SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 102-81-08

September 15, 1982

Larry

Mr. Clair Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

DER
SEP 16 1982
BAQM

Subject: Occidental Chemical Company
Hamilton County, Florida
Air Construction Permit Applications
AC24-56210 & AC24-56212

Dear Mr. Fancy:

In response to your letter of June 25, 1982, we are providing the following comments and information to complete the two subject Florida Air Pollution Source Construction Permit Applications. The comments and information follow the same enumeration used in your letter of June 25th.

1. Pre-Construction Air Quality Monitoring:

We have reviewed the sulfur dioxide monitoring data collected by FDER south of the Occidental Chemical Company Suwannee River Chemical Complex during the period April-July, 1982 and have decided to use this four month data set to satisfy the pre-construction air quality monitoring requirements of 17-2.500(5)(f) FAC.

A review of these data (Attachment 1) shows that the four month average sulfur dioxide level at the monitoring site is 3.8 micrograms per cubic meter; the maximum 24-hour sulfur dioxide concentration is 61 micrograms per cubic meter and the maximum 3-hour sulfur dioxide concentration is 286 micrograms per cubic meter. All of these measured concentrations are below ambient air quality standards for comparable time periods.

We also propose to use the ambient monitoring data collected during the four month period by FDER to support the position that the background sulfur dioxide level in the vicinity of the Occidental Chemical Company complexes is zero. A review of the FDER monitoring data, and several years of continuous sulfur dioxide monitoring data collected by Occidental, shows a zero sulfur dioxide concentration unless the wind is blowing directly from one of the Occidental facilities toward the monitoring site.

During the four month period (2469 hours) during which FDER collected sulfur dioxide monitoring data south of the Suwannee River Chemical Complex, a sulfur dioxide concentration of zero was reported 2218 hours or 90 percent of the time. These data, in our opinion, adequately support the position that the background sulfur dioxide level in the vicinity of the Occidental Chemical Company is zero.

2. Particulate Matter Emissions From DAP Plant:

Potential particulate matter emissions from the Occidental Chemical Company No. 2 DAP plant are generated in the rotary dryer which dries the DAP received from the reactor/blunger; from the screens used for sizing the DAP discharge from dryer; from the mills used for crushing the over-sized dryer product and from the elevators and conveyors used for transferring the dryer product to the screens and the mills, for transferring the product-sized material for storage and for transferring the under-sized and crushed over-sized material to recycle. A small amount of particulate matter is also generated as a result of fuel oil combustion in the dryer.

The gas stream discharged from the dryer passes through a venturi scrubber, utilizing weak phosphoric acid (30% P_2O_5) as a scrubbing liquor, to reduce the ammonia and particulate matter concentration of the gas stream. The gas streams vented from the screens, mills, elevators and conveyors are combined and pass through a similar venturi scrubber. The gas streams discharged from these two venturi scrubbers, plus a third venturi scrubber used for reducing the ammonia concentration in the gas stream vented from the pre-neutralizer and reactor/blunger, are combined and pass through a packed tail gas scrubber designed to reduce the fluoride concentration in the combined gas stream and to further reduce the ammonia and particulate matter concentration in the gas stream.

In view of the sources of potential particulate matter emissions in the DAP plant and the control systems used for reducing the particulate matter concentrations in the various gas streams in the plant, it is the opinion of Occidental and its consultant that changing the sulfur content of the fuel oil from 0.8 percent to 1.5 percent will have no effect at

all on the particulate matter emissions from the plant. Since particulate matter emissions will not change as a result of the requested fuel modification, Occidental and its consultant are of the opinion that it is not necessary to readdress the particulate matter emission limiting standard for the plant when issuing a permit covering the fuel modification.

3. Restricted Access Areas:

In accordance with FDER and EPA policies, receptors on Occidental Chemical Company property which are within restricted access areas were not addressed in air quality modeling. The attached aerial photograph (Attachment 2) of the Suwannee River Chemical Complex shows the boundaries of the restricted access area used in the air quality modeling. Also shown on the aerial photograph is the nature of the restriction at all locations along the boundary.

When reviewing Attachment 2 it should be recognized that the cooling ponds, gypsum stacks, settling areas, slimes disposal areas and water treatment areas are wetted areas and, by their nature, restrict access.

Because of the magnitude of the sulfur dioxide impacts encountered at the Swift Creek Chemical Complex, a restricted access area was not addressed for this chemical complex.

4. Sulfur Dioxide Emissions From Pollyphos Reactors:

The permitted sulfur dioxide emission rate of 13.1 grams per second from pollyphos reactors A and B were based on early emission measurements from these sources. These early measurements were later found to be in error. Occidental is in the process of requesting modifications in the pollyphos operating permits through the FDER Jacksonville office, to reflect an emission rate of 0.63 grams of sulfur dioxide per second from each of the two pollyphos reactors.

This matter was addressed in detail in our letter to you dated December 7, 1981. Included with this letter was a copy of a sulfur dioxide emission measurement test report for this plant.

5. Sulfur Dioxide Emission Rates:

To eliminate possible discrepancies in the sulfur dioxide emission rates in your files and our files we have attached a summary of the permitted or actual sulfur dioxide emission rates from all Occidental sulfur dioxide emitting sources. These data are included in Table 1.

We have also attached (Attachment 3) the calculations used in arriving at sulfur dioxide emission rates from the Occidental sources addressed in the subject applications; the E and F sulfuric acid plants, the auxiliary boilers and the No. 2 DAP plant. These were also included in our letter to you dated April 26, 1982.

Regarding the sulfur dioxide emission rate from the B auxiliary boiler, the maximum sulfur dioxide emission rate from this source was reduced to prevent an exceedance of a 24-hour ambient air quality standard when both the C and D sulfuric acid plants operate at 100 percent of rated capacity. With these two sulfuric acid plants operating at rated capacity it is doubtful that the B boiler will have to be operated at all, however, to cover unforeseen contingencies, a 60 percent load factor for the B boiler is requested when the C and D sulfuric plants are at 100 percent capacity. When either the C or the D sulfuric acid plants are not operating, the sulfur dioxide emission burden from the Suwannee River Chemical Complex will be reduced to an extent that the B boiler can operate at a 100 percent load factor. This is demonstrated in Attachment 4.

To satisfy the requirements of meeting ambient air quality standards and producing the steam necessary to operate the Suwannee River Chemical Complex, it is suggested that the permit for the B auxiliary boiler be written in such a way that the load factor for the boiler cannot exceed 60 percent with both the C and D sulfuric acid plants operating and in a way that will allow a 100 percent load factor for the boiler when either the C or D sulfur acid plant is shut down.

If the sulfur dioxide emission rates addressed in this paragraph are used for air quality modeling, we feel that the model predicted violations of the 24-hour ambient air standards addressed in the next to the last paragraph of your June 25th letter will be eliminated.

If there are any questions regarding the information contained herein or if additional information is required, please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS, INC.

John B. Koogler, Ph.D., P.E.

JBK:sc
Attachments

cc: Mr. W. W. Atwood

TABLE 1

SUMMARY OF PERMITTED OR ACTUAL
SULFUR DIOXIDE EMISSIONS

OCCIDENTAL CHEMICAL COMPANY
SRCC & SCCC

SOURCE NAME	EMM. RATE LB/HR	EMM. RATE (G/SEC)	STACK HT. (M)	STACK TEMP. (DEG-K)	EXIT VEL. (M/SEC)	STACK DIA. (M)
Sulfuric Acid A	1208.3	152.25 (1)	61.0	350.0	15.50	1.80
Sulfuric Acid B	1208.3	152.25 (1)	61.0	350.0	15.50	1.80
Sulfuric Acid C	300.0	37.80 (2)	45.7	356.0	28.70	1.59
Sulfuric Acid D	300.0	37.80 (2)	45.7	356.0	28.70	1.59
DAP 1	11.1	1.40 (4)	36.6	322.0	12.20	2.13
DAP 2	11.8	1.49 (4)	42.7	325.0	13.10	2.44
GTSP/Dical	11.1	1.40 (10)	32.3	314.0	13.10	2.13
Auxiliary Boiler A	102.4	12.90 (5)	12.2	466.0	12.50	1.13
Pollyphos Feed Prep.	4.9	0.62 (4)	28.7	342.0	14.90	1.07
Pollyphos Reactor A	5.0	0.63 (6)	30.5	322.0	10.10	1.22
Pollyphos Reactor B	5.0	0.63 (6)	30.5	322.0	10.10	1.22
SPA #1	0.8	0.10 (6)	30.5	318.0	17.80	0.43
Rock Dryer #3 (SCCC)	38.1	4.80 (10)	15.2	317.0	17.20	2.16
Rock Dryer East	28.7	3.61 (10)	18.3	343.0	5.70	2.95
Rock Dryer West	28.7	3.61 (10)	18.3	343.0	5.70	2.95
Auxiliary Boiler B	174.9	22.00 (7)	10.7	468.0	9.50	1.46
Auxiliary Boilers C & D	262.2	33.00 (8)	31.7	468.0	15.20	1.98
Sulfuric Acid E	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Sulfuric Acid F	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Auxiliary Boiler E	170.8	21.50 (4)	15.3	428.0	15.90	1.60

(1) At 1000 tpd 100% H_2SO_4 and 29 lb SO_2/ton of acid
(2) At 1800 tpd 100% H_2SO_4 and 4 lb SO_2/ton of acid
(3) At 2500 tpd 100% H_2SO_4 and 4 lb/SO_2/ton of acid
(4) At 1.5% sulfur fuel and 80% SO_2 sorption
(5) At 62.5 x 10^6 BTU/hr and 1.5% of sulfur fuel. A 25% operating factor is imposed when Sulfuric Acid Plants A and B are operating at rated capacity
(6) Based on emission measurements
(7) At 160 x 10^6 BTU/hr and 1.0% sulfur fuel
(8) Two boilers at 120 x 10^6 BTU/hr each and 1.0% sulfur fuel
(9) At 156 x 10^6 BTU/hr and 1.0% sulfur fuel
(10) Actual emissions with 1.5% sulfur fuel

Attachment 1

Ambient Sulfur Dioxide Monitoring Data
Collected by FDER - SRJSD
April - July, 1982

OXY SO_2

FDER-SJRSD GBO	SO_2	PULSED FLUOR.		1 0 1 6 6 0 0 1 5	F	0 2	1	YR 8 2 / MO. 0 4
COUNTY RD. 137 @ OXY. S.W. WHITE SPRINGS		SITE ORIENT.	CONT.	PPM	4 2 4 0 1	2 0	0 7	3

Day (19-20)	Hr (21-22)	23-26	27-40	RDG 3 (41-44)	RDG 4 (45-48)	49-52	RDG 6 (53-56)	RDG 7 (57-60)	RDG 8 (61-64)	RDG 9 (65-68)	69-72	RDG 11 (73-76)	RDG 12 (77-80)
01	00												
01	12												
02	00												
02	12					0	0	0	0	0	0	0	
03	00		0	0	0	0	0	0	0	0	0	0	0
03	12	0	0	0	0	0	0	0	0	0	0	0	
04	00		0	0	0	0	0	0	0	0	0	0	25
04	12	10	25	20	20	20	15	25	15	10	5	5	
05	00		0	0	0	20	25	0	0	0	0	0	10
05	12	0	0	0	0	0	0	0	0	0	0	0	
06	00		0	0	0	0	0	0	0	0	0	0	0
06	12	0	0	0	0	0	0	0	5	5	5	0	
07	00		10	10	15	10	5	5	25	55	25	10	0
07	12	0	0	0	0	0	0	0	5	10	10	10	
08	00		10	5	0	0	0	5	5	5	10	10	5
08	12	5	5	0	0	0	0	0	0	0	0	0	
09	00		0	0	0	0	0	0	0	0	0	0	0
09	12	0	0	0	0	0	0	0	0	0	0	0	
10	00	0	0	0	95	110	125	45	25	35	5	5	30
10	12	5	0	0	0	0	10	0	5	15	20		
11	00	25	20	30	30	5	5	10	10	10	20	0	0
11	12	5	5	5	0	0	0	0	0	0	0		
12	00	0	0	0	0	0	0	0	0	0	5	30	0
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13	12	0	0	0	0	0	0	0	0	0	0		
14	00	0	0	0	0	0	0	0	0	0	0	0	0
14	12	0	0	0	0	0	0	0	0	0	0		
15	00	0	0	0	0	0	0	0	0	20	30	5	10
15	12	30	5	0	0	0	0	0	5	5	5		
16	00	0	0	0	0	5	5	0	0	0	5	5	0

DEPARTMENT OF ENVIRONMENTAL REGULATION – AIR QUALITY INPUT FORM HOURLY DATA

AGENCY	PARAMETER ASSIGNED	METHOD
FOUR-CORNERS PBC	SO2	PULSED FLOUR.

STATE 10 AREA 16 SITE 0015 AGENCY 5 PROJECT 03 TIME 1 YEAR 82 MONTH 04

SITE ADDRESS	CITY NAME	PROJECT	TIME INTERVAL OF OBS.	UNITS OF OBS.
OXY (SRCE) BAIT @ COUNTY RD. 137	WHITE SPRINGS	SITE ORIENT.	CONT.	PPM

PARAMETER CODE 42401 FACILITY 25 UNITS 07 3

DAY	ST	HR	RDG 1	RDG 2	RDG 3	RDG 4	RDG 5	RDG 6	RDG 7	RDG 8	RDG 9	RDG 10	RDG 11	RDG 12
16	1	2	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
17	1	2	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
18	1	2	0	10	0	15	15	0	5	10	0	0		0
19	0	0	0	0	0	10	25	0	0	20	0	0	0	0
19	1	2	0	0	35	0	0	0	0	0	0	0		0
20	0	0	0	0	0	0	0	0	0	0	0	25	0	0
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21	1	2	0	0	0	0	0	0	0	0	0	0		0
22	0	0	0	0	0	0	0	0	0	0	15	25	30	0
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23	0	0	0	0	0	75	5	0	5	5	10	10	10	5
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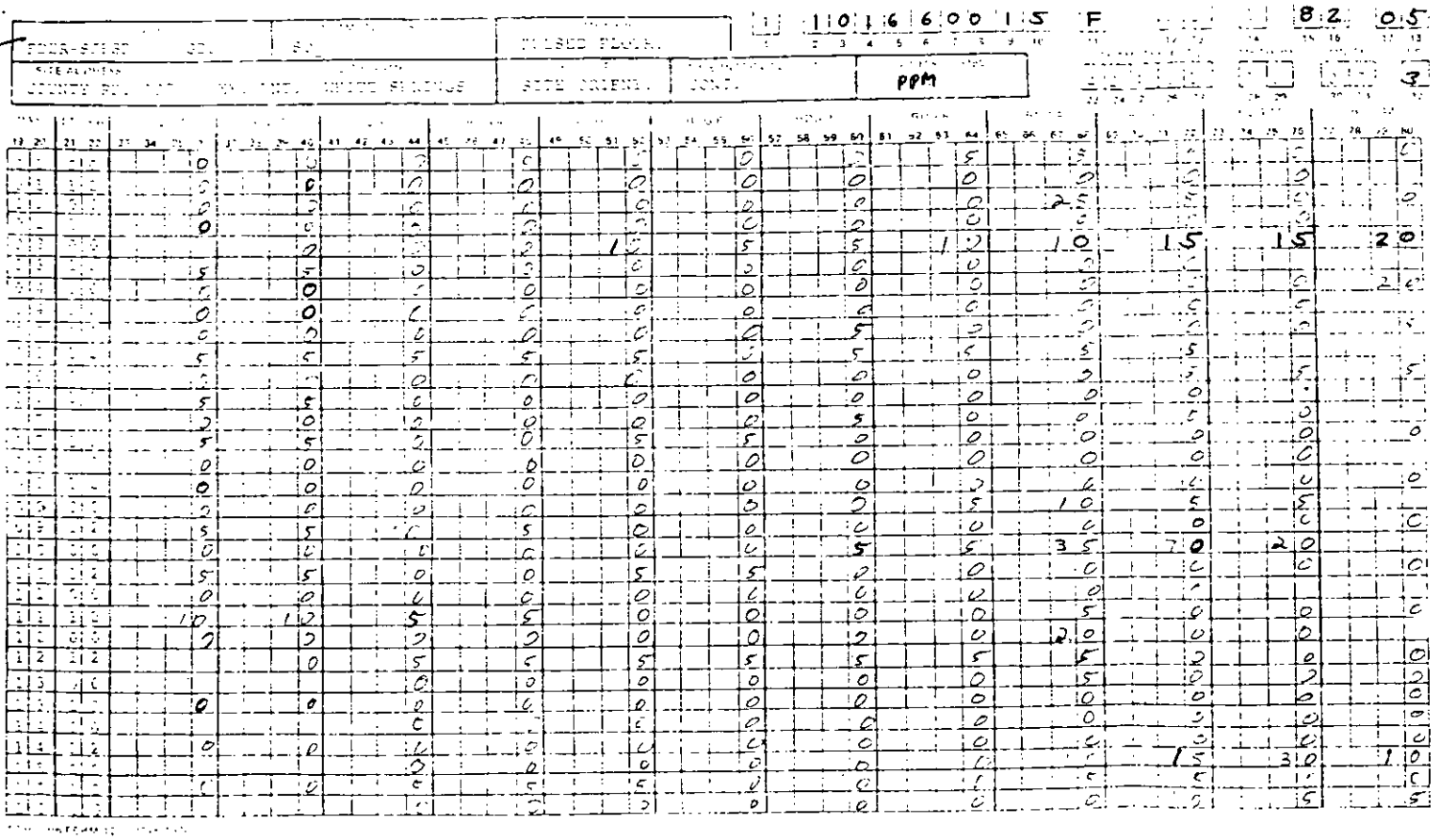
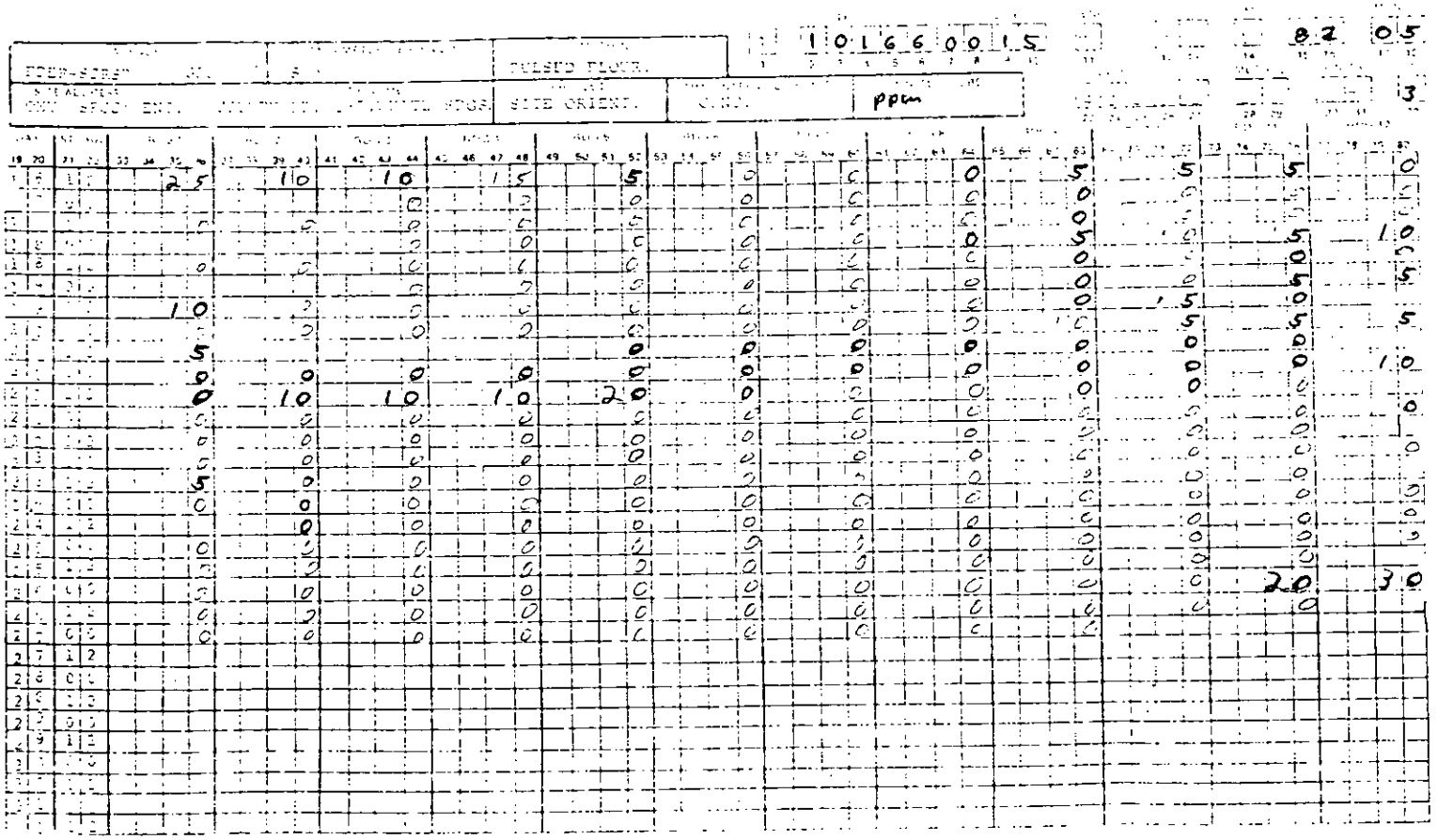
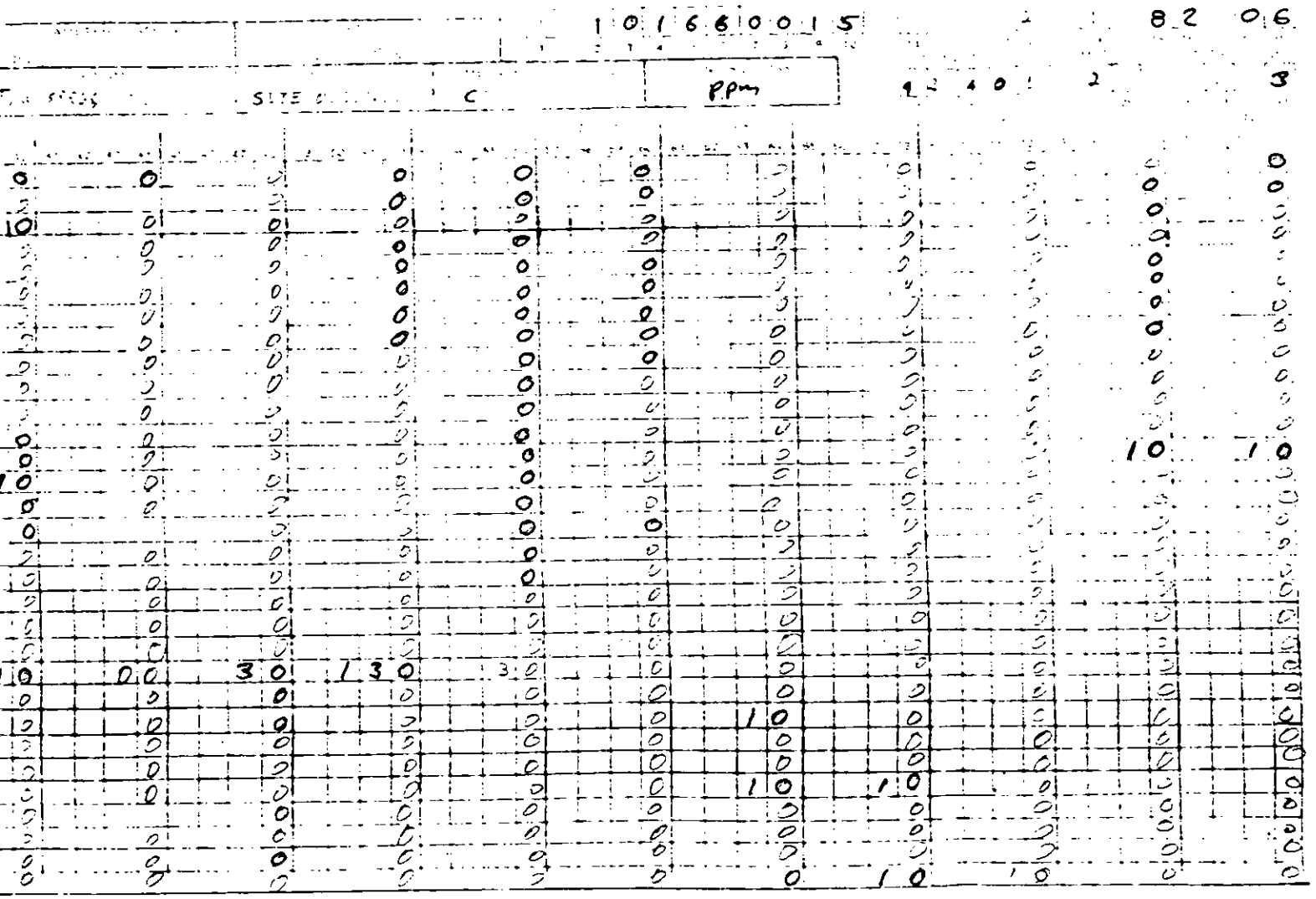
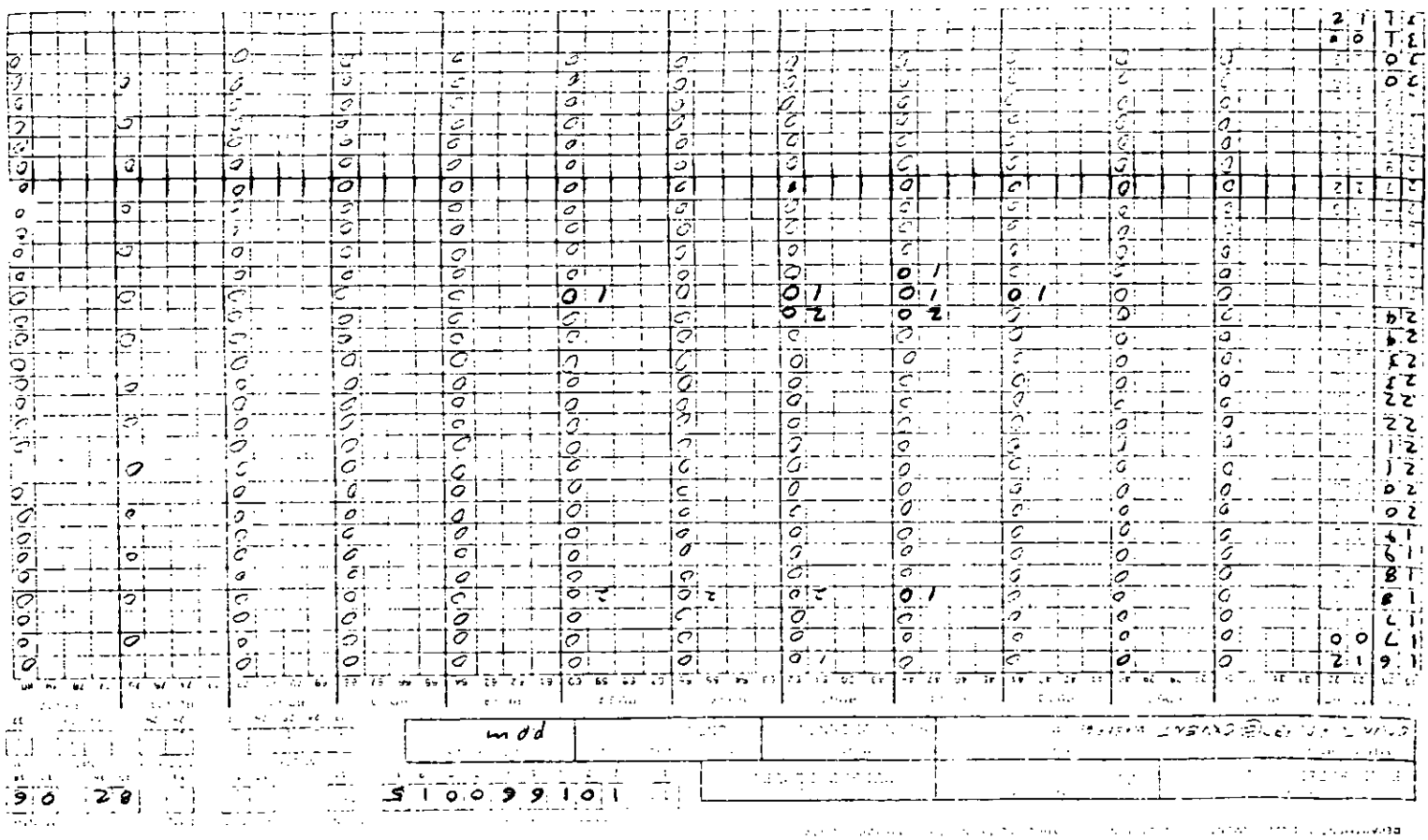
24	1	2	0	0	0	0	0	0	0	0	0	0		0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	2	0	0	0	0	0	0	0	0	0	0		0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1	2	0	0	0	0	0	0	0	0	0	0		0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	2	0											
28	0	0												
28	1	2												
29	0	0												
29	1	2												
30	0	0												
30	1	2												
31	0	0												


FOUR-STEP
PULSED FLOW
1 1 0 1 6 6 0 0 1 5 F
8 2 0 5
PPM


10166015
PULSED FLOW
ppm


10166015
8206
SITE
C
ppm


ppm

SO2 DAT

DEPARTMENT OF ENVIRONMENTAL REGULATION - AIR QUALITY INPUT FORM-HOURLY DATA

STATE	AREA	SITE	AGENCY	PROJECT	TIME	YEAR	MONTH
1	10166	0015	F	02	1	82	07

AGENCY	PARAMETER OBSERVED	METHOD
FDER-SJRSD GBO	SO_2	PULSED FLOUR.

SITE ADDRESS	CITY NAME	PROJECT	TIME INTERVAL OF OBS	UNITS OF OBS.
COUNTY RD. 137 @ OXY. ENT.	WHITE SPRINGS	SITE ORIENT.	CONT.	PPM

PARAMETER CODE	METHOD	UNITS	OP
42401	20	07	3

DAY	ST	HR	RDG 1	RDG 2	RDG 3	RDG 4	RDG 5	RDG 6	RDG 7	RDG 8	RDG 9	RDG 10	RDG 11	RDG 12
01	0	00	0	0	0	0	0	0	0	0	0	0	0	0
01	1	12	0	0	0	0	0	0	0	0	0	0	0	0
02	0	00	0	0	0	0	0	0	0	0	0	0	0	0
02	1	12	0	0	0	0	0	0	0	0	0	0	0	0
03	0	00	0	0	0	0	0	0	0	0	0	0	0	0
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04	1	12	0	0	0	0	0	0	0	0	0	0	0	0
05	0	00	0	0	0	0	0	0	0	0	0	0	0	0
05	1	12	0	0	0	0								
06	0	00												
05	1	12												
07	0	00												
07	1	12						0	0	0	0	0	0	0
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09	1	12	0	0	0	0	0	0	0	0	0	0	0	0
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10	1	12	0	0	0	0	0	0	0	0	0	0	0	0
11	0	00	0	0	0	0	0	0	0	0	0	0	0	0
11	1	12	0	0	0	0	0	0	0	0	0	0	0	0
12	0	00	0	0	0	0	0	0	0	0	0	0	0	0
12	1	12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	00	0	0	3 0	4 0	0	0	0	0	0	0	0	0
13	1	12	0	0	0	0	0	0	0	0	0	0	0	0
14	0	00	0	0	0	0	0	0	0	0	0	0	0	0
14	1	12	0	0	0	0	0	0	0	0	0	0	3 0	1 0
15	0	00	0	0	0	0	0	0	0	0	4 0	2 0	0	
15	1	12	0	0	0	0	2 0	0	0	0	0	0	0	0
16	0	00	0	0	0	1 0	2 0	0	0	0	0	0	0	0

DER form PERM 12-8 (Feb 1976)

SO_2 OXY

DEPARTMENT OF ENVIRONMENTAL REGULATION – AIR QUALITY INPUT FORM HOURLY DATA

STATE	AREA	SITE	AGENCY	PROJECT	TIME	YEAR	MONTH
1	10 16 00 15		F	02	1	82	07

AGENCY	PARAMETER OBSERVED	METHOD
FDER-SJRSD GBO	SO_2	PULSED FLOUR.

SITE ADDRESS	CITY NAME	PROJECT	TIME INTERVAL OF OBS.	UNITS OF OBS
OXY (SRCC) ENT. @ COUNTY RD. 137,	WHITE SPGS.	SITE ORIENT.	CONT.	PPM

PARAMETER CODE 42401 | METHOD 20 | UNITS 07 | DP 3

DAY	ST	HR	RDG 1	RDG 2	RDG 3	RDG 4	RDG 5	RDG 6	RDG 7	RDG 8	RDG 9	RDG 10	RDG 11	RDG 12
16	5	1 2	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	20	0	0	0	0	10	40	40	50	0	0
17	1	2	0	10	0	0	0	0	0	0	0	0	10	0
18	0	0	0	0	0	0	0	0	0	0	0	0	10	10
18	1	2	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
19	1	2	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
20	1	2	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
21	1	2	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
22	1	2			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
23	1	2	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
24	1	2	0	0	0	0				0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1	2	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
26	1	2	0	0	0	0	0	0	0	0	0	0	0	
27	0	0												
27	1	2												
28	0	0												
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29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	1	2	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
30	1	2	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
31	1	2	0	0	0	0	0	0	0	0	0	0	0	0

Attachment 2

Restricted Access Areas
Occidental Chemical Company
Suwannee River Chemical Complex

Hamilton County, Florida

Attachment 3

Derivation of SO_2
Emission Rates for Selected Sources

Occidental Chemical Company
Hamilton County, Florida

ATTACHMENT 3

SULFUR DIOXIDE EMISSION RATE CALCULATIONS

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

SWIFT CREEK CHEMICAL COMPLEX

SULFURIC ACID PLANT 'E' (NEW SOURCE)

Present Permitted Rate - 2000 ton/day

Proposed Rate - 2500 ton/day

SO_2 = 2500 ton/day x 1/24 day/hr x 4.0 lb SO_2/ton
= 416.7 lb SO_2/hr
= 52.5 g/sec

SULFURIC ACID PLANT 'F' (NEW SOURCE)

Identical to "E"

BOILER 'E' (NEW SOURCE)

Present Permitted Fuel - No. 6 0.1 w/ 0.8% S

Proposed Fuel - No 6 0.1 w/ 1.0% S

136.1 lb/hr
170.8
34.16 lb/hr
8760
≈ 1500

SO_2 = 125,000 lb/hr steam x 1000 BTU/lb x 1/0.8 efficiency
x 1/18300 lb oil/BTU x (0.01 x 2) lb SO_2/lb oil
= 170.8 lb SO_2/hr
= 21.5 g/sec

SUWANNEE RIVER CHEMICAL COMPLEX

BOILER 'B' (NEW SOURCE)

Present Permitted Fuel - No. 6 0.1 w/ 0.8% S

Proposed Fuel - No 6 0.1 w/ 1.0% S

SO_2 = 160 x 10^6 BTU/hr input x 1/18300 lb oil/BTU x (0.01 x 2) lb SO_2/lb
= 174.9 lb SO_2/hr
= 22.0 g/sec

Boiler "C" (New Source)[1]

Present Permitted Fuel - No 6 0.1 w/ 0.8% S

Proposed Fuel - No 6 0.1 w/ 1.0% S

SO_2 = 120 x 10^6 BTU/hr input x 1/18300 lb/BTU x (0.01 x 2)
= 131.1 lb SO_2/hr
= 16.5 g/sec

COM 130.6 lbs/hr

Boiler "D" (New Source)[1]

Identical to Boiler "C" oil 128.7 lb/hr ≠ 131.1 lb/hr

⇒ 572.1 TPY

DAP No 2 - "Z" Train (Existing Source)

Present Permitted SO_2 Emission Rate - 6.3 lb/hr

Present and Proposed P_2O_5 input - 697 tpd ; 29.0 tph

Proposed Fuel - No 6 0.1 w / 1.5% S

SO_2 = 36 x 10^6 BTU/hr x 1/18300 lb/BTU x (0.015 x 2)
x (1 - 0.8) absorption factor
= 11.8 lb/hr (0.41 lb SO_2 / ton P_2O_5 input)

SO_2 increase = 11.8 - 6.3 lb/hr
= 5.5 lb/hr
= 0.69 g/sec

---

(1) Boilers "C" and "D" are vented thru a common stack

Attachment 4

Modeling Results to Demonstrate
the Adequacy of a 60% Load Factor
for the SRCC "B" Auxiliary Boiler
Under Certain SRCC Operating Conditions

P16 7682474

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
Mr. W. W. Atwood

STREET AND NO.
P. O. Box 300

P.O., STATE AND ZIP CODE
White Springs, FL 32096

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

PS Form 3811, Jan. 1979

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. W. W. Atwood
P.O. Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682474	

(Always obtain signature of addressee or agent)

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

4. Clarence Rozier
DATE OF DELIVERY
6-28-82

POSTMARK
JUN 28 1982
WHITE SPRINGS FL

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-309 459

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

June 25, 1982

Mr. W. W. Atwood
Occidental Chemical Company
P.O. Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

Re: Incompleteness Determination of State Air Permit Applications, AC 24-56210 and AC 24-56212, for the Swift Creek and Suwannee River Chemical Complexes.

The Department has received your applications for the State construction/modification air permits for the Swift Creek and Suwannee River Chemical complexes. The Department has determined that the applications are incomplete in regards to the following items.

1. Preconstruction air quality monitoring for SO_2 is needed as per Rule 17-2.500(5)(f), F.A.C. This rule became effective as of November 1, 1981, for all permit applications received after that date. It should be noted that preconstruction monitoring was not required in the federal applications because they were submitted before June 8, 1981, the date on which a similar federal regulation went into effect. The sites of these chemical complexes are considered remote from other SO_2 emitting sources, therefore, the minimum requirement of one continuous monitor operating for four months will be sufficient.

   The State currently has a continuous SO_2 monitor located near the chemical complexes which will be suitable for compliance with the rule. However, this monitor has been operating only since April 1982. Four months of data will not be complete

until the end of July 1982 and will not be available until early August 1982. If you would like to use this four-month data set, it will not be necessary for your company or your consultant to supply it to the Department, as the Department will be able to access it as soon as it becomes available. If your company has access to sufficient, quality-assured data meeting the requirements of the rule, these data may of course be submitted in lieu of the State's data.

Please notify us as to whether or not you would like to use the State's data to satisfy the monitoring requirement. If so, the applications will be considered incomplete until such data becomes available within the Department.

2. PSD regulations are based on changes of actual emissions, if they are in compliance with the regulations, not permitted emissions. The particulate matter emission rate reported to the Department for the No. 2 DAP plant last year was less than 10 pounds per hour. If the proposed particulate matter emissions for the plant after modification (use of higher sulfur fuel) will be greater than the present actual emissions, a BACT recommendation and ambient air impact study that includes the increase in actual emissions from the No. 2 DAP plant is needed. If there is no change in emissions after modification, the No. 2 DAP plant will have to be permitted at actual emissions.

3. A review of the air quality modeling has shown that the locations of the boundaries of the restricted access areas is an important issue in determining impacts to ambient air. Exemption from ambient air is available only for the atmosphere over land owned or controlled by your company and to which public access is precluded by a fence or other physical barriers. A description of these barriers is needed along with a map showing the boundaries of the restricted access areas overlain with UTM grid markings.

In addition to the points of incompleteness noted above, a review of the air quality analysis has shown several

inconsistencies in the emissions data input to the modeling which could affect the approvability of the applications. The pollyphos reactors A and B have permitted emission rates for SO_2 of 13.1 grams per second each. This value is used in much of the modeling. However, a value of 0.63 grams per second each is used in evaluating the critical days having the highest impacts.

Also, various emission rates are used for the DAP plants and the auxiliary boiler B. Lowering the emission limit on the auxiliary boiler B to a 60 percent load factor to prevent an exceedance of the ambient air quality standard will have to be made a permit condition.

The Department has remodeled some of the critical days associated with high ambient concentrations of SO_2 using the correct (to the best of our knowledge) emission rates. This modeling indicates a violation of the 24-hour Florida ambient air quality standard. Upon resolution of the inconsistencies mentioned above, the Department will further remodel selected periods to make its final determination for approval or disapproval of the permit applications.

If you have any questions or comments about the information contained in this letter, or about any issue regarding your permit applications, please call me at (904) 488-1344.

Sincerely,

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

CF:TR:ras

cc: Dr. John Koogler
John Ketteringham
Gregg DeMuth

THE DEPARTMENT OF ENVIRONMENTAL REGULATION announces receipt on May 27, 1982 of an application for determination of Best Available Control Technology (BACT) to minimize air pollutant emissions from a Diammonium Phosphate Fertilizer Plant modification, Sulfuric Acid Plant Modification, Fossil-Fuel Steam Generators. Occidental Chemical Company, White Springs, Hamilton County, Florida. Information regarding this application may be obtained by writing to: Edward Palagyi, BACT Coordinator, Florida Department of Environmental Regulation, Bureau of Air Quality Management, 2600 Blair Stone Road, Tallahassee, Florida 32301, Telephone (904) 488-1344.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
SUBDISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

June 3, 1982

Mr. M. P. McArthur
Vice President and General Manager
Occidental Chemical Agricultural Products, Inc.
Post Office Box 300
White Springs, Florida 32096

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Agri. Prod., Inc.
Sulfur Storage - Swift Creek

In accordance with Section 17-4.04(12), Florida Administrative Code, facilities which do not contribute significantly to pollution problems may be exempt from the permitting requirements of the Department. For this reason the subject project is exempt from permitting requirements.

Should circumstances surrounding the use, operation or location change or should the content of the rules of this Department be modified or revised, a permit may be required and you will be notified.

Please contact us should you have any questions concerning this exemption.

Sincerely,

for G. Doug Dutton
Subdistrict Manager

GDD:jck

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

June 2, 1982

Mr. W. W. Atwood
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

In my June 1, 1982, letter to you regarding Occidental Chemical Company's applications to the Bureau of Air Quality Management, I incorrectly listed the file numbers for the Suwannee River and Swift Creek facilities. The numbers should read as follows:

Swift Creek Chemical Complex

AC 24-56209 - Sulfuric Acid Plant "E"
AC 24-56210 - Auxiliary Boiler "E"
AC 24-56211 - Sulfuric Acid Plant "F"

Suwannee River Chemical Complex

AC 24-56212 - Auxiliary Boiler "B"
AC 24-56213 - Auxiliary Boiler "D"
AC 24-56214 - Auxiliary Boiler "C"
AC 24-56215 - Diammonium Phosphate Plant #2

I apologize for this error and hope it did not cause any confusion on your part. Please feel free to call if you need further clarification.

Sincerely,

Patty Adams

Patty Adams
Bureau of Air Quality
Management

/pa
cc: Mr. M. P. McArthur, Occidental Chemical Co.
Dr. J. Koogler, Sholtes & Koogler Environmental Consultants

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

June 1, 1982

Mr. W. W. Atwood
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

This is to acknowledge receipt of construction permit applications for Occidental's Swift Creek and Suwannee River facilities. Your receipt for the processing fees of $140.00 is attached. Permit processing numbers have been assigned to the applications as follows:

Suwannee River Chemical Complex

AC 24-56209 - Sulfuric Acid Plant "E"
AC 24-56210 - Auxiliary Boiler "E"
AC 24-56211 - Sulfuric Acid Plant "F"

Swift Creek Chemical Complex

AC 24-56212 - Auxiliary Boiler "B"
AC 24-56213 - Auxiliary Boiler "D"
AC 24-56214 - Auxiliary Boiler "C"
AC 24-56215 - Diammonium Phosphate Plant #2

Please refer to these numbers of future correspondence. If we may be of further assistance, please feel free to call at (904) 488-1344.

Sincerely,

Patty Adams

Patty Adams
Bureau of Air Quality
Management

/pa

Attachment

cc: Mr. M. P. McArthur, Occidental Chemical Co., General Manager
Dr. J. Koogler, Sholtes & Koogler Environmental Consultants

OCCIDENTAL CHEMICAL COMPANY
A SUBSIDIARY OF HOOKER CHEMICAL CORPORATION
POST OFFICE BOX 1186 HOUSTON, TEXAS 77001

CHECK NO. 64031

5-25-82

PAY EXACTLY $140 AND 00 CTS 140.00

DEPARTMENT OF ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLA. 32301

Jack R Carr

⑈00064031⑈ ⑆053100494⑆018730 062050⑈

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No. 33611

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Occidental Chemical Company Date May 27, 1982

Address P.O. Box 300 White Springs FL 32096 Dollars $ 140.00

Applicant Name & Address Same as above

Source of Revenue

Revenue Code 0101 Application Number AC 24-54231, AC 24-56211, 24-54239, 24-54312, 24-54313, 24-54314, 24-54321

By Patricia A. Conner

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

June 2, 1982

Mrs. Liz Cloud
Florida Administrative Weekly
Department of State
The Capitol
Tallahassee, Florida 32304

Re: Receipt of an Application for BACT Determination

Dear Mrs. Cloud:

Please publish the attached notice in the June 11, 1982 issue of the Florida Administrative Weekly.

Should you have any questions, please call me at 488-1344.

Sincerely,

Edward Palagyi

Edward Palagyi, Jr.
BACT Coordinator
Bureau of Air Quality
Management, FDER

Attachment

cc: Geneva Hartsfield
2600 Blair Stone Road
Twin Towers Building
Tallahassee, Florida 32301

OCCIDENTAL CHEMICAL COMPANY, SUWANNEE RIVER PHOSPHATE DIVISION, P.O. Box 300, White Springs, Florida 32096, Tel. 904 397-4101

May 27, 1982

Johnny Cole
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Johnny:

Here is the sample of the proposed prilled sulfur and plot plan referred to in my letter of May 25, which I left with you yesterday.

As we discussed, from an environmental stand point, the handling of the prilled is the same as the vat sulfur. The vat project is in construction and should be ready this summer.

If you have any questions, or need additional information, please contact me.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood

pb

Enclosure

cc: R. E. McNeill

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

May 25, 1982

Johnny Cole
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Johnny:

In accordance with our conversation today I am submitting a revised project description and plot plan which covers Occidental's proposed addition to the "Vat" sulfur project.

Prilled or pelletized sulfur will be placed on a pad adjacent to the vatted sulfur. Reclaim, melting and environmental considerations will be the same as that being provided for the vatted sulfur.

The prilled sulfur can be best described by inspection of the sample enclosed. Sample rec'd 6/1.

If you have any questions on the plan please contact me.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood
Manager of Environmental Control

pb

Attachment

cc: R. E. McNeill

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

SULFUR VATTING
PROCESS DESCRIPTION

I. INTRODUCTION

Molten sulfur is burned during the manufacture of sulfuric acid. The molten sulfur is brought to Occidental Chemical's White Springs operation in insulated railroad tankcars which are unloaded at Suwannee River Chemical Complex (SRCC) and Swift Creek Chemical (SCCC). During transit to White Springs the sulfur, which was loaded molten by suppliers in Texas, Canada and other locations, solidifies requiring remelting prior to unloading. Remelting the sulfur requires attaching a steam supply to the tankcar steam coils. This requires approximately four (4) days steaming before the sulfur becomes totally molten and can be unloaded. Some cars require more or less steaming time to unload due to the degree of tankcar insulation and the condition of the insulation. The tankcar is then dumped into a steam heated launder which runs into a receiving pit. The sulfur in the receiving pit is then pumped to insulated steam heated day tanks. The tanks maintain a level in a second pit, by gravity feed, which supplies sulfur to pumps feeding the sulfur burners.

II. WHY STORAGE IS NEEDED

Occidental Chemical's sulfur suppliers are at least eight days transit time from White Springs. Some suppliers in Canada are 30 days transit time. In the past the supply line has been disrupted resulting in a sulfur shortage in the six (6) sulfuric acid plants. Currently less than five (5) days inventory is maintained on site in launders and tanks. It is imperative that inventory levels are increased to insure that the sulfuric acid plants are maintained at maximum capacity. A second factor is the forecast that sulfur supplies in the future could be tight and inadequate to maintain maximum capacity at White Springs. Indications are that stockpiling now to meet potential shortages is the proper course of action.

III. PURPOSE OF VATTING

Storage of sulfur can be accomplished by several methods:

1. Insulated, steam heated tanks.
2. Storage in solid form.

Eng. Job No. OC-357
Rev. May 25, 1982

Storage in tanks requires very high capital costs ($50/ton) and continuing energy costs to maintain the sulfur in a molten state. A vat, which stores the sulfur in the open is a significantly lower capital cost ($14/ton) and requires no energy costs to maintain the sulfur molten.

IV. DESCRIPTION OF VAT

A sulfur vat is a stockpile of solid sulfur. The stockpile is produced by spraying molten sulfur into a contained area, letting the sulfur solidify and repeating the process to build the pile. When the sulfur is required for production it is torn down form the pile, remelted and pumped into the sulfuric acid production process.

V. LOCATION OF VAT

Space limitations at SRCC and high efficiency unloading facilities at SCCC require location of the vat just East of the sulfur unloading area at SCCC.

VI. UNLOADING

Sulfur will be unloaded in the normal manner through the launders and pits. During vatting the molten sulfur will be taken from the outlet line of the day tanks at SCCC. The sulfur will then be pumped through steam jacketed lines to the vat.

VII. MAKING A VAT

The vat is formed by pumping molten sulfur into a contained area which is formed, much like pouring concrete. Using the proper nozzle velocity and area (approximately 20 fps and 250 ft X 250 ft) requires a single nozzle which will provide a uniform distribution over the vat area. Approximately 3-4 inches of molten sulfur can be poured before discontinuing the operation to let the sulfur solidify. As the vat height increases the forms are moved up the vat until a height of 20 feet is attained. At this time 75,000 tons of sulfur will be vatted and a second vat will start immediately adjacent to the completed vat.

VIII. USING SULFUR FROM VAT

When sulfur is needed from the vat the solid sulfur will be broken down by a rubber tired excavator. The sulfur will then be moved to a melter by a rubber tired front-end loader. The melter can be one of three designs:

1. Jacketed tube melter
2. Pit heated with steam coils
3. Agitated vessel with steam coils

All designs are steam heated. Operation of any unit will require the front-end loader dumping into the top of the melter. The sulfur melts and can flow by gravity or be pumped back to the receiving pit for processing into sulfuric acid.

Eng. Job No. OC-357
Rev. May 25, 1982

IX. ENVIRONMENTAL CONSIDERATIONS

Sulfur in a vat offers no environmental hazards other than an acidic runoff from rainfall on the vat, and a potential dust problem when the vat is being broken apart for remelting. Both problems will be controlled.

Rainfall on a sulfur vat will form sulfurous acid, which is very unstable, but can result in a pH as low as 2 in the runoff. This water will be contained with ditching and a retention basin. The system will be designed for a 25 year 24 hour rainfall or approximately 8" of rainfall in a 24 hour period. The contained runoff will then be recirculated to sprays in the vat. The sprays will wet the vatted sulfur, which will control dust and reduce the fire hazard. Rainfalls above the 25 year 24 hour level can be pumped to existing process retention ponds for lime treatment, if required, and discharged from the site.

The major potential for dust is when the vat is being torn apart for remelting. The excavator will be equipped with spray nozzles to control dust as the excavator tears the vat apart. The retention pond water will provide water to these nozzles as well as the sprays to control dust during the "tearing down" operation.

X. ALTERNATIVES

An alternate plan developed in early 1982, for implementation in mid-1982 is to use part of the storage area for "prilled" sulfur. (Dwg. 68-G-225 - 5/12/82)

Sulfur prills will be shipped into the plant via dump trucks at the rate of 1 to 2 trucks per hour. The trucks will back onto a concrete ramp which abuts the northeast corner of the sulfur slab. A low concrete wall at the perimeter of the slab, in the dumping area, will retain the prills.

The rubber mounted front end loader, operating on the sulfur slab, will pick up the prills and deliver them to either a storage pile on the slab or directly to the sulfur melter.

The proposed stockpile will contain approximately 4000 long tons and will be used to overcome interruptions in delivery. When any such interruptions occur, the front end loader will pick up at the stock pile and deliver to the melter.

Environmental considerations will be similar if not identical to those described in IX above.