Boiler No. 16 Operating Conditions
The boiler design operating conditions will be 380 psi at 650°F.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

0169677852

0169677852

Date 2-[illegible]-91

RECIPIENT'S COPY

1 From (Your Name) Please Print: David A. Buff

Your Phone Number (Very Important): (904-[illegible]

Company: [illegible] & ASPHALTED SERVICES

Department/Floor No:

Street Address: 1024 [illegible] ST. W.

City: GAINESVILLE State: FL ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: Willard Hanks

Recipient's Phone Number (Very Important): (904) 488-1344

Company: Bureau of Air Regulation

Department/Floor No: Fla. Dept. of Environmental Regulation

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip + Codes): 2600 Blair Stone Road

City: Tallahassee, State: FL ZIP Required: 32399-2400

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.)

90121

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct No 3 [ ] Bill 3rd Party FedEx Acct No 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight Service (Delivery by next business morning †)		Standard Overnight Service (Delivery by next business afternoon †)	
11	YOUR PACKAGING	51	
16	FEDEX LETTER *	56	FEDEX LETTER *
12	FEDEX PAK *	52	[X] FEDEX PAK *
13	FEDEX BOX	53	FEDEX BOX
14	FEDEX TUBE	54	FEDEX TUBE
Economy Two-Day Service (formerly Standard Air) (Delivery by second business day †)		**Heavyweight Service (for Extra Large or any package over 150 lbs.)**	
30	ECONOMY TWO-DAY SVC.	80	DEFERRED HEAVYWEIGHT **
70			HEAVYWEIGHT **

† Delivery commitment may be later in some areas

*Declared Value Limit $100

**Call for delivery schedule

DELIVERY AND SPECIAL HANDLING (Check services required)

1	[ ]	HOLD FOR PICK-UP (Fill in Box H)
2	[X]	DELIVER WEEKDAY
3	[ ]	DELIVER SATURDAY (Extra charge) (Not available to all locations)
4	[ ]	DANGEROUS GOODS (Extra charge)
5	[ ]	
6	[ ]	DRY ICE ___ Lbs
7	[ ]	OTHER SPECIAL SERVICE
8	[ ]	
9	[ ]	SATURDAY PICK-UP (Extra charge)
10	[ ]	
11	[ ]	
12	[ ]	HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE
Total	Total	Total

DIM SHIPMENT (Chargeable Weight) [ ] ___ lbs

Received At

1 [ ] Regular Stop 3 [ ] Drop Box 4 [ ] BSC 5 [ ] Station 2 [ ] On-Call Stop

FedEx Emp No Date/Time

5 Release Signature

Emp No Date

[ ] Cash Received [ ] Return Shipment [ ] Third Party [ ] Chg. To Del [ ] Chg. To Hold

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

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KBN

Proposed Monitoring for NO_x Compliance

Okeelanta is investigating the aspects of continuous NO_x monitoring versus monitoring of boiler operating conditions. Upon determination of the most appropriate method, a monitoring plan will be submitted to FDER. This is an operational monitoring plan, and therefore should not affect the issuance of a construction permit.

Please call if you have any questions concerning this information.

Sincerely,

David A. Buff

David A. Buff, M.E., P.E.
Principal Engineer

DAB/tyf

Attachments

cc: Pablo Carreno
A. Hanks
C. Holladay
B. Andrews

ATTACHMENT A

ADDITIONAL OKEELANTA MODELING FOR INTERACTION WITH OTHER SUGAR MILLS

1.0 GENERAL

Additional air quality modeling was performed to determine the maximum SO_2 prevention of significant deterioration (PSD) increment consumption as a result of Okeelanta's proposed No. 16 boiler and other nearby sources, as well as compliance with the SO_2 ambient air quality standards (AAQS). The proposed boiler will be operating only during the off-season when the other Okeelanta mill sources are not operating. Prior analyses submitted to the Florida Department of Environmental Regulation have assumed that the proposed boiler will operate alone, without other sugar mill sources, based on an off-season period extending from March 1 through October 31. In some years, however, the regular sugar mill season could extend into March.

The present analysis is presented to address the time period during which the proposed source could operate simultaneously with other sugar mills and other sources located within 50 km of Okeelanta. Based on discussions with Okeelanta personnel, concurrent operation with other sugar mills can occur only during the one month period from March 1 to March 31. March 1 is the earliest date that the Okeelanta mill would shut down (end of crop season) and the proposed boiler would begin operating, and March 31 is the latest date that other sugar mills would shut down. Concurrent operation with non-sugar mill sources located within 50 km of Okeelanta can occur any time the proposed boiler is operating (i.e., between March 1 and October 31). However, for the period from April 1 through October 31, the other sugar mill sources are not operating.

2.0 EMISSION INVENTORY

2.1 Okeelanta Mill

Stack and operating parameters and emission rates for the proposed boiler at Okeelanta are the same as presented in Table 5-2 of the previously submitted permit application. The maximum SO_2 emission rate for the boiler is 105.5 lb/hr.

2.2 Other Air Emission Sources

SO_2 is the only pollutant required to be addressed in the impact analysis. Therefore, an emission inventory of PSD increment consuming sources and existing or permitted major sources located within 50 km of the significant impact area of the proposed boiler (i.e., 14.0 + 50.0 = 64.0 km) was developed from available databases. The source parameters for all PSD increment consuming sources used in the Class II analysis is presented in Table 1. It is noted that these sources are all located beyond the significant impact area of the proposed boiler, which was determined to be 14 km in the modeling performed for the permit application.

The PSD Class I SO_2 emission inventory is presented in Table 2. This inventory differs from the Class II inventory because it includes only those sources located within 100 km of the Everglades Class I area.

The sugar mill sources that would only operate concurrently with the proposed boiler during the period March 1 to March 31 are identified in the PSD inventory tables. All other PSD sources potentially would operate for the remaining period when the proposed boiler is operating (i.e., April 1 to October 31).

All major SO_2 sources located within 65 km of Okeelanta are identified in Table 3. This table lists the facility name, coordinates, relative location to Okeelanta, and maximum SO_2 emissions. The emission inventory for determining compliance with ambient air quality standards (AAQS) is presented in Table 4.

3.0 MODELING METHODOLOGY

All modeling techniques and assumptions were the same as in the previously submitted analysis. A PSD modeling analysis was performed in the vicinity of the Okeelanta mill (Class II area) and at the Everglades National Park (ENP), a PSD Class I area. The ISCST was executed only for days in March (Day 60 - Day 90) or when interaction with all other facilities could occur. The model also was executed for the period April 1 to October 31,

when interaction with all non-sugar mill sources could occur. Composite result tables were prepared for March 1 to October 31. The highest, second-highest, short-term maximum concentrations from either the March analysis or the April to October analysis was included in the composite table. A 245-day average concentration, indicative of the combination of the 31-day average in March and the 214-day average from April to October, was determined by inspection of both annual printouts and apportioning the long-term average concentrations as follows:

$$245\text{-day average} = \frac{31\text{-day average} + (7 \times 214\text{-day average})}{8}$$

4.0 RESULTS

4.1 PSD Class II Analysis

The screening modeling results for March 1 to March 31 are presented in Table 5. The screening modeling results for April 1 to October 31 are presented in Table 6. Composite screening modeling results for March 1 to October 31 are presented in Table 7. PSD Class II refinement results are presented in Table 8. The maximum annual average, 3-hour, and 24-hour concentrations are 1.8, 91, and 19 $\mu g/m^3$, respectively. The maximum concentrations are significantly below the allowable PSD Class II increments for SO_2, which are 20, 512, and 91 $\mu g/m^3$, respectively, for the three averaging times. It is to be noted that the 3-hour and 24-hour maximum concentrations are on the edge of the significant impact area for the proposed source, extended out to 14.2 km for this analysis.

4.2 PSD Class I Analysis

PSD Class I results for March 1 to March 31 are presented in Table 9. PSD Class I results for April 1 to October 31 are presented in Table 10. Composite screening modeling results for March 1 to October 31 are presented in Table 11. The PSD Class I concentrations for April 1 to October 31 are all above the March concentrations. (Note: The 31-day concentrations, when apportioned, are lower than the 214-day concentrations.) Therefore, the PSD Class I refinements of Table 5-8 of

the original report remain the same. The maximum annual average, 3-hour, and 24-hour concentrations are 0.4, 12.7, and 3.6 $\mu g/m^3$, respectively. The maximum concentrations are below the allowable PSD Class I increments for SO_2, which are 2, 25, and 5 $\mu g/m^3$, respectively, for the three averaging times.

4.3 AAQS Analysis

SO_2 AAQS screening modeling results for March 1 to March 31 are presented in Table 12. AAQS results for April 1 to October 31 are presented in Table 13. Composite screening modeling results for March 1 to October 31 are presented in Table 14. AAQS refinement results are presented in Table 15. The maximum predicted annual average, 3-hour, and 24-hour concentrations are 6.6, 357, and 83 $\mu g/m^3$, respectively. Added to appropriate SO_2 background concentrations of 9, 64, and 19 $\mu g/m^3$, respectively, the total AAQS concentrations become 15.6, 421, and 102 $\mu g/m^3$, respectively, for the annual average, 3-hour, and 24-hour averaging times. These concentrations are significantly below the AAQS for SO_2, which are 60, 1300, and 260 $\mu g/m^3$, respectively. It is to be noted that the annual and 3-hour maximum concentrations are on the edge of the significant impact area for the proposed source, extended out to 14.2 km for this analysis.

Table 1. SO_2 Source Parameters Used in the PSD Class II Modeling Analysis

Facility Name	Emission Rate (g/s)	Relative Coordinates X (m)	Relative Coordinates Y (m)	Stack Parameters Height (m)	Stack Parameters Temp. (°K)	Stack Parameters Velocity (mps)	Stack Parameters Diameter (m)
PROPOSED OKEELANTA BLR	13.29	0	0	22.9	497.0	18.38	1.52
US SUGAR- CLEWISTON PSD[a]	85.7	-18900	17500	45.7	340.0	25.20	2.20
OSCEOLA FARMS PSD[a]	33.4	19200	28600	27.4	341.0	16.90	1.90
SUGAR CANE GROWERS PSD[a]	71.2	9900	13900	47.2	344.0	10.60	3.00
US SUGAR- BRYANT PSD[a]	32.5	13800	28700	30.5	344.0	22.40	2.10
FPL MARTIN COMB TURBS PSD	940.80	17600	52100	64.9	410.9	18.90	6.10
FPL MARTIN AUX BLRS PSD	12.90	17600	52100	18.3	535.4	15.24	1.10
FPL MARTIN DIESL GENS PSD	0.51	17600	52100	7.6	785.9	39.62	0.30
BECHTEL INDIANTOWN PSD	97.17	20600	52100	144.8	328.0	21.30	3.88

[a]Source operates concurrently with proposed boiler only during period March 1 to March 31.

Table 2. SO_2 Source Parameters Used in the PSD Class I Modeling Analysis

Facility Name	Emission Rate (g/s)	Relative Coordinates X (m)	Relative Coordinates Y (m)	Stack Parameters Height (m)	Stack Parameters Temp. (°K)	Stack Parameters Velocity (mps)	Stack Parameters Diameter (m)
PROPOSED OKEELANTA BLR	13.29	0	0	22.9	497.0	18.38	1.52
US SUGAR - CLEWISTON[a]	85.7	-18900	17500	45.7	340.0	25.20	2.20
OSCEOLA FARMS[a]	33.4	19200	28600	27.4	341.0	16.90	1.90
SUGAR CANE GROWERS[a]	71.2	9900	13900	47.2	344.0	10.60	3.00
US SUGAR- BRYANT[a]	32.5	13800	28700	30.5	344.0	22.40	2.10
TARMAC KILN 2	34.65	37900	-77700	61.0	422.0	9.10	2.44
TARMAC KILN 3	47.64	37900	-77700	61.0	450.0	11.04	4.57
METRO-DADE RES.REC.	86.20	39300	-82000	46.0	472.0	12.20	2.74
FPL LAUDERDALE	270.90	55300	-56100	45.7	411.0	11.04	4.88
FPL LAUDERDALE	-457.38	55300	-56100	46.0	422.0	17.62	4.27
N. BROWARD RES. REC.	35.4	58600	-31800	58.5	381.0	18.00	4.57
S.BROWARD RES. REC.	38.2	54600	-56100	59.4	381.0	18.00	4.57

[a]Sources operate concurrently with proposed source only during period March 1 to March 31.

Table 3. AAQS Sources Within 50 km of the Okeelanta Site

APIS Number	Facility	UTM Coordinates (km) East	UTM Coordinates (km) North	Relative Location (km) To Proposed Site X	Relative Location (km) To Proposed Site Y	Distance From Proposed Site (km)	Direction From Proposed Site (degree)	Maximum SO_2 Emissions (TPY)
50PMB500086	Glades Correctional Institute	523.4	2955.2	-1.6	15.8	15.9	354	485
52FTM500026	Sugar Cane Growers	534.9	2953.3	9.9	13.9	17.1	35	4,269
52FTM260001	Everglades Sugar	509.6	2954.2	-15.4	14.8	21.4	314	1,408
52FTM260003	U.S. Sugar Corp.	506.1	2956.9	-18.9	17.5	25.8	313	5,353
52FTM500016	Atlantic Sugar Association	552.9	2945.2	27.9	5.8	28.5	78	1,484
52FTM500061	U.S. Sugar--Bryant	538.8	2968.1	13.8	28.7	31.8	26	2,364
52FTM500019	Osceola Farms	544.2	2968.0	19.2	28.6	34.4	34	3,122
50WPB430001	Florida Power & Light--Martin Plant	542.6	2991.5	17.6	52.1	55.0	19	93,788
50WPB43????	Bechtel Indiantown Cogen.--Proposed	545.6	2991.5	20.6	52.1	56.0	22	3,378
Okeelanta Mill Site Location (UTM):		525.0	2939.4					

Table 4. SO_2 Source Parameters Used in the AAQS Modeling Analysis (Page 1 of 2)

Facility Name	Emission Rate (g/s)	Relative Coordinates X (m)	Relative Coordinates Y (m)	Stack Parameters Height (m)	Stack Parameters Temp. (°K)	Stack Parameters Velocity (mps)	Stack Parameters Diameter (m)
PROPOSED OKEELANTA BLR	13.29	0	0	22.9	497.0	18.38	1.52
US SUGAR CORP BLRS 1&2	93.17	-18900	17500	22.9	339.0	35.54	1.86
US SUGAR CORP BLR 3	26.33	-18900	17500	27.4	340.0	14.54	2.29
US SUGAR CORP BLR 4	4.41	-18900	17500	45.7	334.0	19.66	2.51
US SUGAR CORP BLR 5&6	19.32	-18900	17500	19.8	340.0	9.78	1.83
US SUGAR CORP PSD	85.7	-18900	17500	45.7	340.0	25.20	2.20
OSCEOLA FARMS BLR 2	18.3	19200	28600	25.0	341.0	18.10	1.52
OSCEOLA FARMS BLR 3	8.42	19200	28600	21.9	341.0	14.50	1.93
OSCEOLA FARMS BLR 4	19.0	19200	28600	25.0	341.0	18.80	1.83
OSCEOLA FARMS BLR 5	21.6	19200	28600	25.0	341.0	14.90	1.52
OSCEOLA FARMS BLR 6	23.5	19200	28600	27.4	341.0	14.90	1.99
OSCEOLA FARMS PSD	33.4	19200	28600	27.4	341.0	16.90	1.90
SUGAR CANE GROWERS BLRS 1&2	24.2	9900	13900	24.4	344.0	11.40	1.40
SUGAR CANE GROWERS BLR 3	4.4	9900	13900	24.4	344.0	15.60	1.60
SUGAR CANE GROWERS BLR 4	24.2	9900	13900	33.5	344.0	11.20	2.82
SUGAR CANE GROWERS BLR 5	16.2	9900	13900	24.4	344.0	15.20	1.40
SUGAR CANE GROWERS BLR 6&7	51.0	9900	13900	12.2	606.0	11.20	2.13
SUGAR CANE GROWERS BLR 8	26.7	9900	13900	47.2	344.0	10.60	3.05
SUGAR CANE GROWERS PSD	71.2	9900	13900	47.2	344.0	10.60	3.00
US SUGAR-BRYANT BLRS 1,2&3	232.3	13800	28700	19.8	342.0	36.40	1.64
US SUGAR-BRYANT BLR 5	102.9	13800	28700	30.5	339.0	31.40	2.21
US SUGAR-BRYANT PSD	32.5	13800	28700	30.5	344.0	22.40	2.10
ATLANTIC SUGAR BLR 1	17.24	27900	5800	18.9	346.0	12.70	1.92
ATLANTIC SUGAR BLR 2	22.50	27900	5800	18.9	342.0	10.90	1.92

Table 4. SO_2 Source Parameters Used in the AAQS Modeling Analysis (Page 2 of 2)

Facility Name	Emission Rate (g/s)	Relative Coordinates X (m)	Relative Coordinates Y (m)	Stack Parameters Height (m)	Stack Parameters Temp. (°K)	Stack Parameters Velocity (mps)	Stack Parameters Diameter (m)
ATLANTIC SUGAR BLR 3	16.88	27900	5800	21.9	341.0	17.50	1.83
ATLANTIC SUGAR BLR 4	16.88	27900	5800	18.3	344.0	15.00	1.83
ATLANTIC SUGAR BLR 5	11.80	27900	5800	27.4	339.0	15.70	1.68
EVERGLADES SUGAR	11.80	-15400	14800	21.9	477.0	10.10	1.10
FPL MARTIN 1&2	1743.79	17600	52100	152.1	420.9	21.03	7.99
FPL MARTIN COMB TURBS PSD	940.80	17600	52100	64.9	410.9	18.90	6.10
FPL MARTIN AUX BLRS PSD	12.90	17600	52100	18.3	535.4	15.24	1.10
FPL MARTIN DIESL GENS PSD	0.51	17600	52100	7.6	785.9	39.62	0.30
BECHTEL INDIANTOWN PSD	97.17	20600	52100	144.8	328.0	21.30	3.88
GLADES CORR. INST	14.81	-1600	15800	9.8	389.0	11.28	0.40

Note: The following sources operate concurrently with the proposed boiler only during the period March 1 through March 31: U.S. Sugar, Osceola Farms, Sugar Cane Growers, and Atlantic Sugar.

Table 5. Maximum Predicted PSD Class II Impacts, March 1 to March 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)
31-Day-Average	1982	3.6	30	4000
	1983	2.2	150	3027
	1984	3.3	30	14000
	1985	3.1	30	14000
	1986	3.6	30	14000
3-Hour[a]	1982	67	130	3879
	1983	49	150	3027
	1984	85	40	14000
	1985	41	40	14000
	1986	50	30	14000
24-Hour[a]	1982	15	30	14000
	1983	12	150	3027
	1984	15	160	2840
	1985	18	30	14000
	1986	14	30	14000

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 6. Maximum Predicted PSD Class II Impacts, April 1 to October 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)
31-Day-Average	1982	1.6	310	5086
	1983	1.7	310	5086
	1984	2.0	320	4391
	1985	1.3	320	4391
	1986	1.4	360	3597
3-Hour[a]	1982	75	330	3968
	1983	86	170	2754
	1984	60	340	3724
	1985	67	170	2754
	1986	51	170	2754
24-Hour[a]	1982	17	160	2840
	1983	15	170	2754
	1984	15	320	4391
	1985	11	160	2840
	1986	12	360	3597

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 7. Maximum Predicted PSD Class II Impacts, March 1 - October 31 - Composite Screening Analysis Results

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)
245-Day-Average	1982	1.7	310	5086
	1983	1.6	310	5086
	1984	1.9	320	4391
	1985	1.5	320	4391
	1986	1.5	360	3597
3-Hour[a]	1982	75	330	3968
	1983	86	170	2754
	1984	85	40	14000
	1985	67	170	2754
	1986	51	170	2754
24-Hour[a]	1982	17	160	2840
	1983	15	170	2754
	1984	15	320	4391
	1985	18	30	14000
	1986	14	30	14000

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 8. Maximum Predicted Impacts for Okeelanta's Proposed Boiler With Respect to SO_2 PSD Class II Increments - Refined Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)	Day/Pd.	Allowable Increment
Annual	1984	1.8	318	4840	-/-	20
3-Hour[a]	1983	85	170	2786	300/7	512
	1984	91	40	14200	68/6	
24-Hour[a]	1982	18	162	2884	267/-	91
	1985	19	30	14200	85/-	

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 9. Maximum Predicted SO_2 PSD Class I Impacts, March 1 to March 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Receptor X (m)	Receptor Y (m)
31-Day Average	1982	0.7	8500	-91400
	1983	0.2	5000	-91400
	1984	0.4	8500	-91400
	1985	0.5	8500	-91400
	1986	0.5	8500	-96400
3-Hour[a]	1982	7.8	-50000	-85400
1983		5.4	5000	-91400
	1984	6.7	8500	-91400
	1985	7.7	8500	-91400
	1986	11.6	8500	-96400
24-Hour[a]	1982	2.2	8500	-91400
	1983	0.8	5000	-91400
	1984	1.6	8500	-91400
	1985	2.1	8500	-91400
	1986	2.7	8500	-96400

[a]All short-term concentrations indicated highest, second-highest concentrations.

Table 10. Maximum Predicted SO_2 PSD Class I Impacts, April 1 to October 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Receptor X (m)	Receptor Y (m)
214-Day Average	1982	0.3	8500	-91400
	1983	0.3	8500	-91400
	1984	0.3	8500	-91400
	1985	0.4	8500	-91400
	1986	0.4	8500	-91400
3-Hour[a]	1982	9.5	8500	-101400
	1983	12.7	8500	-91400
	1984	10.3	8500	-91400
	1985	10.8	8500	-91400
	1986	11.7	8500	-106400
24-Hour[a]	1982	3.3	8500	-91400
	1983	3.6	8500	-91400
	1984	2.8	8500	-96400
	1985	2.8	8500	-91400
	1986	2.7	8500	-101400

[a]All short-term concentrations indicated highest, second-highest concentrations.

Table 11. Maximum Predicted SO_2 PSD Class I Impacts, March 1 to October 31 - Composite Screening Analysis Results

Averaging Time	Year	Concentration ($\mu g/m^3$)	Receptor X (m)	Receptor Y (m)
245-Day Average	1982	0.3	8500	-91400
	1983	0.3	8500	-91400
	1984	0.3	8500	-91400
	1985	0.4	8500	-91400
	1986	0.4	8500	-91400
3-Hour[a]	1982	9.5	8500	-101400
	1983	12.7	8500	-91400
	1984	10.3	8500	-91400
	1985	10.8	8500	-91400
	1986	11.7	8500	-106400
24-Hour[a]	1982	3.3	8500	-91400
	1983	3.6	8500	-91400
	1984	2.8	8500	-96400
	1985	2.8	8500	-91400
	1986	2.7	8500	-101400

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 12. Maximum Predicted AAQS Impacts for March 1 to March 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Receptor X (m)	Receptor Y (m)
31-Day-Average	1982	13.4	30	14000
	1983	7.9	360	14000
	1984	14.2	360	14000
	1985	12.8	30	14000
	1986	15.7	30	14000
3-Hour[a]	1982	200	30	14000
	1983	151	40	14000
	1984	314	40	14000
	1985	158	50	11000
	1986	199	320	14000
24-Hour[a]	1982	55	30	14000
	1983	37	40	14000
	1984	48	30	14000
	1985	68	30	14000
	1986	70	30	14000

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 13. Maximum Predicted SO_2 AAQS Impacts, April 1 to October 31 - Screening Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)
214-Day Average	1982	3.3	360	14000
	1983	4.0	360	14000
	1984	2.8	350	14000
	1985	4.2	360	14000
	1986	5.7	360	14000
3-Hour[a]	1982	197	360	14000
	1983	238	360	14000
	1984	207	360	14000
	1985	236	360	14000
	1986	247	360	14000
24-Hour[a]	1982	35	360	14000
	1983	42	360	14000
	1984	44	350	14000
	1985	46	360	14000
	1986	47	360	14000

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 14. Maximum Predicted AAQS SO_2 Impacts, March 1 to October 31 - Composite Screening Analysis Results

Averaging Time	Year	Concentration ($\mu g/m^3$)	Dir. (deg)	Dist. (m)
245-Day-Average	1982	4.0	360	14000
	1983	4.5	360	14000
	1984	4.1	360	14000
	1985	5.1	360	14000
	1986	6.6	360	14000
3-Hour[a]	1982	200	30	14000
	1983	238	360	14000
	1984	314	40	14000
	1985	236	360	14000
	1986	247	360	14000
24-Hour[a]	1982	55	30	14000
	1983	42	360	14000
	1984	48	30	14000
	1985	68	3014000	
	1986	70	30	14000

[a]All short-term concentrations indicate highest, second-highest concentrations.

Table 15. Maximum SO_2 Impacts as Compared With AAQS - Refined Analysis

Averaging Time	Year	Concentration ($\mu g/m^3$)			Receptor		Worst Day/Pd.	Florida AAQS ($\mu g/m^3$)
		Total	Modeled	Background	Dir. (deg)	Dist. (m)		
245-Day-Average	1986	15.6	6.6	9	360	14200	-/-	60
3-Hour[a]	1984	421	357	64	40	14200	68/6	1300
24-Hour[a]	1985	93	74	19	30	14200	85/-	260
	1986	102	83	19	32	13900	88/-	

[a]All short-term concentrations indicate highest, second-highest concentrations.

ATTACHMENT B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 10 DEC 1986

SUBJECT: Ambient Air Questions

Michael Koerber

FROM: Michael Koerber
Regional Meteorologist

TO: Dean Wilson
Model Clearinghouse

This memo identifies four controversial ambient air questions that have arisen in Region V in recent months. I am requesting the Model Clearinghouse's comments on the Region V position for each case.

Case 1 (Dakota County, Minnesota)

Background - The Koch Refining Company operates a refinery in Dakota County, Minnesota. Koch owns property (which is fenced) on the west and east sides of US 52 (see Figure 1). The emission sources are all located on the west side.

Issue - Should receptors be located over US 52 and over the fenced Koch property on the east side of US 52.

Region V - Receptors should be located over US 52 because it is a public highway. Koch neither owns nor controls the road. Furthermore, the road does not interfere with the safe and efficient operation of the plant since the emission sources are all located on one side of the road.

Receptors should not be located over the Koch property on the east side of US 52 because it is owned by Koch and public access is precluded by a fence.

Case 2 (Warrick County, Indiana)

Background - The ALCOA-Warrick Power Station and the SIGECO-Culley Generating Station are located in southern Warrick County, Indiana. The companies own a large tract of land surrounding their facilities on both sides of the Ohio River.

Issues - Should receptors be located over ALCOA and SIGECO property and over the Ohio River.

Region V Position - The ALCOA and SIGECO property issue is addressed in Attachment #1. Basically, receptors should be located over the large property area on the north side of the River and over the three individual sections on the south side of the River unless these areas are fenced. Note, we do not believe that fencing is necessary along the land/River boundary.

Receptors should be located over the Ohio River since it is a public waterway. ALCOA and SIGECO neither own nor control the River. Furthermore, the River does not interfere with the safe and efficient operation of the plants since they are both located on one side of the River.

Case 3 (Wayne County, Michigan)

Background - There are several industrial sources located along the Detroit River and Rouge River in Detroit, Michigan (see Figure 2). The Detroit River is used for both industrial and recreational boating activities. Both the Rouge River, which flows along the west and north side of Zug Island, and the Short-cut Canal, which was built by Ford many years ago to ease industrial traffic to its plant farther up on the Rouge River, are used primarily by industrial traffic and, as such, are not conducive to public boating.

Issue - Should receptors be located over the Detroit River, the Rouge River, and the Short-cut Canal.

Region V Position - Receptors should be located over the Detroit River since it is clearly accessible to the public.

Receptors should also be located over the Rouge River and Short-cut Canal since both waterways are accessible to the public. None of the companies own or control these waterways. Furthermore, the waterways do not interfere with the safe and efficient operation of any plant since they are located on only one side of the waterways.

Case 4 (Cuyahoga County, Ohio)

Background - LTV Steel operates an integrated iron and steel mill in Cleveland, Ohio. The mill consists of the former J&L mill on the west side of the Cuyahoga River and the former Republic Steel mill on the east side of the Cuyahoga River (see Figure 3). The majority of recreational activity on the water is north of point A in Figure 3, although a public tour boat does travel as far south as point B twice a day. Traffic beyond point B is primarily industrial and, as such, the River is not conducive to public boating. The only recreational activity on the River south of LTV occurs several miles down river. The mill is surrounded by a fence, except along and over the Cuyahoga River, and over the railroad tracks which run through the mill.

Issue - Should receptors be located over the Cuyahoga River and over the railroad tracks.

Region V Position - Consistency with the Warrick County and Wayne County cases implies that receptors should be located over the Cuyahoga River. There is an important factual difference between LTV and those cases, however, that must be considered (i.e., the River subdivides the main plant). LTV does not own the River, of course, but it does "control" it in the sense that river traffic on this portion of the River is mainly, if not soley, LTV traffic. Furthermore, the River serves as an important link between the east and west side operations. Consequently, we believe that it may be reasonable to exclude receptors from the portion of the River within the general boundaries of the LTV plant.

For similar reasons, receptors should also not be located over the railroad tracks.

ATTACHMENTS

cc: Sharon Reinders, w/o attachments

Reinder

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

3 [illegible] 1987

MEMORANDUM

SUBJECT: Ambient Air

FROM: G. T. Helms, Chief
Control Programs Operations Branch (MD-15)

TO: Steve Rothblatt, Chief
Air Branch, Region V

My staff and I have discussed the five ambient air cases which you submitted for our review on January 16, 1987. The following comments are our interpretation of the ambient air policy . However, this memorandum is not a discussion of the technical issues involved in the placement of receptors for modeling.

Our comments on each of the cases follow:

Case 1 (Dakota County, MN): This case involves two noncontiguous pieces of fenced property owned by the same source, divided by a public road. We agree that the road is clearly ambient air and that both fenced pieces of plant property are not.

Case 2 (Warrick County, IN): This case involves two large sources on both sides of the Ohio River. We agree that receptors should be located over the river since this is a public waterway, not controlled by the sources. We also agree that the river does indeed form a sufficient natural boundary/barrier and that fencing is not necessary, since the policy requires a fence or other physical barrier. However, some conditions must be met. The riverbank must be clearly posted and regularly patrolled by plant security. It must be very clear that the area is not public. Any areas where there is any question--i.e., grassy areas, etc.--should be fenced and marked, even if there is only a very remote possibility that the public would attempt to use this property.

However, we also feel that current policy requires that receptors should be placed in ALCOA and SIGECO property for modeling the contribution of each source's emissions to the other's ambient air. Thus, ALCOA's property--regardless of whether it is fenced--is still "ambient air" in relation to SIGECO's emissions and vice-versa.

Case 3 (Wayne County, MI): This case involves the air over the Detroit River, the Rouge River and the Short-cut Canal. We agree that the air over all three of these is ambient air, since none of the companies owns them or controls public access to them. Note, however, that one source's property--regardless of whether it is fenced--is the "ambient air" relative to another source's emissions.

Case 4 (Cuyahoga County, OH): This case involves LTV Steel's iron and steel mill located on both sides of the Cuyahoga River.

We do not feel that LTV Steel "controls" the river traffic in that area sufficiently to exclude the public from the river, whether it be recreational or industrial traffic. The fact that there is little or no recreational traffic in that area is not sufficient to say that all river traffic there is LTV traffic. The public also includes other industrial users of the river that are not associated with LTV.

It is difficult to tell from the map whether the railroad line is a through line or not. If the railroad yard serves only the plant then it would not be ambient air but the railroad entrance to the plant would have to be clearly marked and patrolled. However, if the line is a through line then that would be ambient air. We would need additional information to make a final determination.

The unfenced river boundaries should meet the same criteria as in Case 2 above.

Case 5 (involves the placement of receptors on another source's fenced property): As mentioned above in Case 2, we feel that present policy <u>does</u> require that receptors be placed over another source's property to measure the contribution of the outside source to its neighbor's ambient air. To reiterate, Plant A's property is considered "ambient air" in relation to Plant B's emissions.

I hope that these comments are helpful to you and your staff. This memorandum was also reviewed by the Office of General Counsel.

cc: S. Schneeberg
P. Wyckoff
R. Rhoads
D. Stonefield
Air Branch Chiefs, Region I-X

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Mr. P. A. Carreno Director of Mill & Refinery Ops. Okeelanta Corporation P. O. Box 86 South Bay, FL 33493	P 256 396 202
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PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

September 21, 1990

Mr. P. A. Carreno
Director of Mill & Refinery Operations
Okeelanta Corporation
Post Office Box 86
South Bay, Florida 33493

Dear Mr. Carreno:

Re: Boiler No. 4 - Permit AO 50-169210

The request in your July 12 letter to delete the permitted production limit on steam could result in an increase in air pollutant emissions which would subject this boiler to new source regulations. Describing the production limit as an average for an "extended period" is also not acceptable because it could allow violations of the emission standards and short term ambient air quality standards. Because of the variability in steam production of the bagasse boiler, it is also not practical to view the steam production restriction as an instantaneous rate.

As the primary regulated air pollutant from this bagasse boiler is particulate matter, we believe the steam production rate should be defined as a 24-hour average so that it can be compared to the daily ambient air quality standard for PM_{10}.

We request the South District amend the permit to operate boiler No. 4 to: "Steam production shall not exceed 90,000 lbs/hr of 350° PSIG and 650°F steam (24-hour average)."

If you have more comments on this issue, please contact the District office or write to me.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/WH/plm

c: Philip Edwards, S. Fl. District
Jim Stormer, Palm Beach County Health Dept.

OKEELANTA CORPORATION
6 MILES SOUTH OF SOUTH BAY
POST OFFICE BOX 86
SOUTH BAY, FLORIDA 33493

TELEPHONE: (407) 996-6072

TELEX: 803444

July 12, 1990

Mr. Clair Fancy
Florida Department of
Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ref: Okeelanta Corporation
I. D. 52 FTM 50000503
Boiler No. 4 - Permit A050-169210

Dear Mr. Fancy,

This in reference with the latest permitting of the above mentioned boiler.

When this boiler was upgraded to operate at higher steam pressure and temperature for this past 1989/90 crop, we received authorization to do so from your department as per your letter of November 18, 1988, provided that the heat input to the boiler does not exceed the quantity allowed by the latest construction permit. It was necessary to reduce the allowable steam production rate of the boiler to account for the higher heat content of the steam.

The previous permit No. AO-50-92636 of the boiler with the expiration date on September 18, 1989 make reference to the operation of Boiler No. 4 fired with bagasse and number 6 fuel oil with a design capacity of approximately 94,000 lbs./hr of steam.

However, when the new permit No. A050-169210 was issued on September 12, 1989 instead of following the same concept previously expressed to lower the operation of the boiler to a capacity of approximately 90,000 lb/hr of steam, a new specific condition No. 5 was introduced for the first time saying that steam production shall not exceed 90,000 lbs/hr of 350 PSIG and 650° F steam.

We became aware of this change when we received a letter from Mr. Philip R. Edwards dated March 9, 1990 informing us that we were in violation because for seven out of 128 days during this past crop we were operating this boiler above the rated steam production capacity.

After several letters and a couple of meetings with the DER staff in Fort Myers the following agreement was reached:

1) That the permitted maximum steam production is not that of the design (rated) steam capacity as expressed by the boilers manufacturers. The boilers in an hourly or daily basis, could go above or below the design capacity as long as it meets the requirements of the particulate emission test and the total allowable quantity.

2) That the drop in rated capacity of this boiler from 94,000 lbs/hr to 90,000 lbs/hr is obtained on an extended period of time as an average although could vary above or below on an hourly or daily basis as it was also the case when it was rated at 94,000 lbs/hr.

3) Accordingly, to drop the violation charges on boiler No. 4 and No. 5 (that was also cited for the same reason).

4) Any request for the modification to the permit in question has to be addressed to the FDER office in Tallahassee.

These conclusions were reached after lengthy discussion and were based on conclusive data presented by us, gathered from present and previous permits of our boilers.

Thus we are hereby requesting from your offices that the item 5 of the specific conditions of the permits of reference be deleted.

It reads: "Steam production shall not exceed 90,000 lbs/hr of 350° PSIG and 650° F steam."

Sincerely,

F. A. Carreño
Director of Mill &
Refinery Operations

PAC:slc

xc: A. Recio
A. Kirstein, III
P. A. Alvarez
Philip R. Edwards DER Ft. Myers
David Knowels DER Ft. Myers