PS Form 3811, Jan. 1979

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2. ARTICLE ADDRESSED TO:

Mr. M. P. McArthur
P. O. Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

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Clarence Rogers

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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 25, 1983

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

RE: Final Determination - Occidental Chemical Company Swift Creek Chemical Complex (AC 24-56209, AC 24-56210, AC 24-56211 and PSD-FL-082) and Suwannee River Chemical Complex (AC 24-56212, AC 24-56213, AC 24-56214, AC 24-56215 and PSD-FL-083)

Enclosed please find one copy of the referenced Final Determination. State Permit Numbers AC 24-56209, AC 24-56210, AC 24-56211, AC 24-56212, AC 24-56213, AC 24-56214, and AC 24-56215 are hereby issued as of May 17, 1983, pursuant to Section 403, Florida Statutes. Final approval of the Federal PSD permits is contingent upon review and acceptance of the permit conditions by the Environmental Protection Agency Region IV office in Atlanta. Questions concerning final issuance of the Federal permit should be directed to Mr. James T. Wilburn of the EPA office.

Acceptance of the state permits constitutes notice and agreement that the Department will periodically review these permits 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

CHF/pa
Enclosure
cc: Dr. John B. Koogler, Sholtes & Koogler Environmental Consultants
Ms. Elisabeth Cummings, U.S. Fish and Wildlife Service
Mr. John Ketteringham, DER Northeast District

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 25, 1983

Mr. James T. Wilburn, Chief
Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Wilburn:

RE: Final Determination - Occidental Chemical Company
Swift Creek Chemical Complex (PSD-FL-082) and Suwannee River Chemical Complex (PSD-FL-083)

Enclosed please find a copy of the proof of publication of the public notice and Department's Final Determination for the subject projects. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination.

Sincerely,

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

CHF/pa

Enclosure

Final Determination

Occidental Chemical Company

Swift Creek and Suwannee River Chemical Complexes

Hamilton County, Florida

Permit Numbers

Sulfuric Acid Plant "F" AC 24-56209
Auxiliary Boiler "E" AC 24-56210
Sulfuric Acid Plant "E" AC 24-56211
Auxiliary Boiler "B" AC 24-56212
Auxiliary Boiler "D" AC 24-56213
Auxiliary Boiler "C" AC 24-56214
DAP Plant No. 2 AC 24-56215

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

May 17,1983

FINAL DETERMINATION

Occidental Chemical's applications for permits to construct/modify two sulfuric acid plants and to increase the sulfur content of the fuel oil use to fire four existing steam boilers and a diammonium phosphate dryer have been reviewed by the Bureau of Air Quality. These sources are located at their existing chemical complexes near White Springs, Florida. Public Notice of the Department's Intent to Issue the construction permits was published in the Lake City Reporter and the Jasper News, on March 31, 1983.

Copies of the preliminary determination have been available for public inspection at the Department's Northeast District Office, the Columbia County Public Library and the Bureau of Air Quality Management Office in Tallahassee.

Comments on the proposed construction were received from Mr. John B. Koogler in behalf of the company, Mr. James T. Wilburn of the U.S. Environmental Protection Agency, Region IV, and Mr. Walter R. McAllister of the U. S. Fish and Wildlife Service.

Mr. Koogler commented on the draft public notice's wording and requested that Specific Conditions No. 5 and No. 9 (application No. AC 24-56209 and AC 24-56211) and Specific Condition No. 2 (application No. AC 24-56214 and AC 24-56213) be modified. He also requested a clarification of Table I of the Preliminary Determination. Mr. Wilburn and Mr. McAllister questioned the Department's air quality analysis in the Preliminary Determination.

The Department has considered their comments and proceeded as follows:

Per Mr. Koogler's request, Specific Conditions No. 2, No. 5, No. 9 and Table I and II of the Preliminary Determination were modified since the changes involved will not affect the emissions from these sources. The public notice was reworded. These changes are described below:

Application Permits: AC 24-56209, AC 24-56211

Specific Condition No. 5 was modified as follows:

The applicant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as set forth in Section 60.84 (b), Emission monitoring. Other EPA and State approved method may be substituted for those specified in 40 CFR 60, Subpart H, 60.84(b).

Specific Condition No. 9 was modified to specify the frequency with which compliance test for nitrogen oxide emission must be made. The following paragraph was added to this condition: Performance tests for nitrogen oxides to determine emission

compliance status shall be requested by the Department when deemed necessary.

Application Permits: AC 24-56214, AC 24-56213

Specific Condition No. 2 was changed to allow continuous operation, since full time operation will not threaten ambient air quality.

Table I was corrected as requested. The particulate matter emission data was changed to reflect emissions from oil burning instead of coal-oil mix burning in the "C" boiler. Table II was modified for clarification purposes.

Public Notice

The Public Notice was reworded to read: "No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit applications." These minor changes will be done in order to achieve the production rate increase (up to 2500 TPD). These changes involve increasing the size of the economizer, the gas handling system and the catalyst loading. The absorption towers and mist eliminators will not be modified.

Regarding Mr. Wilburn's comments, the areas of questions and the Department's responses follow. The first seven comments are those of Mr. Wilburn and the last comment is common to both Mr. Wilburn and Mr. McAllister.

Comment No. 1

In determining the sulfur dioxide (SO_2) impacts on the Class I area, a 12-hour half-life was used in the modeling. Region IV discourages anyone from using this assumption except in very isolated cases and then only after sufficient documentation has been presented. Therefore, Occidental should justify how and why a 12-hour half-life for SO_2 emissions would be appropriate in this case.

Response

The use of a 12-hour half-life for SO_2 impacts on the Class I area was approved by the Department after consultation with EPA Region IV. Our several conversations with EPA on this point were with Lew Nagler, the Region IV meteorologist.

The applicant originally proposed the use of an eight-hour half-life. This was disapproved by the Department. A 12-hour half-life has been used, and approved of, in the past by EPA in other permit-related modeling studies. Two in particular are Jacksonville Electric Authority (JEA) in Florida and Airco Carbon in South Carolina. It is the opinion of the Department that the meteorology and SO_2 conversion environment of the north Florida

site for Occidental facilities is similar enough to the above two cases to justify the use of the same 12-hour half-life.

Comment No. 2

Much of the modeling analysis is confusing in that one is not able to determine whether or not all emission points have been included or that the SCCC and SRCC plants have been modeled separately. The modeling information is insufficient to determine the adequacy of the submittals, for example, Tables 1, 2, and 3 depicting Class I area impacts are not clear.

Response

In the modeling anlysis all increment consuming sources at both SRCC and SCCC were used for the separate PSD reviews of these facilities. The facilities were modeled separately in that separate receptor grids were used for each facility under review. Since the two facilities are five kilometers apart, the separate grids were needed to adequately resolve the calculated concentrations in the areas surrounding each facility.

Only one analysis of the Class I area was made. Both the SRCC and SCCC facilities were included in the modeling with the receptors located along the boundary of the Class I area.

Comment No. 3

On page 8, the existing air quality analysis for the SRCC facility gives different results from similar analyses performed for the SCCC facility found on page 7. Please explain these differences.

Response

The maximum increment consumption predicted in the general area of each facility (SRCC and SCCC) defined the increment consumed for each. In determining these values all increment consuming sources from both facilities were used in the modeling. The predicted maximum increment consumption for each facility could occur with different meteorology because of the effect of the upwind facility on the other. However, the maximum predicted increment consumption for a facility will not necessarily occur in an interacting situation of both facilities. For these reasons, the increment consumption was quantified in the areas surrounding each facility. The alternative would be to take the maximum increment consumed from either facility and call that the maximum for both.

Comment No. 4

The Department of Environmental Regulation (DER) letter of June 25, 1982, indicates violations were modeled by the DER. There is no evidence in the documents that this concern has been

corrected.

Response

The modeled violations of the 24-hour Florida Ambient Air Quality Standard (FAAQS) for SO_2 were corrected when the applicant agreed to change the allowable emission limits of the polyphos reactors A and B from 13.1 grams per second to 0.63 grams per second. The lower value is close to the actual emissions coming from these sources.

Comment No. 5

The AQDM model used in the SCCC annual modeling analysis is inappropriate. The preferred model is the ISCLT which was used in the SRCC analysis. The impacts however, from the two different models were identical.

Response

The Department agrees that the AQDM model is no longer appropriate for annual modeling. This model will no longer be accepted for PSD review. The ISCLT model will be the recommended model. The use of the AQDM model in the PSD review for the Occidental facilities would not, in the opinion of the Department, result in a change in the conclusions.

Comment No. 6

The use of the PTMTP-W model should be accepted with reservation since this model has been replaced by the MPTER/ISC or other similar models.

Response

The PTMTP-W model has been accepted by the Department as an equivalent model to the MPTER and ISCST models provided all the appropriate updates have been made. The Department often checks the modeling results with equivalent ISCST model runs.

Comments No. 7

The soils and vegetation analysis should be expanded, especially when discussing Class I area impacts. This analysis should correlate predicted ground level concentrations with the sensitivity levels of the soils and vegetation in the area. This should also include short and long term exposure durations.

Response

The impact of the Occidental facilities has been shown to result in concentrations in the ambient air of less than the secondary standards. Since these standards have been set to protect soils and vegetation, the Department is satisfied that no

adverse impacts will result.

Since the maximum impact near the Occidental facility is less than the secondary standard, the impact at the Class I area located 40 kilometers to the northeast will be far below the secondary standard. Although all of the allowed PSD increment is consumed, the actual levels of SO_2 concentration are not expected to be great enough to cause any effect on soils and vegetation in the Class I area.

Comment No. 8

Due to the 100% consumption of the Class I area increment for SO_2, EPA recommends that a post construction ambient monitor be located at the maximum impact area at the appropriate boundary of the Class I area.

Response

The placement of an SO_2 monitor at the boundary of the Class I area will not give any meaningful information about the increment consumed by the SRCC and SCCC facilities. It is the Department's opinion that the use of monitors to discover violations of increments is inappropriate in the case of a source modification, because one cannot distinguish between background or non-increment consuming concentrations and increment consuming ones in the measured data. Therefore the Department does not agree with the EPA recommendation.

The expiration date was changed to January 30, 1984 for the final permits.

The final action of the Department will be to issue the permits with the changes noted above.

Table 1

SUMMARY OF EMISSIONS

(Tons per year)[1]

SOURCE	POLLUTANT					
	PM	SO_2	NO_2	F	CO	VOC
Boiler "B"						
Permitted[2]	70.00	597			---	---
Proposed[3]	62.3	765.8	287.2		23.9	4.8
Increase	-7.7	168.8			-0-	-0-
Boiler "C"						
Permitted[2]	39.5	442.4	----		----	----
Proposed[3]	46.7	572.1	239		18.4	4.5
Increase	7.2	129.7	-0-		-0-	-0-
Boiler "D"						
Permitted[2]	39.5	442.4	----		----	----
Proposed[3]	46.7	564.0	215		18	4
Increase	7.2	121.6	-0-		-0-	-0-
TOTAL INCREASE**	6.7	420.1	-0-		-0-	-0-
#2 DAP Dryer*	PM	SO_2		F		
Permitted[2]	193	27.7		6.1	---	---
Proposed[3]	193	51.5		6.1	---	---
Increase	----	23.8		-0-	---	---
TOTAL INCREASE**	-0-	23.8		-0-	-0-	-0-
Significant Levels	25	40	40	3	100	40

(1) Emissions calculations based on 8760 hours per year and 100% on oil for Boilers B, C, D and DAP plant No. 2.

(2) Permitted emissions as stated in the federal application PSD-FL-083 (Table 2-1) and Boiler B operating permit AO 24-34186
Boiler C and D operating permit AO 24-21059, and
DAP plant #2 operating permit AO 24-33051

(3) Proposed emissions as calculated by the applicant in the State applications and additional correspondence

* Fluoride Emissions for the #2 DAP plant will not change ($0.06\#F/TP_2O_5$)

** Emission rate increases of regulated pollutants (nitrogen oxides, VOC and carbon monoxide) will not be affected by the proposed change.

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

PERMITTEE:

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

Permit Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 29"
82° 51' 56"
Project: Sulfuric Acid Plant "F"

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

For the modification of a 2500 TPD double absorption type Sulfuric Acid Plant located at Occidental Chemical Swift Creek Complex in Hamilton County, Florida. The UTM coordinates are 320.860 Km E and 3,369.750 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 8 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

Sulfuric Acid Plant "E"

1. Maximum production rate will be 2500 tons of 100 percent H_2SO_4 per day for each sulfuric acid plant.

2. Emission of sulfur dioxide from the sulfuric acid plant shall not exceed 416.7 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 4 pounds per ton of 100% H_SO_4 produced.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-65209
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

3. Emission of acid mist from the sulfuric acid plant shall not exceed 15.6 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 0.15 pounds per ton 100% H_2SO_4.

4. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the applicant. The pollutant gas used to prepare calibration gas mixture under paragraph 2.1 Performance Specification 2 and for calibration checks under 60.13(d) to this part, shall be sulfur dioxide (SO_2). Reference Method 8 shall be used for conducting monitoring system performance evaluations under 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.

5. The applicant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as set forth in Section 60.84(b) Emission Monitoring. Other EPA and State approved method may be substituted for those specified in 40 CFR, Subpart H, 60.84(b).

6. The applicant shall record all conversion factors and values under paragraph (b) or (d) as set forth in 60.84 Subpart H - Standards of Performance for Sulfuric Acid Plant.

7. For the purpose of report under 60.7(c), periods of excess emission shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under 60.82.

8. The applicant shall comply with all requirements of 40 CFR 60, Subpart H, Standards of Performance for sulfuric acid plants.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

9. Compliance with all emission limits shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be conducted in accordance with the provisions of the following reference methods which are described in Appendix A of 40 CFR 60:

    a. Method 1 for sample and velocity traverses;
    b. Method 2 for volumetric flow rate;
    c. Method 3 for gas analysis;
    d. Method 7 for nitrogen oxides
    e. Method 8 for concentration of SO_2 and acid mist; and
    f. Method 9 for visible emissions.

    A compliance test shall consist of the average of three consecutive runs. The maximum sample time and volume per run will be as specified in the NSPS (40 CFR 60.85). The facility shall operate within 10 percent of maximum capacity during sampling. The parameters for the operating rate and control equipment variables and all continuous monitoring results shall be recorded during compliance testing and made a part of the test report. The Department will be notified 30 days in advance of the compliance test.

    Performance tests for nitrogen oxides to determine emission compliance status shall be requested by the Department when deemed necessary.

10. Visible emissions from the sulfuric acid plant shall not exceed 10% opacity.

11. This permit replaces operating permit No. AO 24-34847. The applicant shall return this operating permit to the Department's Northeast District office within three (3) months of start-up of the unit.

12. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56209
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 12 day of May, 1983.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSION LIMITS

SOURCE	POLLUTANT EMISSION						
	SO_2	PM	Mist	NO_x	CO	VOC	BASIS
"E" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"F" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"E" Auxiliary Boiler							
Emission Rate	1.1 $lb/10^6$ BTU heat input and 170.7 lb/hr	--	----	---	---	---	
		13.9	----	64	5.3	1.1	BACT and Emission rates as estimated by the applicant

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

PERMITTEE:

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

Permit Number: AC 24-56210
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 56"
82° 51' 40"
Project: 156 MMBTU/hr Auxiliary
Auxiliary Boiler "E"

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

For the modification, use of fuel with 1.0 percent sulfur, of a 156 MMBTU/hr auxiliary boiler "E" located at Occidental Chemical Swift Creek complex in Hamilton County, Florida. The UTM coordinates are 321.300 Km E and 3,369.830 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 7 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56210
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56210
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The auxiliary boiler shall be allowed to operate 97.5 percent of the time (8,518 hours per year). Maximum steam production shall be 125,000 lb/hr and maximum heat input shall be 156 MMBTU/hr.

2. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-65210
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

3. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

4. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

5. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

6. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

7. The applicant should report any delay in modification of this unit to the Department.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56210
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

8. This permit replaces operating permit No. AO24-34846. The applicant shall return any current operating permit from the boiler to the Department's Northeast District office within three (3) months of modification of the unit.

9. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

10. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

11. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

12. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 17 day of Nov, 1983.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSION LIMITS

SOURCE	POLLUTANT EMISSION						
	SO_2	PM	Mist	NO_x	CO	VOC	BASIS
"E" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"F" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"E" Auxiliary Boiler							
Emission Rate	1.1 $lb/10^6$ BTU heat input and 170.7 lb/hr	--	----	---	---	---	
		13.9	----	64	5.3	1.1	BACT and Emission rates as estimated by the applicant

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

PERMITTEE:

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

Permit Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 29"
82° 51' 56"
Project: Sulfuric Acid Plant "E"

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

For the modification of a 2500 TPD double absorption type Sulfuric Acid Plant located at Occidental Chemical Swift Creek Complex in Hamilton County, Florida. The UTM coordinates are 321.110 Km E and 3,369.800 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 8 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

Sulfuric Acid Plant "E"

1. Maximum production rate will be 2500 tons of 100 percent H_2SO_4 per day for each sulfuric acid plant.

2. Emission of sulfur dioxide from the sulfuric acid plant shall not exceed 416.7 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 4 pounds per ton of 100% H_2SO_4 produced.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

3. Emission of acid mist from the sulfuric acid plant shall not exceed 15.6 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 0.15 pounds per ton 100% H_2SO_4.

4. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the applicant. The pollutant gas used to prepare calibration gas mixture under paragraph 2.1 Performance Specification 2 and for calibration checks under 60.13(d) to this part, shall be sulfur dioxide (SO_2). Reference Method 8 shall be used for conducting monitoring system performance evaluations under 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.

5. The applicant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as set forth in Section 60.84(b) Emission Monitoring. Other EPA and State approved method may be substituted for those specified in 40 CFR, Subpart H, 60.84(b).

6. The applicant shall record all conversion factors and values under paragraph (b) or (d) as set forth in 60.84 Subpart H - Standards of Performance for Sulfuric Acid Plant.

7. For the purpose of report under 60.7(c), periods of excess emission shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under 60.82.

8. The applicant shall comply with all requirements of 40 CFR 60, Subpart H, Standards of Performance for sulfuric acid plants.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

9. Compliance with all emission limits shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be conducted in accordance with the provisions of the following reference methods which are described in Appendix A of 40 CFR 60:

    a. Method 1 for sample and velocity traverses;
    b. Method 2 for volumetric flow rate;
    c. Method 3 for gas analysis;
    d. Method 7 for nitrogen oxides
    e. Method 8 for concentration of SO_2 and acid mist; and
    f. Method 9 for visible emissions.

    A compliance test shall consist of the average of three consecutive runs. The maximum sample time and volume per run will be as specified in the NSPS (40 CFR 60.85). The facility shall operate within 10 percent of maximum capacity during sampling. The parameters for the operating rate and control equipment variables and all continuous monitoring results shall be recorded during compliance testing and made a part of the test report. The Department will be notified 30 days in advance of the compliance test.

    Performance tests for nitrogen oxides to determine emission compliance status shall be requested by the Department when deemed necessary.

10. Visible emissions from the sulfuric acid plant shall not exceed 10% opacity.

11. This permit replaces operating permit No. AO 24-34847. The applicant shall return this operating permit to the Department's Northeast District office within three (3) months of start-up of the unit.

12. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56211
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 17 day of Dec, 1983.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSION LIMITS

SOURCE	POLLUTANT EMISSION						
	SO_2	PM	Mist	NO_x	CO	VOC	BASIS
"E" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"F" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"E" Auxiliary Boiler							
Emission Rate	1.1 $lb/10^6$ BTU heat input and 170.7 lb/hr	--	----	---	---	---	
		13.9	----	64	5.3	1.1	BACT and Emission rates as estimated by the applicant

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

PERMITTEE:

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

Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 27"
82° 47' 16"
Project: 160 MMBTU/hr Auxiliary
Auxiliary Boiler "B"

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

For the modification, use of fuel with 1.0 percent sulfur, of a 160 MMBTU/hr auxiliary boiler "B" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 7 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum operating rate for boiler "B" shall not exceed 60% of rated capacity (96 MMBTU/hr heat input) when sulfuric acid plants "C" and "D" will be operating at 100% capacity. Auxiliary boiler "B" shall be allowed to operate at 100% of rated capacity (160 MMBTU/hr heat input) when either the "C" or "D" sulfuric acid plant is shut down.

2. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-56212
Date of Issue:
Expiration Date: July 30, 1983

SPECIFIC CONDITIONS:

3. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

4. Auxiliary boiler "B" shall be allowed to operate continuously (8760 hours per year).

5. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accor dance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56212
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

9. This permit replaces operating permit No. AO24-34186. The applicant shall return any current operating permit from the boiler to the Department's Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 17 day of May, 1983

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSIONS[1]

SOURCE/FUEL	POLLUTANT									
	PM		SO_2		NO_x		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler B										
Oil[2]	14.2	62.3	174.8	765.8	65.5	287.2	5.5	23.9	1.1	4.8
This boiler shall be allowed to operate 60% of rated capacity (Specific Condition No. 1).										
Boiler C*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	8.9	0.4	1.6
Oil[2]	10.7	46.7	128.7	563.9	49.2	215.5	4.1	18.0	0.8	3.6
COM[3]	3.8	16.6	130.6	572.1	54.6	239.2	4.2	18.4	1.0	4.5
Boiler D*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	9	0.4	2
Oil[2]	10.7	47	128.7	564	49.2	215	4.1	18	0.8	4
#2 DAP Dryer										
Oil[4]	46	193	11.8	51.5						

(1) Allowable Emissions as estimated by the applicant based on an operating time of 8760 hours per year

(2) SO_2 emission limit shall not exceed 1.1 lb/MMBTU heat input (Fuel oil with 1% sulfur content).

(3) Coal-Oil mix (COM) with 0.9% sulfur content.

(4) Fuel oil with 1.5% sulfur content. (SO_2 emission limit shall not exceed 0.2 lb/ton DAP).

Fluoride emissions from the DAP Plant shall not exceed 1.74 lb/hr and 0.06#F/Ton P_2O_5.
*Boiler "C" shares a common stack with auxiliary boiler "D".

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

PERMITTEE:

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

Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 27"
82° 47' 16"
Project: 120 MMBTU/hr Auxiliary
Auxiliary Boiler "D"

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

For the modification, use of fuel with 1.0 percent sulfur, of a 120 MMBTU/hr auxiliary boiler "D" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 7 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum operating rate for boiler "D" shall not exceed 120 MMBTU/hr heat input.

2. Auxiliary boiler "D" shall be allowed to operate continuously. (8760 hours per year).

3. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-65213
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

4. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

5. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56213
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

9. This permit replaces operating permit No. AO24-21059. The applicant shall return any current operating permit from the boiler to the Department's Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 1 day of May, 1983

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSIONS[1]

SOURCE/FUEL	POLLUTANT									
	PM		SO_2		NO_x		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler B										
Oil[2]	14.2	62.3	174.8	765.8	65.5	287.2	5.5	23.9	1.1	4.8
This boiler shall be allowed to operate 60% of rated capacity (Specific Condition No. 1).										
Boiler C*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	8.9	0.4	1.6
Oil[2]	10.7	46.7	128.7	563.9	49.2	215.5	4.1	18.0	0.8	3.6
COM[3]	3.8	16.6	130.6	572.1	54.6	239.2	4.2	18.4	1.0	4.5
Boiler D*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	9	0.4	2
Oil[2]	10.7	47	128.7	564	49.2	215	4.1	18	0.8	4
#2 DAP Dryer										
Oil[4]	46	193	11.8	51.5						

(1) Allowable Emissions as estimated by the applicant based on an operating time of 8760 hours per year

(2) SO_2 emission limit shall not exceed 1.1 lb/MMBTU heat input (Fuel oil with 1% sulfur content).

(3) Coal-Oil mix (COM) with 0.9% sulfur content.

(4) Fuel oil with 1.5% sulfur content. (SO_2 emission limit shall not exceed 0.2 lb/ton DAP).

Fluoride emissions from the DAP Plant shall not exceed 1.74 lb/hr and 0.06#F/Ton P_2O_5.
*Boiler "C" shares a common stack with auxiliary boiler "D".

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

PERMITTEE:

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

Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 27"
82° 47' 16"
Project: 120 MMBTU/hr Auxiliary Auxiliary Boiler "C"

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

For the modification, use of fuel with 1.0 percent sulfur, of a 120 MMBTU/hr auxiliary boiler "C" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 7 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum operating rate for boiler "C" shall not exceed 120 MMBTU/hr heat input.

2. Auxiliary boiler "C" shall be allowed to operate continuously. (8760 hours per year).

3. The boiler will be fired with natural gas, and No. 6 fuel oil or a coal-oil mixture. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-65214
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

4. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

5. The sulfur content of the coal-oil mixture shall not exceed 0.9 percent.

6. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

7. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

8. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

9. The applicant should report any delay in modification of this unit to the Department.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56214
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

10. This permit replaces operating permit No. AO 24-21059. The applicant shall return any current operating permit from this boiler to the Department's Northeast District office within three (3) months of modification of the unit.

11. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

12. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

13. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

14. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 17 day of Jan., 1983

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSIONS[1]

SOURCE/FUEL	POLLUTANT									
	PM		SO_2		NO_x		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler B										
Oil[2]	14.2	62.3	174.8	765.8	65.5	287.2	5.5	23.9	1.1	4.8
This boiler shall be allowed to operate 60% of rated capacity (Specific Condition No. 1).										
Boiler C*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	8.9	0.4	1.6
Oil[2]	10.7	46.7	128.7	563.9	49.2	215.5	4.1	18.0	0.8	3.6
COM[3]	3.8	16.6	130.6	572.1	54.6	239.2	4.2	18.4	1.0	4.5
Boiler D*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	9	0.4	2
Oil[2]	10.7	47	128.7	564	49.2	215	4.1	18	0.8	4
#2 DAP Dryer										
Oil[4]	46	193	11.8	51.5						

(1) Allowable Emissions as estimated by the applicant based on an operating time of 8760 hours per year.

(2) SO_2 emission limit shall not exceed 1.1 lb/MMBTU heat input (Fuel oil with 1% sulfur content).

(3) Coal-Oil mix (COM) with 0.9% sulfur content.

(4) Fuel oil with 1.5% sulfur content. (SO_2 emission limit shall not exceed 0.2 lb/ton DAP).

Fluoride emissions from the DAP Plant shall not exceed 1.74 lb/hr and 0.06#F/Ton P_2O_5.
*Boiler "C" shares a common stack with auxiliary boiler "D".

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

PERMITTEE:

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

Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984
County: Hamilton
Latitude/Longitude: 30° 26' 01"
82° 47' 20"
Project: 36 MMBTU/hr Dryer
Diammonium Phosphate
Plant #2

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

For the modification of a 36 MMBTU/hr No. 2 diammonium phosphate dryer located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.20 Km E and 3,368.82 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 5 through 7 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), 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. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use 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.

5. 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 penalties therefor 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, unless specifically authorized by an order from the department.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. 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 noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

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.

9. 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 Sections 403.73 and 403.111, Florida Statutes.

10. The 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.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Occidental Chemical Company
I. D. Number:
Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 2 DAP dryer shall be allowed to operate continuously (8760 hours per year) at up to 60 tons per hour DAP production.

2. The fuel used to fire the dryer will be natural gas or No. 6 fuel oil with a maximum sulfur content of 1.5 percent S. Maximum heat input shall be 36 MMBTU/hr.

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit/Number: AC 24-65215
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

3. Emissions from the DAP dryer shall not exceed the allowable emissions listed in Table II of the Preliminary Determination for SO_2, PM, and Fluorine.

4. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 13 A or B. Determination of Total Fluoride Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The Department will be notified 30 days in advance of the compliance test. The test will be conducted at 90 to 100 percent permitted production capacity while burning No. 6 fuel oil.

5. This permit replaces operating permit No. AO24-33051. The applicant shall return this operating permit to the Northeast District office within three (3) months of start-up of the unit.

6. The applicant should report any delay in modification of this unit to the Department.

7. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Department's Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance

PERMITTEE: Occidental Chemical Company

I. D. Number:
Permit Number: AC 24-56215
Date of Issue:
Expiration Date: January 30, 1984

SPECIFIC CONDITIONS:

with all terms of the construction permit until the expiration date or issuance of an operating permit.

8. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of production, maximum and average production, fuel oil usage, average and maximum percent sulfur in oil, pressure drop across scrubber, pressure on scrubber header, and flow of water through scrubber.

9. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

10. The source shall comply with the provisions and requirements of the attached general conditions.

Issued this 19 day of May, 1983

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Table 2

ALLOWABLE EMISSIONS[1]

SOURCE/FUEL	POLLUTANT									
	PM		SO_2		NO_x		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler B										
Oil[2]	14.2	62.3	174.8	765.8	65.5	287.2	5.5	23.9	1.1	4.8
This boiler shall be allowed to operate 60% of rated capacity (Specific Condition No. 1).										
Boiler C*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	8.9	0.4	1.6
Oil[2]	10.7	46.7	128.7	563.9	49.2	215.5	4.1	18.0	0.8	3.6
COM[3]	3.8	16.6	130.6	572.1	54.6	239.2	4.2	18.4	1.0	4.5
Boiler D*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	9	0.4	2
Oil[2]	10.7	47	128.7	564	49.2	215	4.1	18	0.8	4
#2 DAP Dryer										
Oil[4]	46	193	11.8	51.5						

(1) Allowable Emissions as estimated by the applicant based on an operating time of 8760 hours per year

(2) SO_2 emission limit shall not exceed 1.1 lb/MMBTU heat input (Fuel oil with 1% sulfur content).

(3) Coal-Oil mix (COM) with 0.9% sulfur content.

(4) Fuel oil with 1.5% sulfur content. (SO_2 emission limit shall not exceed 0.2 lb/ton DAP).

Fluoride emissions from the DAP Plant shall not exceed 1.74 lb/hr and 0.06#F/Ton P_2O_5.
*Boiler "C" shares a common stack with auxiliary boiler "D".

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

FROM: Clair Fancy

DATE: May 17, 1983

SUBJ: Approval of Attached Air Construction Permits

Attached for your approval and signature are seven Air Construction Permits for which the applicant is Occidental Chemical Company. The proposed project is to construct/modify two sulfuric acid plants and to increase the sulfur content of the fuel oil used to fire four existing steam boilers and a diammonium phosphate dryer. These sources are located at Occidental Chemical Company's existing chemical complexes near White Springs, Hamilton County, Florida.

Day 90, after which the permits would be issued by default, is May 18, 1983.

The Bureau recommends your approval and signature.

CF/pa

Attachment

WSA, Inc.

November 28, 1995

Christopher L. Kirts, P.E.
Department of Environmental Protection
7825 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7590

Re: Permits PSD-FL-083 (0470002-030-AC) and PSD-FL-082 (0470005-010-AC)

Dear Mr. Kirts:

The above-referenced permits were recently transferred to White Springs Agricultural Chemicals, Inc. (WSA). At the time of the transfer request, WSA was identified as a wholly-owned subsidiary of Occidental Chemical Corporation. As of October 31, 1995, all the stock of WSA has been sold to Phosphate Holding Company, Inc., a subsidiary of Potash Corporation of Saskatchewan, Inc. The named permittee will continue to be WSA, doing business as PCS Phosphate-White Springs.

Please let us know if there are any further actions required of us.

Sincerely,

Stanley W. Posey
Environmental Counsel

psb

White Springs Agricultural Chemicals, Inc.
County Road 137, P.O. Box 300, White Springs, Florida 32096
904/397-8101

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

December 10, 1987

DER
DEC 23 1987
BAQM

CERTIFIED MAIL

Mr. Stephen Smallwood
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Re: Occidental Chemical Agricultural Products, Inc.- Permit/ Permit Application Transfers to Occidental Chemical Corporation

Dear Mr. Smallwood:

By our correspondence of November 18, 1987, we provided you advance notification of the upcoming merger of Occidental Chemical Agricultural Products, Inc. into Occidental Chemical Corporation. The effective date of the merger will be December 23, 1987. Accordingly, we would appreciate the department's transfer of the permit/permit applications listed on the enclosed DER Form 17-1.201(1) to the name Occidental Chemical Corporation, as applicant or permittee, effective December 23, 1987.

I would appreciate your directing all correspondence to Occidental's Director of Environmental, Health and Safety at the address listed below.

Mr. R. Eugene McNeill
Occidental Chemical Agricultural Products, Inc.
P. O. Box 300
White Springs, FL 32096

Thank you for your cooperation and assistance.

Sincerely yours,

W. Marvin Miller

W. Marvin Miller
Environmental Coordinator

WMM/rdw

Enclosures

cc: Mr. Ernest E. Frey
Lawrence E. Sellers, Esquire

Copied: CHF/BT
Pradeep Raval
Tom Rogers
} 1.4.88

OCCIDENTAL CHEMICAL CORPORATION

Certificate of Authority

TO WHOM IT MAY CONCERN:

W. M. Miller, Environmental Coordinator, Occidental Chemical Corporation, Agricultural Products Group, is Occidental Chemical Corporation's authorized agent for execution and filing of DER Forms 17-1.201(1), whereby Occidental Chemical Corporation assumes the rights and liabilities as transferee under permits and applications issued and filed in the names of Occidental Chemical Agricultural Products, Inc., Occidental Chemical Company, Jacksonville Bulk Terminal, and Jacksonville Bulk Terminal, Inc.

DATED: December 18, 1987

Michael J. Rudick
Vice President

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION - TALLAHASSEE

SOURCE NAME	PERMIT NO.	ISSUED TO	DATE ISSUED	EXP.
"C" Sulfuric	AC24-131271	OCAPI	87/09/30	88/07/01
"D" Sulfuric	AC24-131270	OCAPI	87/09/30	88/07/01

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION FOR TRANSFER OF PERMIT

APPLICATION OR
Permit No. SEE ATTACHED Date Issued SEE ATTACHED Date Expires SEE ATTACHED

NOTIFICATION OF SALE OR LEGAL TRANSFER

Source Name: SEE ATTACHED County: HAMILTON

Source Location: EAST OF US 41, NORTH OF WHITE SPRINGS, FL City: N.A.

Permittee Name: SEE ATTACHED Title:

Mailing Address: P. O. BOX 300, WHITE SPRINGS, FL 32096

The undersigned hereby notifies the department of the sale or legal transfer of this pollution source. He further agrees to assign his rights as permittee to the applicant in the event the department agrees to the transfer of permit.

Sworn to and subscribed before me at Hamilton
County, White Springs, Florida.
this 18th day of December 19 87

Notary Public

My Commission Expires: NOTARY PUBLIC, STATE OF FLORIDA
My commission expires Apr. 5, 1989

HUDSON C. SMITH
Signature of Permittee

GENERAL MANAGER
Title

Date: DECEMBER 18, 1987

REQUEST FOR TRANSFER OF PERMIT

Source Name: SEE ATTACHED

Applicant Name: OCCIDENTAL CHEMICAL CORPORATION Title: ENVIRONMENTAL COORDINATOR

Mailing Address: P. O. BOX 300, WHITE SPRINGS, FL 32096

Telephone: (904) 397-8269
area

Project Engineer: Name: N. A.

Mailing Address:

Telephone: ( )
area

The undersigned hereby notifies the department of his having acquired title to this pollution source. He further states that he has examined the application and documents submitted by the current permittee the basis on which Permit No. was issued by the department, and states that they accurately and completely describe the permitted activity or project. He further states that he is familiar with the permit, agrees to comply with its terms and conditions, and agrees to assume the rights and liabilities contained therein. He also agrees to promptly notify the department of any future change in ownership of, or responsibility for, the permitted activity or project.

Sworn to and subscribed before me at Hamilton
County, White Springs, Florida
this 18th day of December 19 87

Notary Public

My Commission Expires: NOTARY PUBLIC, STATE OF FLORIDA
My commission expires Apr. 5, 1989

W. M. MILLER
Signature of Applicant*

ENVIRONMENTAL COORDINATOR
Title

Date: DECEMBER 18, 1987

*Attach authorization if other than owner or corporate officer.

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

November 18, 1987

DER

NOV 23 1987

BAQM

CERTIFIED MAIL

Mr. Stephen Smallwood
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Re: Occidental Chemical Agricultural Products, Inc.
Permit Nos. AC24-131271 and AC24-131270

Dear Mr. Smallwood:

As you are aware, Occidental Chemical Agricultural Products, Inc. is a permittee under the above referenced permits. We now anticipate that the permittee, Occidental Chemical Agricultural Products, Inc., will be merged into its parent company, Occidental Chemical Corporation, in December 1987 and will, therefore, no longer exist as a legal entity. Occidental Chemical Corporation will continue the operation of the facilities under the referenced permits and there are no other changes that would affect the facilities' operations contemplated as a result of the proposed merger.

The purpose of this letter is to provide advance notification of the proposed merger pursuant to Section 17-4.120 FAC. We will provide you the exact date for completion of the transfer as soon as it has been established, so that you can transfer the permits to Occidental Chemical Corporation and confirm that there are no other filing requirements.

I would appreciate your directing all correspondence to Occidental's Director of Environmental, Health and Safety at the address listed below.

Mr. R. Eugene McNeill
Occidental Chemical Agricultural Products, Inc.
P. O. Box 300
White Springs, FL 32096

Thank you for your cooperation and assistance.

Sincerely yours,

W. Marvin Miller
Environmental Coordinator

WMM/rdw

cc: Lawrence E. Sellers, Esquire
Mr. Ernest E. Frey

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

SKEC 102-75-06

March 6, 1985

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

Subj: Occidental Chemical Agricultural Products, Inc.
Revision to Boiler Permits: AC24-56212 (Boiler B)
AC24-56213 (Boiler D)
AC24-56214 (Boiler C)

Dear Mr. Fancy:

On January 29, 1985, Wes Atwood and I spoke with Bill Thomas and Teresa Heron regarding your letter of December 13, 1984 addressing the subject revisions to boiler operating conditions at the Occidental Suwannee Chemical Complex in Hamilton County, Florida.

We addressed the questions raised in your letter and confirmed that the three boilers for which we are requesting revised operating conditions (see SKEC letter to Bill Thomas dated October 19, 1984) are existing boilers that have never been replaced. We explained that the discrepancy between boiler nameplate capacity and the permitted operating capacity of the boilers resulted from the fact that Occidental installed boilers that differed from the boilers anticipated at the time the original construction permits were applied for. This discrepancy was only recently noted and the purpose for the requested revisions in permitted operating conditions is to rectify this situation. As pointed out in my letter of October 19, 1984, there will be no increase in air pollutant emission rates as a result of the requested revisions and air quality modeling, addressed in subsequent paragraphs, demonstrates that the boilers operating under the requested revised operating conditions will have a lesser air quality impact than the boilers operating under the presently permitted operating conditions.

To demonstrate that the requested revisions in boiler operating conditions would not result in increased ground-level pollutant concentrations of sulfur dioxide, air quality modeling was conducted with the ISC-ST model utilizing meteorological data from Valdosta representing the period 1972 - 1976. The only sources included in the model runs were the three affected boilers. The emission rates of the boilers under permitted operating conditions were input as negative emissions while the emission rates of the boilers operating under the proposed revised conditions were input as positive emission rates. The output of air quality modeling which is attached hereto demonstrates that while operating under the revised operating conditions the boilers will have a lesser impact on ambient air quality than when operating under presently permitted conditions.

If there are any further questions regarding our requested revisions to the boiler operating conditions, or any questions regarding the air quality modeling attached hereto, please do not hesitate to contact me.

Very truly yours,

SHOLTES & KOOGLER,
ENVIRONMENTAL CONSULTANTS

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

JBK:net
cc: Mr. Wes Atwood (w/o attachments)

TABLE 1

SUMMARY OF PERMITTED AND PROPOSED OPERATING CONDITIONS FOR BOILERS B, C AND D

OCCIDENTAL CHEMICAL AGRICULTURAL PRODUCTS, INC.
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Boiler	Permit	Heat Input (million BTU/hr)			Steam Production (lb/hr)			Air Pollutant Emissions (tons per year)					
								Sulfur Dioxide		Part. Matter		NOx	
		Design	Permit	Proposed	Design	Permit	Proposed	Permitted	Proposed	Permitted	Proposed	Permitted	Proposed
D	AC24-56213	182.5	120.0	155.0	135,000	100,000	125,500	564.0	730.8	47.0	60.5	215.0	278.0
C	AC24-56214	182.5	120.0	155.0	135,000	100,000	125,500	563.9	730.8	46.7	60.5	215.5	278.0
B	AC24-56212	106.9	160.0	90.0	80,000	125,000	74,000	765.8	432.1	62.3	35.0	287.2	161.7
TOTAL		471.9	400.0	400.0	350,000	325,000	325,000	1893.7	1893.7	156.0	156.0	717.7	717.7

SHOLTES & KOOGLER

```
BOILER72

J3178A

*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
*A START JOB 3178 BOILER72 1     001 001 NER     OXY PERMITTING     80001046,002  6.59.09 PM 31JAN85 PRINTER1 NER1 START A*
```

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 4
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 1
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 1
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 1
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE	
SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 1
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 1
RURAL-URBAN OPTION (RURAL=0,URBAN MODE 1=1,URBAN MODE 2=2)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
NUMBER OF INPUT SOURCES	NSOURC = 4
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 5
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 5
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 36
NUMBER OF DISCRETE RECEPTORS	NXYPT = 0
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK = .10000E+07
ENTRAINMENT COEFFICIENT FOR UNSTABLE ATMOSPHERE	BETA1 =0.600
ENTRAINMENT COEFFICIENT FOR STABLE ATMOSPHERE	BETA2 =0.600
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 9
DECAY COEFFICIENT FOR PHYSICAL OR CHEMICAL DEPLETION	DECAY =0.000000E+00
SURFACE STATION NO.	ISS = 93845
YEAR OF SURFACE DATA	ISY = 72
UPPER AIR STATION NO.	IUS = 13861
YEAR OF UPPER AIR DATA	IUY = 72
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 13171 WORDS

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

*** METEOROLOGICAL DAYS TO BE PROCESSED ***
(IF=1)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

*** NUMBER OF SOURCE NUMBERS REQUIRED TO DEFINE SOURCE GROUPS ***
(NSOGRP)

1, 1, 1, 1, 2,

*** SOURCE NUMBERS DEFINING SOURCE GROUPS ***
(IDSOR)

1, 2, 3, 4, 1, -4,

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
B	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
C	.20000E+00	.20000E+00	.20000E+00	.20000E+00	.20000E+00	.20000E+00
D	.25000E+00	.25000E+00	.25000E+00	.25000E+00	.25000E+00	.25000E+00
E	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00
F	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** RANGES OF POLAR GRID SYSTEM ***
(METERS)

500.0, 1000.0, 2000.0, 40000.0, 55000.0,

*** RADIAL ANGLES OF POLAR GRID SYSTEM ***

(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	VAR.	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
1	0	0	0	-.22030E+02	0.0	0.0	0.0	10.70	468.00	9.50	1.46	0.00	0.00	0.00
2	0	0	0	0.12390E+02	0.0	0.0	0.0	10.70	468.00	10.16	1.46	0.00	0.00	0.00
3	0	0	0	-.33050E+02	0.0	0.0	0.0	31.70	468.00	15.20	1.98	0.00	0.00	0.00
4	0	0	0	0.42690E+02	0.0	0.0	0.0	31.70	468.00	19.02	1.98	0.00	0.00	0.00

Source	Boiler
1	"B" as permitted
2	"B" as proposed
3	"C & D" as permitted
4	"C & D" as proposed

'N'-DAY
366 DAYS
SGROUP# 5

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* 366-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM SOURCES: 1, -4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.03000 AND OCCURRED AT (2000.0, 40.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	-1.14674	-1.43475	-0.97077	-0.06857	-0.04552
350.0 /	-0.78077	-0.93515	-0.73408	-0.07786	-0.05182
340.0 /	-0.61746	-0.70418	-0.50560	-0.03725	-0.02450
330.0 /	-0.52448	-0.57498	-0.45382	-0.03920	-0.02577
320.0 /	-0.64057	-0.73855	-0.57395	-0.04436	-0.02927
310.0 /	-0.88597	-0.93110	-0.73683	-0.10702	-0.07134
300.0 /	-1.29424	-1.41658	-0.98106	-0.05299	-0.03437
290.0 /	-1.20280	-1.24281	-0.86117	-0.05109	-0.03350
280.0 /	-1.27031	-1.37942	-0.93553	-0.04533	-0.02981
270.0 /	-1.38155	-1.62549	-1.15789	-0.04566	-0.02992
260.0 /	-1.37619	-1.63914	-1.12416	-0.04824	-0.03222
250.0 /	-1.63165	-2.08087	-1.47506	-0.05246	-0.03386
240.0 /	-1.78009	-2.16010	-1.44928	-0.05027	-0.03261
230.0 /	-1.52796	-1.82015	-1.19047	-0.03724	-0.02426
220.0 /	-1.38241	-1.70857	-1.18496	-0.04362	-0.02885
210.0 /	-1.33124	-1.61966	-1.07630	-0.05433	-0.03634
200.0 /	-1.26516	-1.29570	-0.81314	-0.03393	-0.02207
190.0 /	-1.37675	-1.51080	-0.94099	-0.04528	-0.02945
180.0 /	-1.71297	-1.89098	-1.13643	-0.05876	-0.03896
170.0 /	-1.58752	-1.62601	-0.95725	-0.02145	-0.01342
160.0 /	-1.27058	-1.23218	-0.72813	-0.03229	-0.02112
150.0 /	-1.05039	-0.96431	-0.60038	-0.02025	-0.01302
140.0 /	-1.14031	-1.08084	-0.63110	-0.03925	-0.02579
130.0 /	-1.29326	-1.22641	-0.77305	-0.05478	-0.03692
120.0 /	-1.52143	-1.36732	-0.77977	-0.03578	-0.02616
110.0 /	-1.39977	-1.23322	-0.73555	-0.04748	-0.03147
100.0 /	-1.17139	-1.02210	-0.54548	-0.02695	-0.01761
90.0 /	-1.16134	-1.05983	-0.60143	-0.02987	-0.01983
80.0 /	-1.25844	-1.10262	-0.57876	-0.02833	-0.01856
70.0 /	-1.62309	-1.45651	-0.82948	-0.02897	-0.01880
60.0 /	-1.78015	-1.69497	-1.09455	-0.05212	-0.03401
50.0 /	-1.88362	-1.84224	-1.23120	-0.07612	-0.05064
40.0 /	-2.20003	-2.31602	-1.60996	-0.09173	-0.06015
30.0 /	-1.72983	-2.06723	-1.50792	-0.07470	-0.04895
20.0 /	-1.31464	-1.65411	-1.10509	-0.02684	-0.01697
10.0 /	-1.11957	-1.46636	-1.04318	-0.07482	-0.04920

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1, -4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** GXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1, -4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM SOURCES: 1, -4,

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	55000.0	100.0	26	0.00000	1	1	55000.0	50.0
2	0.00000	1	1	40000.0	100.0	27	0.00000	1	1	40000.0	50.0
3	0.00000	1	1	2000.0	100.0	28	0.00000	1	1	2000.0	50.0
4	0.00000	1	1	1000.0	100.0	29	0.00000	1	1	1000.0	50.0
5	0.00000	1	1	500.0	100.0	30	0.00000	1	1	500.0	50.0
6	0.00000	1	1	55000.0	90.0	31	0.00000	1	1	55000.0	40.0
7	0.00000	1	1	40000.0	90.0	32	0.00000	1	1	40000.0	40.0
8	0.00000	1	1	2000.0	90.0	33	0.00000	1	1	2000.0	40.0
9	0.00000	1	1	1000.0	90.0	34	0.00000	1	1	1000.0	40.0
10	0.00000	1	1	500.0	90.0	35	0.00000	1	1	500.0	40.0
11	0.00000	1	1	55000.0	80.0	36	0.00000	1	1	55000.0	30.0
12	0.00000	1	1	40000.0	80.0	37	0.00000	1	1	40000.0	30.0
13	0.00000	1	1	2000.0	80.0	38	0.00000	1	1	2000.0	30.0
14	0.00000	1	1	1000.0	80.0	39	0.00000	1	1	1000.0	30.0
15	0.00000	1	1	500.0	80.0	40	0.00000	1	1	500.0	30.0
16	0.00000	1	1	55000.0	70.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	40000.0	70.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	2000.0	70.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	1000.0	70.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	500.0	70.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	55000.0	60.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	40000.0	60.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	2000.0	60.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	1000.0	60.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	500.0	60.0	50	0.00000	1	1	500.0	10.0

HIGH
24-HR
SGROUP# 5

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDCSTA 1972) ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1, -4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1, -4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1972) ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM SOURCES: 1, -4,

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	55000.0	120.0	26	0.00000	1	1	55000.0	70.0
2	0.00000	1	1	40000.0	120.0	27	0.00000	1	1	40000.0	70.0
3	0.00000	1	1	2000.0	120.0	28	0.00000	1	1	2000.0	70.0
4	0.00000	1	1	1000.0	120.0	29	0.00000	1	1	1000.0	70.0
5	0.00000	1	1	500.0	120.0	30	0.00000	1	1	500.0	70.0
6	0.00000	1	1	55000.0	110.0	31	0.00000	1	1	55000.0	60.0
7	0.00000	1	1	40000.0	110.0	32	0.00000	1	1	40000.0	60.0
8	0.00000	1	1	2000.0	110.0	33	0.00000	1	1	2000.0	60.0
9	0.00000	1	1	1000.0	110.0	34	0.00000	1	1	1000.0	60.0
10	0.00000	1	1	500.0	110.0	35	0.00000	1	1	500.0	60.0
11	0.00000	1	1	55000.0	100.0	36	0.00000	1	1	55000.0	50.0
12	0.00000	1	1	40000.0	100.0	37	0.00000	1	1	40000.0	50.0
13	0.00000	1	1	2000.0	100.0	38	0.00000	1	1	2000.0	50.0
14	0.00000	1	1	1000.0	100.0	39	0.00000	1	1	1000.0	50.0
15	0.00000	1	1	500.0	100.0	40	0.00000	1	1	500.0	50.0
16	0.00000	1	1	55000.0	90.0	41	0.00000	1	1	55000.0	40.0
17	0.00000	1	1	40000.0	90.0	42	0.00000	1	1	40000.0	40.0
18	0.00000	1	1	2000.0	90.0	43	0.00000	1	1	2000.0	40.0
19	0.00000	1	1	1000.0	90.0	44	0.00000	1	1	1000.0	40.0
20	0.00000	1	1	500.0	90.0	45	0.00000	1	1	500.0	40.0
21	0.00000	1	1	55000.0	80.0	46	0.00000	1	1	55000.0	30.0
22	0.00000	1	1	40000.0	80.0	47	0.00000	1	1	40000.0	30.0
23	0.00000	1	1	2000.0	80.0	48	0.00000	1	1	2000.0	30.0
24	0.00000	1	1	1000.0	80.0	49	0.00000	1	1	55000.0	20.0
25	0.00000	1	1	500.0	80.0	50	0.00000	1	1	40000.0	20.0

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT

208 511 OR OVER

BOILER73

J8182A

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*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8182 BOILER73 1        001 001 NER      OXY PERMITTING        80001046.002  5.40.45 PM 21FEB85 PRINTER1 NER1 START A*
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N.E.R.D.C. NEWS: 2/11/85 11:55:56

NERDC AND THE HARRIS EDUCATION CENTER WILL PRESENT A 5-DAY WORKSHOP ON VIRTUAL STORAGE ACCESS METHOD (VSAM) PROGRAMMING AT THE J. WAYNE REITZ UNION ON MARCH 25 - 29, 1985, 9:00 AM - 5:00 PM. NERDC MEMO 85036.1 CONTAINS A COURSE DESCRIPTION, OUTLINE, AND REGISTRATION FORM. (SRM)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (0.0, 0.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	-1.50237	-1.93392	-1.40798	-0.05921	-0.03859
350.0 /	-1.08750	-1.18266	-0.70452	-0.03492	-0.02266
340.0 /	-0.94097	-1.01779	-0.62909	-0.04184	-0.02753
330.0 /	-0.88950	-0.94166	-0.62026	-0.04655	-0.03031
320.0 /	-1.04109	-1.14256	-0.76970	-0.04320	-0.02845
310.0 /	-1.26192	-1.31281	-0.77828	-0.02620	-0.01672
300.0 /	-1.52764	-1.69402	-1.17443	-0.07114	-0.04693
290.0 /	-1.16566	-1.39939	-0.95345	-0.03889	-0.02559
280.0 /	-1.07597	-1.21848	-0.84543	-0.03826	-0.02523
270.0 /	-1.28518	-1.47051	-1.12352	-0.07705	-0.05084
260.0 /	-1.29403	-1.43723	-1.05645	-0.03522	-0.02288
250.0 /	-1.36985	-1.45644	-1.07253	-0.04231	-0.02737
240.0 /	-1.75602	-1.83605	-1.30632	-0.07548	-0.04959
230.0 /	-1.64172	-1.48315	-0.97091	-0.03508	-0.02244
220.0 /	-1.64205	-1.57041	-1.05153	-0.03709	-0.02386
210.0 /	-1.42600	-1.33551	-0.85254	-0.06448	-0.04338
200.0 /	-1.26980	-1.23958	-0.84228	-0.04891	-0.03192
190.0 /	-1.13628	-1.10082	-0.68808	-0.02899	-0.01880
180.0 /	-1.18709	-1.33791	-0.90237	-0.06668	-0.04419
170.0 /	-0.98103	-0.95434	-0.63451	-0.03956	-0.02605
160.0 /	-1.00801	-0.85206	-0.52189	-0.04286	-0.02826
150.0 /	-1.02174	-0.87862	-0.53464	-0.05600	-0.03701
140.0 /	-1.03445	-0.96877	-0.59818	-0.03317	-0.02183
130.0 /	-1.24951	-1.17361	-0.64782	-0.02252	-0.01436
120.0 /	-1.61086	-1.62239	-0.91754	-0.05110	-0.03373
110.0 /	-1.48079	-1.33054	-0.78090	-0.06146	-0.04091
100.0 /	-1.49594	-1.26557	-0.76988	-0.07452	-0.04993
90.0 /	-1.48129	-1.26327	-0.67884	-0.04356	-0.02879
80.0 /	-1.40374	-1.16883	-0.62478	-0.03557	-0.02360
70.0 /	-1.44360	-1.23532	-0.70077	-0.03884	-0.02567
60.0 /	-1.72226	-1.66777	-1.04651	-0.07788	-0.05145
50.0 /	-1.66823	-1.62406	-1.06903	-0.08625	-0.05706
40.0 /	-1.86479	-1.99460	-1.39603	-0.11462	-0.07620
30.0 /	-1.70126	-1.85824	-1.17670	-0.04916	-0.03207
20.0 /	-1.56396	-1.78400	-1.14482	-0.06142	-0.04052
10.0 /	-1.45230	-1.73105	-1.13341	-0.06143	-0.04014

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** CXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	55000.0	100.0	26	0.00000	1	1	55000.0	50.0
2	0.00000	1	1	40000.0	100.0	27	0.00000	1	1	40000.0	50.0
3	0.00000	1	1	2000.0	100.0	28	0.00000	1	1	2000.0	50.0
4	0.00000	1	1	1000.0	100.0	29	0.00000	1	1	1000.0	50.0
5	0.00000	1	1	500.0	100.0	30	0.00000	1	1	500.0	50.0
6	0.00000	1	1	55000.0	90.0	31	0.00000	1	1	55000.0	40.0
7	0.00000	1	1	40000.0	90.0	32	0.00000	1	1	40000.0	40.0
8	0.00000	1	1	2000.0	90.0	33	0.00000	1	1	2000.0	40.0
9	0.00000	1	1	1000.0	90.0	34	0.00000	1	1	1000.0	40.0
10	0.00000	1	1	500.0	90.0	35	0.00000	1	1	500.0	40.0
11	0.00000	1	1	55000.0	80.0	36	0.00000	1	1	55000.0	30.0
12	0.00000	1	1	40000.0	80.0	37	0.00000	1	1	40000.0	30.0
13	0.00000	1	1	2000.0	80.0	38	0.00000	1	1	2000.0	30.0
14	0.00000	1	1	1000.0	80.0	39	0.00000	1	1	1000.0	30.0
15	0.00000	1	1	500.0	80.0	40	0.00000	1	1	500.0	30.0
16	0.00000	1	1	55000.0	70.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	40000.0	70.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	2000.0	70.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	1000.0	70.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	500.0	70.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	55000.0	60.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	40000.0	60.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	2000.0	60.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	1000.0	60.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	500.0	60.0	50	0.00000	1	1	500.0	10.0

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1973) ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	2	1000.0	70.0	26	0.00000	1	2	1000.0	20.0
2	0.00000	1	2	500.0	70.0	27	0.00000	1	2	500.0	20.0
3	0.00000	1	2	55000.0	60.0	28	0.00000	1	2	55000.0	10.0
4	0.00000	1	2	40000.0	60.0	29	0.00000	1	2	40000.0	10.0
5	0.00000	1	2	2000.0	60.0	30	0.00000	1	2	2000.0	10.0
6	0.00000	1	2	1000.0	60.0	31	0.00000	1	2	1000.0	10.0
7	0.00000	1	2	500.0	60.0	32	0.00000	1	2	500.0	10.0
8	0.00000	1	2	55000.0	50.0	33	0.00000	1	1	55000.0	170.0
9	0.00000	1	2	40000.0	50.0	34	0.00000	1	1	40000.0	170.0
10	0.00000	1	2	2000.0	50.0	35	0.00000	1	1	55000.0	160.0
11	0.00000	1	2	1000.0	50.0	36	0.00000	1	1	40000.0	160.0
12	0.00000	1	2	500.0	50.0	37	0.00000	1	1	2000.0	160.0
13	0.00000	1	2	55000.0	40.0	38	0.00000	1	1	1000.0	160.0
14	0.00000	1	2	40000.0	40.0	39	0.00000	1	1	500.0	160.0
15	0.00000	1	2	2000.0	40.0	40	0.00000	1	1	55000.0	150.0
16	0.00000	1	2	1000.0	40.0	41	0.00000	1	1	40000.0	150.0
17	0.00000	1	2	500.0	40.0	42	0.00000	1	1	2000.0	150.0
18	0.00000	1	2	55000.0	30.0	43	0.00000	1	1	1000.0	150.0
19	0.00000	1	2	40000.0	30.0	44	0.00000	1	1	500.0	150.0
20	0.00000	1	2	2000.0	30.0	45	0.00000	1	1	55000.0	140.0
21	0.00000	1	2	1000.0	30.0	46	0.00000	1	1	40000.0	140.0
22	0.00000	1	2	500.0	30.0	47	0.00000	1	1	2000.0	140.0
23	0.00000	1	2	55000.0	20.0	48	0.00000	1	1	1000.0	140.0
24	0.00000	1	2	40000.0	20.0	49	0.00000	1	1	55000.0	130.0
25	0.00000	1	2	2000.0	20.0	50	0.00000	1	1	40000.0	130.0

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT

208 511 OR OVER

BEST AVAILABLE COPY

OILER74

J8186A

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*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8186 BOILER74 1      001 001 NER      OXY PERMITTING      80001046,002  5.39.18 PM 21FEB85 PRINTER1 NER1 START A*
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N.E.R.D.C. NEWS: 2/11/85 11:55:56

NERDC AND THE HARRIS EDUCATION CENTER WILL PRESENT A 5-DAY WORKSHOP ON VIRTUAL STORAGE ACCESS METHOD (VSAM) PROGRAMMING AT THE J. WAYNE REITZ UNION ON MARCH 25 - 29, 1985, 9:00 AM - 5:00 PM. NERDC MEMO 85036.1 CONTAINS A COURSE DESCRIPTION, OUTLINE, AND REGISTRATION FORM. (SRM)

'N'-DAY
365 DAYS
SGROUP# 1

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (0.0, 0.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	-1.45472	-1.87048	-1.31256	-0.06999	-0.04614
350.0 /	-1.17745	-1.17228	-0.70630	-0.04072	-0.02697
340.0 /	-1.10878	-0.98214	-0.57929	-0.04204	-0.02745
330.0 /	-0.99038	-0.87439	-0.56659	-0.05347	-0.03533
320.0 /	-1.04875	-0.97443	-0.63237	-0.06957	-0.04621
310.0 /	-1.18034	-0.98176	-0.58425	-0.05958	-0.03981
300.0 /	-1.15210	-1.04082	-0.71380	-0.09098	-0.06085
290.0 /	-0.91280	-0.87424	-0.61435	-0.02901	-0.01912
280.0 /	-1.01964	-1.22799	-0.91106	-0.05849	-0.03832
270.0 /	-1.19523	-1.35888	-0.90007	-0.04744	-0.03165
260.0 /	-1.18363	-1.26405	-0.90495	-0.07407	-0.04998
250.0 /	-1.36242	-1.43532	-0.98126	-0.05980	-0.03981
240.0 /	-1.71490	-1.84363	-1.27499	-0.08786	-0.05798
230.0 /	-1.61695	-1.69198	-1.12258	-0.03789	-0.02478
220.0 /	-1.50488	-1.51167	-1.00607	-0.07539	-0.04987
210.0 /	-1.25322	-1.15857	-0.71481	-0.04296	-0.02778
200.0 /	-1.09777	-1.08469	-0.77637	-0.05797	-0.03874
190.0 /	-1.15372	-1.08156	-0.68756	-0.04358	-0.02887
180.0 /	-1.19440	-1.18676	-0.70004	-0.05808	-0.03857
170.0 /	-1.02379	-0.98433	-0.57723	-0.06566	-0.04371
160.0 /	-0.98324	-1.01254	-0.64648	-0.06188	-0.04087
150.0 /	-1.14162	-1.02549	-0.63452	-0.06923	-0.04631
140.0 /	-1.31902	-1.24686	-0.77776	-0.06369	-0.04216
130.0 /	-1.44588	-1.32092	-0.74945	-0.03181	-0.02070
120.0 /	-1.53275	-1.40243	-0.87092	-0.05884	-0.03893
110.0 /	-1.44517	-1.20687	-0.67130	-0.03017	-0.01966
100.0 /	-1.36539	-1.19864	-0.64426	-0.03109	-0.02042
90.0 /	-1.35405	-1.21497	-0.67043	-0.04828	-0.03206
80.0 /	-1.22749	-1.14173	-0.69256	-0.04469	-0.02926
70.0 /	-1.24648	-1.14305	-0.81438	-0.05522	-0.03594
60.0 /	-1.74207	-1.65411	-1.08877	-0.08448	-0.05572
50.0 /	-1.75544	-1.84710	-1.22496	-0.10233	-0.06757
40.0 /	-1.72345	-2.16999	-1.58802	-0.10926	-0.07192
30.0 /	-1.37826	-1.65962	-1.16788	-0.09074	-0.06013
20.0 /	-1.42158	-1.83541	-1.34042	-0.07014	-0.04621
10.0 /	-1.41296	-1.70116	-1.11372	-0.04201	-0.02749

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	2000.0	170.0	26	0.00000	1	1	2000.0	120.0
2	0.00000	1	1	1000.0	170.0	27	0.00000	1	1	1000.0	120.0
3	0.00000	1	1	500.0	170.0	28	0.00000	1	1	500.0	120.0
4	0.00000	1	1	55000.0	160.0	29	0.00000	1	1	55000.0	110.0
5	0.00000	1	1	40000.0	160.0	30	0.00000	1	1	40000.0	110.0
6	0.00000	1	1	2000.0	160.0	31	0.00000	1	1	2000.0	110.0
7	0.00000	1	1	1000.0	160.0	32	0.00000	1	1	1000.0	110.0
8	0.00000	1	1	500.0	160.0	33	0.00000	1	1	500.0	110.0
9	0.00000	1	1	55000.0	150.0	34	0.00000	1	1	55000.0	100.0
10	0.00000	1	1	40000.0	150.0	35	0.00000	1	1	40000.0	100.0
11	0.00000	1	1	2000.0	150.0	36	0.00000	1	1	2000.0	100.0
12	0.00000	1	1	1000.0	150.0	37	0.00000	1	1	1000.0	100.0
13	0.00000	1	1	500.0	150.0	38	0.00000	1	1	500.0	100.0
14	0.00000	1	1	55000.0	140.0	39	0.00000	1	1	55000.0	90.0
15	0.00000	1	1	40000.0	140.0	40	0.00000	1	1	40000.0	90.0
16	0.00000	1	1	2000.0	140.0	41	0.00000	1	1	2000.0	90.0
17	0.00000	1	1	1000.0	140.0	42	0.00000	1	1	1000.0	90.0
18	0.00000	1	1	500.0	140.0	43	0.00000	1	1	500.0	90.0
19	0.00000	1	1	55000.0	130.0	44	0.00000	1	1	55000.0	80.0
20	0.00000	1	1	40000.0	130.0	45	0.00000	1	1	40000.0	80.0
21	0.00000	1	1	2000.0	130.0	46	0.00000	1	1	2000.0	80.0
22	0.00000	1	1	1000.0	130.0	47	0.00000	1	1	1000.0	80.0
23	0.00000	1	1	500.0	130.0	48	0.00000	1	1	500.0	80.0
24	0.00000	1	1	55000.0	120.0	49	0.00000	1	1	55000.0	70.0
25	0.00000	1	1	40000.0	120.0	50	0.00000	1	1	40000.0	70.0

HIGH
24-HR
SGROUP# 1

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1974) ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	2000.0	170.0	26	0.00000	1	1	2000.0	120.0
2	0.00000	1	1	1000.0	170.0	27	0.00000	1	1	1000.0	120.0
3	0.00000	1	1	500.0	170.0	28	0.00000	1	1	500.0	120.0
4	0.00000	1	1	55000.0	160.0	29	0.00000	1	1	55000.0	110.0
5	0.00000	1	1	40000.0	160.0	30	0.00000	1	1	40000.0	110.0
6	0.00000	1	1	2000.0	160.0	31	0.00000	1	1	2000.0	110.0
7	0.00000	1	1	1000.0	160.0	32	0.00000	1	1	1000.0	110.0
8	0.00000	1	1	500.0	160.0	33	0.00000	1	1	500.0	110.0
9	0.00000	1	1	55000.0	150.0	34	0.00000	1	1	55000.0	100.0
10	0.00000	1	1	40000.0	150.0	35	0.00000	1	1	40000.0	100.0
11	0.00000	1	1	2000.0	150.0	36	0.00000	1	1	2000.0	100.0
12	0.00000	1	1	1000.0	150.0	37	0.00000	1	1	1000.0	100.0
13	0.00000	1	1	500.0	150.0	38	0.00000	1	1	500.0	100.0
14	0.00000	1	1	55000.0	140.0	39	0.00000	1	1	55000.0	90.0
15	0.00000	1	1	40000.0	140.0	40	0.00000	1	1	40000.0	90.0
16	0.00000	1	1	2000.0	140.0	41	0.00000	1	1	2000.0	90.0
17	0.00000	1	1	1000.0	140.0	42	0.00000	1	1	1000.0	90.0
18	0.00000	1	1	500.0	140.0	43	0.00000	1	1	500.0	90.0
19	0.00000	1	1	55000.0	130.0	44	0.00000	1	1	55000.0	80.0
20	0.00000	1	1	40000.0	130.0	45	0.00000	1	1	40000.0	80.0
21	0.00000	1	1	2000.0	130.0	46	0.00000	1	1	2000.0	80.0
22	0.00000	1	1	1000.0	130.0	47	0.00000	1	1	1000.0	80.0
23	0.00000	1	1	500.0	130.0	48	0.00000	1	1	500.0	80.0
24	0.00000	1	1	55000.0	120.0	49	0.00000	1	1	55000.0	70.0
25	0.00000	1	1	40000.0	120.0	50	0.00000	1	1	40000.0	70.0

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT

208 511 OR OVER

BOILER75

J8190 A

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*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8190 BOILER75 1        001 001 NER     OXY PERMITTING      80001046.002  5.41.27 PM 21FEB85 PRINTER1 NER1 START A*
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N.E.R.D.C. NEWS: 2/11/85 11:55:56

NERDC AND THE HARRIS EDUCATION CENTER WILL PRESENT A 5-DAY WORKSHOP ON VIRTUAL STORAGE ACCESS METHOD (VSAM) PROGRAMMING AT THE J. WAYNE REITZ UNION ON MARCH 25 - 29, 1985, 9:00 AM - 5:00 PM. NERDC MEMO 85036.1 CONTAINS A COURSE DESCRIPTION, OUTLINE, AND REGISTRATION FORM. (SRM)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (0.0, 0.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	-1.51773	-1.59115	-1.04684	-0.05840	-0.03797
350.0 /	-1.19413	-1.09926	-0.65241	-0.03726	-0.02454
340.0 /	-0.98184	-0.89562	-0.60395	-0.05736	-0.03834
330.0 /	-1.03683	-0.96655	-0.65426	-0.04227	-0.02740
320.0 /	-1.16136	-1.06890	-0.73993	-0.05815	-0.03835
310.0 /	-1.27339	-1.22220	-0.86332	-0.09300	-0.06152
300.0 /	-1.33449	-1.41720	-1.03745	-0.03995	-0.02583
290.0 /	-1.30204	-1.30522	-0.92291	-0.04963	-0.03227
280.0 /	-1.32169	-1.31801	-0.90951	-0.04259	-0.02744
270.0 /	-1.45072	-1.50854	-1.06616	-0.04994	-0.03267
260.0 /	-1.43155	-1.48777	-0.98713	-0.04575	-0.03002
250.0 /	-1.41706	-1.61436	-1.18698	-0.04517	-0.02934
240.0 /	-1.36246	-1.56302	-1.21814	-0.08102	-0.05362
230.0 /	-1.36682	-1.65421	-1.19604	-0.05658	-0.03739
220.0 /	-1.24285	-1.54701	-1.17087	-0.04190	-0.02697
210.0 /	-1.04279	-1.16221	-0.88997	-0.06904	-0.04561
200.0 /	-0.97872	-0.97289	-0.70897	-0.06832	-0.04482
190.0 /	-1.01933	-1.00430	-0.68074	-0.07389	-0.04910
180.0 /	-1.11097	-1.28323	-0.94073	-0.06844	-0.04540
170.0 /	-0.98375	-1.12626	-0.79530	-0.06050	-0.03962
160.0 /	-1.00682	-1.09523	-0.67591	-0.02395	-0.01507
150.0 /	-1.03088	-1.19104	-0.80001	-0.05765	-0.03817
140.0 /	-1.16172	-1.23713	-0.78726	-0.04134	-0.02707
130.0 /	-1.33568	-1.29302	-0.81762	-0.10088	-0.06759
120.0 /	-1.28576	-1.21234	-0.71411	-0.05457	-0.03651
110.0 /	-1.06934	-0.95947	-0.58201	-0.04699	-0.03066
100.0 /	-1.10393	-0.99012	-0.54504	-0.02055	-0.01311
90.0 /	-1.08257	-0.99314	-0.58183	-0.03617	-0.02364
80.0 /	-1.09266	-0.97134	-0.58862	-0.03282	-0.02143
70.0 /	-1.25637	-1.18792	-0.73261	-0.04737	-0.03090
60.0 /	-1.60709	-1.67226	-1.04964	-0.07982	-0.05231
50.0 /	-1.75824	-1.95965	-1.32383	-0.10136	-0.06731
40.0 /	-1.67542	-1.90897	-1.28024	-0.05044	-0.03244
30.0 /	-1.43436	-1.83774	-1.17237	-0.03094	-0.01992
20.0 /	-1.24061	-1.44136	-0.95838	-0.04845	-0.03165
10.0 /	-1.33103	-1.54084	-1.03419	-0.05434	-0.03576

HIGH
3-HR
SGROUP# 1

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
350.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
340.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
330.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
320.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
310.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
300.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
290.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
280.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
270.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
260.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
250.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
240.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
230.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
220.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
210.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
200.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
190.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
180.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
170.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
160.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
150.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
140.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
130.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
120.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
110.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
100.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
90.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
80.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
70.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
60.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
50.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
40.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
30.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
20.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)
10.0 /	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)	0.00000 (0. 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	55000.0	140.0	26	0.00000	1	1	55000.0	90.0
2	0.00000	1	1	40000.0	140.0	27	0.00000	1	1	40000.0	90.0
3	0.00000	1	1	2000.0	140.0	28	0.00000	1	1	2000.0	90.0
4	0.00000	1	1	1000.0	140.0	29	0.00000	1	1	1000.0	90.0
5	0.00000	1	1	500.0	140.0	30	0.00000	1	1	500.0	90.0
6	0.00000	1	1	55000.0	130.0	31	0.00000	1	1	55000.0	80.0
7	0.00000	1	1	40000.0	130.0	32	0.00000	1	1	40000.0	80.0
8	0.00000	1	1	2000.0	130.0	33	0.00000	1	1	55000.0	40.0
9	0.00000	1	1	1000.0	130.0	34	0.00000	1	1	40000.0	40.0
10	0.00000	1	1	500.0	130.0	35	0.00000	1	1	2000.0	40.0
11	0.00000	1	1	55000.0	120.0	36	0.00000	1	1	55000.0	30.0
12	0.00000	1	1	40000.0	120.0	37	0.00000	1	1	40000.0	30.0
13	0.00000	1	1	2000.0	120.0	38	0.00000	1	1	2000.0	30.0
14	0.00000	1	1	1000.0	120.0	39	0.00000	1	1	1000.0	30.0
15	0.00000	1	1	500.0	120.0	40	0.00000	1	1	500.0	30.0
16	0.00000	1	1	55000.0	110.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	40000.0	110.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	2000.0	110.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	1000.0	110.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	500.0	110.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	55000.0	100.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	40000.0	100.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	2000.0	100.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	1000.0	100.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	500.0	100.0	50	0.00000	1	1	500.0	10.0

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1975) ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	40000.0	280.0	26	0.00000	1	1	40000.0	230.0
2	0.00000	1	1	2000.0	280.0	27	0.00000	1	1	2000.0	230.0
3	0.00000	1	1	1000.0	280.0	28	0.00000	1	1	1000.0	230.0
4	0.00000	1	1	500.0	280.0	29	0.00000	1	1	500.0	230.0
5	0.00000	1	1	55000.0	270.0	30	0.00000	1	1	55000.0	220.0
6	0.00000	1	1	40000.0	270.0	31	0.00000	1	1	40000.0	220.0
7	0.00000	1	1	2000.0	270.0	32	0.00000	1	1	2000.0	220.0
8	0.00000	1	1	1000.0	270.0	33	0.00000	1	1	1000.0	220.0
9	0.00000	1	1	500.0	270.0	34	0.00000	1	1	500.0	220.0
10	0.00000	1	1	55000.0	260.0	35	0.00000	1	1	55000.0	210.0
11	0.00000	1	1	40000.0	260.0	36	0.00000	1	1	40000.0	210.0
12	0.00000	1	1	2000.0	260.0	37	0.00000	1	1	55000.0	150.0
13	0.00000	1	1	1000.0	260.0	38	0.00000	1	1	40000.0	150.0
14	0.00000	1	1	500.0	260.0	39	0.00000	1	1	55000.0	30.0
15	0.00000	1	1	55000.0	250.0	40	0.00000	1	1	40000.0	30.0
16	0.00000	1	1	40000.0	250.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	2000.0	250.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	1000.0	250.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	500.0	250.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	55000.0	240.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	40000.0	240.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	2000.0	240.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	1000.0	240.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	500.0	240.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	55000.0	230.0	50	0.00000	1	1	500.0	10.0

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT

208 511 OR OVER

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BOILER76

J8235   A

*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
*A START JOB 8235 BOILER76 1         001 001 NER      OXY PERMITTING        80001046.002  5.47.10 PM 21FEB85 PRINTER1 NER1 START A*
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N.E.R.D.C. NEWS: 2/11/85 11:55:56

NERDC AND THE HARRIS EDUCATION CENTER WILL PRESENT A 5-DAY WORKSHOP ON VIRTUAL STORAGE ACCESS METHOD (VSAM) PROGRAMMING AT THE J. WAYNE REITZ UNION ON MARCH 25 - 29, 1985, 9:00 AM - 5:00 PM. NERDC MEMO 85036.1 CONTAINS A COURSE DESCRIPTION, OUTLINE, AND REGISTRATION FORM. (SRM)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* 366-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (0.0, 0.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	-1.23582	-1.45484	-0.99122	-0.06816	-0.04435
350.0 /	-1.12573	-1.17223	-0.83155	-0.07630	-0.05012
340.0 /	-0.92766	-1.04833	-0.81130	-0.05630	-0.03682
330.0 /	-0.82414	-0.85318	-0.63454	-0.07456	-0.04940
320.0 /	-0.84796	-0.76495	-0.61529	-0.09015	-0.06027
310.0 /	-0.95731	-0.89170	-0.64395	-0.04647	-0.03028
300.0 /	-0.87520	-0.81492	-0.64190	-0.04082	-0.02680
290.0 /	-0.75225	-0.76102	-0.65242	-0.05042	-0.03271
280.0 /	-0.70270	-0.83802	-0.69530	-0.02866	-0.01841
270.0 /	-0.76685	-0.90196	-0.67015	-0.03563	-0.02348
260.0 /	-0.91723	-1.14070	-0.82423	-0.03469	-0.02256
250.0 /	-1.22855	-1.53212	-1.07132	-0.03733	-0.02405
240.0 /	-1.55767	-1.90040	-1.27139	-0.05603	-0.03681
230.0 /	-1.67792	-2.09611	-1.41977	-0.07169	-0.04744
220.0 /	-1.47676	-1.86928	-1.29059	-0.09044	-0.05371
210.0 /	-1.22081	-1.41731	-0.91993	-0.03803	-0.02509
200.0 /	-1.14662	-1.23244	-0.80433	-0.04363	-0.02846
190.0 /	-1.10950	-1.21080	-0.82339	-0.06101	-0.04069
180.0 /	-1.26345	-1.48304	-0.97240	-0.03491	-0.02268
170.0 /	-1.21427	-1.40880	-0.94801	-0.05976	-0.03934
160.0 /	-1.08802	-1.24864	-0.79247	-0.03175	-0.02076
150.0 /	-1.41632	-1.56325	-0.90527	-0.03457	-0.02241
140.0 /	-1.57987	-1.63387	-0.93846	-0.06032	-0.04040
130.0 /	-1.57513	-1.54162	-0.87156	-0.04881	-0.03206
120.0 /	-1.57223	-1.50810	-0.86440	-0.05763	-0.03829
110.0 /	-1.32043	-1.19274	-0.70297	-0.03982	-0.02602
100.0 /	-1.11074	-0.90512	-0.51190	-0.05667	-0.03752
90.0 /	-1.10166	-1.02408	-0.66706	-0.04484	-0.02989
80.0 /	-1.23482	-1.12435	-0.69615	-0.04031	-0.02651
70.0 /	-1.44920	-1.34032	-0.83525	-0.05028	-0.03316
60.0 /	-1.87292	-1.80252	-1.14510	-0.08367	-0.05530
50.0 /	-1.86146	-1.85010	-1.21749	-0.11970	-0.07939
40.0 /	-1.68727	-1.91735	-1.26729	-0.07418	-0.04904
30.0 /	-1.39000	-1.59949	-1.07508	-0.04490	-0.02913
20.0 /	-1.12233	-1.36830	-0.93601	-0.06686	-0.04396
10.0 /	-1.16246	-1.51237	-1.07513	-0.05648	-0.03722

*** CXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION (DEGREES)	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	500.0	160.0	26	0.00000	1	1	55000.0	50.0
2	0.00000	1	1	55000.0	150.0	27	0.00000	1	1	40000.0	50.0
3	0.00000	1	1	40000.0	150.0	28	0.00000	1	1	2000.0	50.0
4	0.00000	1	1	2000.0	150.0	29	0.00000	1	1	1000.0	50.0
5	0.00000	1	1	1000.0	150.0	30	0.00000	1	1	500.0	50.0
6	0.00000	1	1	500.0	150.0	31	0.00000	1	1	55000.0	40.0
7	0.00000	1	1	55000.0	140.0	32	0.00000	1	1	40000.0	40.0
8	0.00000	1	1	40000.0	140.0	33	0.00000	1	1	2000.0	40.0
9	0.00000	1	1	2000.0	140.0	34	0.00000	1	1	1000.0	40.0
10	0.00000	1	1	1000.0	140.0	35	0.00000	1	1	500.0	40.0
11	0.00000	1	1	500.0	140.0	36	0.00000	1	1	55000.0	30.0
12	0.00000	1	1	55000.0	130.0	37	0.00000	1	1	40000.0	30.0
13	0.00000	1	1	40000.0	130.0	38	0.00000	1	1	2000.0	30.0
14	0.00000	1	1	2000.0	130.0	39	0.00000	1	1	1000.0	30.0
15	0.00000	1	1	1000.0	130.0	40	0.00000	1	1	500.0	30.0
16	0.00000	1	1	500.0	130.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	55000.0	120.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	40000.0	120.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	55000.0	70.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	40000.0	70.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	55000.0	60.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	40000.0	60.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	2000.0	60.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	1000.0	60.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	500.0	60.0	50	0.00000	1	1	500.0	10.0

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 0.00000 AND OCCURRED AT (55000.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 500.0	1000.0	2000.0	40000.0	55000.0
360.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
350.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
340.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
330.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
320.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
310.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
300.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
290.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
280.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
270.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
260.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
250.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
240.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
230.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
220.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
210.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
200.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
190.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
180.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
170.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
160.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
150.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
140.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
130.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
120.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
110.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
100.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
90.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
80.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
70.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
60.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
50.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
40.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
30.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
20.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)
10.0 /	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)	0.00000 (0, 0)

*** OXY - BOILER HEAT RATE REDISTRIBUTION (VALDOSTA 1976) ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	0.00000	1	1	55000.0	240.0	26	0.00000	1	1	55000.0	50.0
2	0.00000	1	1	40000.0	240.0	27	0.00000	1	1	40000.0	50.0
3	0.00000	1	1	2000.0	240.0	28	0.00000	1	1	2000.0	50.0
4	0.00000	1	1	1000.0	240.0	29	0.00000	1	1	1000.0	50.0
5	0.00000	1	1	500.0	240.0	30	0.00000	1	1	500.0	50.0
6	0.00000	1	1	55000.0	230.0	31	0.00000	1	1	55000.0	40.0
7	0.00000	1	1	40000.0	230.0	32	0.00000	1	1	40000.0	40.0
8	0.00000	1	1	2000.0	230.0	33	0.00000	1	1	2000.0	40.0
9	0.00000	1	1	1000.0	230.0	34	0.00000	1	1	1000.0	40.0
10	0.00000	1	1	500.0	230.0	35	0.00000	1	1	500.0	40.0
11	0.00000	1	1	55000.0	220.0	36	0.00000	1	1	55000.0	30.0
12	0.00000	1	1	40000.0	220.0	37	0.00000	1	1	40000.0	30.0
13	0.00000	1	1	2000.0	220.0	38	0.00000	1	1	2000.0	30.0
14	0.00000	1	1	1000.0	220.0	39	0.00000	1	1	1000.0	30.0
15	0.00000	1	1	500.0	220.0	40	0.00000	1	1	500.0	30.0
16	0.00000	1	1	55000.0	210.0	41	0.00000	1	1	55000.0	20.0
17	0.00000	1	1	40000.0	210.0	42	0.00000	1	1	40000.0	20.0
18	0.00000	1	1	55000.0	200.0	43	0.00000	1	1	2000.0	20.0
19	0.00000	1	1	55000.0	70.0	44	0.00000	1	1	1000.0	20.0
20	0.00000	1	1	40000.0	70.0	45	0.00000	1	1	500.0	20.0
21	0.00000	1	1	55000.0	60.0	46	0.00000	1	1	55000.0	10.0
22	0.00000	1	1	40000.0	60.0	47	0.00000	1	1	40000.0	10.0
23	0.00000	1	1	2000.0	60.0	48	0.00000	1	1	2000.0	10.0
24	0.00000	1	1	1000.0	60.0	49	0.00000	1	1	1000.0	10.0
25	0.00000	1	1	500.0	60.0	50	0.00000	1	1	500.0	10.0

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT

208 511 OR OVER

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. M. P. McArthur
Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

4. Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number: 0155541

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee

X

6. Signature – Agent

X Clarence Rogers

7. Date of Delivery

4/8/85

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

DOMESTIC RETURN RECEIPT

No. 0155541

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

SENT TO
Mr. M. P. McArthur

STREET AND NO.

P.O., STATE AND ZIP CODE

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

4/3/85

PS Form 3800, Apr. 1976

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 22, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

RE: Modification to Permit Numbers AC 24-56209 (Sulfuric Acid Plant "F"), -56210 (Boiler E), -56211 (Sulfuric Acid Plant "E"), -56212 (Boiler B), -56213 (Boiler D), and -56214 (Boiler C), and -56215 (DAP Plant No. 2).

The department is in receipt of your request to modify the above referenced permits. Your request has been reviewed and approved. The conditions are changed and added as follows:

SPECIFIC CONDITIONS:

Permit No. AC 24-56212, Auxiliary Boiler "B"

From: The maximum operating rate for boiler "B" shall not exceed 60% of rated capacity (96 mmBTU/hr heat) when sulfuric acid plants "C" and "D" will be operating at 100% capacity. Auxiliary boiler "B" shall be allowed to operate at 100% of rated capacity (160 mmBTU/hr heat input) when either the "C" or "D" sulfuric acid plant is shut down.

To: The maximum operating rate for boiler "B" shall not exceed 90 mmBTU/hr heat input.

Permit No. AC 24-56213, Auxiliary Boiler "D"

From: The maximum operating rate for boiler "D" shall not exceed 120 mmBTU/hr heat input.

To: The maximum operating rate for boiler "D" shall not exceed 155 mmBTU/hr heat input.

Permit No. AC 24-56214, Auxiliary Boiler "C"

From: The maximum operating rate for boiler "C" shall not exceed 120 mmBTU/hr heat input.

To: The maximum operating rate for boiler "C" shall not exceed 155 mmBTU/hr heat input.

The following paragraph will be added to conditions No. 5 (boiler B), and No. 4 (boiler E), respectively:

Compliance with the particulate matter standard will be based upon visible emissions and the sulfur content of the fuel oil fired in the boilers. An applicable test method by the American Society for Testing Materials (A.S.T.M.) to determine the sulfur content in the fuel will be used.

Method 5 - Determination of Particulate Emissions for Stationary Sources, shall be requested by the Department when deemed necessary.

The following paragraph will be added to conditions No. 6 (boiler C) and No. 5 (boiler D):

Compliance with the particulate matter standard will be based upon visible emissions and the sulfur content of the fuel oil fired in the boilers. An applicable test method by the American Society for Testing Materials (A.S.T.M.) to determine the sulfur content in the fuel will be used.

Method 5 - Determination of Particulate Emissions for Stationary Sources, shall be requested by the Department when deemed necessary.

The following paragraph will be added to conditions No. 7 (boiler B), No. 4 (boiler E), No. 8 (boiler C), and No. 7 (boiler D):

Compliance with the opacity emission standard (Visible emission test - DER Method 9) for boilers B - C - D and E will be delayed until the units are oil fired (the boilers are currently running on gas). A tentative oil-fired schedule should be submitted with the application for a permit to operate to the Northeast District office.

Specific Conditions No. 12 and No. 13 for all four boilers shall be changed as follows:

From: Stack sampling facilities will include the eyebolt and angle described in Chapter 12-2.700, FAC.

To: Stack sampling facilities shall be as described in Rule 17-2.700(4) Fla. Administrative Code.

Expiration Date:

From: March 31, 1985

To: June 30, 1985

Attachments:

3. Mr. W.W. Atwood's modifications request letters of October 19, 1984 and March 14, 1985

A copy of this letter and attachments must be attached to your permits, AC 24-56209, -56210, -56211, -56212, -56213, -56214, and -56215, and shall become a part of each permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/rw
cc: John Koogler, Sholtes and Koogler Environmental Consultants
Johnny Cole, Northeast District office

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: _____	

RECEIVED
MAR 25 1985
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: March ~~22~~ 25, 1985

SUBJ: Modification to Permit Numbers AC 24-56209, -56210, -56211, 56212, 56213, 56214, and 56215

Attached is a letter for your signature that will modify specific conditions for the above referenced construction permits issued to Occidental Chemical Company. The Bureau of Air Quality Management recommends that the modifications be approved.

CHF/s

Attachment

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

March 14, 1985

Mr. Bill Thomas
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: AC 24 - 56212
AC 24 - 56214
AC 24 - 56213
AC 24 - 56215
AC 24 - 56209
AC 24 - 56211
AC 24 - 56210

Dear Bill:

This will confirm our conversation of March 7 regarding referenced construction permits. We are requesting that these permits be extended to June 30 to allow for your review of the modeling submitted by Dr. J. Koogler and for minor modification and issuance of the operating permits.

Thank you for your consideration.

Sincerely,

W. W. Atwood
Manager, Environmental Control

WWA/jrh
Enclosures

cc: J. Koogler
J. Cole
R. E. McNeill

No. 0155792

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., STATE AND ZIP CODE

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

POSTMARK OR DATE

12/17/84

PS Form 3800, Apr. 1976

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.)
- [X] 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.
	0155792	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [X] Authorized agent

Clarence Rogers

4. DATE OF DELIVERY
12/19/84

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
MB

☆GPO : 1979-300-459

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

December 13, 1984

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

Dear Sir:

RE: Letter of October 19, 1984

In evaluating Occidental's October 19th request, we have found several inconsistencies in our records. Specifically, the heat input of boilers B, C, D, and E. Our records of operating permits for these boilers, (AO 24-34186, AO 24-21059, and AO 24-34846) as well as construction permits, (AC 24-56212, AC 24-56214, AC 24-56213, AC 24-56210, and PSD-FL-082 and 083), show the maximum heat input to boiler "B" is 160 mmBTU/hr; to boiler "C", is 120 mmBTU/hr; to boiler "D", is 120 mmBTU/hr, and to boiler "B", is 156 mmBTU/hr.

For purpose of clarification, we have compared our records and your October 19th proposal. Please refer to the attached table.

If these boilers are existing units, why are you proposing to change the heat input as noted in your October 19, 1984 letter to Mr. John Brown?

Have any of these boilers ever been replaced, or are you planning to replace them? Please submit the serial numbers and confirm the design and maximum heat input for each boiler.

Please re-submit pages 3 and 4, Section III, of the DER Form 17-1.122(16) for each boiler application reflecting the changes proposed.

Existing operating and construction permits	Data from letter of October 19, 1984
Boiler "B" AO 24-34186 & AC 24-5612, maximum heat input 160 mmBTU/hr (96 mmBTU/hr, special condition)	Boiler "B" Operating rate: 90 mmBTU/hr Design Capacity: 107 mmBTU/hr Expected Normal: 45-90 mmBTU/hr
Boiler "C" and "D", AO 24-21059 and AC 24-56214, AC 24-56213, maximum heat input for each boiler is 120 mmBTU/hr	Boiler "C" Operating rate: 155 mmBTU/hr Design Capacity: 182.5 mmBTU/hr Expected Normal: 75-155 mmBTU/hr Boiler "D" Operating rate: 155 mmBTU/hr Design Capacity: 182 mmBTU/hr Expected Normal: 75-155 mmBTU/hr
Boiler "E" AO 24-34846 & AC 24-56210, maximum heat input 156 mmBTU/hr	Boiler "E" Operating rate: 156 mmBTU/hr Design Capacity: 218 mmBTU/hr Expected Normal: 75-156 mmBTU/hr

As soon as the requested information is received in this office, we will resume processing your request.

If you have any questions regarding this request, please call Teresa Heron 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/rw

cc: Johnny Cole

P16 7682467

RECEIPT FOR CERTIFIED MAI

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

SENT TO
W.W. Atwood

STREET AND NO.
P.O.Box 300

P.O. STATE AND ZIP CODE
White Springs, FL 3209

POSTAGE	$
CERTIFIED FEE	
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	

CONSULT POSTMASTER FOR FEES

PS Form 3800, Apr. 1976

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.)
- [X] 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:
W.W. Atwood
P.O.Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P16 7682467	

(Always obtain signature of addressee or agent)

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

Clarence Page

4. DATE OF DELIVERY: 12/17/84

POSTMARK: WHITE SPRINGS FL DEC 17 PM 1984

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-300-459

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:	

RECEIVED
DEC 7 1984
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: December 7, 1984

SUBJ: Modification of Permit Nos. AC 24-56209, 56210, 56211, 56212, 56213, 56214, 56215.

Attached is a letter for your signature that will extend the expiration date of the above mentioned construction permits issued to Occidental Chemical Company.

The Bureau of Air Quality Management recommends their request be approved.

CHF/WH/s

attachment: letter

DER
DEC 10 1984
BAQM

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 07, 1984

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. Atwood:

RE: Modifications to Air Construction Permit Nos. AC 24-56209, 56210, 56211, 56212, 56213, 56214, 56215.

The department is in receipt of your request to modify the above referenced permits. Your request has been reviewed and approved. The expiration dates of your permits are changed as follows:

FROM: September 1, 1984

TO: March 31, 1985

A copy of this letter must be attached to each of the above referenced permits and becomes a part of each permit.

Sincerely,

Victoria J. Tschinkel

Victoria J. Tschinkel
Secretary

VJT/rw

cc: Johnny Cole

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

November 9, 1984

Mr. Bill Thomas
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32302

Dear Bill:

With reference to your discussion of November 8, 1984, with John Koogler, Occidental Chemical Agricultural Products, Inc. is requesting that construction permits

AC 24 - 56212
AC 24 - 56214
AC 24 - 56213
AC 24 - 56215
AC 24 - 56209
AC 24 - 56211
AC 24 - 56210

be extended to ~~January 31, 1985~~ March 31, 1985* . This extension will allow Occidental to continue operating the affected sources under valid permits while minor modifications to the various permits are being negotiated with the Department.

If there are any questions regarding this matter, please do not hesitate to call me or our consultant, John Koogler.

Very truly yours,

W. W. Atwood

W.W. Atwood
Manager, Environmental Control

WWA/jrh

cc: Willard Hanks - FDER Tallahassee
John Brown - FDER Jacksonville
John Koogler - Sholtes & Koogler
Larry Curtin - Holland & Knight

* March 31, 1985. Date agreed

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

October 31, 1984

Mr. W. A. Thomas, P. E.
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Reference: "B" Auxiliary Boiler, AC24-56212
"C" Auxiliary Boiler, AC24-56214
"D" Auxiliary Boiler, AC24-56213
#2 DAP Plant, AC24-56215

Dear Bill,

On October 29th we met with the District (Messrs. Brown and Cole) and discussed referenced permits. One point of action that evolved was a suggestion, confirmed this morning by Johnny Cole, concerning compliance testing.

As you are aware visible emission (VE) readings are required on the boilers when running on the higher sulfur fuel oil. At the present time, however, they are running on gas. The District has suggested that we request from you a delay on submission of VE tests until the units are oil fired.

This would avoid a special start-up on oil of C & D boilers and de-mothballing of B boiler.

A similar request is made in connection with compliance testing with the use of #6 fuel oil for the dryer in DAP plant #2. It is currently running on gas and the fuel oil stand-by tanks still contain the previously approved fuel.

Sincerely,

W. W. Atwood
Manager, Environmental Control

psb
cc: Mr. Johnny Cole, FDER Jacksonville, FL
Mr. R. E. McNeill, Occidental Chemical Company

Copy
J Brown has orig.

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

October 19, 1984

Mr. John Brown, P. E.
Supervisor, Air Section
Florida Department of
Environmental Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Brown:

This will refer to several letters in connection with Certificate of Completion of Construction forms for operating permits. All were associated with a completed PSD review.

Reference: Letter dated August 24, 1984, "B" Auxiliary Boiler

1. Operating Rate: 90 million Btu/hour
Design Capacity: 107 million Btu/hour
Expected Normal: 45-90 million Btu/hour, when operating.

Please refer to Attachment 1 for a requested re-alignment of operating rates for Boilers B, C and D.

2. Fuel Oil Analysis - See Attachment 2

3. Procedure to isolate 1.5% sulfur fuel oil - See Attachment 3.

4. (a) Particulate matter stack test - The intent of our request February 6, 1984 to FDER was to avoid costly stack sampling of the small auxiliary boilers. However, our request and your response only addressed a stack sampling exemption for sulfur dioxide. Attachment 4 provides justification to avoid costly stack testing for particulate matter as required in the construction permits.

(b) VE's - As pointed out in our application transmittal letter, the unit has been fired on natural gas and now has been mothballed for a period at least through 1985. We propose to notify the Department prior to start-up of this unit and test at that time.

5. If, as we intended, FDER approves a certified oil analysis and VE test in lieu of stack testing, the fee of $100 would apply and this item is contingent on item 4(a) above.

Reference: Letter August 24, 1984 - "C" Auxiliary Boiler

1. Operating Rate: 155 million Btu/hour
   Design Capacity: 182.5 million Btu/hour
   Expected Normal: 75-155 million Btu/hour, when operating.

   Please refer to Attachment 1.

2. Fuel Oil Analysis - See Attachment 2.

3. Procedure to isolate 1.5% sulfur fuel oil - Attachment 3.

4. (a) Particulate matter stack test - The intent of our request February 6, 1984 to FDER was to avoid costly stack sampling of the small auxiliary boilers. However, our request and your response only addressed a stack sampling exemption for sulfur dioxide. Attachment 4 provides justification to avoid costly stack testing for particulate matter as required in the construction permits.

   (b) As pointed out in our application transmittal letter, the unit continues to be fired on natural gas. We could start-up and operate on oil in order to run the test if the Department requires.

Reference: Letter August 24, 1984 - "D" Auxiliary Boiler

1. Operating Rate: 155 million Btu/hour
   Design Capacity: 182.5 million Btu/hour
   Expected Normal: 75-155 million Btu/hour, when operating.

   Please refer to Attachment 1.

2. Same as for "C" Auxiliary Boiler (above).

3. Same as for "C" Auxiliary Boiler (above).

4. Same as for "C" Auxiliary Boiler (above).

Reference: Letter August 24, 1984, "E" Auxiliary Boiler

1. Operating Rate: 156 million Btu/hour
   Design Capacity: 218.4 million Btu/hour
   Expected Normal: 75-156 million Btu/hour, when operating.

2. Same as for "C" Auxiliary Boiler (above).

3. Same as for "C" Auxiliary Boiler (above).

4. Same as for "C" Auxiliary Boiler (above) relative to stack testing. Visible emission compliance test included as Attachment 5.

Reference: Letter August 24, 1984, No. 2 DAP Plant

1. Tests will be performed when No. 6 fuel oil is used. At the present time the plant is running on natural gas and the fuel tank contains the lower sulfur No. 5 fuel oil. We propose to notify the Department prior to start-up of this unit on No. 6 fuel oil and the subsequent testing at that time.

2. Certificate will be obtained when No. 6 fuel oil is purchased for the DAP plant.

3. Procedure noted above is in Attachment 3.

Sincerely,

OCCIDENTAL CHEMICAL
AGRICULTURAL PRODUCTS DIVISION

W. W. Atwood
Manager, Environmental Control

WWA:sc
Attachments

cc: R. E. McNeill

ATTACHMENT 1

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

SKEC 102-75-06

October 19, 1984

Mr. W. C. Thomas, P.E.
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Subject: Occidental Chemical Agricultural Products, Inc.
Modification to Boiler Input Rates and Pollutant Emission Rates
Auxiliary Boiler B, AC24-56212
Auxiliary Boiler C, AC24-56214
Auxiliary Boiler D, AC24-56213

Dear Bill,

During the meeting that Wes Atwood and I had with you in your office on October 12, 1984, we discussed some inconsistencies between permitted and designed heat input rates for the B, C and D auxiliary boilers located at Occidental's Suwannee River Chemical Complex in Hamilton, Florida. Specifically, Auxiliary Boilers C and D each have a designed maximum heat input rate of 182.5 million BTU per hour, and a permitted maximum heat input rate of 120.0 million BTU per hour, each, and Boiler B has a maximum heat designed input rate of 106.9 million BTU per hour and a maximum permitted heat input rate of 160.0 million BTU per hour. The total maximum designed heat input rate for the three boilers combined is 471.9 million BTU per hour and the maximum permitted heat input rate to the three boilers combined is 400.0 million BTU per hour.

Occidental is requesting a modification to the three referenced permits to redistribute the maximum permitted heat input rate to the three boilers. The proposed maximum permitted heat input rates will be 155.0 million BTU per hour to Boiler C, 155.0 million BTU per hour to Boiler D, and 90.0 million BTU per hour to Boiler B. The total redistributed heat input is still 400.0 million BTU per hour. The designed, permitted and proposed heat inputs are also summarized in Table 1. The proposed maximum heat input to each of the three boilers is approximately 85 percent of the maximum designed heat input rate.

160 IJS
120 155
120 90
0
TD

These heat input rates will allow each boiler to operate with reasonable margin safety and, furthermore, will not impose any operating inconvenience on Occidental.

The redistribution of heat input rates to the three boilers will result in changes in steam production for each boiler as summarized in Table 1. The total proposed steam production for the three boilers is 325,000 pounds per hour; a production rate identical to the presently permitted total steam production rate. The proposed steam production rate for each boiler is approximately 93 percent of the designed steam production rate for the boiler.

The redistribution of maximum heat input rates will also affect the air pollutant emission rates from the boilers. The modified annual pollutant emission rates for sulfur dioxide, particulate matter and nitrogen oxides are also summarized in Table 1. In all cases, it will be noted that the presently permitted and proposed annual emission rates are identical.

In addition to redistributing the maximum allowable annual air pollutant emission rates, an assessment was made to evaluate the impact of these changes on ambient ground-level concentrations of the pollutants. The assessment was semi-quantitative and involved looking at changes in air pollutant emission rates, stack heights, stack temperatures and stack gas flow rates. The stack and stack gas parameters for Boilers B, C and D under permitted and proposed conditions are summarized in Table 2.

The proposed changes in emission rates will result in approximately a 44 percent decrease in emissions from Boiler B and approximately a 38 percent increase in the emissions from both Boiler C and D. The proposed changes in the emission rates result in a decrease in the emissions from the boiler with the shortest stack height and lowest stack gas flow rate (plume buoyancy) and an increase in the pollutant emission rates of the boilers with a highest stack height and a highest stack gas flow rate (plume buoyancy). Both the permitted and proposed gas temperatures are the same (460°F) and therefore cancel out of the analysis.

Since air pollutant emissions are being transferred from a source with a low physical stack height and the lesser plume buoyancy to a source with a greater physical stack height and a greater plume buoyancy, the impact of the proposed modification will result in a reduced ground-level impact of all air pollutant emitted by the three boilers.

If after reviewing the enclosed information, you feel additional information is needed to support this request of modifications, please give me a call.

Very truly yours,

SHOLTES & KOOGLER,
ENVIRONMENTAL CONSULTANTS

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

JBK:ldh
Enclosure

cc: Mr. Wes Atwood
Mr. Johnny Cole

ATTACHMENT 2

EASTERN SEABOARD PETROLEUM COMPANY, INC.

P. O. BOX 8233, STATION F—6531 EVERGREEN AVE.

JACKSONVILLE, FLORIDA 32206

OFFICES

JACKSONVILLE

TAMPA

TELEPHONE 904/388-9675

CABLE ADDRESS

EASTPET

September 5, 1984

Mr. John Boren
Materials Management
Occidental Chemical Company
Post Office Box 300
State Road 137
White Springs, Florida 32096

Dear Mr. Boren:

The specifications for various fuels supplied to Occidental Corporation as as follows:

	1.0% #6 Fuel	#2 Fuel	Comm. Dist.	No. 5 Flotation	50/50 Blend
API Gravity	10.0	36.4	29.7	25.0	20.1
Sulfur % Wt ASTM	.9	.21	.81	1.27	1.78
Pour Point ASTM	+5	+5	+5	+5	+5
Flash Point	175	175	175	180	175
Visc. SSU @ 100	373	36.0	47.5	78.5	201
BSW % Wt	.01	.01	.01	.01	.01

The above is a composite analysis on the laboratory results. If we can be of further assistance, please contact us.

Very truly yours,

Ceil Cabler

Ceil Cabler

cc: Marshall Griggs
Al Csontos
Steve Kemp

cc: AES
TVT

FUEL OIL ISOLATION PROCEDURE

1. Vendor will be informed not to accept a verbal (phone) order for 1.5% No. 6 fuel.

2. Purchasing will order the 1.5% fuel following receipt of an authorized purchase request.

3. Traffic will be informed of the delivery date by Purchasing. When the truck arrives at the weigh station, Traffic will contact the Granulation Superintendent who will assign someone to meet the truck.

4. The person assigned from Granulation will direct the truck personally to the proper storage tank for DAP #2 and see that the truck offloads to that tank.

5. Receipts will be logged on the DAP #2 plant operating log sheet.

ATTACHMENT 4

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

SKEC 102-75-06

October 19, 1984

Mr. W. C. Thomas, P.E.
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Subject: Occidental Chemical Agricultural Products, Inc.
Modification to Method of Determining Particulate
Matter Emission Compliance
Auxiliary Boiler B, AC24-56212
Auxiliary Boiler C, AC24-56214
Auxiliary Boiler D, AC24-56213
Auxiliary Boiler E, AC24-56210

Dear Bill,

Pursuant to the meeting that Wes Atwood and I had with you and Ed Palagyi on October 12, 1984 and the telephone conversations that I had with you and Ed on this date, Occidental is requesting a modification to the method for determining compliance with the permitted particulate matter emission limit established in the referenced construction permits for fossil fuel fired steam boilers B, C, D and E. Boilers B, C and D are located at Occidental's Suwannee River Chemical Complex (SRCC) and boiler E is located at Occidental's Swift Creek Chemical Complex (SCCC); all in Hamilton County, Florida.

The referenced construction permits for boilers B, C and D were issued in May, 1983 following PSD review of PSD-FL-083 and the permit for boiler E was also issued in May, 1983 following PSD review of PSD-FL-082. All four construction permits specify that compliance with the sulfur dioxide emission limiting standard be determined by EPA Method 6 as described in 40 CFR 60, Appendix A and that compliance with the particulate matter emission limit be determined by EPA Method 5, also described in 40 CFR 60, Appendix A.

Boilers B, C, D and E are all "small boilers" as defined by Chapter 17-2, FAC; that is all have a heat input rate of less than 250 million BTU per hour. The emission limiting standards for small boilers, as set forth in 17-2.600(6) require that both the particulate matter and sulfur dioxide emission limits be based upon a Best

Available Control Technology (BACT) determination. The referenced PSD reviews, both addressing fuel modifications for the four existing boilers, addressed sulfur dioxide emissions from the boilers only. Changes in the particulate matter emission rates resulting from the requested fuel changes were less than the de minimus rate increases; thus exempting particulate matter from the PSD review.

The BACT determination made by the Department for the four boilers, and dated November 7, 1982, states: "compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired." Consistent with this BACT determination, Occidental requested by letter dated February 6, 1984 that the specific conditions in the four construction permits requiring that compliance with the sulfur dioxide emission limit be determined by EPA Method 6, be changed to the method of compliance specified by the BACT determination; i.e., compliance based on the sulfur content of the fuel fired. In this letter, however, the matter of establishing compliance with the particulate matter emission limiting standard was inadvertently overlooked.

On February 22, 1984, Occidental received a letter from the Department changing the specific conditions in all four permits and specifying that the method of determining compliance with the sulfur dioxide emission limiting standard be determined by monitoring the sulfur content of the fuel fired in the boilers.

The purpose of this letter is to request a modification to the specific conditions of all four boiler permits to allow the determination of compliance with the particulate matter emission limiting standard to be based upon compliance with the permitted visible emission limit and compliance with the fuel sulfur limit.

This request is based upon two facts. First, neither of the PSD reviews covering the four boilers, addressed particulate matter because changes in particulate matter emission rates were less than the de minimus emission rate increases allowed by PSD regulations. Because of this, there appears to be no reason for changing conditions in the permits under which the boilers were operating prior to the PSD reviews as they apply to determining compliance with particulate matter emission limits. These permit conditions required only visible emission observations.

Secondly, and perhaps more importantly, the particulate matter emission limits established for the four boilers in the referenced permits are all established by the AP-42 emission factor for particulate matter. This emission factor equation is:

$$P = 10(S)+3$$

where,

P = the particulate matter emission rate in pounds per thousand gallons of fuel oil fired, and
S = the sulfur content of the fuel oil in percent.

It is apparent from this equation that the particulate matter emission limit is very much dependent upon the sulfur content of the fuel oil fired.

Since the BACT determinations made pursuant to both PSD-FL-082 and PSD-FL-083 specify that compliance with the sulfur dioxide emission limiting standard be based on the measured sulfur content of the fuel oil, it follows that compliance with the particulate matter emission limit should also be based upon the sulfur content of the fuel oil because of the dependence of particulate matter emissions on the fuel sulfur content.

Based upon information presented above, Occidental requests that the specific conditions in the four boiler permits be modified to allow determination of compliance with the particulate matter emission limit to be based upon the sulfur content of the fuel oil fired to the boilers.

If there are any questions or if additional information is needed to support this requested modificfation, please do not hesitate to contact me.

Very truly yours,

SHOLTES & KOOGLER,
ENVIRONMENTAL CONSULTANTS

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

JBK:ldh
Enclosures

cc: Mr. W. W. Atwood

ATTACHMENT 5

VISIBLE EMISSION OBSERVATION FORM

SOURCE NAME: Occidental Chem Co

ADDRESS: P.O. Box 300 White Springs

STATE: Fla | ZIP: | TELEPHONE: 397-8265

SOURCE ID NUMBER: AC 24-56210 | OBSERVATION DATE: 10-8-84

PROCESS: Steam | OPERATING MODE: Oil Fired

CONTROL EQUIPMENT: N/A | OPERATING MODE: #2 Oil

DESCRIBE EMISSION POINT: Aux Boiler E at Swift Creek Chem. Complex

HEIGHT ABOVE GROUND LEVEL: 50' | HEIGHT RELATIVE TO OBSERVER: 133'

DISTANCE FROM OBSERVER: 123' | DIRECTION FROM OBSERVER: West

DESCRIBE EMISSIONS:

EMISSION COLOR: | PLUME TYPE: CONTINUOUS ☒ INTERMITTENT ☐ FUGITIVE ☐

WATER DROPLETS PRESENT: NO ☒ YES ☐ | IF YES, IS PLUME: ATTACHED ☐ DETACHED ☐

AT WHAT POINT WAS OPACITY DETERMINED: At stack exit

DESCRIBE BACKGROUND: Partly Cloudy

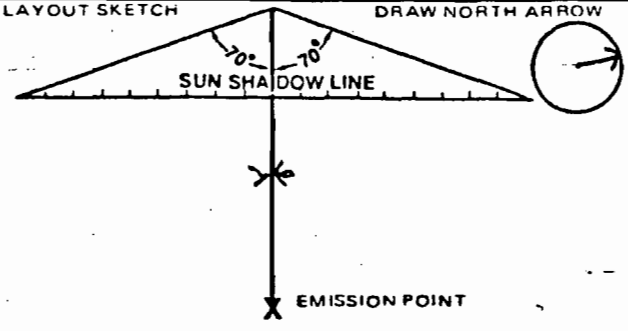
BACKGROUND COLOR: Blue + white | SKY CONDITIONS: Partly Cloudy

WIND SPEED: 2mph | WIND DIRECTION: NE

AMBIENT TEMPERATURE: | RELATIVE HUMIDITY: 84%

COMMENTS:

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



OBSERVER'S SIGNATURE: Dale M Baker | DATE: 10-8-84

OBSERVER'S NAME (PRINT): Dale M Baker

ORGANIZATION: Occidental Chem Co

CERTIFIED BY: Eastern Tech Assoc. #213782 | DATE: 6-7-84

START TIME: 1152 | STOP TIME: 1252

	0	15	30	45		0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

AVERAGE OPACITY FOR FOR HIGHEST PERIOD:

NUMBER OF READINGS ABOVE % WERE:

RANGE OF OPACITY READINGS: MINIMUM 0 | MAXIMUM 0

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS

TABLE 1

SUMMARY OF PERMITTED AND PROPOSED OPERATING CONDITIONS FOR BOILERS B, C AND D

OCCIDENTAL CHEMICAL AGRICULTURAL PRODUCTS, INC.
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Boiler	Permit	Heat Input (million BTU/hr)			Steam Production (lb/hr)			Air Pollutant Emissions (tons per year)					
								Sulfur Dioxide		Part. Matter		NOx	
		Design	Permit	Proposed	Design	Permit	Proposed	Permitted	Proposed	Permitted	Proposed	Permitted	Proposed
D	AC24-56213	182.5	120.0	155.0	135,000	100,000	125,500	564.0	730.8	47.0	60.5	215.0	278.0
C	AC24-56214	182.5	120.0	155.0	135,000	100,000	125,500	563.9	730.8	46.7	60.5	215.5	278.0
B	AC24-56212	106.9	160.0	90.0	80,000	125,000	74,000	765.8	432.1	62.3	35.0	287.2	161.7
TOTAL		471.9	400.0	400.0	350,000	325,000	325,000	1893.7	1893.7	156.0	156.0	717.7	717.7

60%

96 MM BTU/hr C. D 100% capacity →

160 MM BTU/hr 100% down C. D.

60%

SHOLTES & KOOGLER

TABLE 2

STACK AND STACK GAS PARAMETERS FOR BOILERS B, C AND D

OCCIDENTAL CHEMICAL AGRICULTURAL PRODUCTS, INC.
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Boiler	Stack Height (feet)	Stack Temperature (°F)		Stack Gas Flow (Acfm)	
		Permitted	Proposed	Permitted	Proposed
D	104	468	468	50,000	62,000
C	104	468	468	50,000	62,000
B	35	468	468	34,000	36,000

96

90

106 ?

SHOLTES & KOOGLER

No. 0156563

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., STATE AND ZIP CODE

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

POSTMARK OR DATE

9/14/84

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1978

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.)
- [X] 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.
	0156563	

(Always obtain signature of addressee or agent)

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

4. Clarence Rogers
DATE OF DELIVERY 9-17-84
POSTMARK JACKSON, FL SEP 18 1984

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:
CLERK'S INITIALS

☆GPO : 1979-300-459

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

September 12, 1984

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

Dear Mr. Atwood:

The department has received your August 28, 1984, request for an extension of two state permits (AC 24-56209 and AC 24-56211). These permits were issued to modify two sulfuric acid plants on May 17, 1983. The initial expiration date of January 30, 1984, for these permits was later extended to September 1, 1984. Federal permit PSD-FL-082 was also issued for the modifications to the sulfuric acid plants.

Chapter 17-4, FAC, states the department will issue permits for the time necessary to construct the facility. You are requesting six years be allowed to engineer, purchase, deliver equipment, and modify the plants. To justify a construction permit extension of this length, we request you furnish the department with a more detailed description of the modifications that are to be made to each sulfuric acid plant and a schedule (such as a critical flow diagram) showing (for example) when engineering will be completed, specifications released for bid, bids evaluated, contract let, material ordered and received, off-site fabrication initiated, on-site construction begun and completed, plants shut down to install equipment, facilities tested, and application for permit to operate submitted.

We also need confirmation that the original monitoring results are still valid. We suggest, initially, you submit a list on any new sulfur dioxide sources in your area and the ambient air concentration on sulfur dioxide currently being measured near your plant.

Federal permit No. PSD-FL-082 was issued for these plants on November 7, 1983. Federal permits may become invalid if construction is not begun within eighteen months of the date the

permit is issued, if construction is discontinued for eighteen months or more, or if construction is not completed within a reasonable time (40 CFR 52.21). To confirm that this condition has been complied with, please submit a log showing the construction activities on "E" and "F" sulfuric acid plants since permit PSD-FL-082 was issued.

Your reply to the information requested in this letter will allow us to determine how to process your request. If you have any questions on what information is needed, please call Willard Hanks at (904) 488-1344.

Sincerely,

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

CHF/WH/agh

cc: James T. Wilburn
Doug Dutton
John Koogler

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

August 28, 1984

Mr. Bill Thomas
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida

Re: AC-24-56211; AC-24-56209 - Swift Creek
Chemical Complex Sulfuric Acid Plant

Dear Mr. Thomas:

This is to request an extension of the referenced construction permits from September 1, 1984 to May 1, 1989 to allow for engineering, purchase, delivery of equipment and completion of the work.

As you know the first step taken in this revision was to improve the catalyst loading to increase the efficiency at the higher production rates. The next step is to enlarge the gas handling capacity together with additional heat recovery equipment. This work is expected to be completed in the next several years.

I plan to review this with you in Tallahassee on August 29, 1984, to answer any question you may have.

Sincerely,

Wes Atwood

W.W. Atwood, Manager
Environmental Control

WWA/tb
cc: Mr. R.E. McNeill

PS Form 3811, Jan. 1978

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. M. P. McArthur
Post Office Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0158260	

(Always obtain signature of addressee or agent)

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

Clarence Rogers

4. DATE OF DELIVERY: 2-29-84
POSTMARK: WHITE SPRINGS, FEB 29 PM 1984

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

32096

☆GPO : 1979-300-459

No. 0158260

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

SENT TO
Mr. M. P. McArthur
STREET AND NO.
P.O., STATE AND ZIP CODE

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

POSTMARK OR DATE
2/28/84

PS Form 3800, Apr. 1976

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

February 22, 1984

CERTIFIED MAIL-RECEIPT REQUESTED

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

Dear Mr. McArthur:

The department is in receipt of your request for a modification of your construction permit numbers: AC 24-56209, AC 24-56210, AC 24-56211, AC 24-56212, AC 24-56213, AC 24-56214, AC 24-56215.

This request is acceptable and the conditions are changed and added as follows:

Specific Conditions

The expiration date of the permits: AC 24-56209, AC 24-56210, AC 24-56211, AC 24-56212, AC 24-56213, AC 24-56214, and AC 24-56215 will be changed from January 30, 1984 to September 1, 1984.

The following paragraphs will be added to conditions No. 5, (boiler B), No. 6 (boiler C), No. 5 (boiler D), No. 4 (boiler E), and No. 4 (No. 2 DAP dryer) respectively.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

The applicant shall prepare a procedure for department approval to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record of the amount of 1.5% sulfur oil received will be kept by the applicant. The records shall be made available to the department upon request.

Method 6. Determination of Sulfur Dioxide Emissions from Stationary sources shall be requested by the department when deemed necessary.

Attachments:

Mr. W. W. Atwood's modification request letters of January 30, 1984, February 2, 1984, and February 6, 1984.

This letter and attachments must be attached to your permits, AC 24-56209, AC 24-56210, AC 24-56211, AC 24-56212, AC 24-56213, AC 24-56214, and AC 24-56215 and shall become a part of each permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/s
cc: John Koogler, Sholtes and Koogler
Environmental Consultants
Johnny Cole, Northeast District Office

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: _____	

RECEIVED
FEB 24 1984
Office of the Secretary

TO: Victoria J. Tschinkel, Secretary

FROM: Clair Fancy, Deputy Bureau Chief

DATE: February 22, 1984

SUBJ: Approval and signature of a modification to the air construction permits, No. AC 24-56209 through AC 24-56215 for Occidental Chemical Company, issued on May 17, 1983, and modified on February 22, 1984.

Enclosed is a modification to the referenced air construction permits (AC 24-56209 through AC 24-56215). The bureau recommends approval.

TH/s

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

February 6, 1984

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

Dear Bill:

Please refer to Dr. J. Koogler's letter of January 30, 1984, requesting extension of construction permit expiration date.

We inadvertently left off associated permits in the PSD approval which also had the January 30, 1984 date.

Therefore, please extend in a similar way the following permits to September 1, 1984.

Auxiliary Boiler B	(AC-24-56212)
Auxiliary Boiler C	(AC-24-56214)
Auxiliary Boiler D	(AC-24-56213)
Auxiliary Boiler E	(AC-24-56210)
DAP #2	(AC-24-56215)

In connection with compliance testing for the higher sulfur fuel oil allowed, Occidental requests that it be allowed to calculate the SO_2 emission based on a certificate of oil analysis instead of the costly stack sampling method imposed by 40 CFR 60 Appendix A.

It is my understanding that under certain circumstances this is allowable if approved 40CFR 60.8(b).

Thank you for your consideration.

Sincerely,

Wes Atwood

W. W. Atwood
Manager, Environmental Control

WWA/psb
Attachment

cc: R. E. McNeill
W. M. Miller
Johnny Cole, DER
John Koogler, SKEC

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

February 2, 1984

DER
FEB 06 1984
BAQM

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

Reference: Permit No. AC-24-56210 (Sulfuric Acid Plant E)
Permit No. AC-24-56209 (Sulfuric Acid Plant F)

Dear Bill:

This will confirm our telephone conversation of January 31, 1983, concerning Occidental's permitting and compliance monitoring plans for the "E" and "F" Sulfuric Acid plants at the Swift Creek Chemical Complex.

During the first half of 1983, we plan to increase catalyst loading to allow for production rates of about 2300 STPD of 100 percent sulfuric acid. Following this we will test for compliance with reference permits and submit operating permit applications to CAP.

In 1985, physical changes in the size of the economizer and the gas handling system are expected which will allow permitted throughput of 2500 STPD of 100 percent sulfuric acid on each facility.

We will keep you informed of our progress.

Sincerely,

Wes Atwood

W. W. Atwood
Manager, Environmental Control

WWA/psb

cc: Mr. Greg DeMuth, FDER, Gainesville, FL
Mr. Johnny Cole, FDER, Jacksonville, FL
Mr. Rick Davis, OXY

Teresa

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

SKEC 102-75-06

January 30, 1984

Mr. Bill Thomas
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

DER
FEB 01 1984
BAQM

Subject: Hamilton County - AP
Occidental Chemical Company
AC24-56211 Sulfuric Acid Plant "E"
AC24-56209 Sulfuric Acid Plant "F"

Dear Bill:

With reference to our telephone conversation of this date regarding the construction permits for the "E" and "F" sulfuric acid plants located at the Occidental Chemical Company Swift Creek Chemical Complex, Occidental requests that the expiration date of these two permits be extended from January 30, 1984 to September 1, 1984. This extension will provide Occidental with the time necessary to complete plant modifications and to conduct the necessary air pollutant emission compliance tests with the plants operating within 10 percent of the 2,500 tons per day permitted operating rate.

If there are further questions regarding this matter or if additional information is necessary for the extension to be granted, please contact me. Your cooperation in this matter is very much appreciated.

Very truly yours,

SHOLTES & KOOGLER,
ENVIRONMENTAL CONSULTANTS, INC.

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

JBK:sc

cc: Mr. W. W. Atwood

Patty, file & cc district

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JAN 9 1984

DER

JAN 12 1984

BAQM

REF: 4AW-AM

Mr. M. P. McArthur
Vice President & General Manager
Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

RE: PSD-FL-082, 083 Swift Creek and Suwannee River Chemical Complexes

Dear Mr. McArthur:

This is to notify you that no petitions have been filed with the Administrator regarding the above issued Prevention of Significant Deterioration (PSD) permits which you received on November 14, 1983, for the modifications at the phosphate fertilizer complexes in White Springs, Florida. Therefore, in accordance with the provisions of the above permits, the effective dates are December 15, 1983. If construction does not commence within 18 months after this effective date, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, these permits shall expire and authorization to construct shall become invalid.

Please direct any questions you may have to Mr. Jesse Baskerville, Acting Chief, Air Engineering Section of my staff at 404/881-7654.

Sincerely yours,

Richard D. Schutt for

James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

cc. Mr. Clair Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation

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

July 5, 1983

BY HAND DELIVERY THIS DATE

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

Re: Surplus Solid Sulfur Storage Facility
Occidental Chemical Company
Swift Creek Chemical Complex
Hamilton County, Florida
Permit Application No. AC-24-61435

Dear Mr. Fancy:

This will respond to your request to M. P. McArthur of June 30, 1983, for additional information on Occidental Chemical Company's ("Occidental") modification of the above-referenced construction permit application to employ "in-situ" sulfur melters. Accordingly, the following responses are provided in reply to the Department of Environmental Regulation's ("Department") request for further information:

1. Department's Request: "A detailed description of the in-situ melter to be used at the facility is needed. This information should include melting rate of the in-situ melter, the number of melters required, the amount of steam required, and the source of the steam."

Occidental's Response:

The in-situ melter is a direct contact type melter consisting of sulfur melting elements mounted on a mobile chassis with a hydraulically retractable tandem undercarriage. The melter element support mast has a hydraulic cylinder attached to the traveling sub-frame for raising and lowering the mast. The traveling sub-frame provides 10 feet of lateral movement to the mast and melter elements when actuated by a counterweight system which is connected by a cable take-up winch between the main frame of the mobile chassis and the traveling sub-frame. The melter is mounted on a hydraulic driven track vehicle that will propel forward and backward with steering capability. An electrically powered hydraulic control package is provided for all hydraulic operations. An electrical control panel to operate the winch and other electrical requirements is mounted on the chassis. (See attachment "1" for general assembly drawing and attachment "2" for a descriptive brochure.)

Molten sulfur from the block face is collected and drained through aluminum sulfur transfer tubes to a pump pit or launder system. Two melters will be required for a melting rate of 40 TPH.

Steam consumption is 225 lbs. per hour per ton of sulphur melted at a minimum of 75 psi. Electric power requirements are 50 KVA at 480 volts. The source of steam for the in-situ sulfur melter will be the existing Swift Creek Chemical Complex steam system. This existing steam system is fueled primarily from the burning of sulfur to produce sulfuric acid in two double absorption sulfuric acid plants.

2. Department's Request: "No estimate of emissions occurring during the operation of the in-situ melters was provided. An estimate of any criteria pollutant emissions must be made."

Occidental's Response:

The use of an in-situ melter to reclaim sulfur from the block will result in no air pollutant emissions other than those that have been addressed in the permit application amendments submitted to the Department on June 16, 1983.

There will be no particulate matter emissions resulting from operation of the in-situ melter.

There will be some hydrogen sulfide emissions associated with the in-situ melting operation. In the materials submitted to the Department on April 20, 1983, it was conservatively estimated that the sulfur would contain 100 ppm of dissolved hydrogen sulfide and that all would be emitted to the atmosphere as the sulfur went through the block sulfur storage cycle. Under previously proposed conditions (stationary melter) a fraction of this total hydrogen sulfide emission would result from the operation of the stationary sulfur melter. Under presently proposed conditions (in-situ melter) that portion of the hydrogen sulfide originally associated with the stationary melter will be associated with the in-situ melter.

Since the calculation of hydrogen sulfide emissions previously submitted to the Department on April 20, 1983, assumes that all hydrogen sulfide contained in the sulfur will be released, the use of the in-situ melter will not affect the calculated hydrogen sulfide emissions. Likewise, the emissions of sulfur dioxide resulting from the in-situ melter will be the same as previously submitted to the Department since it was previously estimated that all of the sulfur dioxide associated with the sulfur passing through the solid sulfur storge facility would be released.

No other criteria pollutants will be generated as a result of the use of the in-situ melter just as no other criteria pollutants were generated during the use of a stationary melter.

3. Department's Request: "Preliminary calculations indicate that a four-inch increase in vat height would require 1,169 tons of sulfur. This conflicts with the limitation of 1,000 tons per day of sulfur poured to the vat".

Occidental's Response:

Subsections V-1 and V-3.1.1 of the attached revised Section V, SUPPLEMENTAL REQUIREMENTS OF CONSTRUCTION PERMIT APPLICATION SUBMITTED ON 10/13/83, as submitted to the Department on June 16, 1983, are hereby amended to increase the maximum daily pour rate from 1000 to 1500 TPD. This change in the daily sulfur pouring rate will have no effect on annual fugitive particulate matter emissions. The only change is the daily particulate matter emission rate. At a pouring rate of 1000 tons per day, the maximum

daily particulate matter emission rate resulting from sulfur pouring would be 10.6 pounds per day. With a pour rate of 1500 tons per day, the daily fugitive particulate matter emission rate will be 15.9 pounds per day. The annual fugitive particulate matter emission rate associated with pouring will remain unchanged at 1.6 TPY because there will be no change in the annual tons of sulphur poured.

We trust that the foregoing adequately responds to the Department's request for additional information. We would be glad to discuss this or any further questions you may have and we are prepared to meet with you this week for that purpose, if needed.

Sincerely ~~yours~~,

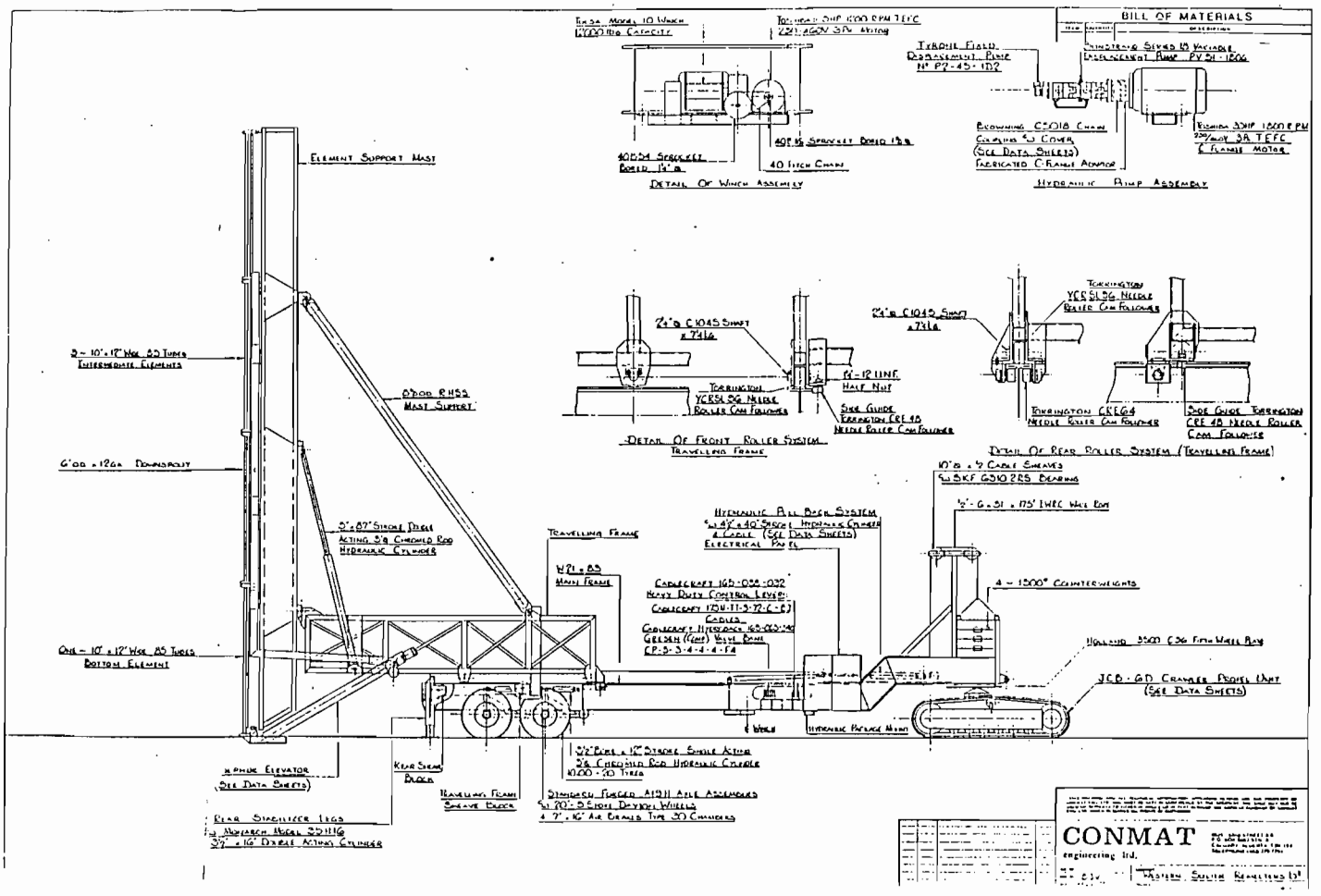
W. W. Atwood
Manager, Environmental Control

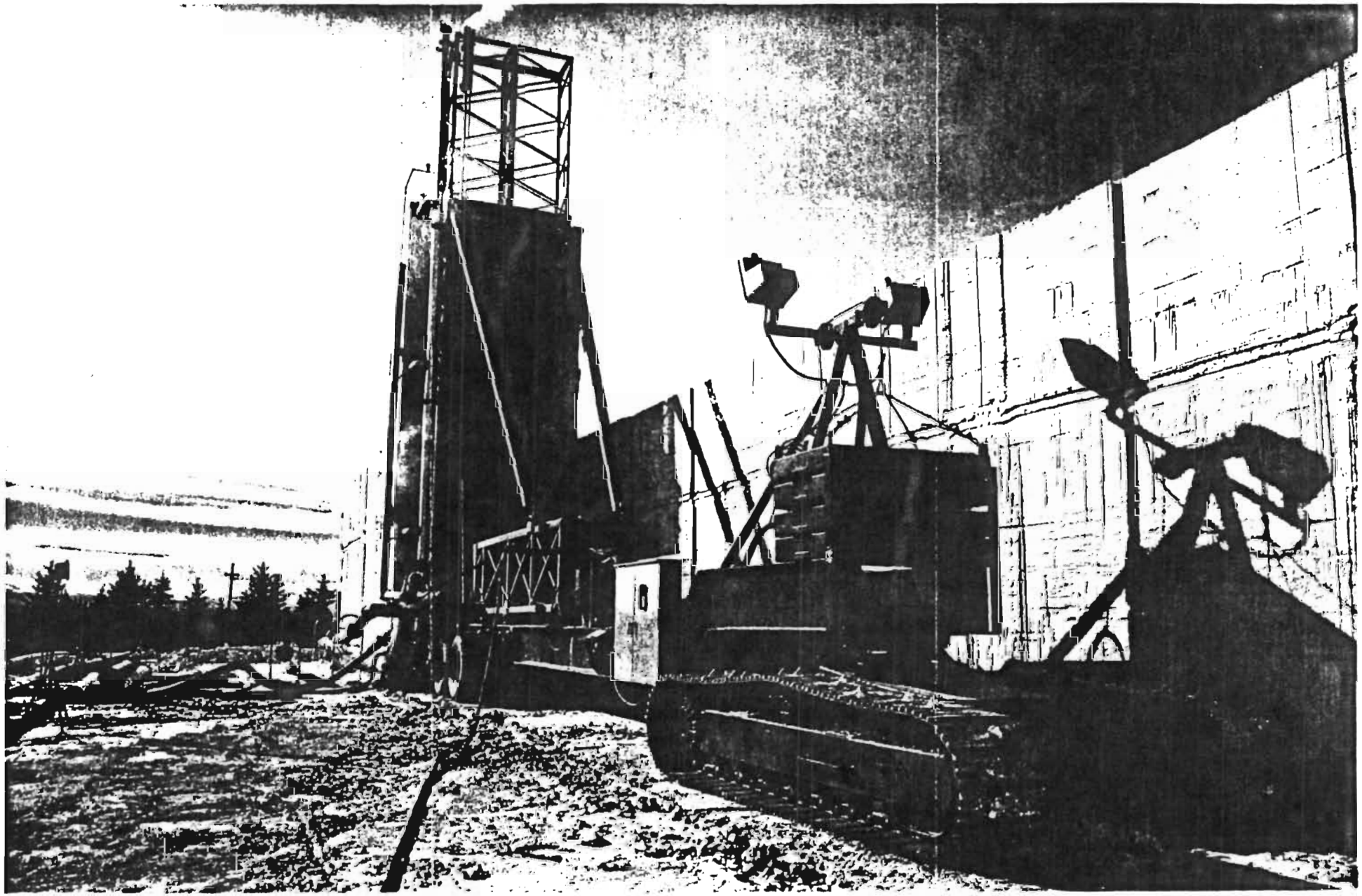
WWA/rf
cc: J. D. Boone Kuersteiner, Esq.
Akerman, Senterfitt & Eidson

John B. Koogler, Ph.D.
Sholtes & Koogler

M. P. McArthur, Vice President
and General Manager
Occidental Chemical Company

ATTACHMENT


BILL OF MATERIALS
Ramsay Model 10 Winch
10000 lbs Capacity
Element Support Mast
2 - 10' x 12' Nor 85 Tubes
Intermediate Elements
6'00 x 12a Monopolit
Bottom Element
Detail Of Winch Assembly
Hydraulic Pump Assembly
Detail Of Front Roller System
Travelling Frame
Detail Of Rear Roller System (Travelling Frame)
Travelling Frame
Main Frame
Hydraulic Pile Rack System
Cablecraft 165-055-032
Heavy Duty Control Levers
Cablecraft 1750-11-5-72-(-C)
Cables
Gresen (16mm) Valve Bank
CP-5-5-4-4-4-F4
4 - 1500# Counterweights
Holland 3500 C36 Fifth Wheel Ram
JCB-6D Crawler Propel Unit
(See Data Sheets)
Hydraulic Package Mount
Rear Sheave Block
Travelling Frame Sheave Block
Rear Stabilizer Legs
Rear Stabilizer Leg Cylinder
Stabilized Tandem Axle Assemblies
CONMAT
engineering ltd.



FEATURES:

- The new insitu sulfur remelting system for the reclamation of sulfur from block storage without dust, fuss or noise.
- Capable of recovering sulfur from storage blocks of heights up to fifty feet.
- Self-propelled on job site.
- Transportable to job site by normal highway tractor.
- Operation requires only one person.

BACKGROUND:

Ernie Ellithorpe has been in the sulfur handling, forming and transportation business since 1955 and has developed many bulk handling, forming and liquid systems over these years.

The most recent of these systems is the insitu remelter which has proven successful and environmentally acceptable. This patented Ellithorpe Sulfur Remelt System has been assigned to the firm of Western Sulfur Remelters Ltd. of Calgary

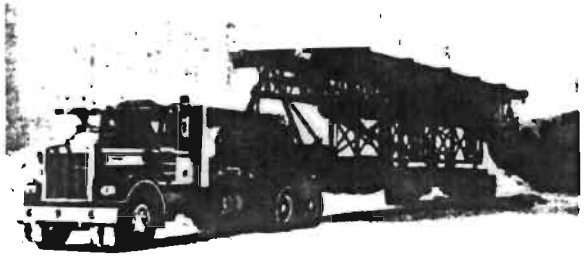
SPECIFICATIONS:

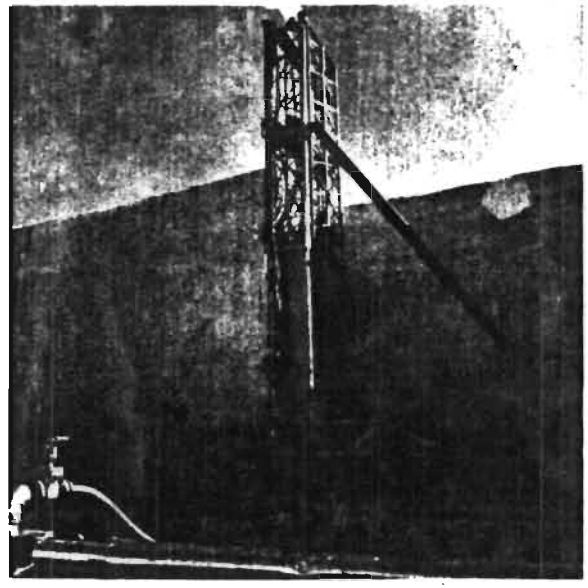
Melter can attain a reclamation rate of .84 long tons per hour, per foot of block height in normally clean sulfur. e.g. — Block height of 40 feet would produce 33.6 long tons per hr.

Steam requirements are approximately 225 lbs. per ton of sulfur melted.

Electrical requirements are 50 K.V.A. to operate the mechanical, hydraulic, lights, and automatic controls.

Minimal training program is required for personnel. Usually one person per shift is adequate.

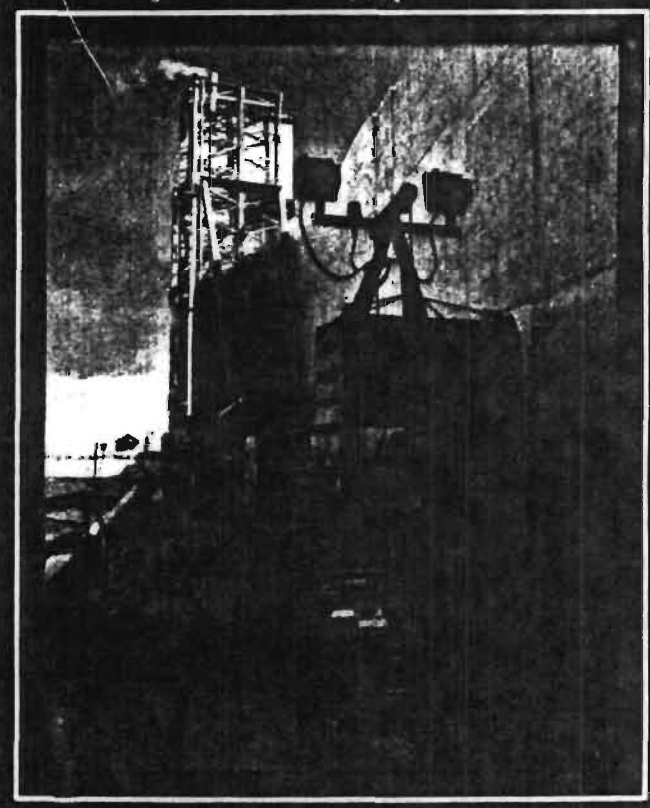




WESTERN SULFUR REMELTERS LTD.

#8, 1935-30th AVE. N.E.
CALGARY, ALBERTA
T2E 6Z5

PHONE: (403) 230-1707



"WESURE"

WESTERN SULFUR REMELTERS LTD

SECTION V, SUPPLEMENTAL REQUIREMENTS
OF CONSTRUCTION PERMIT APPLICATION
SUBMITTED ON 10/13/82

1. Section V-1 as Amended 6/16/83 and 7/5/83
2. Section V-3 as Amended 11/17/82, 2/4/83, 4/20/83, 6/16/83 and 7/5/83

SECTION V - SUPPLEMENTAL REQUIREMENTS

V-1. Use Rate

Sulfur will be pumped to the surplus solid sulfur storage area from existing molten sulfur storge facilities at a maximum rate of 270 tons per hour (600 gal/min). This sulfur will be poured to form a solid block with a maximum capacity of 150,000 tons. The maximum quantity of sulfur poured to block during a 24-hour period will be 1,500 tons.

Sulfur will be reclaimed from the block with an in situ melter and delivered to existing molten sulfur facilities at a maximum rate of 40 tons per hour (960 tons/day).

V-3.1.1 Conditions

1. Maximum annual rate that sulfur is poured to block will be 300,000 tons per year.

2. Maximum pouring rate to the sulfur block will be 270 tons per hour or 1500 tons per day.

3. Average wind speed at Occidental is 7 miles per hour (10.1 fps).

Note: The change in the daily pouring rate does not affect the emission rates calculated in subsequent Sections.

BEST AVAILABLE COPY

PDB2436
LC32055

Mr. John Svec
FDER - Air Quality
Twin Towers Bldg
2600 Blair Stone Rd
Tallahassee 32301

JACKSONVILLE
PM
25 APR
1983

...ox 1304,
...s 21st day

... II
...el III

...te Attorney

...n 31, 1983
...ril 7, 1983

NOTICE OF PROPOSED AGENCY ACTION 3/31/83

Lake City Reporter

The Department of Environmental Regulation gives notice of its intent to issue permits to Occidental Chemical Company. These permits will allow an increase in the production rate of two existing sulfuric acid plants and the use of fuel oil containing a higher percentage of sulfur than they are currently permitted to use in four existing steam boilers and a diammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit application.

A best available control technology (BACT) determination was required for sulfur dioxide (SO2).

Emission of criteria pollutants from the two chemical complexes will increase by the quantities in tons per year (TPY),

	SO2
SRCC	443.9
SCCC	951

Emissions from the modified sources will consume increment but will not violate any state or federal ambient air quality standards. The maximum increment consumption in micrograms per cubic meter (ug/m3), and percent of available increment are listed below.

SRCC

SO2	ug/m3	
Three hours	256	50 percent
24 hours	73	80 percent
Annual	12	60 percent

SCCC

	ug/m3	
Three hours	416	81 percent
24 hours	79	87 percent
Annual	8	40 percent

1 Public Notice

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapter 17-1 and 28-5 Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, FL 32301, within (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request hearing under Section 120.57, Florida Statutes.

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by Occidental Chemical Company are available for public review in the following FDER offices:

Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, FL 32207

Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Columbia County Public Library
490 N. Columbia Street
Lake City, FL 32052

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of publication of this notice will be considered in the Department's final determination.

No. 3355
March 31, 1983

APR 27 1983

SAOM

Dear John —

Thank you for sending the OCC permit request information — hopefully we'll have some comments to contribute —

I'm ~~also~~ sending along a picture of a Suwannee tributary creek in Columbia County, a Super nice stream — the headwaters of this creek are in the Osceola Forest & in one of the "proposed" lease areas, naturally & — it's nice in the Forest, too!

Will be back in touch —

Regards —

Judy Hancock

(1)

(2)

** ORIGINAL PHOTOS ARE IN "SUPPLEMENTAL DOCUMENTS"
DRAWER: OCCIDENTAL CHEMICAL CORPORATION
AC 24-56209, -10, -11, -12, -13, -14, -15
PSDFL-082, -083

(1)

Robinson Branch -
Osceola Forest -
This is also a
tributary creek to
the Swannee & it
has a nice waterfall
at the river below
Big Shoals - This
creek is on Kerr-
McGee's claimed "lease"
area & they own it.
at the confluence with
the Swannee
4/19/83

(2)

Falling Creek -
tributary to the
Swannee in
Columbia County
4/19/83

** ORIGINAL PHOTOS ARE IN SUPPLEMENTAL DOCUMENTS

DRAWER : OCCIDENTAL CHEMICAL CORPORATION
AC 24 - 560209 - 10, - 11, - 12, - B, - 14, - 15
PSD FL - 082, - 083

DER

APR 04 1983

BAQM

THE LAKE CITY REPORTER

Lake City, Columbia County, Florida

STATE OF FLORIDA,
COUNTY OF COLUMBIA.

Before the undersigned authority personally appeared Don L. Caldwell who on oath says that he is Publisher of the Lake City Reporter, a newspaper published at Lake City, Columbia County, Florida; that the attached copy of advertisement, being a Legal advertisement in the matter of Notice of Proposed Agency Action in the ..... Court, was published in said newspaper in the issues of March 31, 1983

Affiant further says that The Lake City Reporter is a newspaper published at Lake City in said Columbia County, Florida, and that the said newspaper has heretofore been continuously published in said Columbia County, Florida, and has been entered as second class mail matter at the post office in Lake City, in said Columbia County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Don L. Caldwell

Sworn to and subscribed before me this 31 st day of March

A. D., 19 83

Vicki N. Hen

Notary Public

Notary Public, State of Florida at Large
My Commission Expires September 15,1985

Pat Summerall Printing - No. 8559

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue permits to Occidental Chemical Company. These permits will allow an increase in the production rate of two existing sulfuric acid plants and the use of fuel oil containing a higher percentage of sulfur than they are currently permitted to use in four existing steam boilers and a niammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No phyaical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit application.

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	SO2
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SCCC	951

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SO2	ug/m3	
Three hours	256	50 percent
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Annual	12	60 percent

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SO2	ug/m3	
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24 hours	79	87 percent
Annual	8	40 percent

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapter 17-1 and 28-5 Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, FL 32301, within (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request hearing under Section 120.57, Florida Statutes.

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by Occidental Chemical Company are available for public review in the following FDER offices:

Department of Environmental Regulation
Northeast District
3426 Bills Road
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2600 Blair Stone Road
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490 N. Columbia Street
Lake City, FL 32052

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of publication of this notice will be considered in the Department's final determination.

No. 3355
March 31, 1983

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

SKEC 102-81-08

December 16, 1982

Bill
Teresa

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

Subject: Occidental Chemical Company
Hamilton County, Florida
Preliminary Determination PSD-FL-082
Preliminary Determination PSD-FL-083

Dear Mr. Fancy:

On November 18, 1982, Mr. Wes Atwood and I visited your office to discuss the two subject PSD Applications and the FDER Air Pollution Source Construction Permits associated with the sources addressed in these applications. I would like to provide you with a written record of the matters which we discussed and provide you with documentation to support our comments.

PSD-FL-082

A request was made to modify the Public Notice contained in this application. The last sentence in the first paragraph of the Notice read, "No physical modifications to the plant equipment is required to accomplish these operational changes." We requested that this sentence be reworded to read, "No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit applications." The construction permit applications referenced are those for sulfuric acid plant "E" (AC24-56211) and sulfuric acid plant "F" (AC24-56209). The modifications are described on Page 2A of these applications and relate to modifications to handle the increased gas flow rate through the sulfuric acid plants.

Specific condition No. 5 of both sulfuric acid plant construction permits (referenced in the above paragraph) require that the applicant establish a conversion factor that requires a measurement of the sulfur dioxide concentration at the converter entrance. This conversion factor is then used with the continuous stack gas sulfur dioxide monitoring data to calculate a sulfur dioxide emission rate with units of pounds of sulfur dioxide per ton of acid produced.

Occidental has worked with EPA for quite some time to have an alternative method approved for calculating the sulfur dioxide emission rate per ton of acid produced. This method was proposed as an alternative to 40 CFR 60.84 in the Federal Register of July 16, 1982; a copy of which is attached. This method requires only that the sulfur dioxide and the oxygen concentrations be measured in the stack gas. These concentrations can then be used with the equation published in the Federal Register to calculate the pounds of sulfur dioxide emitted per ton of acid produced. To facilitate the use of the method published in the Federal Register, Occidental has installed continuous oxygen monitors on both the "E" and "F" sulfuric acid plant stacks. In the case of Occidental there is no auxiliary fuel used in the sulfuric acid plants, hence the "auxiliary fuel factor" used in the equation published in the Federal Register is equal to 0.00.

Occidental is of the opinion that the method published in the Federal Register is much easier to use than the method presently specified in the draft construction permits and requests that the method published in the Federal Register be substituted for the method presently proposed in specific condition No. 5. If you have any questions regarding the derivation of the method published in the Federal Register or any other questions regarding this method, please feel free to contact me.

Specific condition No. 9 of the draft construction permits for both sulfuric acid plants requires that compliance for emission limits be determined in accordance with specific test methods. For nitrogen oxide EPA Test Method 7 is specified. Nowhere in specific condition No. 9 or any other specific conditions attached to the permits does it specify the frequency with which compliance tests must be made.

It is requested that a condition to demonstrate compliance with the emission limit for nitrogen oxides be worded similar to the specific condition attached to the construction permit for auxiliary boiler "E"; also covered by PSD Application PSD-FL-082. This condition is worded, "Performance tests for nitrogen oxides. . . to determine emission compliance status shall be requested by the Department when deemed necessary."

PSD-FL-083

A typographical error was noted in Table 1 of the Preliminary Determination for this application. The "worst case" particulate matter emission rate for the "C" boiler, as proposed, will be 46.7 tons per year. This will result in an increase of 7.2 tons per year over the currently permitted emission rate. This increase, combined with other increases addressed in the PSD Application, will result in a total particulate matter increase for all sources addressed by the Application of 6.7 tons per year.

Specific condition No. 2 of the construction permit applications for boiler "C" (AC24-56214) and boiler "D" (AC24-56213) specify that the boilers shall be allowed to operate 25 percent of the time. Occidental requests that the 0.25 annual operating factor be removed as a permit condition. The entire Air Quality Review which is part of the subject PSD Application, was conducted under the assumption that both boilers would operate 100 percent of the time. The conclusion reached in the Application was that all of the modifications addressed could be approved with no threat to ambient air quality standards or to PSD increments.

The "25 percent" condition first appeared in an operating permit for either the "C" or "D" boiler and was stated ". . . the boiler will operate about 25 percent of the time." This condition came about, to the best of our knowledge as a result of a response to an inquiry by the Jacksonville FDER office regarding the approximate operating time of the boilers. At no time were the operating times of these boilers limited because of a threat to ambient air quality.

The original approval to construct the boilers, granted by EPA on March 21, 1978, did not limit the operating time of the "C" and "D" boilers, nor did the original state construction permits (AC24-2700 and 2701). The original operating permits for the boilers also did not limit the time of operation of the boilers and a construction permit granted to allow the use of a coal-oil mix in the "C" boiler (AC24-40968) issued on June 30, 1981, did not limit the operating time of this boiler.

In view of this history and the fact that we can uncover no concrete reason for the 0.25 annual operating factor to be a part of the construction permits for either the "C" or "D" boilers, Occidental requests that these conditions be removed.

If there are any questions regarding the matter addressed in this letter, 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

40 CFR Part 60

[AD-FRL-2145-3]

Standards of Performance for New Stationary Sources; Alternative Sampling Procedures for Sulfuric Acid Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The purpose of this action is to propose an alternative procedure for determining the SO_2 or sulfuric acid mist emission rate based on measurements of O_2 and SO_2 or acid mist concentrations in the plant exhaust.

These revisions would apply to all sources subject to the standards of performance for sulfuric acid plants.

DATE: *Comments.* Comments must be received on or before September 14, 1982.

Public Hearing. A public hearing will be held, if requested. Persons wishing to request a public hearing must contact EPA by August 16, 1982. If a hearing is requested, an announcement of the date and place will appear in a separate Federal Register notice.

ADDRESS: *Comments.* Comments should be submitted (in duplicate if possible) to: Central Docket Section (A-130), Attention: Docket Number A-82-03, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

Public Hearing. Persons wishing to present oral testimony should notify Mrs. Naomi Durkee, Emission Standards and Engineering Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5578.

Docket. Docket No. A-82-03, containing materials relevant to this rulemaking, is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section, West Tower Lobby, Gallery 1, Waterside Mall, 401 M Street, SW., Washington, D.C. 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Roger Shigehara, Emmission Measurement Branch (MD-19), Emission Standards and Engineering Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-2237.

SUPPLEMENTARY INFORMATION: Subpart H of 40 CFR Part 60 contains standards of performance for the sulfuric acid manufacturing plant industry including sulfur dioxide (SO_2) and sulfuric acid mist emission rate limits and continuous monitoring requirements. Data from emission measurement tests and continuous monitoring systems must be converted from units of SO_2 or sulfuric acid mist concentrations to the units of the standard in kg per metric ton of acid produced (lb per short ton). The prescribed procedure for this conversion requires the measurement of the inlet SO_2 to the plant converter and the calculation of a production rate factor in kg per metric ton per ppm (lb per short ton per ppm) for each 8-hour period.

The proposed revisions allow the source to measure O_2 concentrations in the exhaust gas as an alternative to measurements of SO_2 inlet concentrations and process production rates in obtaining SO_2 or sulfuric acid mist emission rates from sulfuric acid plants. The procedure is applicable to plants that oxidize elemental sulfur or oxidize ore that contains elemental sulfur. The procedure does not apply to plants which use spent acid or use gas streams containing hydrogen sulfide in the production of acid.

The alternative procedure is based on a sulfur mass balance determination of the sulfuric acid production progress and is accurate to the accuracy level of the measurements. The revision is appropriate for the applicable plants and it provides a means of reducing the testing requirements without loss of emissions data.

These revisions would apply to all sources subject to the standards of performance for sulfuric acid plants. This rulemaking would not impose any additional emission measurement requirements on any facilities. Rather, the rulemaking would simply revise the emission measurement calculation procedures allowing an alternative to procedures that would apply irrespective of this rulemaking.

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of Executive Order 12291.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small entities.

(Sec. 111, 114, and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7411, 7414, and 7601(a))

Dated: July 7, 1982.

Anne M. Gorsuch,

Administrator.

Lists of Subjects in 40 CFR Part 60

Air pollution control, Aluminum, Ammonium sulfate plants, Cement industry, Coal, Copper, Electric power plants, Glass and glass products, Grains, Intergovernmental relations, Iron, Lead, Metals, Motor vehicles, Nitric acid plants, Paper and paper products industry, Petroluem, Phosphate, Sewage disposal, Steel, Sulfuric acid plants, Waste treatment and disposal, Zinc.

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

It is proposed that Subpart H of 40 CFR Part 60 be amended as follows:

1. By adding a paragraph (d) to § 60.84 as follows:

§ 60.84 Emission monitoring.

* * * * *

(d) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emissions rates in terms of the standard. Continuous emission monitoring of SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator according to this procedure in Performance Specifications 2 and 3. This calibration procedure and span value for this SO_2 monitor shall be as specified in paragraph (b) of this section. This span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:

$$E_{SO_2} = C_{SO_2} S \frac{1}{0.263 - 0.0126(O_2) - A(CO_2)}$$

$$E_{SO_2} = C_{SO_2} \times S \times \frac{1}{0.263 - 0.0126(O_2) - A(CO_2)}$$

Where:

E_{SO_2} = SO_2 emission rate, kg/t acid (1b/ton acid).

C_{SO_2} = SO_2 concentration, kg/dscm (1b/dscf) (see Table below).

S = Acid production rate factor.

= 355 dscm/t acid for metric units.

= 11600 dscf/ton acid for English units.

O_2 = O_2 concentration, percent.

A = Auxiliary fuel factor.

= 0.00 for no fuel.

= 0.0226 for methane.

= 0.0217 for natural gas.

= 0.0196 for propane.

= 0.0172 for #2 oil.

= 0.0161 for #6 oil.

= 0.0148 for coal.

= 0.0126 for coke.

CO_2 = CO_2 concentration, percent.

Note.—It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following Table for such conversions:

From—	To—	Multiply by—
g/scm	kg/scm	10^{-3}
mg/scm	kg/scm	10^{-6}
ppm(SO_2)	kg/scm	2.660×10^{-6}
ppm(SO_2)	lb/scf	1.660×10^{-7}

2. By adding a paragraph (e) to § 60.85 as follows:

§ 60.85 Test methods and procedures.

* * * * *

(e) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur may use the SO_2, acid mist, O_2, and CO_2 (if required) measurement data in determining SO_2 and acid mist emission rates in terms of the standard. Data from the reference method tests as specified in (a) of this part are required; that is, Method 8 for SO_2 and acid mist and Method 3 for O_2 and CO_2. No determinations of production rate or total gas flow rate are necessary. Calculate the SO_2 and acid mist emission rate as described in § 60.84(d) substituting the acid mist concentration for C_{SO_2} as appropriate.

[FR Doc. 82-19406 Filed 7-15-82; 8:45 am]

BILLING CODE 6560-50-M

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for C. H. Fancy
Steve Smallwood, Chief BAQM

Date: 11/7/82

Approved:

Victoria J. Tschinkel
Victoria J. Tschinkel, Secretary

Date: 11/18/82

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for

Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date: 11/18/82

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date: 11/18/82

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

C. H. Fancy

for Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel

Victoria J. Tschinkel, Secretary

Date: 11/18/82

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: _____	

RECEIVED
NOV 18 1982
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Steve Smallwood

DATE: November 18, 1982

SUBJ: BACT Determination for Occidental Chemical Company

Attached please find 3 BACT determinations for several source modifications located in White Springs, Hamilton County, Florida.

We recommend that you approve and sign the determination, the results of which will be made specific conditions of the construction permit.

EP/ks

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		
Sulfur	Dust	1-2	136,464*	A
* Maximum utilization rate; this use rate will normally occur when there is an interruption in the normal supply of molten sulfur and the E and F sulfuric acid plants are operating at 100 percent permitted capacity.				

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

1. Total Process Input Rate (lbs/hr): 83,333 sulfur vatting rate

2. Product Weight (lbs/hr): 136,464 maximum reclaimation rate of sulfur from a vat.

C. Airborne Contaminants Emitted:

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	
Fugitive Part.	9.8	21.3	NA	9.8	97.5	213	B
Matter*							
* These emissions will be generated only when sulfur is being reclaimed from a vat.							

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])
Water Sprays with wetting agent	Sulfur Dust	90	< 75 µm	Estimate

[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

SECTION V - SUPPLEMENTAL REQUIREMENTS

1. Use Rate

Sulfur will be reclaimed from rail cars in a molten state and pumped to the vats at a rate of 83,333 pounds per hour (1000 tpd).

Sulfur will be reclaimed from the vats and delivered to a sulfur melter at the rate of 136,464 pounds per hour. This is the maximum rate at which sulfur will be consumed in the E and F sulfur acid plants.

2&3. Uncontrolled and Actual Emissions

Activity	Uncontrolled Emission Factor (1) (lb/ton)	Control Efficiency (2) (%)	Sulfur Handling Rate (tph)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tpy) (3)	Controlled Emissions (lb/hr)	Controlled Emissions (tpy)
Loading Vat (4)	0	--	41.7	0	0	0	0
Traffic	1.00	90	--	69	149	6.9	14.9
Wind Erosion (5)	0	--	--	0	0	0	0
Off-Loading	0.43	90	68.2	29	64	2.9	6.4
TOTAL				98	213	9.8	21.3

(1) EPA 450/3-77-010
(2) EPA 450/3-77-010
(3) Based on 4380 hours per year of activity
(4) Sulfur is in molten form; therefore there will be no significant emissions
(5) Sulfur in vat form is not subject to effects of wind erosion

4. Attachment 2

5. Control Efficiency

Uncontrolled Emissions (V, 2 & 3) - 98.0 lb/hr
Controlled Emissions (V, 2 & 3) - 9.8 lb/hr

Efficiency = (98.0 - 9.8) x 100/34.1
= 90.0%

6. Attachment 3

7. Attachment 4

8. Attachment 5

REVISED 11/17/82

SHOLTES & KOOGLER

FUGITIVE SULFUR DUST EMISSION ESTIMATES

VATTED SULFUR STORAGE AREA
OCCIDENTAL CHEMICAL COMPANY
HAMILTON CO, FL

ORIGINAL APPLICATION

"Traffic" related emissions from sulfur reclaimation activities were assumed to be included in "off-loading" emissions; perhaps erroneously so. To be more conservative, and consistent with the intent of EPA 450/3-77-010, the permit application has been modified to include emissions generated by the rubber tired excavator and the rubber tired front end loader as "traffic" related emissions.

Emissions resulting from discharging the reclaimed sulfur into the sulfur melter were accounted for twice. "Off-loading" emissions, by a front end loader, include emissions generated when the front end loader picks the reclaimed materials up and those generated when the material is discharged; i.e., a complete reclaimation cycle. At the Occidental vatted sulfur area, the front end loader will discharge the reclaimed sulfur directly into the sulfur melter; thus, the emissions associated with melter loading are included in "pile off-loading" activities. In the original application, a separate, and duplicate, emission estimate was made for melter loading emissions.

Revised APPLICATION

Traffic - One rubber tired excavator and one rubber tired front end loader operating 24 hours per day, 7 days per week. Maximum annual operating factor will be 0.5.

Sulfur Consumption from Vatted Storage Area - Maximum hourly reclaimation rate will be 68.2 tons/hour. Maximum annual reclaimation will be 298,716 tons.

Basic Storage Pile Emission Factor - Reference EPA-450/3-77-010. Emission factor for "active" pile is 0.22 pounds of fugitive dust per ton of material exclusive of wind generated emissions. This is for a pile with activity 5 days per week

and 8-12 hours per day. The Occidental storage will, at maximum activity, have activity 24 hours per day, 7 days per week

Basic Emission Factor = BEF (exclusive of wind)

= 0.22 (7/5)(24/12)

= 0.62 lb/ton, uncontrolled

Basic Emission Factor (loading)

= 0.62 x loading emissions as fraction of loading, traffic and off-loading emissions

= 0.62 (12% / [12% + 40% + 15%])

= 0.11 lb/ton, uncontrolled

Basic Emission Factor (traffic)

= 0.62 (40% / [12% + 40% + 15%])

= 0.37 lb/ton, uncontrolled

Basic Emission Factor (off-loading)

= 0.62 (15% / [12% + 40% + 15%])

= 0.14 lb/ton, uncontrolled

Basic Emission Factor (wind)

= 0, see rationale in cover letter

Activity Factors - Reference EPA 450/3-77-010, pg 2-35)

K_1 (loading) = 0; sulfur discharged to vat in a molten state, hence emissions will be nil.

K_2 (traffic) = 1.33; a factor of 1.0 is assumed for the front end loader and a factor of 0.33 is assumed for the excavator which will travel one-third or less the distance of the front end loader

K_3 (load-out) = 1.5; a factor of 0.5 is assumed for the excavator which breaks "large" chunks of sulfur from the vat. A factor of 1.0 was assumed for load-out and discharge to the melter by front end loader

Silt Content - Assumed to be 3.0 % = S

PE Index - 99 for north Florida

Duration in Storage - not applicable; see discussion of wind erosion in cover letter

Adjusted Uncontrolled Emission Factors

Loading into Vat
= 0 lb / ton

Traffic
= BEF(traffic) x K_2 x (S/1.5)/(PE/100)^2
= 0.37 (1.33)(3/1.5)/(99/100)^2
= 1.00 lb / ton

Wind
= 0 lb / ton

Off-loading
= BEF(off-loading) x K_3 x (S/1.5)/(PE/100)^2
= 0.14 (1.5)(3/1.5)/(99/100)^2
= 0.43 lb / ton

Control Technology - "Traffic" related emissions and pile "off-loading" emissions are both associated to the reclaimation of sulfur from the vat and the discharge of sulfur into the melter. Control efficiencies for traffic relate activities were assumed to be the same as those listed for pile off-loading (EPA 450/3-77-010, pp 2-38 & 39) since explicit control efficiencies are not listed for traffic activities. Control by water sprays alone is reported to be 50 percent. The effectiveness of water sprays with a wetting agent is not addressed for "pile off-loading" activities. For other pile related activities, however, the addition of a wetting agent increases the effectiveness of water sprays to:

80-90 percent for loading onto piles,
90 percent for movement of pile, and
90 percent for wind erosion.

For "traffic" and "off-loading" related emissions the use of a wetting agent in the water spray system was assumed to be 90 percent effective for reducing fugitive emissions.

Controlled Fugitive Sulfur Dust Emission Rate

Traffic = 1.00 lb/ton (1-0.90)(68.2 tons/hour) = 6.82 lb/hr
Off-loading = 0.431 lb/ton (1-0.90)(68.2 tons/hour) = 2.93 lb/hr

Total = 9.75 lb/hour

- or -

Traffic = 1.00 lb/ton (1-0.9)(298716 tpy)/2000 lb/ton = 14.9 tpy
Off-loading = 0.43 lb/ton (1-0.9)(298716 tpy)/2000 lb/ton = 6.4 tpy

Total = 21.3 tons/yr

Loading into Melter - Included in "pile off-loading" emission estimates. See discussion in above sections.

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		
Sulfur	Dust	1-2	136,464*	A
* Maximum utilization rate; this use rate will normally occur when there is an				
interruption in the normal supply of molten sulfur and the E and F sulfuric acid				
plants are operating at 100 percent permitted capacity.				

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

1. Total Process Input Rate (lbs/hr): 83,333 sulfur vatting rate

2. Product Weight (lbs/hr): 136,464 maximum reclaimation rate of sulfur from a vat.

C. Airborne Contaminants Emitted:

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	
Fugitive Part.	9.8	21.3	NA	9.8	97.5	213	B
Matter*							
* These emissions will be generated only when sulfur is being reclaimed from a vat.							

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])
Water Sprays with	Sulfur Dust	90	< 75 μm	Estimate
wetting agent				

[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

SECTION V - SUPPLEMENTAL REQUIREMENTS

1. Use Rate

Sulfur will be reclaimed from rail cars in a molten state and pumped to the vats at a rate of 83,333 pounds per hour (1000 tpd).

Sulfur will be reclaimed from the vats and delivered to a sulfur melter at the rate of 136,464 pounds per hour. This is the maximum rate at which sulfur will be consumed in the E and F sulfur acid plants.

2&3. Uncontrolled and Actual Emissions

Activity	Uncontrolled Emission Factor (1) (lb/ton)	Control Efficiency (2) (%)	Sulfur Handling Rate (tph)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tpy) (3)	Controlled Emissions (lb/hr)	Controlled Emissions (tpy)
Loading Vat (4)	0	--	41.7	0	0	0	0
Traffic	1.00	90	--	69	149	6.9	14.9
Wind Erosion (5)	0	--	--	0	0	0	0
Off-Loading	0.43	90	68.2	29	64	2.9	6.4
TOTAL				98	213	9.8	21.3

(1) EPA 450/3-77-010
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= 90.0%

6. Attachment 3

7. Attachment 4

8. Attachment 5

REVISED 11/17/82

SHOLTES & KOOGLER

No. 0157765

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
M. P. McArthru

STREET AND NO.
P. O. Box 300

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

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

CONSULT POSTMASTER FOR FEES

POSTMARK OR DATE

11/10/82

PS Form 3800, Apr. 1976

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.)
- [X] Show to whom and date delivered..... ¢
- [ ] Show to whom, date and address of delivery.... ¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- [X] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
M. P. McArthur
Post Office Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157763	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ]Addressee [X]Authorized agent

Clarence Rogers

4. DATE OF DELIVERY
11-10-82

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
MC

☆GPO : 1979-300-459

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

November 9, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

RE: Preliminary Determination - Occidental Chemical Company Swift Creek Chemical Complex (AC 24-56209, AC 24-56210, AC 24-56211 and PSD-FL-082) and Suwannee River Chemical Complex (AC 24-56212, AC 24-56213, AC 24-56214, AC 24-56215 and PSD-FL-083)

The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, Region IV, has reviewed your applications to modify the referenced sources under the provisions of the Prevention of Significant Deterioration Regulations (40 CFR 52.21) and has made a preliminary determination of approval with conditions. Please find enclosed one copy of each of the Preliminary Determinations.

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached Public Notice. The notice must appear, one time only, in the legal ad section of the Lake City Reporter. A copy of the Preliminary Determinations and your applications will be open to public review and comment for a period of 30 days after publication of the notice. The public can also request a public hearing to review and discuss specific issues. At the end of this period, the Department will evaluate the comments received and make a final determination regarding the proposed construction.

Should you have questions regarding this information, please contact Mr. Bill Thomas at (904) 488-1344.

Sincerely,

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

CHF/pa

Enclosure

cc: Dr. John B. Koogler, Sholtes & Koogler, Environmental Consultants
Ms. Elisabeth Cummings, U.S. Fish and Wildlife Service
Mr. John Ketteringham, DER Northeast District

Technical Evaluation

and

Preliminary Determination

Occidental Chemical Company

Swift Creek Chemical Complex

Hamilton County, Florida

Permit Numbers

STATE

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

FEDERAL

Sulfuric Acid Plant Production Rate Increase PSD-FL-082
and
Auxiliary Boiler "E" Fuel Conversion

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

October 25, 1982

TABLE OF CONTENTS

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulations gives notice of its intent to issue permits to Occidental Chemical Company. These permits will allow an increase in the production of two existing sulfuric acid plants and the use of fuel oil containing a higher percentage of sulfur than they are currently permitted to use in four existing steam boilers and a diammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No physical modifications to the plant equipment is required to accomplish these operational changes.

A best available control technology (BACT) determination was required for sulfur dioxide (SO_2).

Emission of criteria pollutants from the two chemical complexes will increase by the quantities in tons per year (TPY), listed below.

	SO_2
SRCC	443.9
SCCC	951

Emissions from the modified sources will consume increment but will not violate any state or federal ambient air quality standards. The maximum increment consumption, in micrograms per cubic meter (ug/m^3), and percent of available increment are listed below.

	SRCC		SCCC	
	ug/m^3	Percent	ug/m^3	Percent
SO_2				
Three hours	256	50	416	81
24-hours	73	80	79	87
Annual	12	60	8	40

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapter 17-1 and 28-5 Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request hearing under Section 120.57, Florida Statutes.

By authority of the U. S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by Occidental Chemical Company are available for public review in the following FDER offices:

Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Florida 32207

Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Columbia County Public Library
490 N. Columbia Street
Lake City, Florida

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of publication of this notice will be considered in the Department's final determination.

I. SYNOPSIS OF APPLICATION

A. Name and Address of Applicant

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

B. Source Location

The proposed source is located at Occidental Chemical Company's Swift Creek Chemical Complex; at SR 137, White Springs, Hamilton County, Florida. The UTM coordinates are 320.860 km East and 3,369.750 km North.

C. Project Description

Occidental proposes to increase the production of sulfuric acid from 2 existing sulfuric acid plants at the Swift Creek Chemical Complex (SCCC) and to increase the sulfur content of the fuel oil used to fire the existing sulfuric acid plants auxiliary boiler.

The proposed production capacity of the two sulfuric acid plants ("E" and "F") will be increased from 2,000 tons per day to 2,500 tons per day each of 100 percent sulfuric acid. The proposed modifications to the "E" auxiliary boiler will result in a change to fuel oil with a maximum of 1.0 percent sulfur and an increase in the annual operating factor from 93.0 to 97.5 percent.

D. Process and Controls

The principal steps in the sulfuric acid manufacturing process consist of burning sulfur (S) in air to form sulfur dioxide (SO_2), combining the sulfur dioxide with oxygen (O_2) to form sulfur trioxide (SO_3), and combining the sulfur trioxide with water (H_2O) to form sulfuric acid (H_2SO_4). The chemical reactions are:

$S + O_2 = SO_2$	In sulfur furnace
$SO_2 + 1/2\ O_2 = SO_3$	In converter
$SO_3 + H_2O = H_2SO_4$	In two absorption towers

The dual absorption process selected by the applicant is the best demonstrated control technology for SO_2 emissions from sulfuric acid plants. The high efficiency acid mist eliminator is the best demonstrated control technology for acid mist emissions. These controls will reduce the total emissions from the proposed source to a level that is in compliance with the federal New Source Performance Standards (NSPS) requirements of 40 CFR 60, Subpart H.

II. RULE APPLICABILITY

A. Federal Regulations

The proposed project is subject to preconstruction review under federal Prevention of Significant Deterioration (PSD) regulations, Section 52.21 of Title 40 of the Code of Federal Regulations as amended in the Federal Register of August 7, 1980 (45 CFR 52676). Specifically, the proposed project involves three major stationary sources (40 CFR 52.21(b)(1) located in an area currently designed as attainment in accordance with 40 CFR 81.310 for all criteria pollutants regulated under the Clean Air Act (CAA).

The proposed project will be a major modification (40 CFR 52.21(b)(2)) for sulfur dioxide (SO_2), and sulfuric acid mist. Emissions of SO_2 and sulfuric acid mist will increase above the significant criteria set in the PSD regulations. Therefore, the proposed project is subject to PSD review for these pollutants.

The emission rates increases for particulate matter, nitrogen oxides, carbon monoxide and hydrocarbons are below the de minimus levels established for these pollutants.

The PSD review consists of a determination of Best Available Control Technology (BACT) and, unless otherwise exempted, an analysis of the air quality impact of the increased emissions.

The review also includes an analysis of the project's impacts on soils, vegetation and visibility along with air quality impacts resulting from associated commercial, residential and industrial growth.

The proposed project is also subject to the provisions of the federal New Source Performance Standard (NSPS) for sulfuric acid plants (40 CFR 60, Subpart H).

B. State Regulations

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code.

The proposed project location, Hamilton County, is an area currently designed as attainment in accordance with Section 17-2.420 FAC for all criteria pollutants.

The sources comprise a major emitting facility for sulfur dioxide (SO_2), sulfuric acid mist and nitrogen oxides (NO_x) as defined in Chapter 17-2, because the potential

emissions of each exceed 100 tons per year (TPY). The project is subject to the provisions of Subsection 17-2.650, FAC, Table II. Emission Limiting Standards, and Subsection 17-2.500 Prevention of Significant Deterioration PSD Review which requires the use of Best Available Control Technology (BACT).

The sources are also subject to the provisions of the federal New Source Performance Standard (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H. This NSPS has been adopted by reference in Section 17-2.660, FAC.

III. SOURCE IMPACT ANALYSIS

A. Emission Limitations

The regulated pollutant emissions from the two sulfuric acid plants are sulfur dioxide, acid mist and opacity. Organic compounds, nitrogen oxides, nitrosyl sulfuric acid and water vapor may also be present in the emission from the plants.

The operation of the 156 MMBTU/hr auxiliary boiler will produce emissions of particulate matter (PM), sulfur dioxide (SO_2) nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC) to the atmosphere.

Table 1 summarizes potential to emit all pollutants regulated under the act which are affected by the proposed project.

As the table shows, the proposed emissions increase of SO_2 and sulfuric acid mist exceeds the significance levels set in the PSD regulations. Although the other regulated pollutants are exempt from a PSD review because their emissions do not increase, they are required to meet all applicable emission limits and standards of performance under the Florida State Implementation Plan.

Best Available Control Technology (BACT) has been determined for SO_2 and sulfuric acid mist for the Sulfuric acid plant and SO_2, for the auxiliary boiler "E". The emission limiting standard selected as BACT and made a condition of the permits are listed in Table 2. Justification for the standards selected is included in Technical Appendix A.

The permitted emission, including those determined as BACT, are in compliance with all applicable requirements of Chapter 17-2 and with New Source Performance Standard (NSPS) requirements of 40 CFR 60, Subpart H.

B. Air Quality Impact Analysis

The air quality impact analysis required for SO_2 and sulfuric acid mist consists of:

- An analysis of existing air quality;
- A PSD increment analysis (for SO_2 only);
- A National and Florida Ambient Air Quality Standards (AAQS) analysis;

Table 1
SUMMARY OF EMISSIONS
(Tons per year)

SOURCE	Pollutant Emissions					
	SO_2	PM	H_2SO_4 Mist	NO_x	CO	VOC
"E" Sulfuric Acid Plant						
Proposed Emission	1825	--	68.3	64.8	0.5	---
Permitted Emission	1460	--	54.8	51.7	0.4	---
Increase[1]	365	--	13.5	13.1	0.1	---
"F" Sulfuric Acid Plant						
Proposed Emission	1825	--	68.3	64.8	0.5	---
Permitted Emission	1460	--	54.8	51.7	0.4	---
Increase[1]	365	--	13.5	13.1	0.1	---
"E" Auxiliary Boiler						
Proposed Emission	729	59	---	273	23	5
Existing Emission	508	64	---	260	21	4
Increase[1]	221	-5	---	13	2	1
Fugitive Emission[2]	----	--	---	<1	1	<1
Net Increase from Proposed Modification	951	-5	27	39.2	3	1
PSD Significance Level[3]	40	25	7	40	100	40

(1) Applicant's estimate of emission rate increases that will result from increasing the production capacity of the "E" and "F" sulfuric acid plants from 2,000 TPD to 2,500 TPD each and from increasing the sulfur content of the fuel to the "E" auxiliary boiler to 1.0 percent.

(2) Vehicle Traffic.

(3) 40 CFR 52.21.

Table 2

ALLOWABLE EMISSION LIMITS

SOURCE	POLLUTANT EMISSION						
	SO_2	PM	Mist	NO_x	CO	VOC	BASIS
"E" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"F" Sulfuric Acid Plant							
Standard	4 lb/ton 100% acid	--	0.15 lb/ton 100% acid	---	---	---	NSPS and BACT
Emission Rate(lb/hr)	416.7	--	15.6	14.8	0.1	---	
"E" Auxiliary Boiler							
Emission Rate	1.1 $lb/10^6$ BTU heat input and 170.7 lb/hr	--	----	---	---	---	
		13.9	----	64	5.3	1.1	BACT and Emission rates as estimated by the applicant

- An analysis of impacts on soils, vegetation and visibility and of growth-related air quality impacts; and

- A "good engineering practice (GEP)" stack height evaluation.

The analysis of existing air quality generally relies on preconstruction ambient air monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses depend on air quality modeling carried out in accordance with EPA guidelines.

Based on these required analyses, the Department has reasonable assurance that the proposed Occidental Chemical Company Swift Creek Chemical Complex (SCCC) modification, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows.

1. Modeling Methodology

Four EPA-approved atmospheric dispersion models were used to predict ground-level pollutant concentrations. The Single-Source (CRSTER) model and the PTMTPW model were used for short-term (24 hours or less) averages to predict maximum concentrations in the vicinity of the facility. CRSTER was used first to establish the meteorological conditions resulting in the highest, second- high impacts. PTMTPW was then run for these days of critical meteorology to further refine the results using all possible sources which may significantly interact with the facility, along with a finer receptor grid spacing (0.1 km).

The Air Quality Display Model (AQDM) was used to predict annual concentrations. Receptors for this modeling were placed at 1.0 km intervals.

The Industrial Source Complex Short-Term (ISCST) model was used to predict short and long term concentrations on the nearest Class I area, the Okefenokee National Wildlife Refuge in southeast Georgia. This model was used to take advantage of the pollutant decay feature written into the program. An SO_2 half-life of 12 hours was used. This additional refinement was needed to show that Class I PSD increments would not be violated.

The surface meteorological data used in the models were National Weather Service (NWS) data collected at Valdosta, Georgia for the period 1972-1976. Upper-air meteorological data were collected at the NWS Waycross, Georgia station for the same period.

Stack parameters and emission rates used in evaluating the proposed modification are given in Tables 1 and 2. Table 1 lists all the SO_2 emission units at both the SCCC and the Suwannee River Chemical Complex (SRCC) facilities at the emission rates to be allowed after the proposed modifications to both facilities. Table 2 lists all SO_2 increment consuming emission units at both facilities for that part of their emission rates which consume increment.

2. Analysis of Existing Air Quality

Under the State regulations (Rule 17-2.500(5)(f)FAC) the applicant is required to submit preconstruction monitoring data for all pollutants for which a significant increase in annual emissions is proposed and for which an ambient air quality standard exists. For the SCCC facility only SO_2 is subject to this rule. (The Department has determined that preconstruction monitoring for sulfuric acid mist is not necessary.) The monitoring must be continuous and in general comprise a one-year period. The Department may reduce the length of this period to no less than four months when sufficient justification warrants. Due to the rural setting of this facility and its remoteness from other SO_2 emitting sources, the Department has determined that four months of continuous monitoring data at one site is sufficient to satisfy the requirement. A similar federal regulation requiring preconstruction monitoring (40 CFR 52.21(m)) is not applicable to the federal permit because a complete application was submitted by the applicant before this regulation went into effect.

The applicant has elected to use an existing monitor operated by the Department to satisfy the monitoring requirement. The monitor is continuous and satisfies the EPA site selection criteria guidelines. Four months of data (April 1982 through July 1982)* have been analysed from this monitor, and are summarized summarized in the following table.

Averaging Period	Highest (ug/m^3)	2nd Highest (ug/m^3)
1-hour	371	357
3-hour	314	180
24-hour	67	26
4-month	4	

*Monitor began operation April, 1982.

A determination of the background concentration of SO_2 for the area surrounding the SCCC facility can be obtained by averaging the monitored SO_2 values over all hours for which the monitor was not influenced by the SCCC and SRCC sources. This background value is calculated to be 0 ug/m^3.

Table 1

SUMMARY OF SULFUR DIOXIDE EMISSIONS
OCCIDENTAL CHEMICAL COMPANY
SRCC & SCCC

SOURCE NAME	EMISSION RATE LB/HR	EMISSION 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(SCCC)	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Sulfuric Acid F(SCCC)	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Auxiliary Boiler E (SCCC)	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% 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.

Table 2

SUMMARY OF INCREMENT CONSUMING EMISSIONS

Emission Unit	SO_2 Increment Consuming Emission(g/s)
Sulfuric Acid E (SCCC)	52.5
Sulfuric Acid F (SCCC)	52.5
Auxiliary Boiler E (SCCC)	21.5
Auxiliary Boiler B (SRCC)	22.0
Auxiliary Boilers C and D (SRCC)	33.0
DAP 2 "Z"-train (SRCC)	0.69(1)

(1) Only 0.69 g/s of the total SO_2 emission of 1.49 g/s contributes to increment consumption.

3. PSD Increment Analysis

The SCCC facility is located in an area where the Class II PSD increments apply. The nearest Class I area is the Okefenokee National Wildlife Refuge located approximately 40 kilometers to the northeast. Both a Class II and a Class I PSD increment analysis for SO_2 is required.

The emission units at the SCCC facility which consume SO_2 increment are the E and F sulfuric acid plants and the E auxiliary boiler. Increment consuming sources at the SRCC facility have been modeled along with the SCCC sources due to the close proximity of these facilities. No other sources of SO_2 significantly impact this area.

The results of the Class II modeling analysis are contained in the following table.

Pollutant and Time Average	Class II Increment(ug/m^3)	Predicted Increase(ug/m^3)	Percent Increment Consumed
SO_2			
Three-hour(1)	512	416	81
24-hour(1)	91	79	87
Annual	20	8	40

(1) Not to be exceeded more than once per year.

A more refined modeling analysis was performed to assess the impact of the proposed emission increases on the Okefenokee Class I area. Due to the long distance (approximately 40 km) and, hence the longer transport time of the plume to the Class I area, conversion of some of the SO_2 to sulfates will be realized, thereby lessening the ground-level concentrations of SO_2. The method by which this conversion is simulated in the model is by introducing an appropriate half-life for SO_2--in this case, 12 hours. The results of this modeling analysis are summarized in the following table.

Pollutant and Time Average	Class I Increment(ug/m^3)	Predicted Increase(ug/m^3)	Percent Increment Consumed
SO_2			
Three-hour(1)	25	25	100
24-hour(1)	5	5	100
Annual	2	1	50

1 Not to be exceeded more than once per year.

No violation of a PSD allowable increment is predicted as a result of the proposed modification at the SCCC facility.

4. AAQS Analysis

An AAQS analysis is required for all pollutants for which a significant increase in annual emissions is proposed. The analysis includes an evaluation of the background concentrations of the subject pollutants and a modeling evaluation of all sources of those pollutants at both the modified facility and any surrounding facilities (within 50 km) which may impact the area.

An evaluation for SO_2 and sulfuric acid mist is required at the SCCC facility. An estimate of the background concentration of SO_2 is obtained from the preconstruction monitoring described in a previous section. A value of 0 ug/m^3 for all averaging times is obtained. The maximum ground-level concentrations in the vicinity of the SCCC facility are summarized in the following table.

Pollutant and Time Average	Florida AAQS	National AAQS	Predicted Impact
SO_2 (ug/m^3)			
Three-hour(1)	1300	1300(2)	425
24-hour(1)	260	365	195
Annual	60	80	10
Sulfuric Acid Mist (ug/m^3)			
Three-hour	-----	-----	11
24-hour	-----	-----	2
Annual	-----	-----	<1

(1) Not to be exceeded more than once per year
(2) Secondary Standard.

5. Analysis of Impacts on Soils, Vegetation, and Visibility and Growth-Related Air Quality Impacts

The maximum ground-level concentrations predicted to occur as a result of the proposed modifications at SCCC are below the applicable National and Florida AAQS for SO_2, including the secondary standard designed to protect public welfare-related values. Therefore, no adverse impacts on soils and vegetation are expected.

The SCCC is located within 40 kilometers of a Class I area' however, no adverse impact on visibility is expected. Significant emission increases will be realized for SO_2 only. Visibility degradation is related much more to particulate and nitrogenoxides emissions.

The proposed modification at the SCCC will result in no new jobs. As a result no growth-related air quality impacts will occur.

6. GEP Stack Height Evaluation

Regulations published by EPA in the Federal Register of February 8, 1982, define GEP stack height as the highest of:

1. 65 meters; or
2. The maximum nearby building height plus 1.5 times the building height or width, whichever is less.

While the actual stack height employed can exceed this height, the stack height used in modeling to determine compliance with the AAQS and PSD increments cannot. As seen in Table 1, all stacks at SCCC are less than the GEP limit of 65 meters.

IV. CONCLUSIONS

Based on the review of the data submitted by Occidental Chemical Company for the modification of two double absorption type sulfuric acid plants, and the increase in the sulfur content of the fuel oil in the "E" auxiliary boiler, the FDER concludes that compliance with all applicable federal and State air quality regulations will be achieved provided certain specific conditions are met. The 1% sulfur content in the fuel oil and the NSPS emission limits proposed by the applicant of 4 pounds of sulfur dioxide per ton of 100% acid produced, 0.15 pounds of acid mist per ton of 100% acid produced, and 10 percent opacity have been determined to be the Best Available Control Technology (BACT). The impact of the sulfuric acid plants and auxiliary boiler "E" emissions will not cause or contribute to a violation of any ambient air quality standard or PSD increment.

The FDER therefore proposes that an authorization to construct be issued to Occidental Chemical Company for the proposed sulfuric acid plants "E" and "F" and auxiliary boiler "E" subject to specific conditions to insure compliance with all applicable regulations. Appendix B includes the proposed conditions.

TECHNICAL APPENDIX A

BACT DETERMINATION

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for _____
Steve Smallwood, Chief BAQM

Date: 11/2/92

Approved:

_____
Victoria J. Tschinkel, Secretary

Date: _____

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for _____
Steve Smallwood, Chief BAQM

Date: 11/7/82

Approved:

_____
Victoria J. Tschinkel, Secretary

Date: _____

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

C.H. Fancy

for Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date:

APPENDIX B

SPECIFIC CONDITIONS

FDER proposes a preliminary determination of approval with conditions for the project requested by Occidental Chemical Company in the permit applications submitted on June 8, 1981 (federal application) and May 21, 1982 (state application).

Special conditions listed in the state permits AC 24-56209, AC 24-56210, AC 24-56211 are adopted as special conditions for the federal permit, PSD-FL-082, for these sources.

The attached General Conditions (federal) are also made a part of the proposed federal permit PSD-FL-082.

Technical Evaluation

and

Preliminary Determination

Occidental Chemical Company

Suwannee River Chemical Complex

Hamilton County, Florida

PERMIT NUMBERS:

STATE

Auxiliary Boiler "B"	AC 24-56212
Auxiliary Boiler "C"	AC 24-56214
Auxiliary Boiler "D"	AC 24-56213
DAP Plant No. 2	AC 24-56215

FEDERAL

SRCC Fuel Conversion Project PSD-FL-083

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

October 25, 1982

TABLE OF CONTENTS

I. SYNOPSIS OF APPLICATION

A. Name and Address of Applicant

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

B. Source Location

Occidental Chemical Company (OCC) operates two phosphate fertilizer facilities north of White Springs in Hamilton County, Florida. The facilities are the Swift Creek Chemical Complex (SCCC), located on SR 100 and the Suwannee River Chemical Complex, (SRCC) located on SR 137. The Department of Environmental Regulation (DER) is currently processing applications for modifications to existing sources at both chemical complexes. This determination is for the modification planned for the SRCC whose UTM coordinates are 328.320 km. East and 3,368.810 km. North. Modifications planned for SCCC are discussed in a separate document.

C. Project Description

The modifications requested by OCC is the substitution of a lower grade No. 6 fuel oil (higher sulfur content) in three auxiliary boilers (B, C, and D) and the No. 2 DAP plant dryer. The maximum sulfur content of the fuel oil used in the boilers will be increased from 0.8 to 1.0 percent. In the No. 2 DAP plant, the maximum sulfur in the fuel oil will increase from 0.8 to 1.5 percent.

No physical changes are required for this equipment to burn the lower grade fuel oil. The lower grade fuel will increase sulfur dioxide emissions from these units. The maximum sulfur content of the fuels is such that no violations of federal or state regulations will be caused by its use.

D. Process Description

Auxiliary boiler "B" produces 125,000 pounds of steam per hour from 160 MMBTU/hour heat input. It can use either natural gas or No. 6 oil for fuel. The 160 MMBTU/hour heat input is equivalent to 1,067 GPH of No. 6 fuel oil. The steam from auxiliary boiler B is used to augment steam produced by two sulfuric acid plants, B and C.

Auxiliary boiler "D" produces 100,000 pounds of steam per hour from 120 MMBTU/hour heat input. It can use either natural gas or No. 6 oil fuel. The 120 MMBTU/hour heat input is equivalent to 820 GPH No. 6 fuel oil. The steam

from auxiliary boiler D is used in the superphosphoric acid plant. This boiler shares a common stack with auxiliary boiler C.

Auxiliary boiler "C" is identical to auxiliary boiler D except it has been modified to allow the use of COM fuel also. A baghouse and dust collector are needed when COM fuel is burned in this boiler to control particulate matter emissions.

The dryer in the No. 2 DAP plant uses 36 MMBTU/hour of natural gas or No. 6 oil as fuel to produce 60 TPH DAP product. This requires 248 GPH of oil. OCC reports over 80 percent of the sulfur dioxide produced when the sulfur in the oil is burned is retained in the product and not emitted to the atmosphere. The free ammonia in the scrubber reacts with the sulfur dioxide and this compound is removed by the acid scrubbing liquid, which is later neutralized to form DAP.

II. RULE APPLICABILITY

A. Federal Regulations

The proposed project, substituting fuel oil with a maximum sulfur content of 1.0 percent in boilers B, C, and D and 1.5 percent for the No. 2 DAP plant for the 0.8 percent the sources are presently permitted to burn, is subject to preconstruction review under federal prevention of significant deterioration (PSD) regulations, Section 52.21 of Title 40 of the Code of Federal Regulations (40 CFR 52.21) as amended in the Federal Register of August 7, 1980 (45 FR 52676). Specifically, each modified boiler and the No. 2 DAP plant constitute a major stationary source (40 CFR 52.21(b)(1)) located in an area designated in 40 CFR 81.310 as attainment for all criteria pollutants.

Use of the alternate fuels will result in a significant net emission increase of sulfur dioxide, thereby rendering it a major modification (40 CFR 52.21 (b)(2)) subject to PSD review (40 CFR 52.21(i)). The increase in emissions of other criteria pollutants are below the significant levels.

Full PSD review is required for each pollutant for which a significant net emission increase would occur. For this modification, the review is required for sulfur dioxide. The review consists of a determination of best available control technology (BACT) and an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the impact of the proposed project on soils, vegetation, visibility and the air quality impact resulting from associated commercial, residential and industrial growth.

B. State Regulations

The proposed project, increasing the sulfur content of the fuel oil used in boilers B, C, and D and the No. 2 DAP plant, is subject to preconstruction review under the provisions of Chapter 403, FS, and Chapter 17-2, FAC.

The plant site is in an area designated attainment for all criteria pollutants. It is within 40 km of the Okefenokee National Wilderness Refuge, a Class I area.

The plant is a major emitting facility for sulfur dioxide, nitrogen oxides, and particulate matter as defined in Chapter 17-2 because the potential emissions of each of these criteria pollutants exceeds 100 TPY.

The project is subject to the provisions of Subsection 17-2.500, Prevention of Significant Deterioration (PSD),

because the modification will result in increased emissions of sulfur dioxide above the significant levels listed in Table 500-2, Regulated Air Pollutants - Significant Emission Rates.

PSD requires the use of Best Available Control Technology (BACT), determination of the ambient air impact and preconstruction air quality monitoring and analysis.

III. SOURCE IMPACT ANALYSIS

A. Emission Limitations

The modification to the three (3) auxiliary boilers and DAP dryer will produce emissions of particulate matter (PM), sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC) to the atmosphere.

Table 1 summarizes potential to emit all pollutants regulated under the act which are affected by the proposed project.

As the table shows, the proposed emissions increase of SO_2 exceeds the significance levels set in the PSD regulations. Although the other regulated pollutants are exempt from a PSD review because their emissions do not increase, they are required to meet all applicable emission limits and standards of performance under the Florida State Implementation Plan.

Best Available Control Technology (BACT) has been determined for SO_2.

The emission limiting standard selected as BACT and made a condition of the permits are listed in Table 2. Justification for the standards selected is included in Technical Appendix A.

The permitted emission, including those determined as BACT, are in compliance with all applicable requirements of Chapter 17-2 and Federal regulations 40 CFR 52.21.

B. Air Quality Impact Analysis

The air quality impact analysis required for SO_2 consists of:

- An analysis of existing air quality;
- A PSD increment analysis;
- A National and Florida Ambient Air Quality Standards (AAQS) analysis;
- An analysis of impacts on soils, vegetation and visibility and of growth-related air quality impacts; and
- A "good engineering practice (GEP)" stack height evaluation.

Table 1

SUMMARY OF EMISSIONS

(Tons per year)[1]

SOURCE	POLLUTANT				
	PM	SO_2	NO_2	CO	VOC
Boiler "B"					
Permitted[2]	70.00	597		---	---
Proposed[3]	62.3	765.8	287.2	23.9	4.8
Increase	-7.7	168.8		-0-	-0-
Boiler "C"					
Permitted[2]	39.5	442.4	----	----	----
Proposed[3]	16.6	572.1	239	18.4	4.5
Increase	22.9	129.7	-0-	-0-	-0-
Boiler "D"					
Permitted[2]	39.5	442.4	----	----	----
Proposed[3]	46.7	564.0	215	18	4
Increase	7.2	121.6	-0-	-0-	-0-
TOTAL INCREASE**	22.4	420.1	-0-	-0-	-0-
#2 DAP Dryer*	PM	SO_2	F		
Permitted[2]	193	27.7	6.1	---	---
Proposed[3]	193	51.5	6.1	---	---
Increase	----	23.8	-0-	---	---
TOTAL INCREASE**	-0-	23.8	-0-	-0-	-0-
Significant Levels	25	40	40	3	100	40

(1) Emissions calculations based on 8760 hours per year and 100% on oil for Boilers B,D and DAP plant No. 2. Boiler C calculations are based on 100% on COM.

(2) Permitted emissions as stated in the federal application PSD-FL-083 (Table 2-1) and Boiler B operating permit AO 24-34186
Boiler C and D operating permit AO 24-21059, and
DAP plant #2 operating permit AO 24-33051

(3) Proposed emissions as calculated by the applicant in the State applications and additional correspondence

* Fluoride Emissions for the #2 DAP plant will not change ($0.06\#F/TP_2O_5$)

** Emission rate increases of regulated pollutants (nitrogen oxides, VOC and carbon monoxide) will not be affected by the proposed change.

Table 2

ALLOWABLE EMISSIONS

SOURCE/FUEL	POLLUTANT									
	PM		SO_2		NOx		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler B										
Oil(2)	14.2	62.3	174.8	765.8	65.5	287.2	5.5	23.9	1.1	4.8
This boiler shall be allowed to operate 60% of rated capacity (Specific Condition No. 1).										
Boiler C*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	8.9	0.4	1.6
Oil(2)	10.7	46.7	128.7	563.9	49.2	215.5	4.1	18.0	0.8	3.6
COM(3)	3.8	16.6	130.6	572.1	54.6	239.2	4.2	18.4	1.0	4.5
Boiler D*										
Gas	1.2	5.3	0.1	0.3	21.0	92.0	2.0	9	0.4	2
Oil	10.7	47	128.7	564	49.2	215	4.1	18	0.8	4
#2 DAP Dryer										
Oil(4)	46	193	11.8	51.5						

(1) Allowable Emissions as estimated by the applicant based on an operating time of 8760 hours per year with the exceptions as noted in this table.

(2) SO_2 emission limit shall not exceed 1.1 lb/MMBTU heat input (Fuel oil with 1% sulfur content).

(3) Coal-Oil mix (COM) with 0.9% sulfur content.

(4) Fuel oil with 1.5% sulfur content. (SO_2 emission limit shall not exceed 0.2 lb/ton DAP).

Fluoride emisions shall not exceed 1.74 lb/hr and 0.6#F/TP_2O_5.
Boilers C, and D shall be allowed to operate 25% of the time.
*Boiler "C" shares a common stack with auxiliary boiler "D".

The analysis of existing air quality generally relies on preconstruction ambient air monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses depend on air quality modeling carried out in accordance with EPA guidelines.

Based on these required analyses, the department has reasonable assurance that the proposed Occidental Chemical Company Suwannee River Chemical Complex (SRCC) modification, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows.

1. Modeling Methodology

Four EPA-approved atmospheric dispersion models were used to predict ground-level pollutant concentrations. The Single-Source (CRSTER) model and the PTMTPW model were used for short-term (24 hours or less) averages to predict maximum concentrations in the vicinity of the facility. CRSTER was used first to establish the meteorological conditions resulting in the highest, second-high impacts. PTMTPW was then run for these days of critical meteorology to further refine the results using all possible sources which may significantly interact with the facility, along with a finer receptor grid spacing (0.1 km).

The Industrial Source Complex Long-Term (ISCLT) was used to predict annual concentrations. Receptors for this modeling were placed at 0.25 km intervals.

The Industrial Source Complex Short-Term (ISCST) model was used to predict short- and long-term concentrations on the nearest Class I area, the Okefenokee National Wildlife Refuge in southeast Georgia. This model was used to take advantage of the pollutant decay feature written into the program. An SO_2 half-life of 12 hours was used. This additional refinement was needed to show that Class I PSD increments would not be violated.

The surface meteorological data used in the models were National Weather Service (NWS) data collected at Valdosta, Georgia for the period 1972-1976. Upper-air meteorological data were collected at the NWS Waycross, Georgia station for the same period.

Stack parameters and emission rates used in evaluating the proposed modification are given in Tables 1 and 2. Table 1 lists all the SO_2 emission units at both the SRCC and the Swift Creek Chemical Complex (SCCC) facilities at the emission rates to be allowed after the proposed modifications to both facilities. Table 2 lists all SO_2 increment consuming emission units at

both facilities for that part of their emission rates which consume increment.

2. Analysis of Existing Air Quality

Under the State regulations (Rule 17-2.500(5)(f), FAC) the applicant is required to submit preconstruction monitoring data for all pollutants for which a significant increase in annual emissions is proposed and for which an ambient air quality standard exists. For the SRCC facility only SO_2 is subject to this rule. The monitoring must be continuous and in general comprise a one-year period. The Department may reduce the length of this period to no less than four months when sufficient justification warrants. Due to the rural setting of this facility and its remoteness from other SO_2 emitting sources, the Department has determined that four months of continuous monitoring data at one site is sufficient to satisfy the requirement. A similar federal regulation requiring preconstruction monitoring (40 CFR 52.21(m)) is not applicable to the federal permit because a complete application was submitted by the applicant before this regulation went into effect.

The applicant has elected to use an existing monitor operated by the Department to satisfy the monitoring requirement. The monitor is continuous and satisfies the EPA site selection criteria guidelines. Four months of data (April 1982 through July 1982)* have been analysed from this monitor, and are summarized in the following table.

Averaging Period	Highest (ug/m^3)	2nd Highest (ug/m^3)
1-hour	371	357
3-hour	314	180
24-hour	67	26
4-month	4	

*Monitor began operation April, 1982.

A determination of the background concentration of SO_2 for the area surrounding the SRCC facility can be obtained by averaging the monitored SO_2 values over all hours for which the monitor was not influenced by the SRCC and SCCC sources. This background value is calculated to be 0 ug/m^3.

Table 1

SUMMARY OF SULFUR DIOXIDE EMISSIONS
OCCIDENTAL CHEMICAL COMPANY
SRCC & SCCC

SOURCE NAME	EMISSION RATE LB/HR	EMISSION 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(SCCC)	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Sulfuric Acid F(SCCC)	416.7	52.50 (3)	61.0	356.0	9.30	2.90
Auxiliary Boiler E (SCCC)	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% 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.

Table 2

SUMMARY OF INCREMENT CONSUMING EMISSIONS

Emission Unit	SO_2 Increment Consuming Emission(g/s)
Sulfuric Acid E (SCCC)	52.5
Sulfuric Acid F (SCCC)	52.5
Auxiliary Boiler E (SCCC)	21.5
Auxiliary Boiler B (SRCC)	22.0
Auxiliary Boilers C and D (SRCC)	33.0
DAP 2 "Z"-train (SRCC)	0.69(1)

(1) Only 0.69 g/s of the total emission rate of 1.49 g/s contributes to increment consumption.

3. PSD Increment Analysis

The SRCC facility is located in an area where the Class II PSD increments apply. The nearest Class I area is the Okefenokee National Wildlife Refuge located approximately 40 kilometers to the northeast. Both a Class II and a Class I PSD increment analysis for SO_2 is required.

The consumption of increment in the area of the SRCC facility is affected by all of the SO_2 emissions from the B, C, and D auxiliary boilers, and by a portion of the SO_2 emissions from the DAP No. 2 "Z"-train. In addition, sources at Occidentals SCCC facility are included because of its close proximity to the SRCC site. No other sources of SO_2 significantly impact this area.

The results of the Class II modeling analysis are summarized in the following table.

Pollutant and Time Average	Class II Increment(ug/m^3)	Predicted Increase(ug/m^3)	Percent Increment Consumed
SO_2			
Three-hour(1)	512	256	50
24-hour(1)	91	73	80
Annual	20	12	60

1 Not to be exceeded more than once per year.

A more refined modeling analysis was performed to assess the impact of the proposed emission increases on the Okefenokee National Wilderness Refuge Class I area. Due to the long distance (approximately 40 km) and, hence, the longer transport time of the plume to the Class I area, conversion of some of the SO_2 to sulfates will be realized. Predicted ground-level impacts of SO_2 will be lessened depending upon the efficiency of this conversion. The method by which this conversion is simulated in the model is through the introduction of an appropriate SO_2 half-life--in this case, 12 hours.

The results of this modeling analysis are summarized in the following table.

Pollutant and Time Average	Class I Increment(ug/m^3)	Predicted Increase(ug/m^3)	Percent Increment Consumed
SO_2			
Three-hour(1)	25	25	100
24-hour(1)	5	5	100
Annual	2	1	50

(1) Not to be exceeded more than once per year.

No violation of a PSD allowable increment is predicted as a result of the proposed modification at the SRCC facility.

4. AAQS Analysis

An AAQS analysis is required for all pollutants for which a significant increase in annual emissions is proposed. The analysis includes an evaluation of the background concentration for each applicable pollutant, to take into account distant and natural sources, in addition to the explicit modeling of all sources in the surrounding (within 50 km) area.

An evaluation for SO_2 is required at the SRCC facility. An estimate of the background concentration as obtained from preconstruction monitoring and applicable to all averaging times is 0 ug/m^3. The maximum ground-level concentrations in the vicinity of the facility are summarized in the following table.

Pollutant and Time Average	Florida AAQS(ug/m^3)	National AAQS(ug/m^3)	Predicted Impact(ug/m^3)
SO_2			
Three-hour(1)	1300	1300(2)	425
24-hour(1)	260	365	195
Annual	60	80	10

(1) Not to be exceeded more than once per year
(2) Secondary standard.

5. Analysis of Impacts on Soils, Vegetation, and Visibility and Growth-Related Air Quality Impacts

The maximum ground-level concentrations predicted to occur as a result of the proposed modifications at SRCC are below the applicable National and Florida AAQS for SO_2, including the secondary standard designed to protect public welfare-related values. Therefore, no adverse impacts on soils and vegetation are expected.

The SRCC is located within 40 kilometers of a Class I area; however, no adverse impact on visibility is expected. Significant emission increases will be realized for SO_2 only. Visibility

degradation is related much more to particulate and nitrogenoxides emissions.

The proposed modification at the SRCC will result in no new jobs. As a result no growth-related air quality impacts will occur.

6. GEP Stack Height Evaluation

Regulations published by EPA in the Federal Register of February 8, 1982, define GEP stack height as the highest of:

1. 65 meters; or

2. The maximum nearby building height plus 1.5 times the building height or width, whichever is less.

While the actual stack height employed can exceed this height, the stack height used in modeling to determine compliance with the AAQS and PSD increments cannot. As seen in Table 1, all stacks at SRCC are less than the GEP limit of 65 meters.

IV. CONCLUSION

Based on a review of the data submitted by OCC for increasing the maximum sulfur content of the fuel for the No. 2 DAP plant and auxiliary boilers B, C, and D, the FDER concludes that compliance with all applicable federal and state air quality regulations will be achieved provided certain specific conditions are met. Use of fuel oil containing 1.5 percent sulfur in the No. 2 DAP plant, 1.0 percent sulfur in auxiliary boilers B, C, and D and COM fuel with 0.9 percent sulfur in auxiliary boiler C have been determined to be the Best Available Control Technology (BACT). The impact of the DAP dryer and auxiliary boilers emissions will not cause or contribute to a violation of any ambient air quality standard or PSD increment.

The FDER therefore proposes that an authorization to construct be issued to Occidental Chemical Company for the proposed DAP dryer and auxiliary boilers B, C, and D, subject to specific conditions to insure compliance with all applicable regulations. Appendix B includes the proposed conditions.

Appendix A

BACT DETERMINATION

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for

Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date:

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for _____
Steve Smallwood, Chief BAQM

Date: 11/7/82

Approved:

_____
Victoria J. Tschinkel, Secretary

Date: _____

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

C.H. Fancy

for Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date:

APPENDIX B

SPECIFIC CONDITIONS

FDER proposes a preliminary determination of approval with conditions for this project requested by Occidental Chemical Company in the permit applications submitted on June 8, 1982, (federal application) and May 21, 1982, (state application).

Special conditions listed in the State permits AC 24-56212, AC 24-56213, AC 24-56214, and AC 24-56215 are adopted as special conditions for the federal permit, PSD-FL-083, for these sources.

The attached General Conditions (federal) are also made a part of the proposed federal permit PSD-FL-083.

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

APPLICANT: Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

PERMIT/CERTIFICATION
NO. AC 24-56209

COUNTY: Hamilton

PROJECT: Sulfuric Acid Plant "F"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification of a 2500 TPD double absorption type Sulfuric Acid Plant located at Occidental Chemical Swift Creek Complex in Hamilton County, Florida. The UTM coordinates are 320.860 Km E and 3,369,750 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 3 and 5 "Specific Conditions".

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-2.122(16).

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982 and September 15, 1982 (Responses to technical discrepancies).

PERMIT NO.: AC 24-56211
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56211
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

Sulfuric Acid Plant "E"

1. Maximum production rate will be 2500 tons of 100 percent H_2SO_4 per day for each sulfuric acid plant.

2. Emission of sulfur dioxide from the sulfuric acid plant shall not exceed 416.7 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 4 pounds per ton of 100% H_SO_4 produced.

3. Emission of acid mist from the sulfuric acid plant shall not exceed 15.6 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 0.15 pounds per ton 100% H_2SO_4.

4. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the applicant. The pollutant gas used to prepare calibration gas mixture under paragraph 2.1 Performance Specification 2 and for calibration checks under 60.13(d) to this part, shall be sulfur dioxide (SO_2). Reference Method 8 shall be used for conducting monitoring system performance evaluations under 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.

5. The applicant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods and calculating the appropriate conversion factor for each eight hour period as follows:

$$CF = K \frac{(1.000 - 0.015r)}{r-s}$$

6. The applicant shall record all conversion factors and values under paragraph (b) as set forth in 60.84 Subpart H - Standards of Performance for Sulfuric Acid Plant.

7. For the purpose of report under 60.7(c), periods of excess emission shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under 60.82.

PERMIT NO.:
APPLICANT:

Expiration Date:_____

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

SPECIFIC CONDITIONS:

8. The applicant shall comply with all requirements of 40 CFR 60, Subpart H, Standards of Performance for sulfuric acid plants.

9. Compliance with all emission limits shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be conducted in accordance with the provisions of the following reference methods which are described in Appendix A of 40 CFR 60:

    a. Method 1 for sample and velocity traverses;
    b. Method 2 for volumetric flow rate;
    c. Method 3 for gas analysis;
    d. Method 7 for nitrogen oxides
    e. Method 8 for concentration of SO_2 and acid mist; and
    f. Method 9 for visible emissions.

    A compliance test shall consist of the average of three consecutive runs. The maximum sample time and volume per run will be as specified in the NSPS (40 CFR 60.85). The facility shall operate within 10 percent of maximum capacity during sampling. The parameters for the operating rate and control equipment variables and all continuous monitoring results shall be recorded during compliance testing and made a part of the test report. The Department will be notified 30 days in advance of the compliance test.

10. Visible emissions from the sulfuric acid plant shall not exceed 10% opacity.

11. This permit replaces operating permit No. AO 24-34847. The applicant shall return this operating permit to the Northeast District office within three (3) months of start-up of the unit.

12. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

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

APPLICANT:

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

PERMIT/CERTIFICATION
NO. AC 24-56210

COUNTY: Hamilton

PROJECT:

156 MMBTU/hr
Auxiliary Boiler "E"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification, use of fuel with 1.0 percent sulfur, of a 156 MMBTU/hr auxiliary boiler "E" located at Occidental Chemical Swift Creek complex in Hamilton County, Florida. The UTM Coordinates are 321.300 Km E and 3,369.830 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 3 through 4, "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982 and September 15, 1982, (Responses to technical discrepancies).

PERMIT NO.: AC 24-56210
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56210
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. The auxiliary boiler shall be allowed to operate 97.5 percent of the time (8,518 hours per year). Maximum steam production shall be 125,000 lb/hr and maximum heat input shall be 156 MMBTU/hr.

2. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

3. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

4. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

PERMIT NO.: AC 24-56210
APPLICANT: Occidental Chemical Company

5. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

6. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

7. The applicant should report any delay in modification of this unit to the Department.

8. This permit replaces operating permit No. AO24-34186. The applicant shall return any current operating permit from the boiler to the Northeast District office within three (3) months of modification of the unit.

9. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

10. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test result, hour of operation, maximum and average fuel oil consumption and sulfur content.

11. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

12. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

5. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

6. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

7. The applicant should report any delay in modification of this unit to the Department.

8. This permit replaces operating permit No. AO24-34186. The applicant shall return any current operating permit from the boiler to the Northeast District office within three (3) months of modification of the unit.

9. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

10. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test result, hour of operation, maximum and average fuel oil consumption and sulfur content.

11. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

12. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

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

APPLICANT:

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

PERMIT/CERTIFICATION
NO. AC 24-56211

COUNTY: Hamilton

PROJECT: Sulfuric Acid Plant "E"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification of a 2500 TPD double absorption type Sulfuric Acid Plant located at Occidental Chemical Swift Creek Complex in Hamilton County, Florida. The UTM coordinates are 321.110 Km E and 3,369.800 Km N.

Construction shall be in accordance with the permit application and plans, documents, and drawings, except as otherwise noted on pages 3 through 5 "Specific Conditions", listed below.

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1981, June 25, 1982, September 15, 1982, (Responses to technical discrepancies).

PERMIT NO.: AC 24-56209
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56209
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

Sulfuric Acid Plant

1. Maximum production rate will be 2500 tons of 100 percent H_2SO_4 per day for each sulfuric acid plant.

2. Emission of sulfur dioxide from the sulfuric acid plant shall not exceed 416.7 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 4 pounds per ton of 100% H_SO_4 produced.

3. Emission of acid mist from the sulfuric acid plant shall not exceed 15.6 pounds per hour at the maximum allowable operating rate of 104.2 tons per hour of 100% H_2SO_4. At lower operating rates, the emissions shall not exceed 0.15 pounds per ton 100% H_2SO_4.

4. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the applicant. The pollutant gas used to prepare calibration gas mixture under paragraph 2.1 Performance Specification 2 and for calibration checks under 60.13(d) to this part, shall be sulfur dioxide (SO_2). Reference Method 8 shall be used for conducting monitoring system performance evaluations under 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.

5. The applicant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods and calculating the appropriate conversion factor for each eight hour period as follows:

$$CF = K \frac{(1.000 - 0.015r)}{r-s}$$

6. The applicant shall record all conversion factors and values under paragraph (b) as set forth in 60.84 Subpart H - Standards of Performance for Sulfuric Acid Plant.

7. For the purpose of report under 60.7(c), periods of excess emission shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under 60.82.

PERMIT NO.:
APPLICANT:

Expiration Date: _____

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PERMIT NO.: AC 24-56209
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

8. The applicant shall comply with all requirements of 40 CFR 60, Subpart H, Standards of Performance for sulfuric acid plants.

9. Compliance with all emission limits shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be conducted in accordance with the provisions of the following reference methods which are described in Appendix A of 40 CFR 60:

    a. Method 1 for sample and velocity traverses;
    b. Method 2 for volumetric flow rate;
    c. Method 3 for gas analysis;
    d. Method 7 for nitrogen oxides;
    e. Method 8 for concentration of SO_2 and acid mist; and
    f. Method 9 for visible emissions.

    A compliance test shall consist of the average of three consecutive runs. The maximum sample time and volume per run will be as specified in the NSPS (40 CFR 60.85). The facility shall operate within 10 percent of maximum capacity during sampling. The parameters for the operating rate and control equipment variables and all continuous monitoring results shall be recorded during compliance testing and made a part of the test report. The Department will be notified 30 days in advance of the compliance test.

10. Visible emissions from the sulfuric acid plant shall not exceed 10% opacity.

11. This permit replaces operating permit No. AO 24-34847. The applicant shall return this operating permit to the Northeast District office within three (3) months of start-up of the unit.

12. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PERMIT NO.: AC 24-56209
APPLICANT: Occidental Chemical Company

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility.

14. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

15. The plant shall be allowed to operate continuously (8736 hours per year).

16. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.

2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.

3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.

4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.

5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:

   (a) description for noncomplying emission(s),

   (b) cause of noncompliance,

   (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) to sample at reasonable times any emission of pollutants;

and

(e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn
Chief, Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.

7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.

8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:

(a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;

(b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;

(c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

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

APPLICANT:

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

PERMIT/CERTIFICATION
NO. AC 24-56212

COUNTY: Hamilton

PROJECT:

160 MMBTU/hr
Auxiliary Boiler "B"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification, use of fuel with 1.0 percent sulfur, of a 160 MMBTU/hr auxiliary boiler "B" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the following permit application, and plans, documents and drawings except as other wise noted on page 3 through 4,"Specific Conditions".

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1982, June 25, 1982 and September 15, 1982 (Responses to technical discrepancies).

PERMIT NO.: AC 24-56212
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56212
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. The maximum operating rate for boiler "B" shall not exceed 60% of rated capacity (96 MMBTU/hr heat input) when sulfuric acid plants "C" and "D" will be operating at 100% capacity. Auxiliary boiler "B" shall be allowed to operate at 100% of rated capacity (160 MMBTU/hr heat input) when either the "C" or "D" sulfuric acid plant is shut down.

2. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

3. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

4. Auxiliary boiler "B" shall be allowed to operate continuously (8760 hours per year).

5. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

PERMIT NO.: AC 24-56212
APPLICANT: Occidental Chemical Company

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

9. This permit replaces operating permit No. AO24-34186. The applicant shall return any current operating permit from the boiler to the Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District Office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PERMIT NO.: AC 24-56212
APPLICANT: Occidental Chemical Company

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

9. This permit replaces operating permit No. AO24-34186. The applicant shall return any current operating permit from the boiler to the Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District Office prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

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

APPLICANT: Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

PERMIT/CERTIFICATION
NO. AC 24-56213

COUNTY: Hamilton

PROJECT:
120 MMBTU/hr
Auxiliary Boiler "D"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification, use of fuel with 1.0 percent sulfur, of a 120 MMBTU/hr auxiliary boiler "D" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the following permit application, and plans, documents and drawings except as other wise noted on page 3 through 4,"Specific Conditions".

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1982, June 25, 1982 and September 15, 1982 (Responses to technical discrepancies).

PERMIT NO.: AC 24-56213
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56213
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. The maximum operating rate for Boiler "D" shall not exceed 120 MMBTU/hr heat input.

2. Auxiliary boiler "D" shall be allowed to operate 25% of the time.

3. The boiler will be fired with natural gas, and No. 6 fuel oil. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC, and CO.

4. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

5. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

9. This permit replaces operating permit No. AO24-40968. The applicant shall return any current operating permit from this boiler to the Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.
12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

6. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

7. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

8. The applicant should report any delay in modification of this unit to the Department.

9. This permit replaces operating permit No. AO24-40968. The applicant shall return any current operating permit from this boiler to the Northeast District office within three (3) months of modification of the unit.

10. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

11. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.
12. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

13. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

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

APPLICANT: Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

PERMIT/CERTIFICATION
NO. AC 24-56214

COUNTY: Hamilton

PROJECT:
120 MMBTU/hr
Auxiliary Boiler "C"

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification of a 120 MMBTU/hr auxiliary boiler "C" located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.320 Km E and 3,368.810 Km N.

Construction shall be in accordance with the following permit application, and plans, documents and drawings except as other wise noted on page 3 through 4,"Specific Conditions".

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1982, June 25, 1982 and September 15, 1982 (Responses to technical discrepancies).

PERMIT NO.: AC 24-56214
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56214
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. The maximum operating rate for Boiler "C" shall not exceed 120 MMBTU/hr heat input.

2. Auxiliary boiler "C" shall be allowed to operate 25% of the time.

3. The boiler will be fired with natural gas, No. 6 fuel oil or a coal-oil mixture. Emissions shall not exceed the allowable emission listed in Table II of the Preliminary Determination for SO_2, NO_x, PM, VOC and CO.

4. The sulfur content of fuel oil fired in the boiler shall not exceed 1.0 percent.

5. The sulfur content of the coal-oil mixture shall not exceed 0.9 percent.

6. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved methods.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 7. Determination of Nitrogen Oxide Emissions from Stationary Sources
   g. Method 9. Determination of the Opacity of Emissions from Stationary Sources
   h. Method 10. Determination of Carbon Monoxide Emissions from Stationary Sources.

   A compliance test shall consist of the average of three consecutive runs. The boiler shall operate within 10 percent of maximum capacity during sampling, using the fuel that most likely will emit the greater quantity of pollutants being sampled. The Department shall be notified 30 days in advance of the compliance test.

PERMIT NO.: AC 24-56214
APPLICANT: Occidental Chemical Company

7. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

8. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

9. The applicant should report any delay in modification of this unit to the Department.

10. This permit replaces operating permit No.AO 24-40968. The applicant shall return any current operating permit from this boiler to the Northeast District office within three (3) months of modification of the unit.

11. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

12. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

13. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

14. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

7. Performance tests for NO_x, and CO to determine emission compliance status shall be requested by the Department when deemed necessary.

8. The opacity of the boiler flue gases shall not exceed 20 percent except for one six-minute period per hour during which the opacity shall not exceed 27 percent.

9. The applicant should report any delay in modification of this unit to the Department.

10. This permit replaces operating permit No.AO 24-40968. The applicant shall return any current operating permit from this boiler to the Northeast District office within three (3) months of modification of the unit.

11. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

12. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of operation, maximum and average fuel oil consumption and sulfur content.

13. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

14. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

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DEPARTMENT OF ENVIRONMENTAL REGULATION

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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

APPLICANT:

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

PERMIT/CERTIFICATION
NO. AC 24-56215

COUNTY: Hamilton

PROJECT:
36 MMBTU/hr Dryer
Diammonium Phosphate
Plant #2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, 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 modification of a 36 MMBTU/hr No. 2 diammonium phosphate dryer located at Occidental Chemical Suwannee River complex in Hamilton County, Florida. The UTM coordinates are 328.20 Km E and 3,368.82 Km N.

Construction shall be in accordance with the following permit application, and plans, documents and drawings except as other wise noted on page 3 through 4,"Specific Conditions".

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

2. Occidental Chemical's letters of June 18, 1981, November 24, 1981, December 7, 1981, April 26, 1982, June 25, 1982 and September 15, 1982 (Responses to technical discrepancies).

PERMIT NO.: AC 24-56215
APPLICANT: Occidental Chemical Company

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:

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

PERMIT NO.: AC 24-56215
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. The No. 2 DAP dryer shall be allowed to operate continuously (8760 hours per year) at up to 60 tons per hour DAP production.

2. The fuel used to fire the dryer will be natural gas or No. 6 fuel oil with a maximum sulfur content of 1.5 percent S. Maximum heat input shall be 36 MMBTU/hr.

3. Emissions from the DAP dryer shall not exceed the allowable emissions listed in Table II of the Preliminary Determination for SO_2, PM, and Fluorine.

4. Compliance with all allowable emission limits (Table II) shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference method in Appendix A of 40 CFR 60 or other State approved method.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 5. Determination of Particulate Emissions for Stationary Sources
   e. Method 6. Determination of Sulfur Dioxide Emissions from Stationary Sources
   f. Method 13 A or B. Determination of Total Fluoride Emissions from Stationary Sources.

   DER will be notified 30 days in advance of the compliance test. The test will be conducted at 90 to 100 percent permitted production capacity while burning No. 6 fuel oil.

5. This permit replaces operating permit No. AO24-10781. The applicant shall return this operating permit to the Northeast District office within three (3) months of start-up of the unit.

6. The applicant should report any delay in modification of this unit to the Department.

7. The applicant will demonstrate compliance with the condition of the construction permit and submit a complete application for an operating permit to the Northeast District prior to 90 days of the expiration date of the construction permit. The permittee may continue to operate in compliance

with all terms of the construction permit until the expiration date or issuance of an operating permit.

8. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of production, maximum and average production, fuel oil usage, average and maximum percent sulfur in oil, pressure drop across scrubber, pressure on scrubber header, and flow of water through scrubber.

9. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

10. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

with all terms of the construction permit until the expiration date or issuance of an operating permit.

8. Upon obtaining an operating permit, the applicant will be required to submit periodic reports on the actual operation and emission of the facility. These reports will give emission test data, emission test results, hours of production, maximum and average production, fuel oil usage, average and maximum percent sulfur in oil, pressure drop across scrubber, pressure on scrubber header, and flow of water through scrubber.

9. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700 FAC.

10. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: July 30, 1983

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.

2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.

3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.

4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.

5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:

   (a) description for noncomplying emission(s),

   (b) cause of noncompliance,

   (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.

7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.

8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:

(a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;

(b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;

(c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and

(e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn
Chief, Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

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

Agency	Parameter	Method										
FDER-SJRSD GBO	SO_2	PULSED FLUOR.										

Site Address	City Name	Site Orient.	Project	Units
COUNTY RD. 137 @ OXY. ENT.	WHITE SPRINGS	SITE ORIENT.	CONT.	PPM

Card codes: 1 | 1 0 1 6 6 0 0 1 5 | F | 0 2 | 1 | YR 8 2 | MO. 0 4 | 4 2 4 0 1 | 2 0 | 0 7 | 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	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	0
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	0	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
12	12	0	0	0	0	0	0	0	0	0	0		
13	00	0	0	0	0	0	0	0	0	0	0	0	0
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

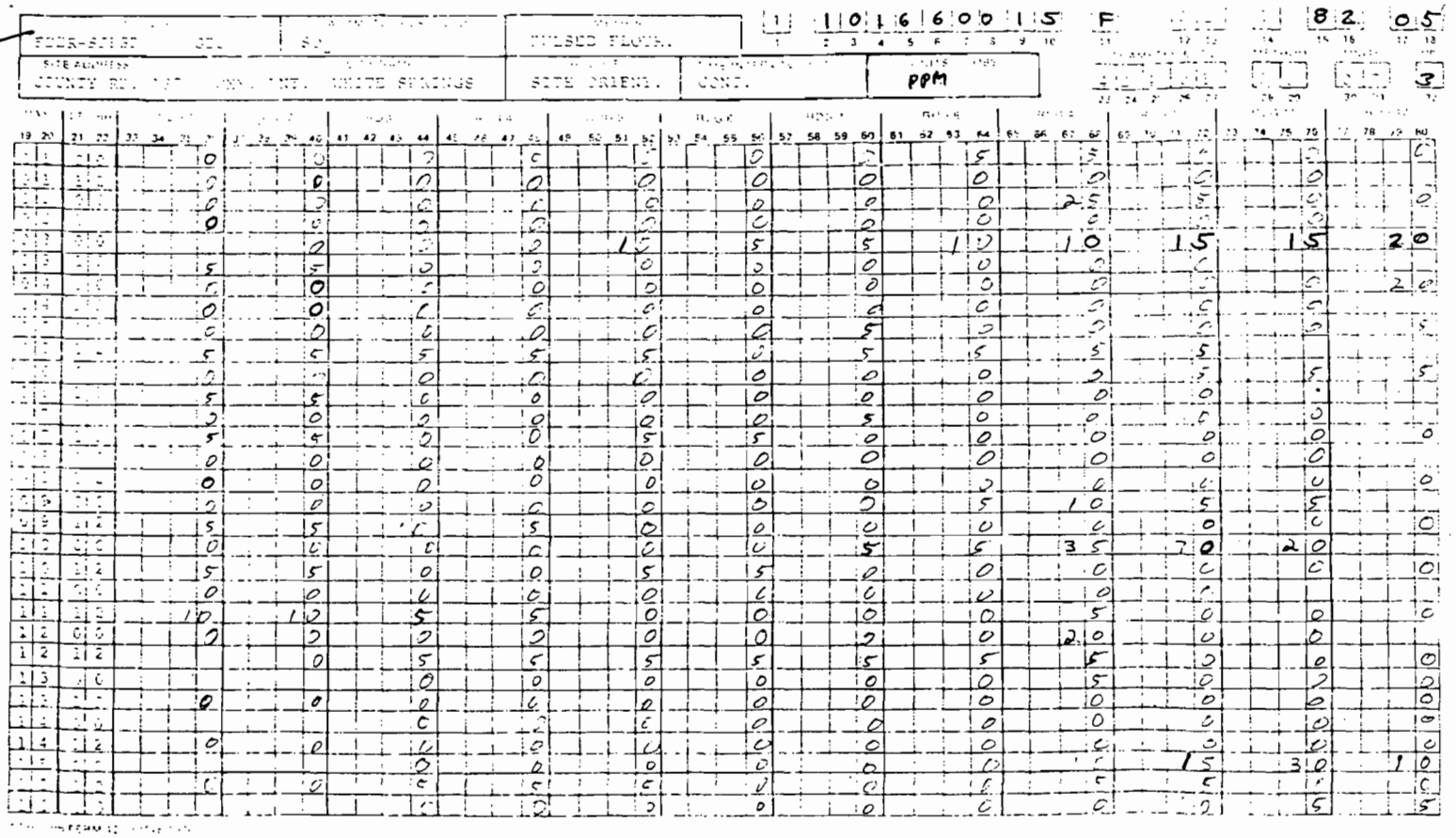
DEPARTMENT OF ENVIRONMENTAL REGULATION – AIR QUALITY INPUT FORM HOURLY DATA

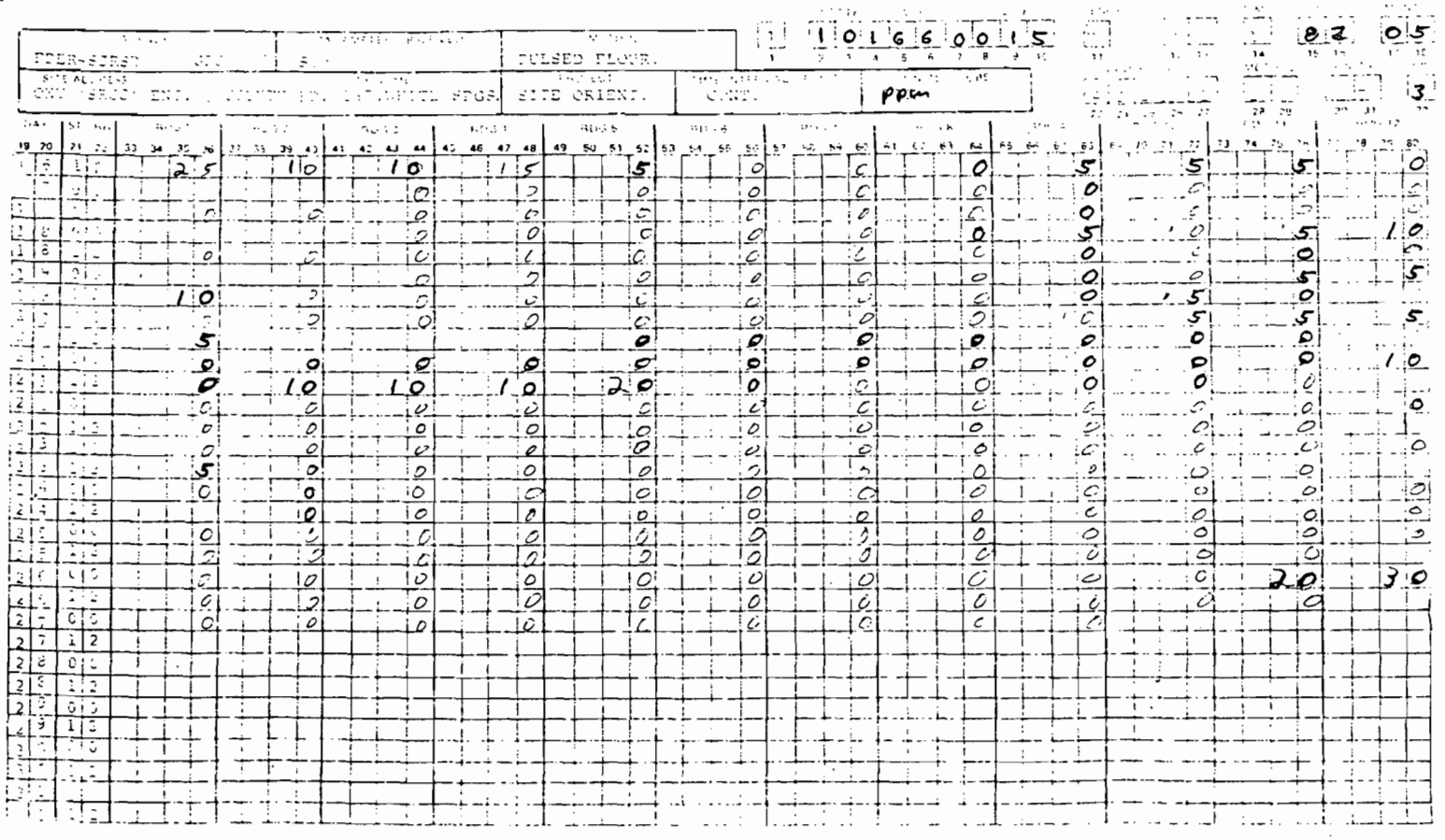
AGENCY	PARAMETER OBSERVED	METHOD
FDER-PURSU CBC	SO2	PULSED FLOUR.

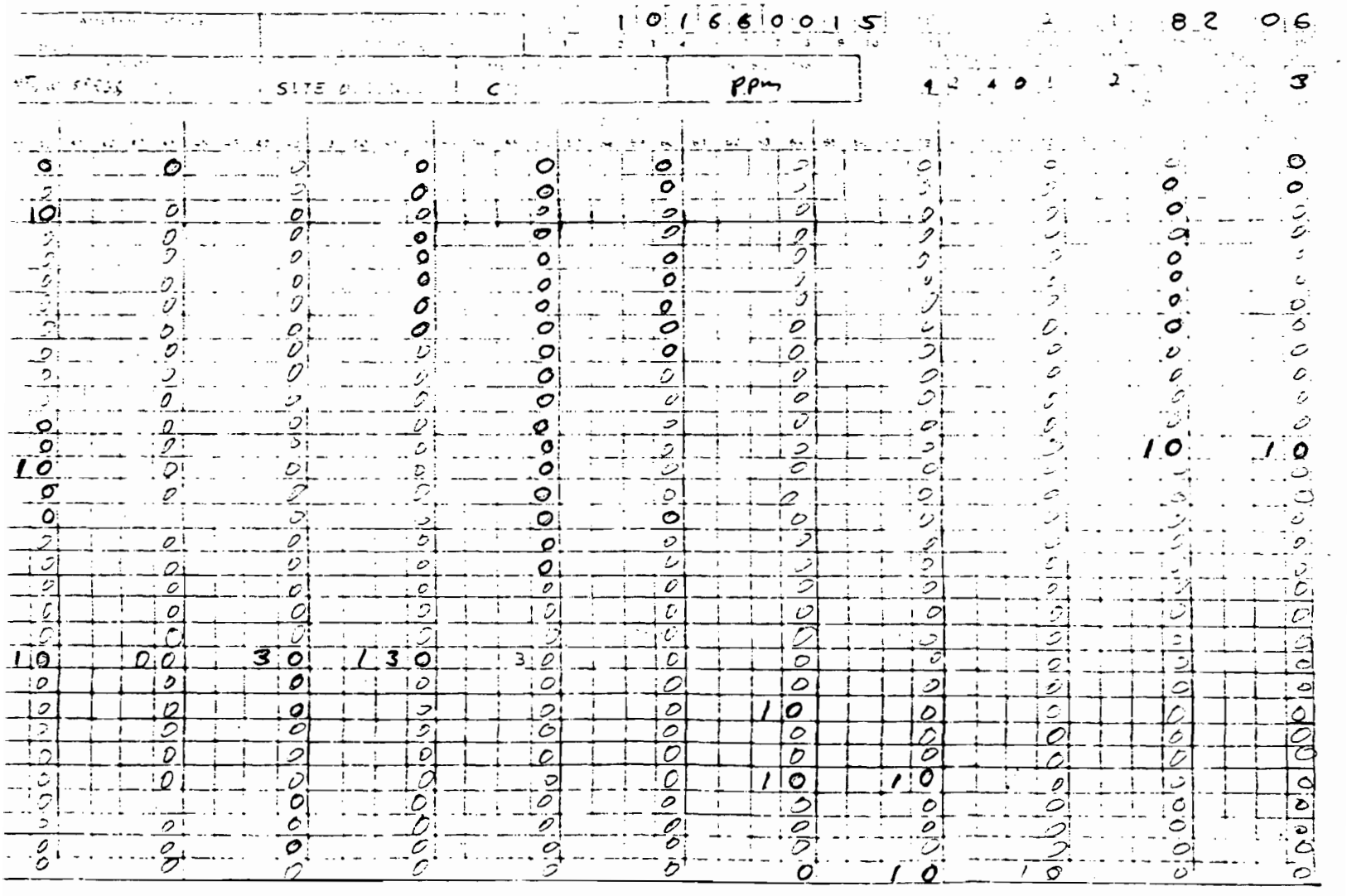
SITE ADDRESS	CITY NAME	PROJECT	TIME INTERVAL OF OBS.	UNITS OF OBS.
OXY (SRCC) BAIT @ COUNTY RD. 137	WHITE SPRINGS	SITE ORIENT.	CONT.	PPM

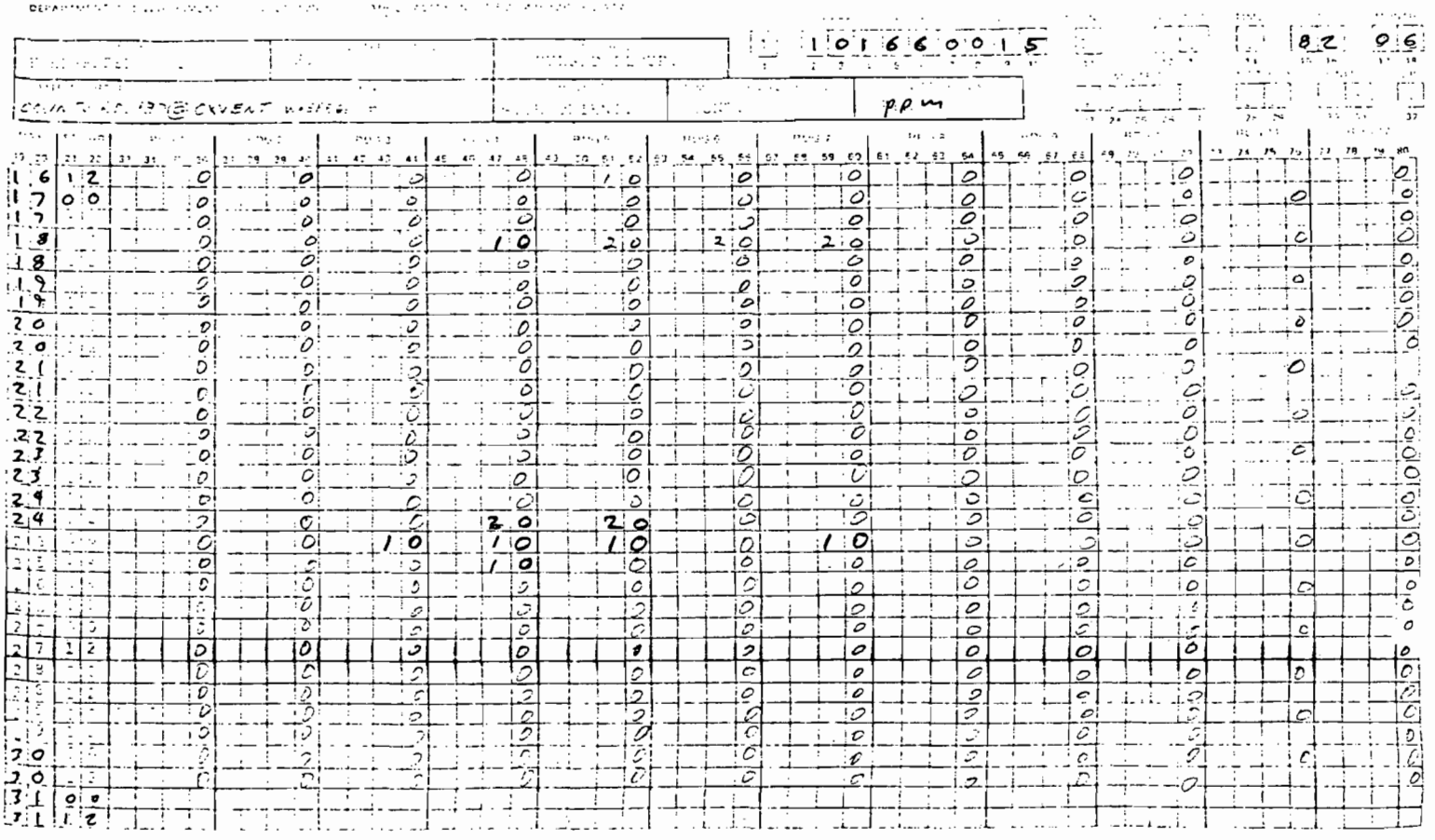
STATE 10 AREA 16601 SITE 15 AGENCY F PROJECT 03 TIME 1 YEAR 82 MONTH 04
PARAMETER 42501 METHOD 29 UNITS 17 SP 3

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		
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		
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		
19	0	0	0	0	0	10	25	0	0	0	0	0	0	0
19	1	2	0	0	35	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0	0	25	0	0
20	1	2	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		
22	0	0	0	0	0	0	0	0	0	0	15	25	30	0
22	1	2	0	0	0	5	5	0	0	0	0	0		
23	0	0	0	0	0	5	5	0	5	0	10	10	10	5
23	1	2	5	5	0	0	0	0	0	0	0	0		
24	0	0	30	20	0	0	0	0	0	0	0	0	0	0
24	1	2	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		
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		
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												









SO2 DAY

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

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

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

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	00	00	0	0	0	0	0	0	0	0	0	0		0
01	11	12	0	0	0	0	0	0	0	0	0			0
02	00	00	0	0	0	0	0	0	0	0	0	0		0
02	11	12	0	0	0	0	0	0	0	0	0			0
03	00	00	0	0	0	0	0	0	0	0	0	0		0
03	11	12	0	0	0	0	0	0	0	0	0			0
04	00	00	0	0	0	0	0	0	0	0	0	0		0
04	11	12	0	0	0	0	0	0	0	0	0			0
05	00	00	0	0	0	0	0	0	0	0	0	0		0
05	11	12	0	0	0	0	0							
06	00	00												
06	11	12												
07	00	00												
07	11	12						0	0	0	0	0		0
08	00	00	0	0	0	0	0	0	0	0	0	0		0
08	11	12	0	0	0	0	0	0	0	0	0	0		0
09	00	00	0	0	0	0	0	0	0	0	0	0		0
09	11	12	0	0	0	0	0	0	0	0	0	0		0
10	00	00	0	0	0	0	0	0	0	0	0	0		0
10	11	12	0	0	0	0	0	0	0	0	0	0		0
11	00	00	0	0	0	0	0	0	0	0	0	0		0
11	11	12	0	0	0	0	0	0	0	0	0	0		0
12	00	00	0	0	0	0	0	0	0	0	0	0		0
12	11	12	0	0	0	0	0	0	0	0	0	0		0
13	00	00	0	0	0	0	0	0	0	0	0	0		0
13	11	12	0	0	3 0	4 0	0	0	0	0	0	0		0
14	00	00	0	0	0	0	0	0	0	0	0	0		0
14	11	12	0	0	0	0	0	0	0	0	0	0		0
15	00	00	0	0	0	0	0	0	0	0	0	0	3	0
15	11	12	0	0	0	0	0	0	0	0	4 0	2 0		0
16	00	00	0	0	0	1 0	2 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	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	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	1	2	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
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	0
27	0	0												
27	1	2												
28	0	0												
28	1	2					0	0	0	0	0	0	0	0
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	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

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 oil
= 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 lb/hr

Boiler "D" (New Source)[1]

Identical to Boiler "C" oil 128.77 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 3209

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

Clarence Rogers

4. DATE OF DELIVERY
6-28-82

POSTMARK
FL WHITE SPRINGS JUN 28 1982 USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-300-459

Subject

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 1185 · HOUSTON, TEXAS 77001

CHECK NO 64031

5-25-82

PAY ONE HUNDRED FORTY AND 00 CTS 140.00

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

Jack R Carey

[redacted]

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 24-56211, 24-56211, 24-56239, 24-56212, 24-56213, 24-56214, 24-56215

By Patricia H. Adams

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,
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.

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.

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

May 21, 1982

Mr. Steve Smallwood
Florida Department of
Environmental Regulation
Northwest District Branch Office
TwinTower Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Air Construction Permit Applications -
Sulfuric Acid Plants and Auxiliary Boiler

Reference: PSD-FL-082

Dear Mr. Smallwood:

Attached are four (4) copies each of construction permit applications for both existing NSPS Sulfuric Acid plants at Occidental's White Springs, Florida, Swift Creek Chemical Complex. Also included are four copies of an application for an auxiliary boiler.

The intent of the applications is to increase the production rate of the two Sulfuric Acid plants ("E" & "F") from 2000 to 2500 STPD of 100 percent sulfuric acid. The application for the auxiliary boiler requests an increase in fuel oil sulfur from 0.8% to 1.0%. The applications are submitted in conjunction with a request for PSD approval (PSD-FL-082) which is under review by your staff.

Should you have any questions, please contact me at (904) 397-8269 or Dr. J. Koogler at (904) 377-5822.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood

cc: Mr. J. Cole, Jacksonville FDER (w/enc.)
Mr. M. P. McArthur, Occidental Chemical Company, General Manager
Dr. J. Koogler, Sholtes & Koogler Environmental Consultants

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

May 21, 1982

Mr. Steve Smallwood
Florida Department of
Environmental Regulation
Northwest District Branch Office
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

DER
MAY 27 1982
BAQM

Subject: Air Construction Permit Applications -
Auxiliary Boilers and No. 2 DAP Plant

Reference: PSD-FL-083

Dear Mr. Smallwood:

Attached are four (4) copies each of construction permit applications for the existing DAP Plant No. 2 and three (3) auxiliary boilers ("B", "C" & "D") at Occidental's White Springs, Florida, Suwannee River Chemical Complex.

The applications request an increase in fuel oil sulfur from 0.8% to 1.0% for the boilers and from 0.8% to 1.5% for the DAP plant. The applications are submitted in conjunction with a request for PSD Approval (PSD-FL-083) which is under review by your staff.

Should you have any questions, please contact me at (904) 397-8269 or Dr. John Koogler at (904) 377-5822.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood

WWA:sc

cc: Mr. J. Cole, Jacksonville FDER, (w/enc.)
Mr. M. P. McArthur, Occidental Chemical Company, General Manager
Dr. J. Koogler, Sholtes & Koogler, Environmental Consultants

AC 24-56209

May 7, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

MAY 27 1982

BAQM

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Sulfuric Acid Production [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Sulfuric Acid Plant "E"

SOURCE LOCATION: Street U.S. 41 City White Springs

UTM: East 320.860 km North 3,369.750 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M.P. McArthur, V.P. & General Manager

Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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 ~~approved~~/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.

(Affix Seal) STATE OF FLORIDA REGISTERED ENGINEER NO. 12925

Signed: John B. Koogler

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

Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS

Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601

Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Sulfur burning sulfuric acid plant is vented through an SO_2 - SO_3 converter, a double absorption tower and demister for product recovery and sulfur dioxide and sulfuric acid mist emission control. Plant is currently permitted to produce 2000 TPD of 100 percent H_2SO_4; proposed production rate is 2500 TPD. (CONTINUED ON PAGE 2a)

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

Start of Construction July 1982 Completion of Construction July 1987

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.)

There will be no physical modification to the existing absorption tower or mist eliminators.

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

Unit was previously permitted under AC-24-2715 issued 2/28/78 and expiring 12/31/80; and AO-24-34847 issued 5/28/81 and expiring 12/30/85.

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: permitted for 8760 hours/year operation

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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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 II: A (Continued)

To achieve the increased production rate the size of the economizer will be increased, the gas handling system will be increased and the catalyst loading will be increased. The absorption towers and mist eliminators will not be modified.

With no modification the plant can operate at a rate of 2,250-2,300 TPD. the physical modifications described will permit a production rate of 2,500 TPD. Because of present market conditions it is planned to operate the plants up to 2,250-2,300 TPD as necessary for the next 2-3 years and then make the modifications necessary to increase the capacity to 2,500 TPD. This schedule explains the July 1987 Completion of Construction Date.

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

(See Attachment 1)

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfur	Ash	App. 0.005%	68,232	A (Attachment 3)

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

1. Total Process Input Rate (lbs/hr): 68,232

2. Product Weight (lbs/hr): 212,585 (98% acid); 208,333 (100% acid)

C. Airborne Contaminants Emitted:

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	
Sulfur Dioxide	416.7	1825	NSPS	416.7	416.7	1825	B
H_2SO_4 Mist	15.6	68.3	NSPS	15.6	15.6	683	B
NO_x	14.8	64.8	BACT	14.8	14.8	64.8	B
CO	0.1	0.5	BACT	0.1	0.1	0.5	B

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])
Double Absorption	SO_2	99.7%	---	Design & Test
Contact H_2SO_4 Monsanto				
Plant				
Brink Demister in	H_2SO_4	90 + %		Vendor
exist of absorber				Guarantee

[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

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ 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.

None

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

Stack Height: 200 ft. Stack Diameter: 9.5 ft.

Gas Flow Rate: 129,700 ACFM Gas Exit Temperature: 181 °F.

Water Vapor Content: 0 % Velocity: 30.5 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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 (^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. ATTACHMENT 1
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. ATTACHMENT 2
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). ATTACHMENT 2
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.). N/A
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). ATTACHMENT 1
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. ATTACHMENT 3
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). ATTACHMENT 4
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. ATTACHMENT 5

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

(Also see PSD-FL-082)

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

Contaminant	Rate or Concentration
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4 Mist	0.15 lb mist/ton 100% acid

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
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4 Mist	0.15 lb mist/ton 100% acid

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

1. Control Device/System: - Double absorption towers for SO_2 absorption and Brinks HV mist eliminators for acid mist control
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
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4	0.15 lb mist/ton 100% acid

*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:

See PSD-FL-082

*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

See PSD-FL-082

A. Company Monitored Data

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

Period of monitoring ____/____/____ (month day year) to ____/____/____ (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 ____/____/____ (month day year) to ____/____/____ (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.

ATTACHMENT 1

PRODUCTION RATE CALCULATION

PRODUCT: Sulfuric Acid as 98% H_2SO_4

PRODUCT RATE: 2500 Short tons per day (STPD) of 100% H_2SO_4 as 98% H_2SO_4

-or-

212,585 lbs/hr (2500 ÷ 0.98 x 2,000 ÷ 24) of 98% Sulfuric Acid

PROCESS LOSSES: 0.005% equivalent to ash content of sulfur (consider negligible). Recovery is 99.7% equivalent to emission of 4# SO_2 per ton of 100% H_2SO_4 produced.

PROCESS INPUT:

SULFUR: 2500 STPD of 100% H_2SO_4 equivalent to 816 STPD of Sulfur (2000 x 32/98) which at an efficiency of 99.7% requires 819 STPD of Sulfur (816 ÷ 0.997).

-or-

68,232 lbs/hr (819 x 2,000 ÷ 24)

SULFUR RECOVERY EFFICIENCY:

Input - 68,232 lb/hour
Stack - 416.7 lb/hr of SO_2 or 208.4 lb/hr or S

Efficiency = (68,232 - 208.4)/68,232 x 100

= 99.7%

ATTACHMENT 2

POLLUTANT EMISSION RATE CALCULATIONS

OPERATING FACTOR = 8,760 hrs/yr

PRODUCTION RATE = 2,500 TPD 100% H_2SO_4

SULFUR DIOXIDE @ 4.0 lb/ton acid

Hourly = 4.0 x 2,500/24
= 416.7 lb/hr

Annual = 416.7 x 8,760/2000
= 1,825 TPY

MIST @ 0.15 lb/ton acid

Hourly = 0.15 x 2,500/24
= 15.6 lb/hr

Annual = 15.6 x 8,760/2000
= 68.3 TPY

NO_x @ 2.1×10^{-6} lb/SCF (test results on an existing sulfuric acid plant)

Typical Stack Gas Characteristics

SO_2 - 230 ppm
O_2 - 7%

GAS FLOW RATE

= $11,800/[0.263 - 0.0126(O_2\%)]$

= $11,800/[0.263 - 0.0126(7)]$

= 67,500 SCF/ton of acid

EMISSION RATE

Hourly = $2,500/24 \times 67,500 \times 2.1 \times 10^{-6}$
= 14.8 lb/hr

Annual = 14.8 x 8,760/2000
= 64.8 TPY

CO

Sulfur consumption = 0.335 tons/ton Acid including losses.

Carbon content of sulfur ∿ 0.25% (assume to be "petroleum")

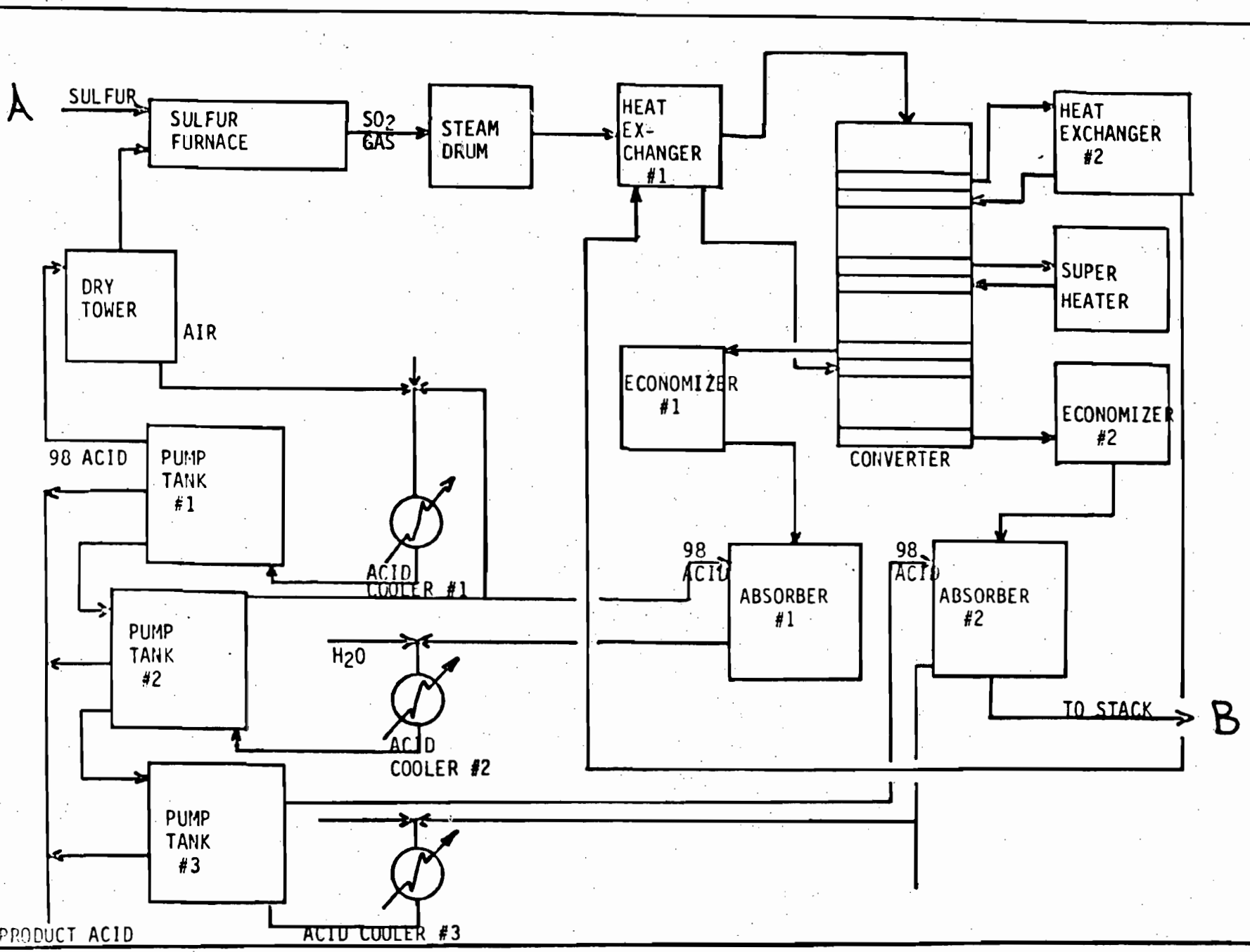
"Petroleum" content of Sulfur

= 2,500/4 x 0.335 x 0.0025
x 2000 lb/ton
= 174.5 lb/hr
x 1/8 lb/gal
= 21.8 equivalent gal/hr

EMISSION RATE @ 5 lb CO/1000 gal

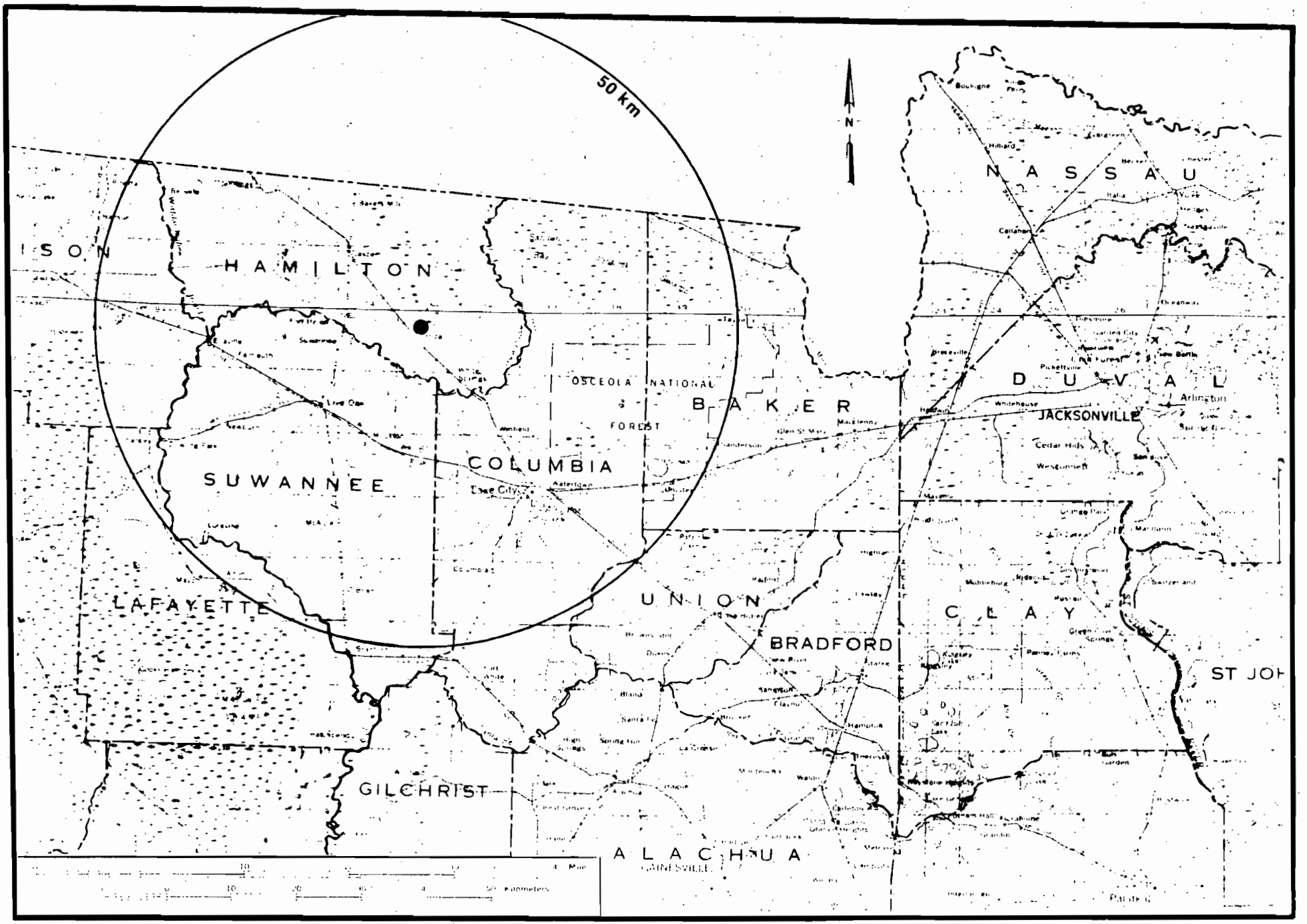
Hourly = 21.8/1000 x 5
= 0.11 lb/hr

Annual = 0.11 8,760/2000
= 0.5 TPY



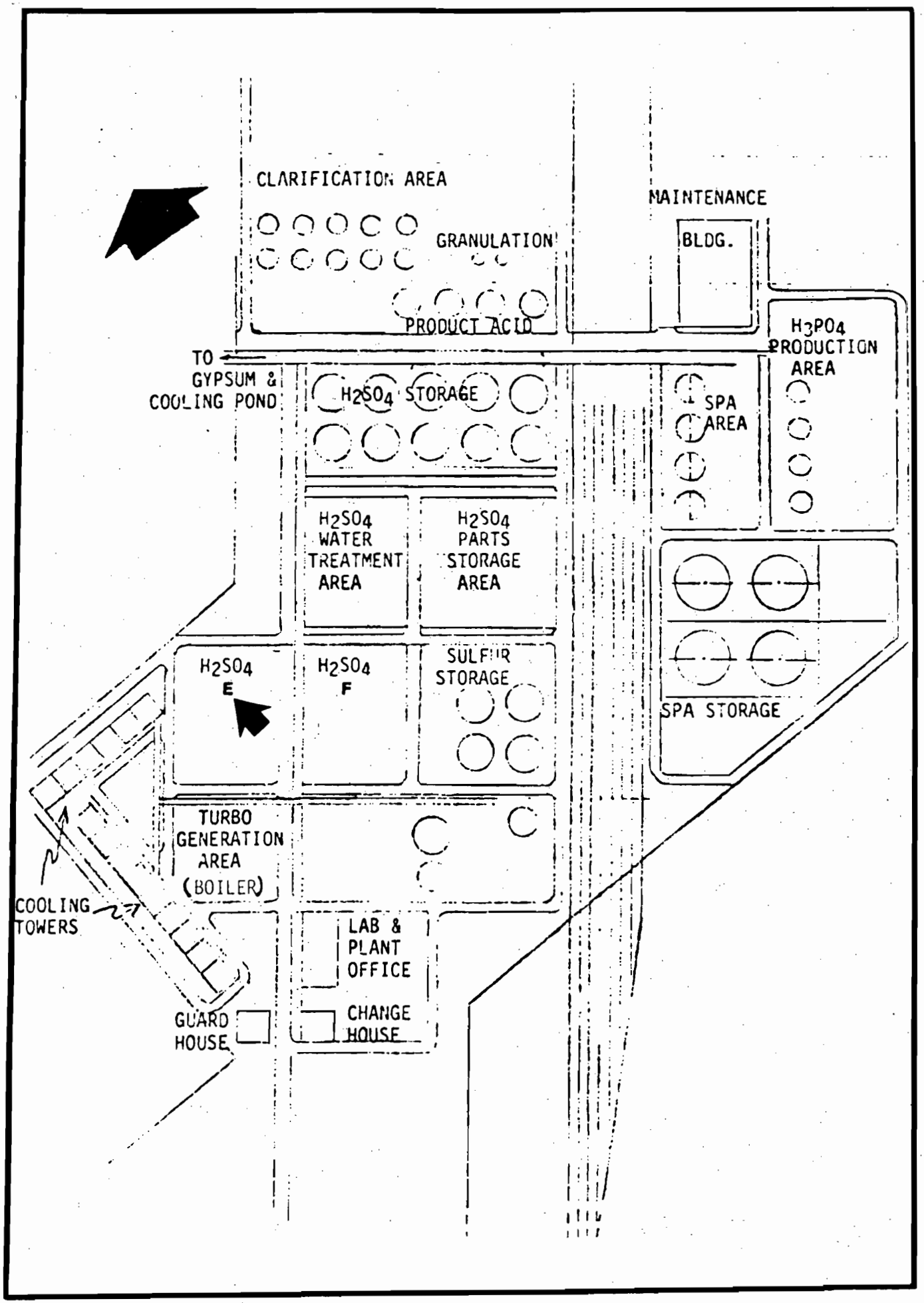
DOUBLE CONTACT/DOUBLE ABSORPTION - SULFURIC ACID MANUFACTURE

ATTACHMENT 3



ATTACHMENT 4

ATTACHMENT 5



AC24-56210

May 6, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

MAY 27 1982

BAQM

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Auxiliary Boiler "E"

SOURCE LOCATION: Street US 41 City White Springs

UTM: East 321.300 km North 3,369.830 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, Florida 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M. P. McArthur

M. P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

(Affix Seal)

Signed: John B. Koogler

John B. Koogler, P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Oil fired auxiliary steam boiler will be used to augment steam produced from the sulfuric acid plants to provide operating flexibility in the phosphoric acid production and evaporation process. It is proposed to increase the sulfur content of the fuel fired to the boiler from 0.8% to 1.0%.

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

Start of Construction July, 1982 Completion of Construction July, 1982

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.)

NOT APPLICABLE - No add on pollution control equipment.

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

Unit was previously permitted under FDER No. AC-24-2717 issued 2/28/78 and expiring on 12/31/80 and AO-24-34846 issued 5/7/81 and expiring 9/30/85.

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: Annual operating factor is 97.5%.

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. YES
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. YES
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: NOT 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): NOT APPLICABLE

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

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	
Sulfur Dioxide	170.7	729	BACT	170.7	170.7	729	1 (Att.3)
Part. Matter	13.9	59	BACT	13.9	13.9	59	
NO_X	64.0	273	BACT	64.0	64.0	273	
CO	5.3	23	BACT	5.3	5.3	23	
HC	1.1	5	BACT	1.1	1.1	5	

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	6.0	25	156

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

Fuel Analysis: (Oil)

Percent Sulfur: 1.0 Percent Ash: 0.09

Density: 8 lbs/gal Typical Percent Nitrogen: Nil

Heat Capacity: 18,300 BTU/lb 146,400 BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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

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

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

Stack Height: 50 ft. Stack Diameter: 5.25 ft.

Gas Flow Rate: 67,000 ACFM Gas Exit Temperature: 311 °F.

Water Vapor Content: 9 % Velocity: 51.8 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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 (^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. NOT APPLICABLE
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). } ATTACHMENT 2
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.). NOT APPLICABLE
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). NOT APPLICABLE
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. ATTACHMENT 3
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). ATTACHMENT 4
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. ATTACHMENT 5

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

(Also See PSD-FL-082)

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	1.1 lb/10^6BTU input; use of 1.0% sulfur fuel oil.

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:

Presently No. 6 fuel oil with an 0.8% sulfur content is used to control sulfur dioxide emissions.

Contaminant	Rate or Concentration
Sulfur Dioxide	0.9 lb/10^6BTU input; 0.8% sulfur fuel oil

*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:

SEE PSD APPLICATION PSD-FL-082.

*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

(SEE PSD-FL-082)

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.

ATTACHMENT 1

FUEL USE RATES

FUEL:	Oil at 0.8% Sulfur
PRODUCT:	125,000 lbs/hr steam @ 1,000 BTU/lb.
EFFICIENCY:	80%
HEAT INPUT	156 MM BTU/hr. (125,000 ÷ 0.8 x 1000)
FUEL INPUT:	
Oil:	8538 lbs/hr (156 MM ÷ 18,300) or 25 BBLS/hr (156 MM ÷ 146,000 ÷ 42)

ATTACHMENT 2

POLLUTANT EMISSION RATE CALCULATIONS

OPERATING FACTOR = 8,760 hrs/yr x 0.975

PRODUCTION RATE (STEAM) = 125,000 lbs/hr.

SULFUR DIOXIDE:

Hourly: = 1.0% Sulfur fuel
= 125,000 lbs steam/hr x 1000 BTU/lb steam x 1/0.8 efficiency x 1/18,300 BTU/lb 0.1 x (0.01 x 2) lbs SO_2/lb oil
= 170.7 lbs/hr.

Annual: = 170.7 x 8,760/2000 x 0.975
= 729 TPY.

PARTICULATE MATTER:

Hourly: = 8,538 lbs fuel/hr (from above) x 1/8 lb/gal x 1/1000 x [10(1.0) + 3]
= 13.9 lbs/hr.

Annual: = 13.9 lbs/hr x 8,760/2000 x 0.975
= 59 TPY.

NO_X:

Hourly: = 8,538 lbs fuel/hr x 1/8 x 1/1000 x 60 lb NO_X/1000 gal.
= 64.0 lbs/hr.

Annual: = 64.0 x 8,760/2,000 x 0.975
= 273 TPY.

CO:

Hourly = 8,538 x 1/8 x 1/1000 x 5 lbs CO/1000 gal.
= 5.3 lbs/hr.

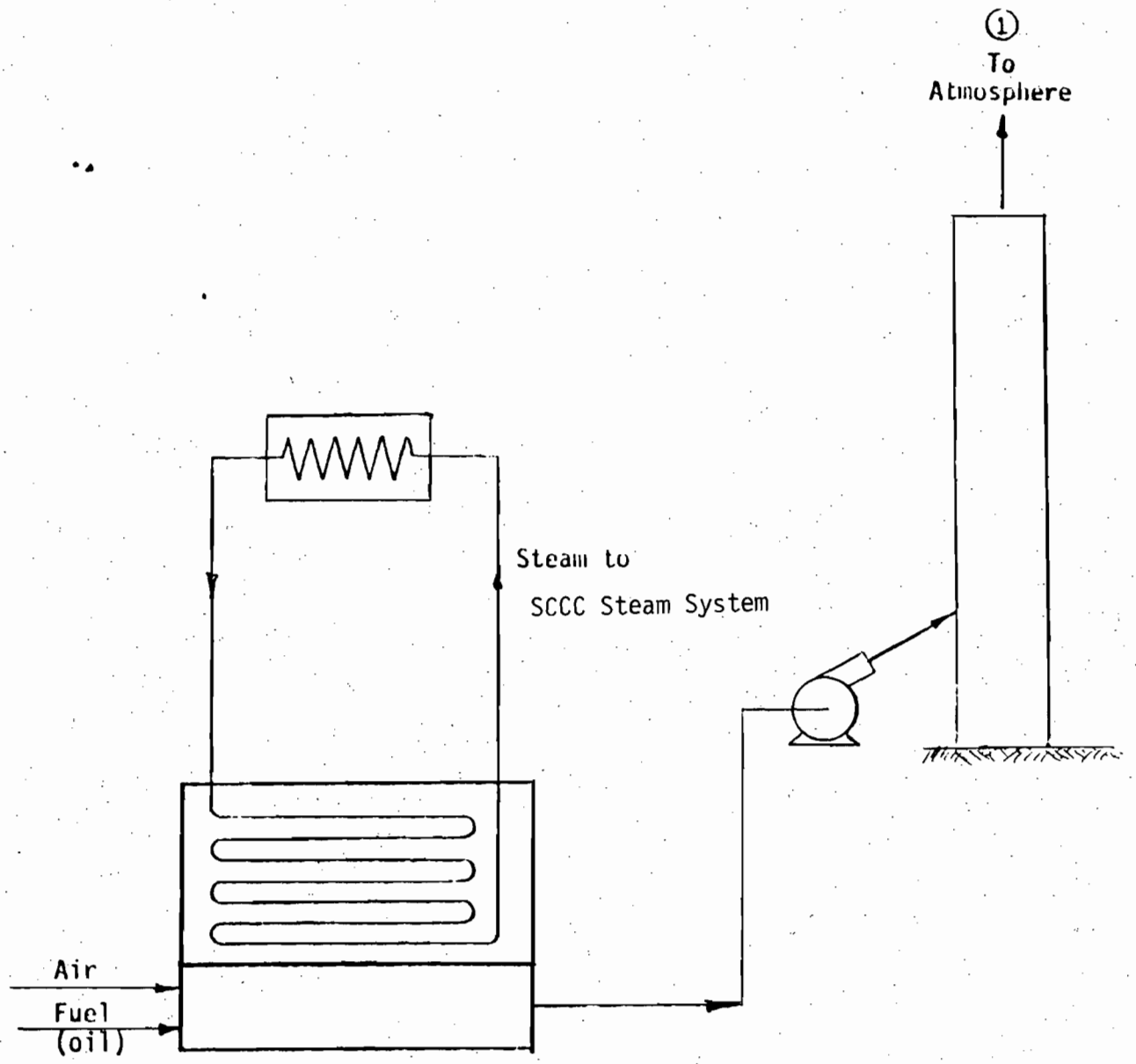
Annual: = 5.3 x 8,760/2000 x 0.975
= 23 TPY.

HYDROCARBONS:

Hourly: = 8,538 x 1/8 x 1/1000 x 1 lb/1000 gal.
= 1.1 lbs/hr.

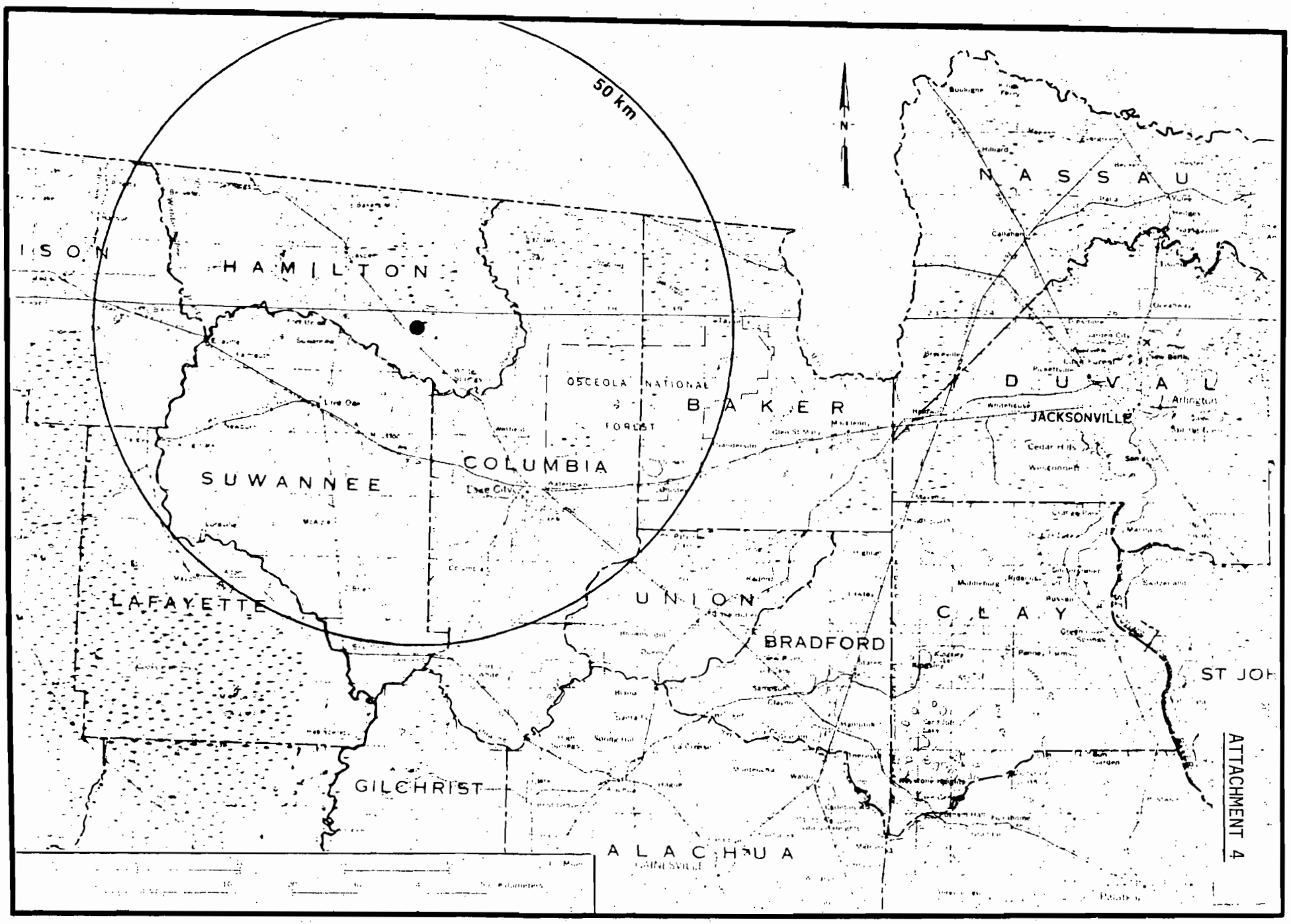
Annual: = 1.1 x 8,760/2000 x 0.975
= 5 TPY.

ATTACHMENT 3



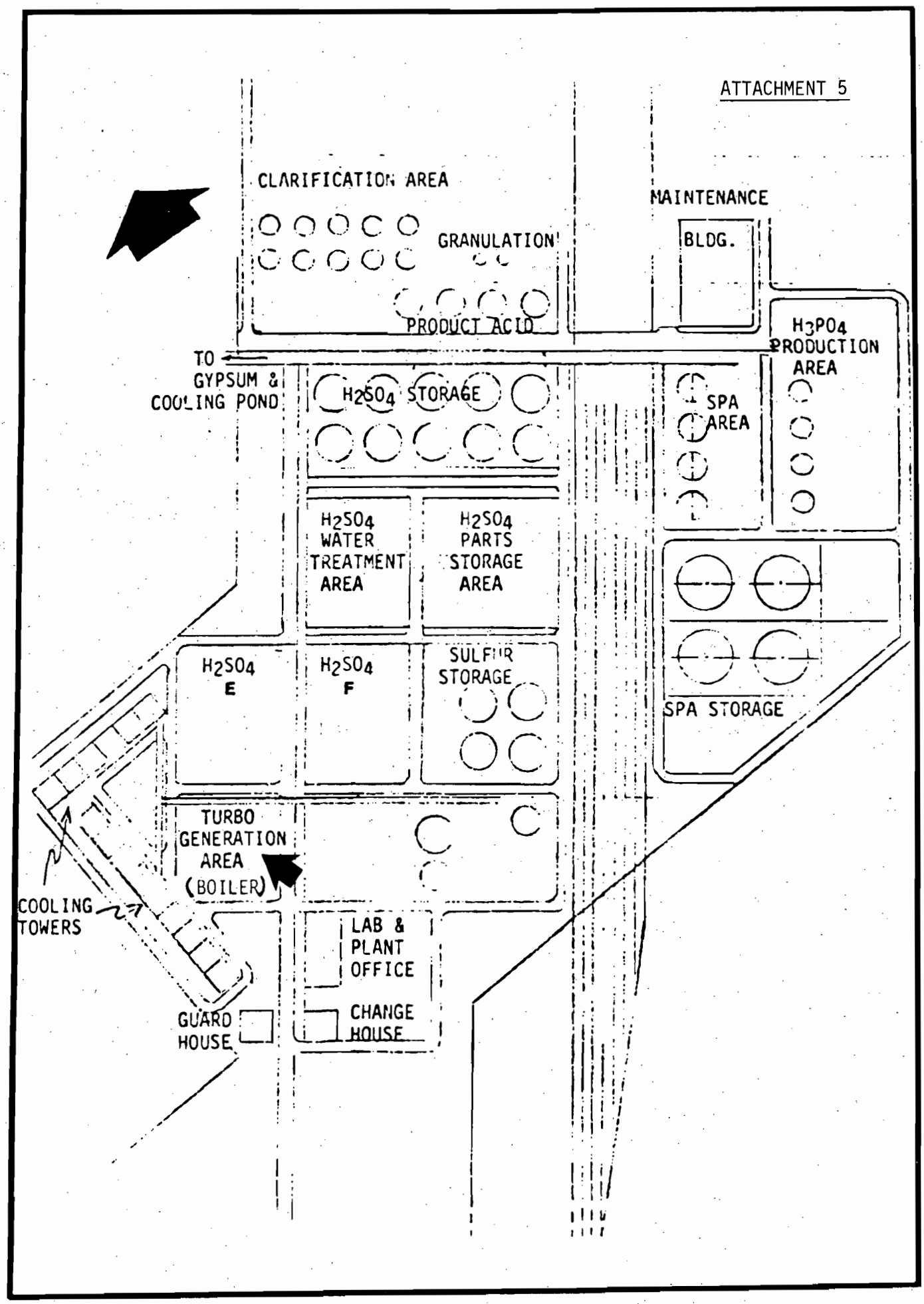
PROCESS FLOW DIAGRAM

SULFURIC ACID PLANT AUXILIARY BOILER
OXY/SPA CHEMICAL COMPLEX



ATTACHMENT 4

ATTACHMENT 5



AC 24-56211

May 7, 1982

DER

MAY 27 1982

BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Sulfuric Acid Production [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Sulfuric Acid Plant "F"

SOURCE LOCATION: Street U.S. 41 City White Springs

UTM: East 321.110 km North 3,369.800 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M.P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

(Affix Seal) STATE OF FLORIDA REGISTERED ENGINEER

Signed: J B Koogler

John B. Koogler, Ph.D., P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Sulfur burning sulfuric acid plant is vented through an SO_2 - SO_3 converter, a double absorption tower and demister for product recovery and sulfur dioxide and sulfuric acid mist emission control. Plant is currently permitted to produce 2000 TPD of 100 percent H_2SO_4; proposed production rate is 2500 TPD. (CONTINUED ON PAGE 2a)

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

Start of Construction July 1982 Completion of Construction July 1987

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.)

There will be no physical modification to the existing absorption tower or mist eliminators.

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

Unit was previously permitted under AC-24-2715 issued 2/28/78 and expiring 12/31/80; and AO-24-34847 issued 5/28/81 and expiring 12/30/85.

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: permitted for 8760 hours/year operation

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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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 II: A (Continued)

To achieve the increased production rate the size of the economizer will be increased, the gas handling system will be increased and the catalyst loading will be increased. The absorption towers and mist eliminators will not be modified.

With no modification the plant can operate at a rate of 2,250-2,300 TPD. the physical modifications described will permit a production rate of 2,500 TPD. Because of present market conditions it is planned to operate the plants up to 2,250-2,300 TPD as necessary for the next 2-3 years and then make the modifications necessary to increase the capacity to 2,500 TPD. This schedule explains the July 1987 Completion of Construction Date.

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

(See Attachment 1)

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfur	Ash	App. 0.005%	68,232	A (Attachment 3)

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

1. Total Process Input Rate (lbs/hr): 68,232

2. Product Weight (lbs/hr): 212,585 (98% acid); 208,333 (100% acid)

C. Airborne Contaminants Emitted:

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	
Sulfur Dioxide	416.7	1825	NSPS	416.7	416.7	1825	B
H_2SO_4 Mist	15.6	68.3	NSPS	15.6	15.6	683	B
NO_x	14.8	64.8	BACT	14.8	14.8	64.8	B
CO	0.1	0.5	BACT	0.1	0.1	0.5	B

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])
Double Absorption	SO_2	99.7%	---	Design & Test
Contact H_2SO_4Monsanto				
Plant				
Brink Demister in	H_2SO_4	90 + %		Vendor
exist of absorber				Guarantee

[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

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ 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.

None

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

Stack Height: 200 ft. Stack Diameter: 9.5 ft.

Gas Flow Rate: 129,700 ACFM Gas Exit Temperature: 181 °F.

Water Vapor Content: 0 % Velocity: 30.5 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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. ATTACHMENT 1
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. ATTACHMENT 2
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). ATTACHMENT 2
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.). N/A
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). ATTACHMENT 1
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. ATTACHMENT 3
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). ATTACHMENT 4
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. ATTACHMENT 5

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

(Also see PSD-FL-082)

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

Contaminant	Rate or Concentration
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4 Mist	0.15 lb mist/ton 100% acid

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
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4 Mist	0.15 lb mist/ton 100% acid

D. Describe the existing control and treatment technology (if any). - Double absorption towers for SO_2 absorption and Brinks HV mist eliminators for acid mist control

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
SO_2	4.0 lb SO_2/ton 100% acid
H_2SO_4	0.15 lb mist/ton 100% acid

*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:

See PSD-FL-082

*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

See PSD-FL-082

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.

ATTACHMENT 1

PRODUCTION RATE CALCULATION

PRODUCT: Sulfuric Acid as 98% H_2SO_4

PRODUCT RATE: 2500 Short tons per day (STPD) of 100% H_2SO_4 as 98% H_2SO_4

-or-

212,585 lbs/hr (2500 ÷ 0.98 x 2,000 ÷ 24) of 98% Sulfuric Acid

PROCESS LOSSES: 0.005% equivalent to ash content of sulfur (consider negligible). Recovery is 99.7% equivalent to emission of 4# SO_2 per ton of 100% H_2SO_4 produced.

PROCESS INPUT:

SULFUR: 2500 STPD of 100% H_2SO_4 equivalent to 816 STPD of Sulfur (2000 x 32/98) which at an efficiency of 99.7% requires 819 STPD of Sulfur (816 ÷ 0.997).

-or-

68,232 lbs/hr (819 x 2,000 ÷ 24)

SULFUR RECOVERY EFFICIENCY:

Input - 68,232 lb/hour
Stack - 416.7 lb/hr of SO_2 or 208.4 lb/hr or S

Efficiency = (68,232 - 208.4)/68,232 x 100

= 99.7%

ATTACHMENT 2

POLLUTANT EMISSION RATE CALCULATIONS

OPERATING FACTOR = 8,760 hrs/yr

PRODUCTION RATE = 2,500 TPD 100% H_2SO_4

SULFUR DIOXIDE @ 4.0 lb/ton acid

Hourly = 4.0 x 2,500/24
= 416.7 lb/hr

Annual = 416.7 x 8,760/2000
= 1,825 TPY

MIST @ 0.15 lb/ton acid

Hourly = 0.15 x 2,500/24
= 15.6 lb/hr

Annual = 15.6 x 8,760/2000
= 68.3 TPY

NO_x @ 2.1×10^{-6} lb/SCF (test results on an existing sulfuric acid plant)

Typical Stack Gas Characteristics

SO_2 - 230 ppm
O_2 - 7%

GAS FLOW RATE

= $11,800/[0.263 - 0.0126(O_2\%)]$

= $11,800/[0.263 - 0.0126(7)]$

= 67,500 SCF/ton of acid

EMISSION RATE

Hourly = $2,500/24 \times 67,500 \times 2.1 \times 10^{-6}$
= 14.8 lb/hr

Annual = 14.8 x 8,760/2000
= 64.8 TPY

CO

Sulfur consumption = 0.335 tons/ton Acid including losses.

Carbon content of sulfur ∿ 0.25% (assume to be "petroleum")

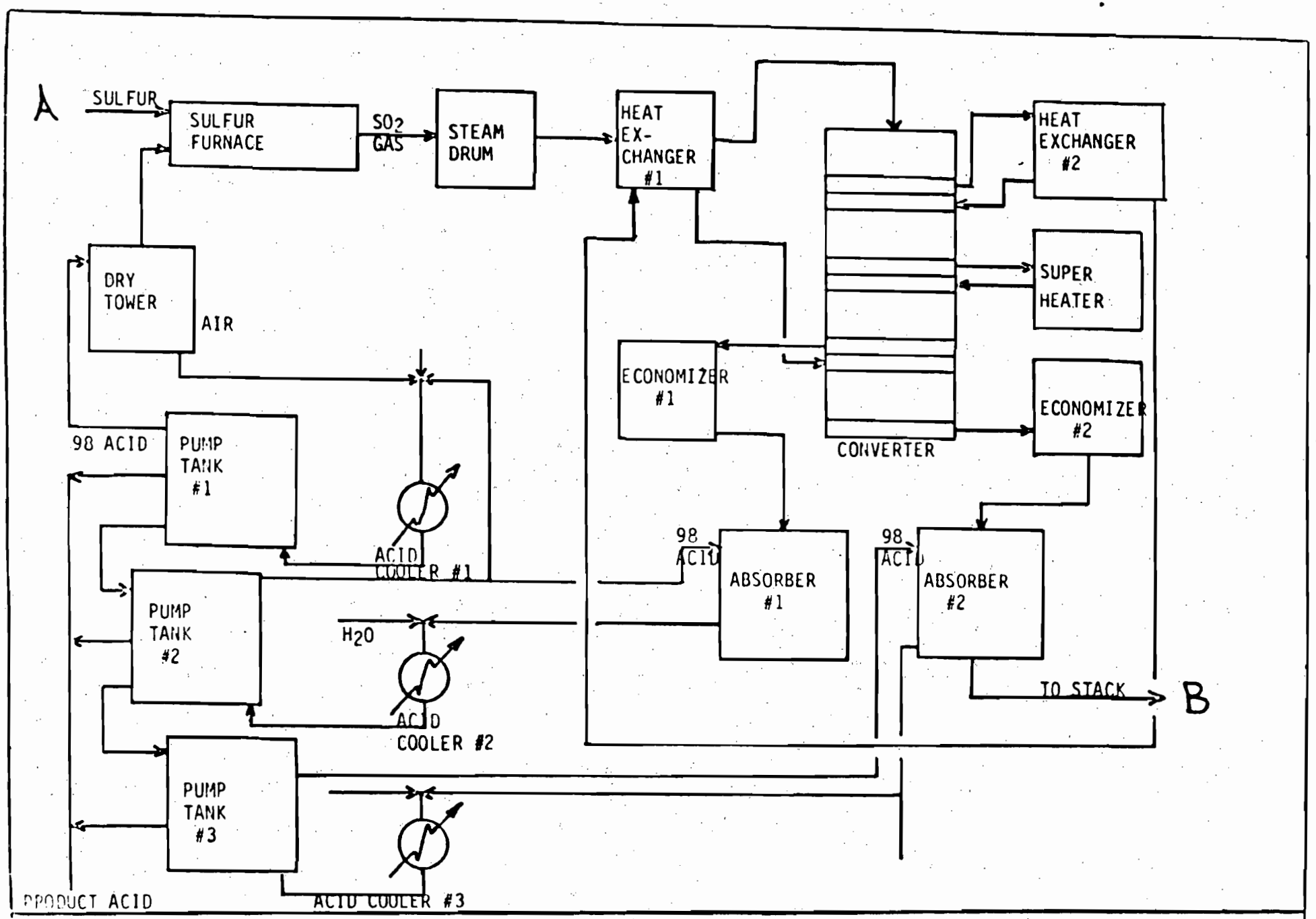
"Petroleum" content of Sulfur

= 2,500/4 x 0.335 x 0.0025
x 2000 lb/ton
= 174.5 lb/hr
x 1/8 lb/gal
= 21.8 equivalent gal/hr

EMISSION RATE @ 5 lb CO/1000 gal

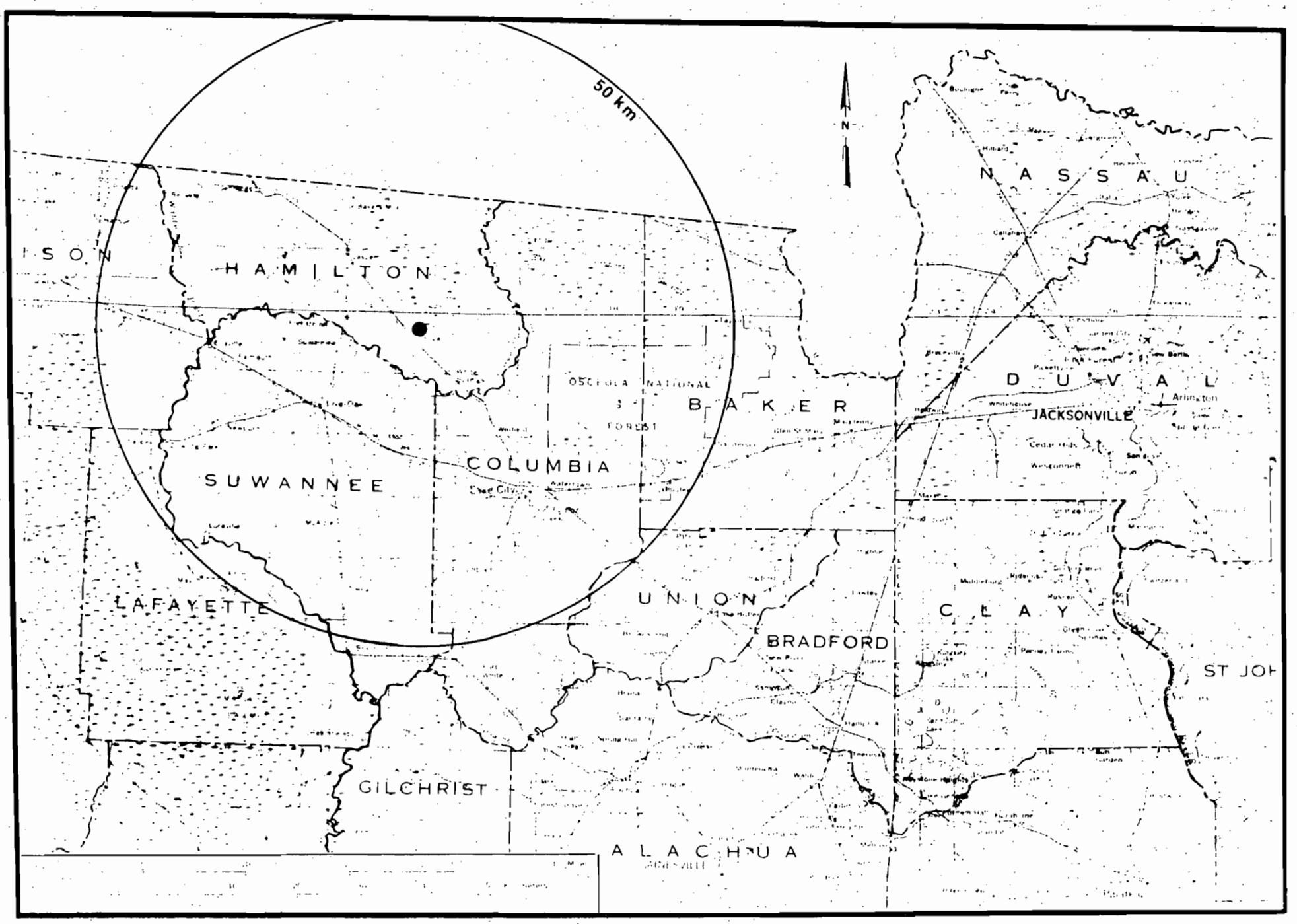
Hourly = 21.8/1000 x 5
= 0.11 lb/hr

Annual = 0.11 8,760/2000
= 0.5 TPY



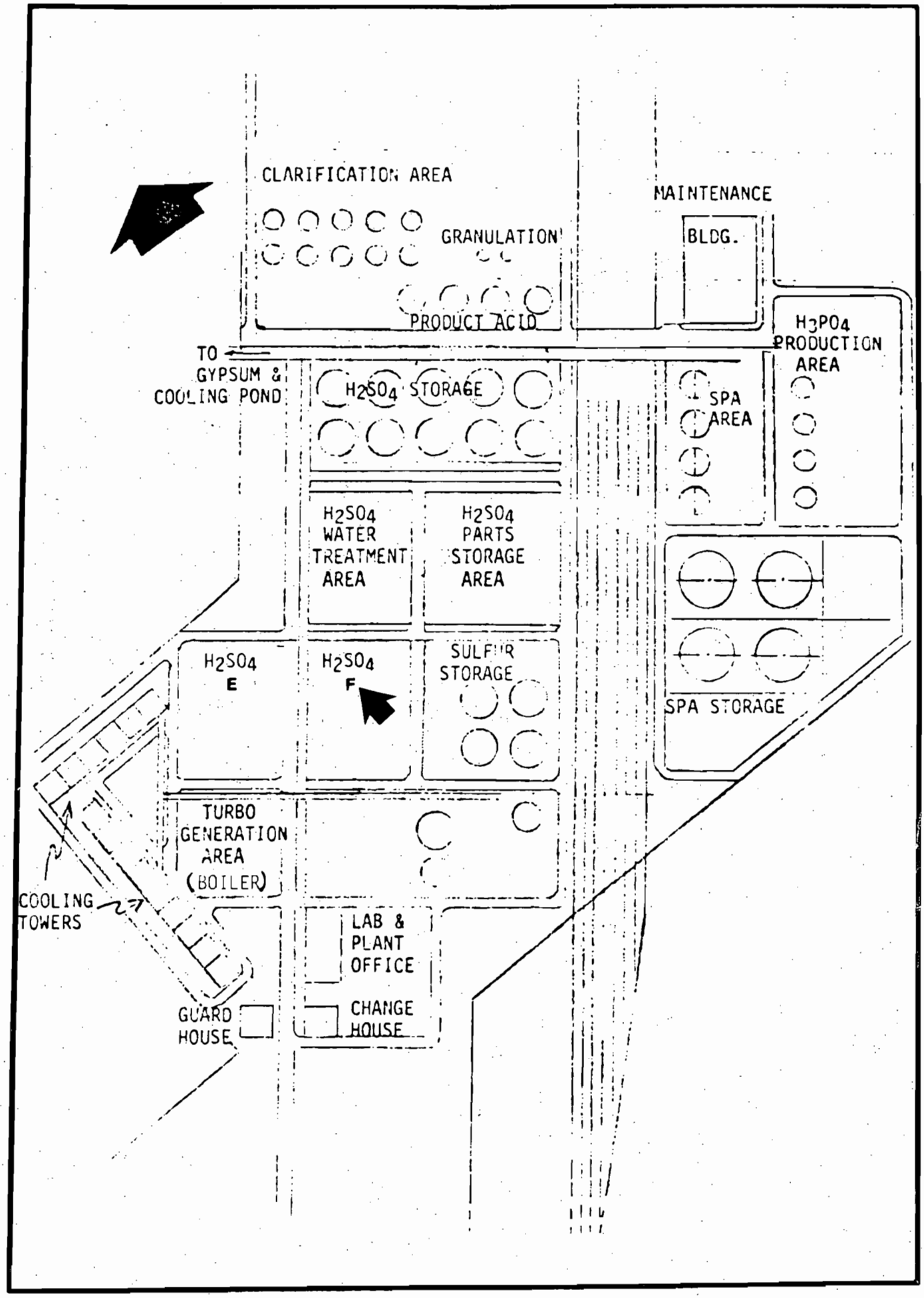
DOUBLE CONTACT/DOUBLE ABSORPTION - SULFURIC ACID MANUFACTURE

ATTACHMENT 3



ATTACHMENT 4

ATTACHMENT 5



AC 24-56212

May 10, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

MAY 27 1982

BAQM

APPLICATION TO [redacted]/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [XX] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Auxiliary Boiler "B"

SOURCE LOCATION: Street SR 137 City White Springs

UTM: East 328.320 km North 3,368.810 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M. P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

JOHN B. KOOGLER CERTIFICATE NO. 12925 STATE OF FLORIDA REGISTERED ENGINEER
(Affix Seal)

Signed: J B Koogler

John B. Koogler, P.E.
Name (Please Type)

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Gas fired auxiliary steam boiler with stand-by oil firing, capability will be used to augment steam produced from the sulfuric acid plants to provide operating flexibility in the phosphoric acid production and evaporation process. It is proposed to increase the sulfur content of the stand-by fuel from 0.8% to 1.0%.

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

Start of Construction July, 1982 Completion of Construction July, 1982

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.)

No pollution control equipment

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

Unit was previously permitted under FDER AO-24-2500 issued 10/28/75 and expiring 9/30/80 and AO-24-34186 issued 10/10/80 and expiring 9/30/85.

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: 8,760 hours per year

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.	YES
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.	YES
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:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
NOT APPLICABLE				

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

1. Total Process Input Rate (lbs/hr): NOT APPLICABLE

2. Product Weight (lbs/hr):

C. Airborne Contaminants Emitted:

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	
Sulfur Dioxide	174.8	765.8	BACT	174.8	174.8	765.8	1
Part. Matter	14.2	62.3	N/A	14.2	14.2	62.3	1
NOx	65.6	287.2	N/A	65.6	65.6	287.2	1
CO	5.5	23.9	N/A	5.5	5.5	23.9	1
Hydrocarbons	1.1	4.8	N/A	1.1	1.1	4.8	1

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])
NOT APPLICABLE				

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	6.5	26.0	160
Gas	0.04	0.160	160

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

Fuel Analysis: (Oil)

Percent Sulfur: 1.0 Percent Ash: 0.09

Density: 8 lbs/gal Typical Percent Nitrogen: Nil

Heat Capacity: 18,300 BTU/lb 146,400 BTU/gal

Other Fuel Contaminants (which may cause air pollution): NONE

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

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

NONE

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

Stack Height: 35 ft. Stack Diameter: 4.8 ft.

Gas Flow Rate: 34,000 ACFM Gas Exit Temperature: 380 °F.

Water Vapor Content: 9 % Velocity: 31 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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 (^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. ATTACHMENT 1.
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. ATTACHMENT 1
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). ATTACHMENT 1
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.). NOT APPLICABLE
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). NOT APPLICABLE
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. ATTACHMENT 2
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). Attachment 3
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. ATTACHMENT 4

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

(Also See PSD-FL-083)

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
SO_2	1.1 lb/10^6 Btu input (1% Sulfur Oil)

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:

Presently No. 6 fuel oil with 0.8% sulfur is used to control sulfur dioxide emissions.

Contaminant	Rate or Concentration
SO_2	0.9 lb/10^6 Btu (0.8% Sulfur Oil)

*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:

See PSD-FL-083

*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

(See PSD-FL-083)

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 of 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.

ATTACHMENT 1

FUEL: Gas or oil at 1.0% S

HEAT INPUT: 160.0 MM BTU/hr

FUEL INPUT:

Oil: 8743 lbs/hr (160MM ÷ 18,300) or 26.0 BBLS/hr
(160 MM ÷ 146,000 ÷ 42) or 1093 gal/hr

Gas: 0.160 MM CF/hr (160 ÷ 1000) (NOTE: "Average" usage @ 25% of maximum)

OPERATING FACTOR: 8760 hours/year

EMISSIONS:

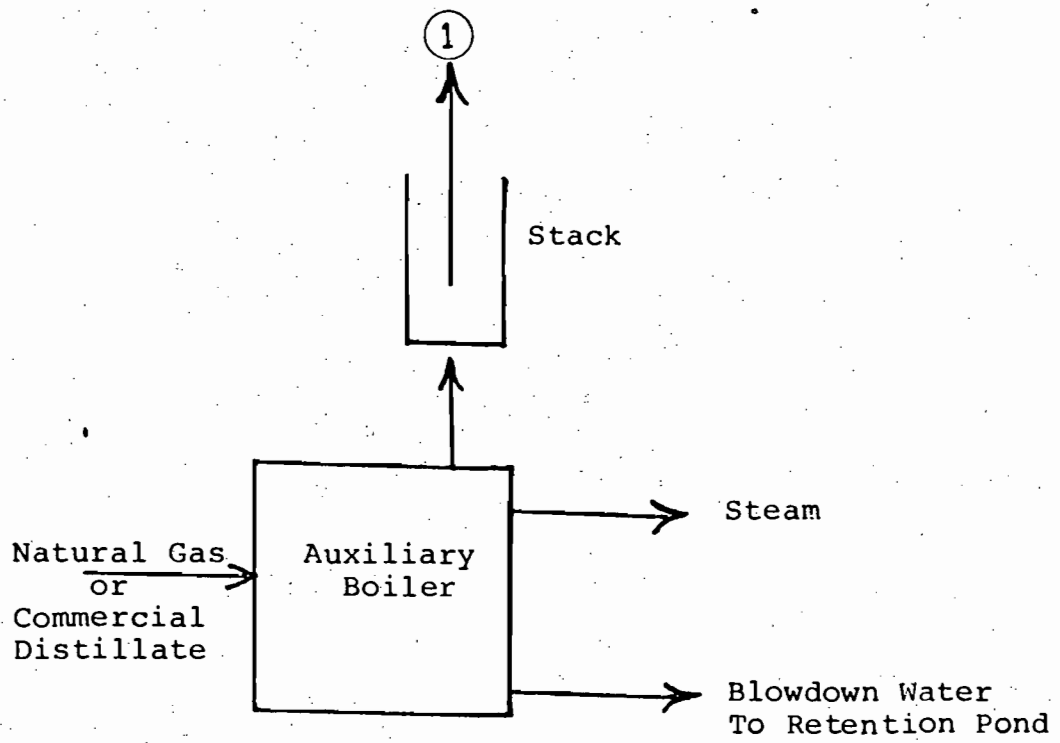
SO_2 = (8743 lb/hr) x (0.01 x 2 lb SO_2/lb fuel)
= 174.8 lb/hr
= 765.8 ton/yr

Part. Matter = (1093 gal/hr) x ((10 x 1.0) + 3)/1000 lb PM/gal
= 14.2 lb/hr
= 62.3 ton/yr

NO_x = (1093 gal/hr) x (60/1000 lb NO_x/gal)
= 65.6 lb/hr
= 287.2 ton/yr

CO = (1093 gal/hr) x (5/1000 lb CO/gal)
= 5.5 lb/hr
= 23.9 ton/yr

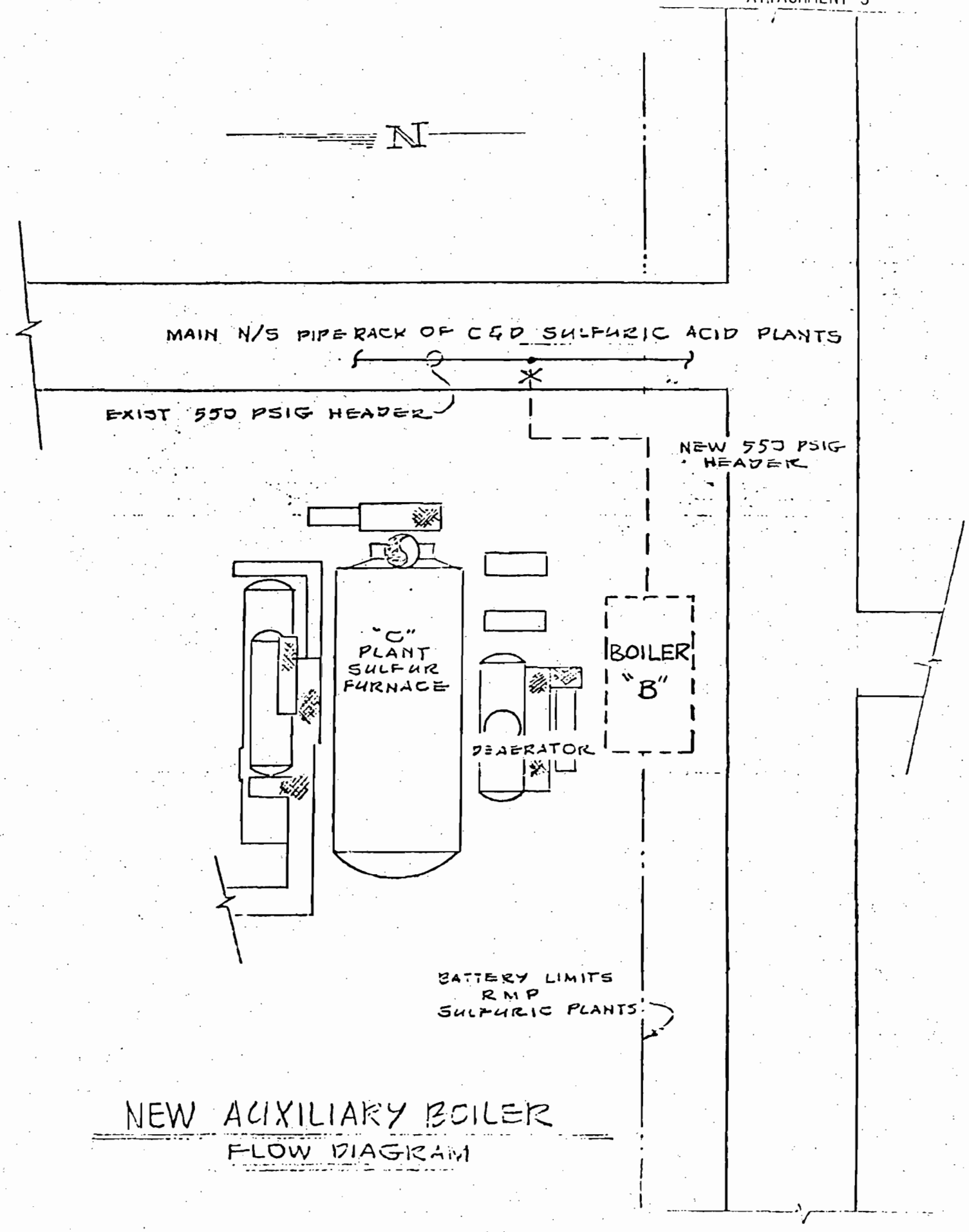
Hydrocarbons = (1093 gal/hr) x (1/1000 lb HC/gal)
= 1.1 lb/hr
= 4.8 ton/yr



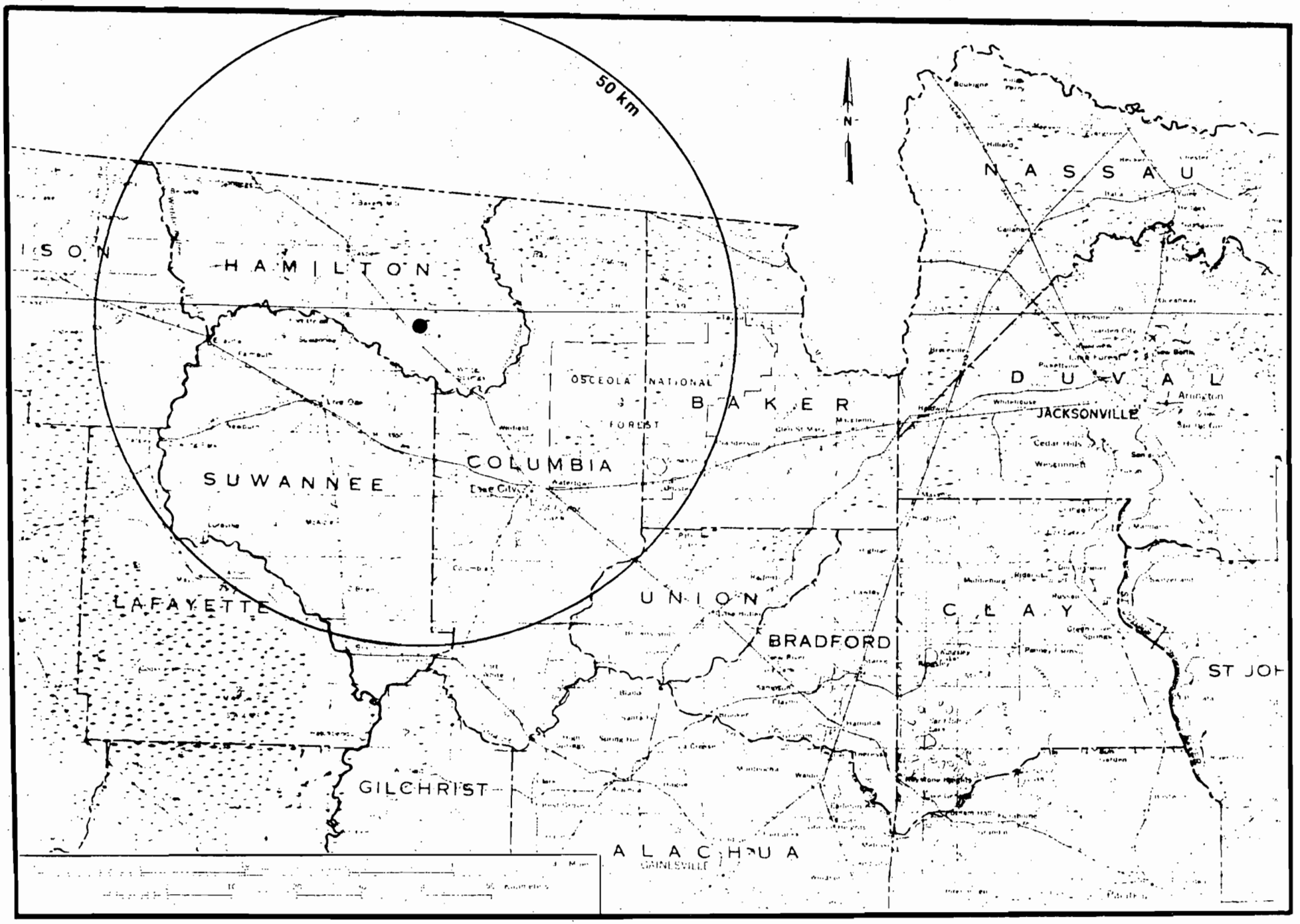
AUXILIARY BOILER

ATTACHMENT 2

ATTACHMENT 3



NEW AUXILIARY BOILER
FLOW DIAGRAM



ATTACHMENT 4

AC24-56213

May 14, 1982

DER

MAY 27 1982

BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Auxillary Boiler "D"

SOURCE LOCATION: Street S.R. 137 City White Springs

UTM: East 328.320 km North 3,368.810 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, Florida 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M.P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

(Affix Seal)

Signed: J.B. Koogler

J.B. Koogler, Ph.D., P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Gas fired auxiliary steam boiler with stand-by oil firing capability is used to augment steam produced from the sulfuric acid plants to provide operating flexibility in the phosphoric acid production and evaporation process. Sulfur content of oil will be increased from 0.8% to 1.0%.

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

Start of Construction July 1982 Completion of Construction July 1982

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.)

No pollution control equipment.

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

FDER Construction Permit No. Ac-24-2700 and 2701 issued 7/6/77 and expiring 12/31/79; AO-24-21059 issued 3/6/80 for boilers C and D and expiring 1/31/85.

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: 8760 hours per year

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.	Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.	Yes
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:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
		NOT APPLICABLE		

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

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: Gas/Oil

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	
Sulfur Dioxide	0.1/128.7	0.3/564	BACT	0.1/128.7	0.1/128.7	0.3/564	1
Part. Matter	1.2/10.7	5.3/47	BACT	1.2/10.7	1.2/10.7	5.3/47	1
NO_x	21.0/49.2	92/215	NA	21.0/49.2	21.0/49.2	92/215	1
CO	2.0/4.1	9/18	NA	2.0/4.1	2.0/4.1	9/18	1
HC	0.4/0.8	2/4	NA	0.4/0.8	0.4/0.8	2/4	1

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])
	NOT APPLICABLE			

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	5	19.5	120
Gas	0.03	0.12	120

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

Fuel Analysis: Gas/Oil

Percent Sulfur: -/1.0 Percent Ash: -/0.09

Density: -/8 lbs/gal Typical Percent Nitrogen: -/Nil

Heat Capacity: 1000*/18,300 BTU/lb -/146,400 BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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

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

Boiler water blow-down to water recirculation pond

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (Single stack for "C" and "D" boilers)

Stack Height: 104 ft. Stack Diameter: 6.5 ft.

Gas Flow Rate: 100,000 (50,000 ea. boiler) ACFM Gas Exit Temperature: 380 °F

Water Vapor Content: 9 % Velocity: 50 FPS

*BTU/ft^3

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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. ATTACHMENT 1
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.
   ATTACHMENT 1
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). ATTACHMENT 1
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.).
   N/A
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). N/A
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.
   ATTACHMENT 2
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).
   ATTACHMENT 3
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. ATTACHMENT 4

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

(Also See PSD-FL-083)

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
SO_2	1.1 lb/10^6 BTU; use of oil with 1.0% Sulfur Content.

D. Describe the existing control and treatment technology (if any). Presently No. 6 fuel oil with 0.8% sulfur is used to control sulfur dioxide emissions.

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
SO_2	0.9 lb/10^6 BTU; use of oil with 0.8% Sulfur

*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:

See PSD-FL-083

*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

See PSD-FL-083

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.

FUEL: Gas
Oil at 1.0% Sulfur

HEAT INPUT: 120×10^6 BTU/hr

FUEL INPUT: Gas = 120×10^6 BTU/hr x 1/1000 ft^3/BTU
= 0.12×10^6 ft^3/hr

Oil = 120×10^6 BTU/hr x 1/146,400 gal/BTU
= 820 gal/hr

OPERATING FACTOR: 8760 hour/year

EMISSIONS:

Sulfur Dioxide (Potential and Actual)

Gas: SO_2 = 0.6×10^{-6} lb/ft^3 x 0.12×10^6 ft^3/hr
= 0.1 lb/hr
= 0.3 TPY

Oil: SO_2 = (0.157 x 1.0) lb/gal x 820 gal/hr
= 128.7 lb/hr
= 564 TPY

Particulate Matter (Potential and Actual)

Gas: PM = 10×10^{-6} lb/ft^3 x 0.12×10^6 ft^3/hr
= 1.2 lb/hr
= 5.3 TPY

Oil: PM = [10(1.0) + 3]/1000 lb/gal x 820 gal/hr
= 10.7 lb/hr
= 46.7 TPY

Nitrogen Oxides (Potential and Actual)

Gas: NO_x = 175×10^{-6} lb/ft^3 x 0.12×10^6 ft^3/hr
= 21.0 lb/hr
= 92.0 TPY

Oil: NO_x = 0.060 lb/gal x 820 gal/hr
= 49.2 lb/hr
= 215.5 TPY

Carbon Monoxide (Potential and Actual)

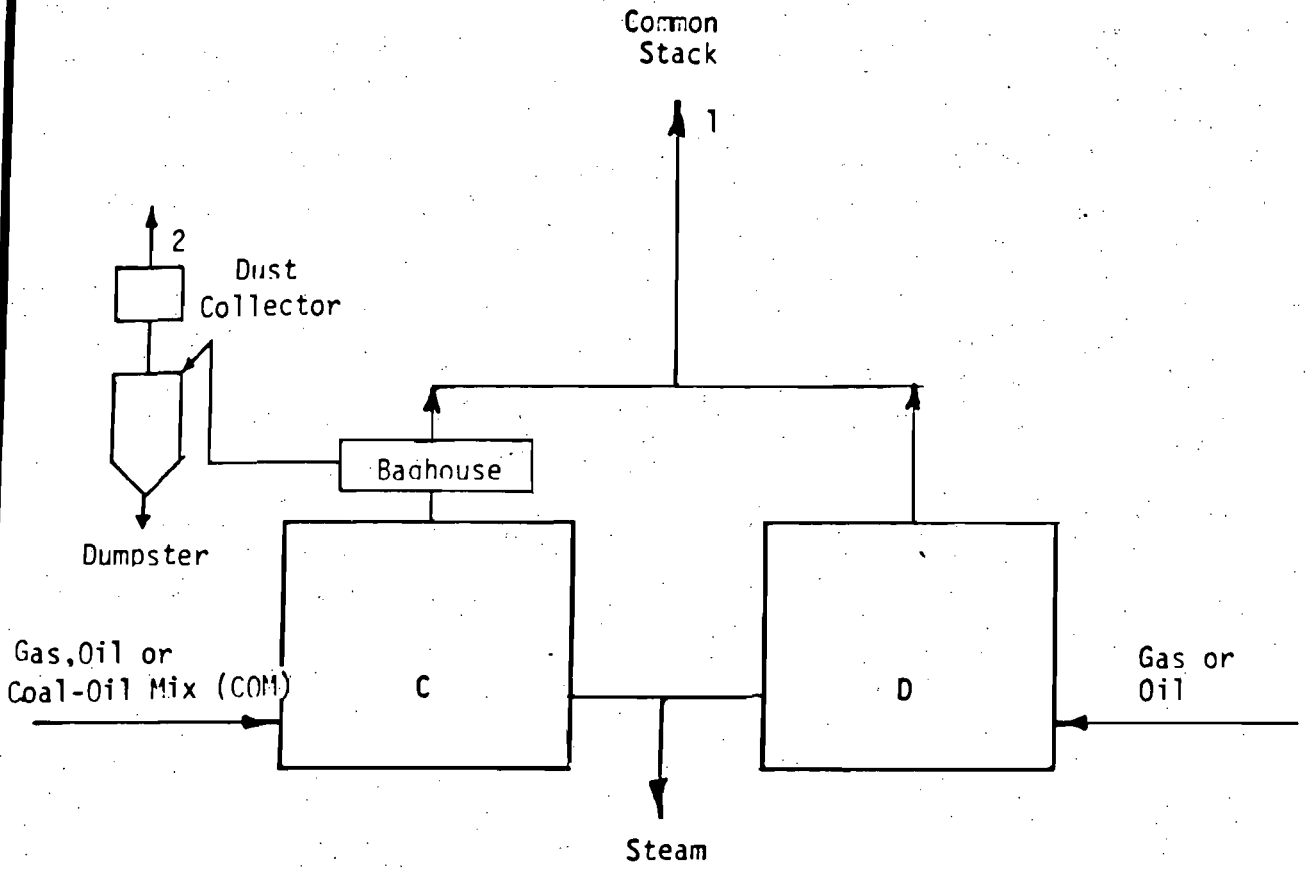
Gas: CO = 17×10^{-6} lb/ft^3 x 0.12×10^6 ft^3/hr
= 2.0 lb/hr
= 8.9 TPY

Oil: CO = 0.005 lb/gal x 820 gal/hr
= 4.1 lb/hr
= 18.0 TPY

Hydrocarbons (Potential and Actual)

Gas: HC = 3×10^{-6} lb/ft^3 x 0.12×10^6 ft^3/hr
= 0.4 lb/hr
= 1.6 TPY

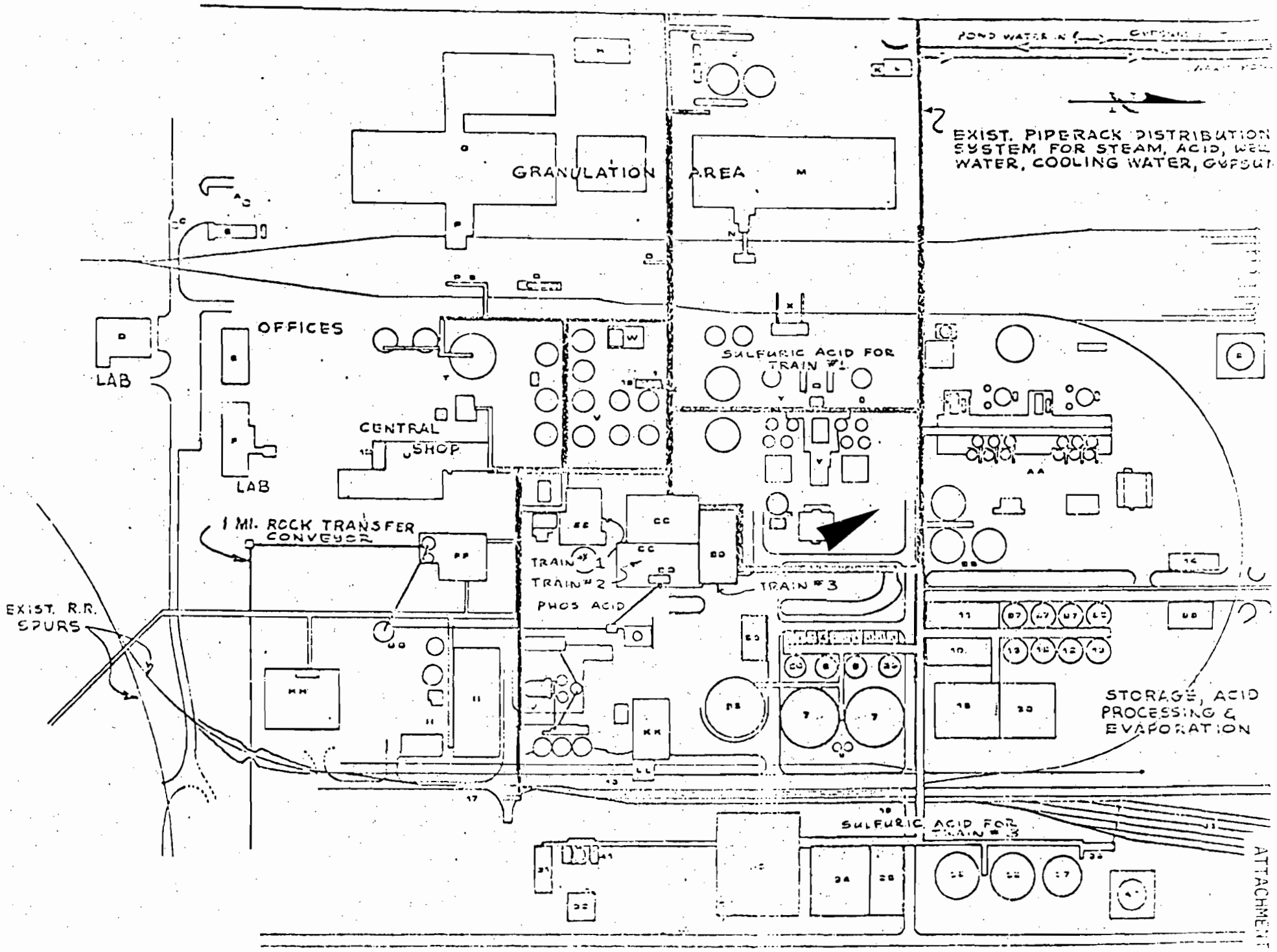
Oil: HC = 0.001 lb/gal x 820 gal/hr
= 0.8 lb/hr
= 3.6 TPY



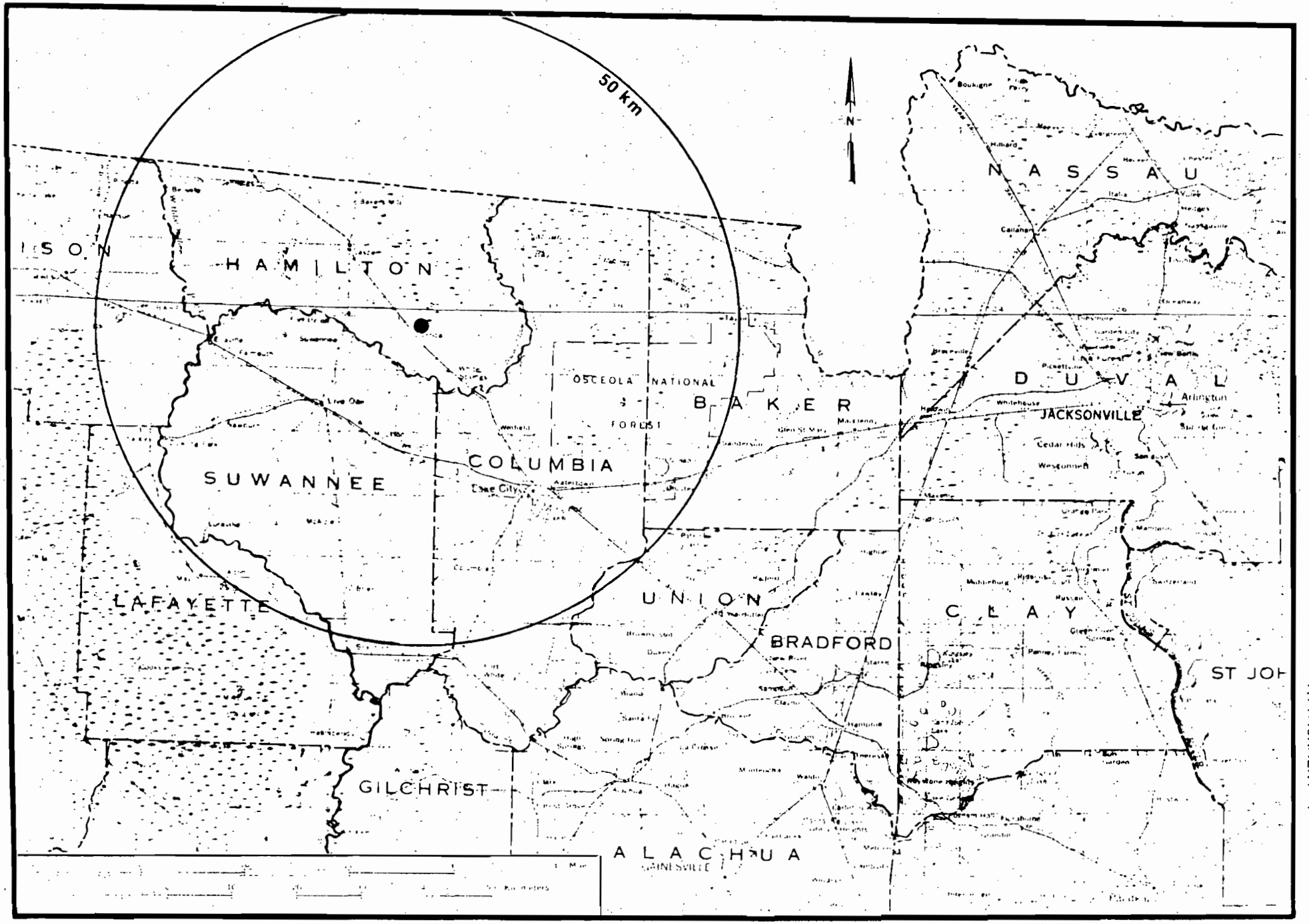
FLOW SHEET

AUXILIARY BOILERS C & D
SUWANNEE RIVER CHEMICAL COMPLEX

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA



ATTACHMENT 3



ATTACHMENT 4

AC 24-56214

May 14, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

MAY 27 1982

BAQM

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Auxillary Boiler "C"

SOURCE LOCATION: Street S.R. 137 City White Springs

UTM: East 328.320 km North 3,368.810 km

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M.P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

(Affix Seal)

Signed: J.B. Koogler

J.B. Koogler, Ph.D., P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Existing gas fired auxiliary steam boiler with stand-by oil firing capability is used to augment steam produced from the sulfuric acid plants to provide operating flexibility in the phosphoric acid production and evaporation process. Boiler has been modified to accept a mix of ground coal and oil (COM) with same sulfur content but increased ash. A dust collector has been installed to reduce particulate matter emissions. It is now proposed to increase the sulfur content of the oil from 0.8% to 1.0% and the COM from 0.7% to 0.9%.

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

Start of Construction July 1982 Completion of Construction July 1982

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.)

$1,200,000 Baghouse

340,000 Enclosed Ash Removal System

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

Construction Permit No. AC-24-2700 and 2701 issued 7/6/77 and expiring 12/31/79; Operating Permit No. AO-24-21059 issued 3/6/80 and expiring 1/31/85 covering boilers "C" and "D"; AC-24-40968 issued 6/30/81 to cover COM modification and expiring 7/31/82.

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: 8760 hr/year

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.	Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.	Yes
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:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
		NOT APPLICABLE		

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

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

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	
	See Page 3A						

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]
Baghouse (4 modules)	Part.	90+%	10% < 20 u	Design
			90% > 20 u	
			50% > 30 u	
Bin Vent Dust Collector	(6)	90+%		Design

[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

[6] Bin Vent Dust Collector will emit approx. 10% Baghouse Emissions. When burning gas and oil the baghouse will not be used.

Sect. III, C Airborne Contaminants Emitted

GAS/OIL/COM

	Emissions (lb/hr)	Emissions (TPY)	Standard	Allowable Emissions (lb/hr)	Potential Emission (lb/hr)	Potential Emission (TPY)
SO_2	0.1/128.7/130.6	0.3/563.9/572.1	BACT	0.1/128.7/130.6	0.1/128.7/130.6	0.3/563.9/572.1
PM	1.2/10.7/3.8	5.3/46.7/16.6	BACT	1.2/10.7/3.8	1.2/10.7/37.9	5.3/46.7/165.9
NO_x	21.0/49.2/54.6	92.0/215.5/239.2	NA	21.0/49.2/54.6	21.0/49.2/54.6	92.0/215.5/239.2
CO	2.0/4.1/4.2	8.9/18.0/18.4	NA	2.0/4.1/4.2	2.0/4.1/4.2	8.9/18.0/18.4
HC	0.4/0.8/1.0	1.6/3.6/4.5	NA	0.4/0.8/1.0	0.4/0.8/1.0	1.6/3.6/4.5

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	5	19.5	120
Gas	0.03	0.12	120
Coal-Oil Mix (COM)	5.1	19.1	120

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

Fuel Analysis: Gas/Oil/COM

Percent Sulfur: -/1.0/0.9 Percent Ash: -/0.09/4.5

Density: -/8/9.3 lbs/gal Typical Percent Nitrogen: -/Nil/0.737

Heat Capacity: 1000*/18,300/16,040 BTU/lb -/146,400/149,172 BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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

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

Fly ash (1,000 lbs/day when using COM) to landfill and boiler water blow-down to water recirculation pond

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (single stack for C and D boilers)

Stack Height: 104 ft. Stack Diameter: 6.5 ft.

Gas Flow Rate: 100,000 (50,000 ea. boiler) ACFM Gas Exit Temperature: 380 °F.

Water Vapor Content: 9 % Velocity: 50 FPS

*BTU/ft^3

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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 (^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. ATTACHMENT 1
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. ATTACHMENT 1
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). ATTACHMENT 1
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.). Submitted with Application for Ac-24-40968
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). ATTACHMENT 1
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. ATTACHMENT 2
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). ATTACHMENT 3
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. ATTACHMENT 4

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

(Also See PSD-FL-083)

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 [XX] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
SO_2	1.1 lb/10^6 BTU; use of oil with
	1.0% Sulfur or COM with 0.9% Sulfur

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:

Presently No. 6 fuel oil with 0.8% sulfur or COM with 0.7% sulfur is used to control sulfur dioxide emissions.

Contaminant	Rate or Concentration
SO_2	0.9 lb/10^6 BTU; use of oil with
	0.8% Sulfur or COM with 0.7% Sulfur

*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:

See PSD-FL-083

*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

(See PSD-FL-083)

A. Company Monitored Data

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

Period of monitoring ___/___/___ (month day year) to ___/___/___ (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 ___/___/___ (month day year) to ___/___/___ (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.

FUEL: Gas
Oil at 1.0% sulfur
Coal-Oil Mix at 0.9% sulfur

HEAT INPUT: 120×10^6 BTU/hr

FUEL INPUT: Gas = 120×10^6 BTU/hr x 1/1000 ft^3/BTU
= 0.12×10^6 ft^3/hr

Oil = 120×10^6 BTU/hr x 1/146,400 gal/BTU
= 820 gal/hr

Coal-Oil = 120×10^6 BTU/hr x 1/149,172 gal/BTU
= 804 gal/hr
x 9.3 lbs/gal
= 7481 lbs/hr @ 50% oil and 50% coal
x 0.5 = 3741 lbs/hr coal
= 3741 lbs/hr oil
x 1/8
= 467 gal/hr oil

OPERATING FACTOR: 8760 hours/year

EMISSIONS:

Sulfur Dioxide (Potential and Actual)

Oil: SO_2 = (0.157 x 1.0) lb SO_2/gal x 820 ga/hr
= 128.7 lbs/hr
x 8760/2000
= 563.9 TPY

Coal-Oil: SO_2 = 7481 lb/hr x 0.009 lbs/lb x 2 lb SO_2/ls S x 0.97
= 130.6 lbs/hr
x 8760/2000
= 572.1 TPY

Gas: SO_2 = 0.6 x 10^6 lb/ft^3 x 0.12 x 10^6 ft^3/hr
= 0.1 lb/hr
= 0.3 TPY

Nitrogen Oxides (Potential and Actual

Oil: NO_x = 0.060 lb NO_x/gal x 820 gal/hr
= 49.2 lbs/hr
x 8760/2000 x 1.0
= 215.5 TPY

Coal-Oil: NO_x @ 0.4552 lb NO_x (as NO_2)/10^6BTU from test data provided by KVB
NO_x = 0.4552 lb/10^6 BTU x (120×10^6) BTU/hr
= 54.6 lbs/hr
x 8760/2000
= 239.2 TPY

Gas: NO_x = 175 x 10^{-6} lb/ft^3 x 0.12 x 10^6 ft^3/hr
= 21.0 lb/hr
= 92.0 TPY

Particulate Matter (Potential)

Oil: PM = [10(1.0) + 3]/1000 lb/gal x 820 gal/hr
= 10.7 lbs/hr
= 8760/2000
= 46.6 TPY

Coal-Oil: PM = 17 lb/ton coal x 3741/2000 tons.hr + [10(1.0) + 3]/1000 lb/gal
x 467 gal/hr
= 31.8 + 6.1
= 37.9 lbs/hr
x 8760/2000
= 165.9 TPY

Gas: PM = 10 x 10^{-6} lb/ft^3 x 0.12 x 10^6 ft^3/hr
= 1.2 lb/hr
= 5.3 TPY

Particulate Matter (Actual)

Oil: PM = 10.7 lbs/hr
= 46.7 TPy
} baghouse will be by-passed when fuel oil and gas are used.

Coal-Oil: PM = 37.9 lb/hr x (1-0.9)
= 3.8 lb/hr
x 8760/2000
= 16.6 TPY

Gas: PM = 1.2 lb/hr
= 5.3 TPY

Carbon Monoxide (Potential and Actual)

Oil: CO = 820 gal/hr x 5/1000 lb CO/gal
= 4.1 lb/hr
x 8760/2000
= 18.0 TPY

Coal-Oil: CO = (467 gal/hr x 5/1000 lb CO/gal) + (3741/2000 ton/hr x 1 lb/ton)
= 2.3 + 1.9
= 4.2 lb/hr
x 8760/2000
= 18.4 TPY

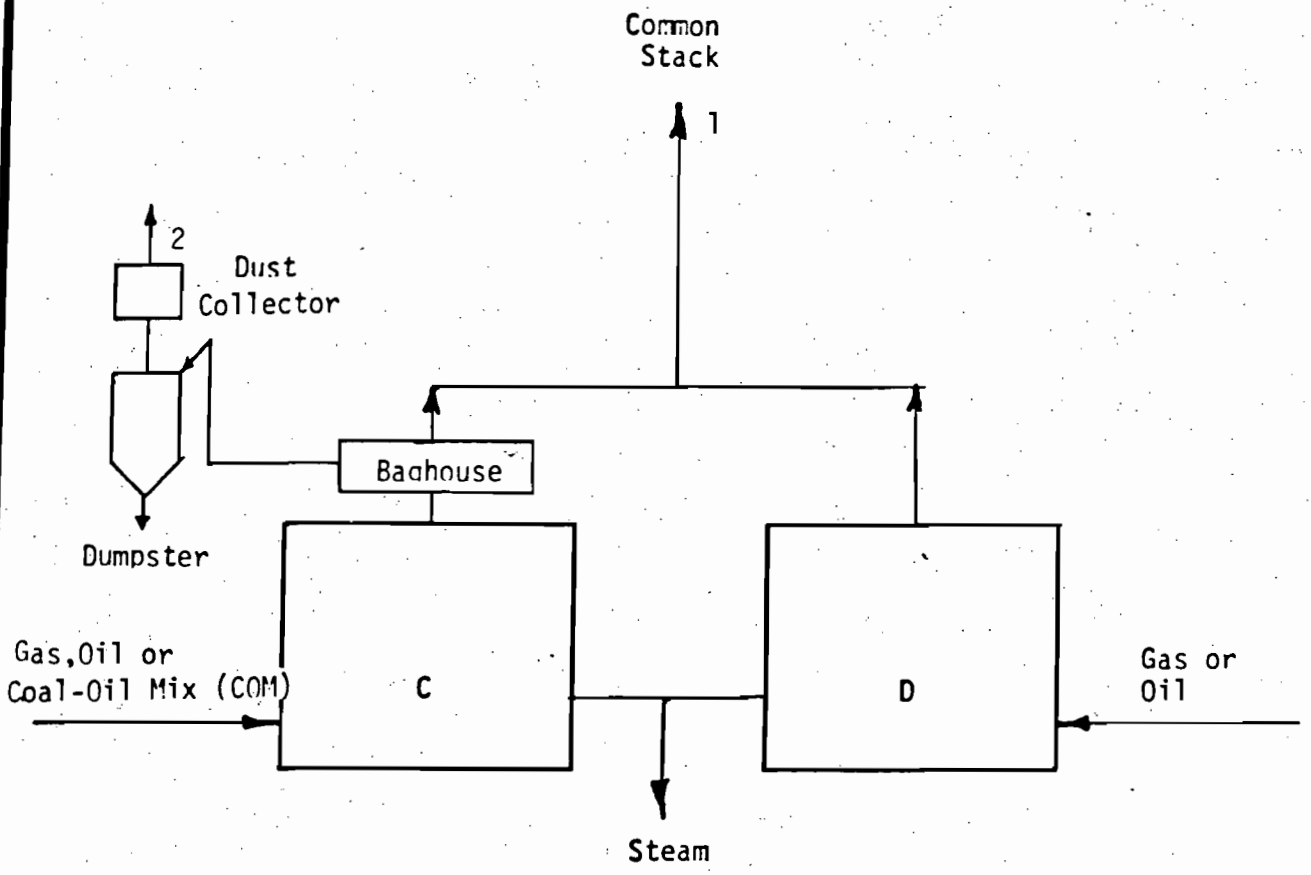
Gas: CO = 17 x 10^{-6} lb/ft^3 x 0.12 x 10^6 ft^3/hr
= 2.0 lb/hr
= 8.9 TPY

Hydrocarbons (Potential and Actual)

Oil: HC = 820 gal/hr x 1/1000 lb HC/gal
= 0.8 lb/hr
x 8760/2000
= 3.6 TPY

Coal-Oil: HC = (467 gal/hr x 1/1000 lb HC/gal) + 3741/2000 ton/hr x 0.3 lb/ton)
= 1.0 lb/hr
x 8760/2000
= 4.5 TPY

Gas: HC = 3×10^{-6} lb/ft^3 x 0.12 x 10^6 ft^3/hr
= 0.4 lb/hr
= 1.6 TPY

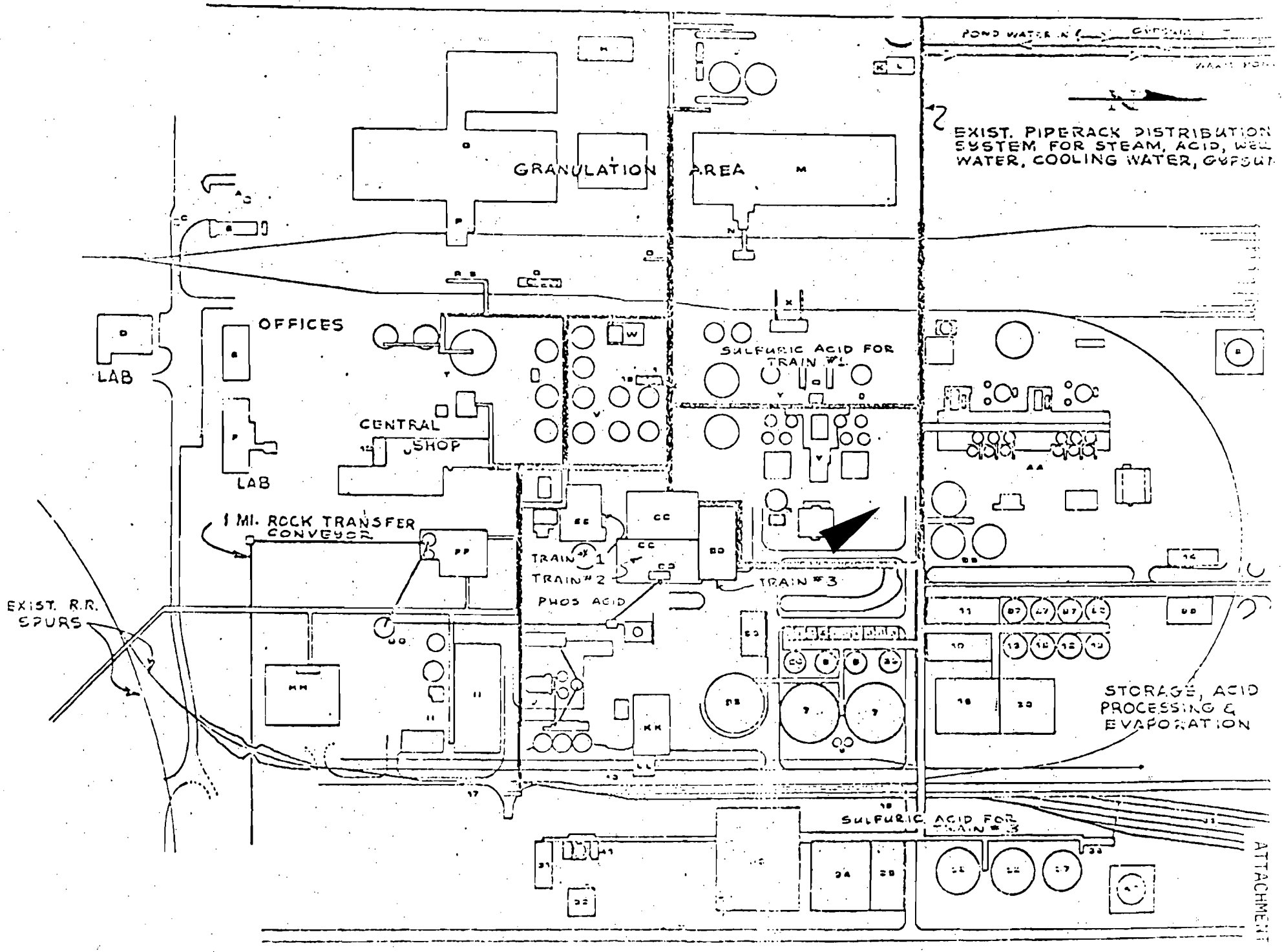


FLOW SHEET

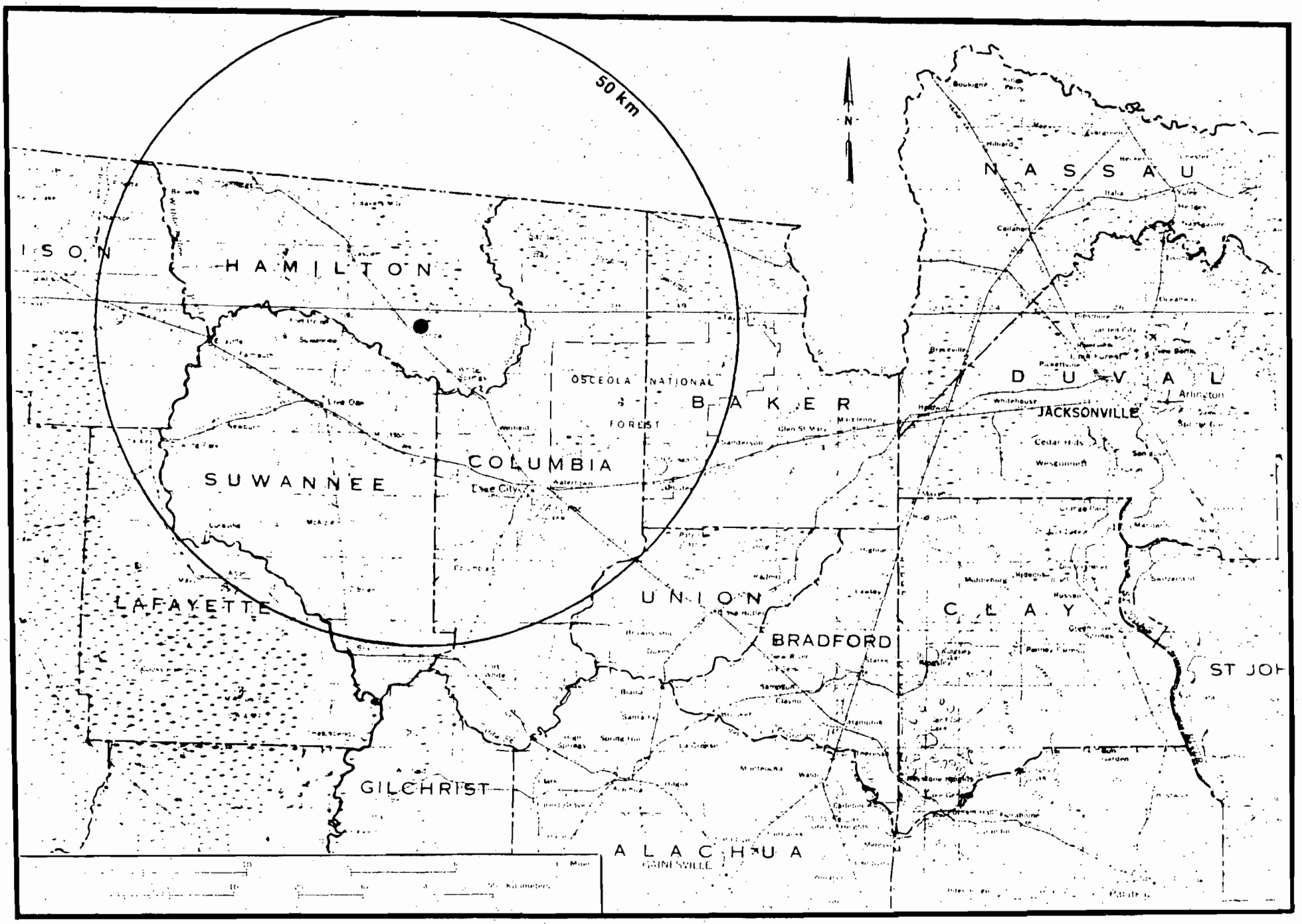
AUXILIARY BOILERS C & D
SUWANNEE RIVER CHEMICAL COMPLEX

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

*NOTE - Baghouse is by-passed when Gas and Oil are used as fuels.



ATTACHMENT 3



ATTACHMENT 4

AC 24-56215

May 14, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

MAY 27 1982

BAQM

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Granular Fertilizer Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

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) Diammonium Phosphate Plant #2

SOURCE LOCATION: Street S.R. 137 City White Springs

UTM: East 328.20 km E North 3368.82 km N

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

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: M P McArthur

M.P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 5/24/82 Telephone No. (904) 397-8101

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.

(Affix Seal)

Signed: J.B. Koogler

J.B. Koogler, Ph.D., P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6TH Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 5/14/82 Telephone No. (904) 377-5822

[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.

Granular fertilizer plant reacting ammonia with phosphoric acid is vented to wet venturi-cyclonic scrubbers and entrainment separator. Dry product screening and crushing facilities are vented to dry cyclones for product recovery in series with wet scrubbers for emission control. A gas fired dryer has oil firing capability. It is proposed to increase the sulfur content of the fuel oil from 0.8% to 1.5%.

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

Start of Construction July 1982 Completion of Construction July 1982

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.)

Not applicable - no air pollution control equipment is used to control SO_2 emissions.

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

FDER No. AO-24-10781 issued 7/7/78 and expiring 8/31/80; AO-24-33051 issued 9/16/80 and expiring 9/16/85.

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 XX No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ; if seasonal, describe: 8760 hours/year

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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
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.

*Not for sulfur dioxide

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

(See Attachment 1)

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Phosphoric Acid	F	1-3	145,263	1
Anhydrous Ammonia	None	--	28,165	2
Sulfuric Acid	None	--	2,400 (max)	8

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

1. Total Process Input Rate (lbs/hr): 175,828

2. Product Weight (lbs/hr): 120,000

C. Airborne Contaminants Emitted:

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	
Fluoride (as F)	1.74	6.1	17-2.600(3)	1.74	NOT APPLICABLE		7
DAP Dust(6)	46	193	17-2.610(1)	46	NOT APPLICABLE		7
Sulfur Dioxide(7)	11.8	51.5	BACT	11.8	59.0	258	7

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])
Venturi, Cyclone and	F	96.0%	---	Design and
Entrainment Separator				Test Data
Badger/Polycon				
	Dust	95.5%	---	

[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

(6) Dry process weight is 466 TPH (E= 17.3 p 0.16 where P = 466). Weight is design recycle product ration of 9.3:1 on average design rate of 50 TPH.

(7) Assuming stand-by oil used 100% of time with 80% removal of SO2 in scrubbers.

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Gas	4.9	5.9	36 (30 Avg.)
Oil Stand-By	0.030	0.036	36 (30 Avg.)

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

Fuel Analysis: Gas/Oil

Percent Sulfur: -/0.8 Percent Ash: -/0.09

Density: -/8 lbs/gal Typical Percent Nitrogen: -/Nil

Heat Capacity: 1000 BTU/ft^3/18300 BTU/lb -/146,400 BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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

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

Scrubber effluent is pumped to the cooling pond with recirculated water. Dust from cyclones returned to process.

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

Stack Height: 140 ft. Stack Diameter: 8 ft.

Gas Flow Rate: 130,000 ACFM Gas Exit Temperature: 125 °F.

Water Vapor Content: 10 % Velocity: 43 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

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. ATTACHMENT 1
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.
   ATTACHMENT 1
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   ATTACHMENT 1
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.).
   N/A for SO_2
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).
   ATTACHMENT 1
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.
   ATTACHMENT 2
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).
   ATTACHMENT 3
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.
   ATTACHMENT 4

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

(Also See PSD-FL-083)

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

Contaminant	Rate or Concentration
Fluoride - Fluoride emissions are not effected by this fuel modification.	

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
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

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

Presently fuel oil with 0.8% sulfur oil is used in the DAP dryer. This results in the emission rate shown below.

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
SO_2	0.22 lb/ton P_2O_5 input (fuel with 0.8% sulfur)

*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:

See PSD-FL-083

*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

See PSD-FL-083

A. Company Monitored Data

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

Period of monitoring ____/____/____ (month day year) to ____/____/____ (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 ____/____/____ (month day year) to ____/____/____ (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.

CALCULATION FOR SECTION III, A, B & C

PRODUCT: Diammonium Phosphate as 46% P_2O_5, 18% N granules

PRODUCT RATE: 1,440 Short tons per day (STPD)

-or-

120,000 pounds per hour (1,440 x 2,000 ÷ 24)

PROCESS LOSSES: -5% of P_2O_5 in phosphoric acid input or 95% recovery
-6.5% of ammonia input or 93.5% recovery

PROCESS INPUT:

Phosphoric Acid: 697 STPD of 100% P_2O_5 from both 30 & 50% P_2O_5 acid(1) (1,440 x 0.46 ÷ 0.95)

-or-

1,743 STPD of 40% P_2O_5 acid from 30 & 50% mixed "half & half" (697 ÷ 0.40)

-or-

145,263 lbs/hr 40% P_2O_5 acid

-or-

72,632 lbs/hr of 30% P_2O_5 acid and
72,632 lbs/hr of 50% P_2O_5 acid

Ammonia: 277 STPD of 100% nitrogen (1,440 x 0.18 ÷ 0.935)

-or-

338 STPD of NH_3 (277 x 17 ÷ 14 ÷ 0.996)(2)

-or-

28,165 lbs/hr.

Sulfuric Acid: Used for "grade control" may average about 2,400 lbs/hr of 93% acid.

Total Process Input Rate: 175,828 lbs/hr (145,263 + 28,165 + 2,400)

ALLOWABLE EMISSIONS:

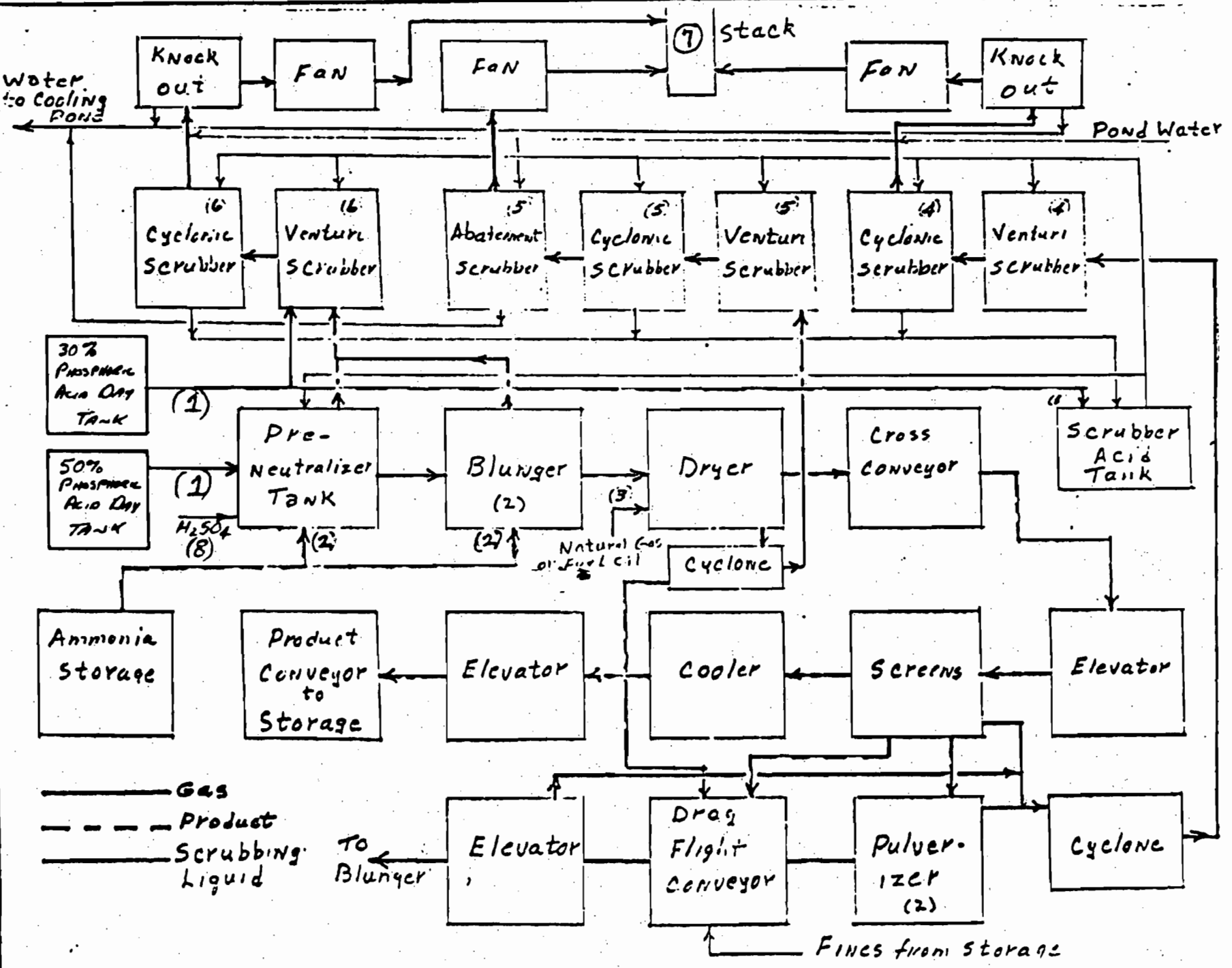
Fluoride: Based on rule at 0.06#F per ton P_2O_5 input it is 1.74#/hr (.06 x 697 ÷ 24). Based on previous average permitted rate it is 1.45#/hr (50 TPH ÷ 60 TPH x 697 TPD x .06 ÷ 24). Annual emission of 6.1 tons Per Year is based on 1.45#/hr and does not change (1.45 x 24 x 7 x 50 ÷ 2,000).

NOTE: (1) Water-Heat balance in slurry process requires an average 40% P_2O_5 strength feed acid at previous, average permitted rate.
(2) Purity of anhydrous ammonia is 99.6% NH_3.

Sulfur Dioxide: 36×10^6 BTU/hr x 1/18,300 lb/BTU
x (0.015 x 2) lb SO_2/lb x (1-0.8) eff.
= 11.8 lb/hr
x 1/29.04 hr/ton P_2O_5
= 0.41 lb SO_2/ton P_2O_5
11.8 x 8760/2000
= 51.7 TPY

ATTACHMENT 2

DAP PRODUCTION USING A 30% - 50% SALT PHOSPHORIC ACID FEED



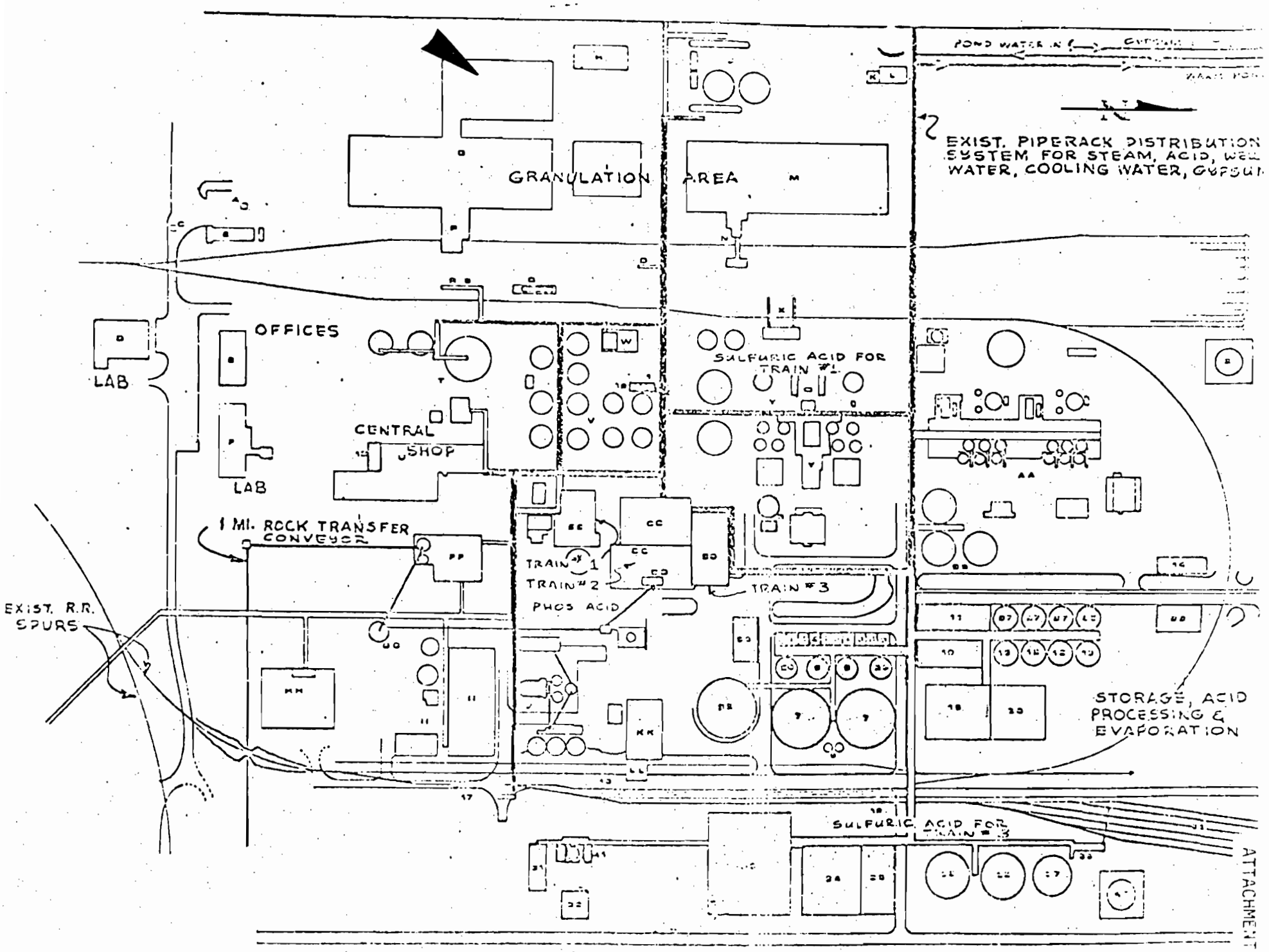
DRAWN BY
DATE
SCALE
REVISION
REVISION
REVISION

TITLE
FLOW DIAGRAM
DIAMMONIUM PHOSPHATE PLANT

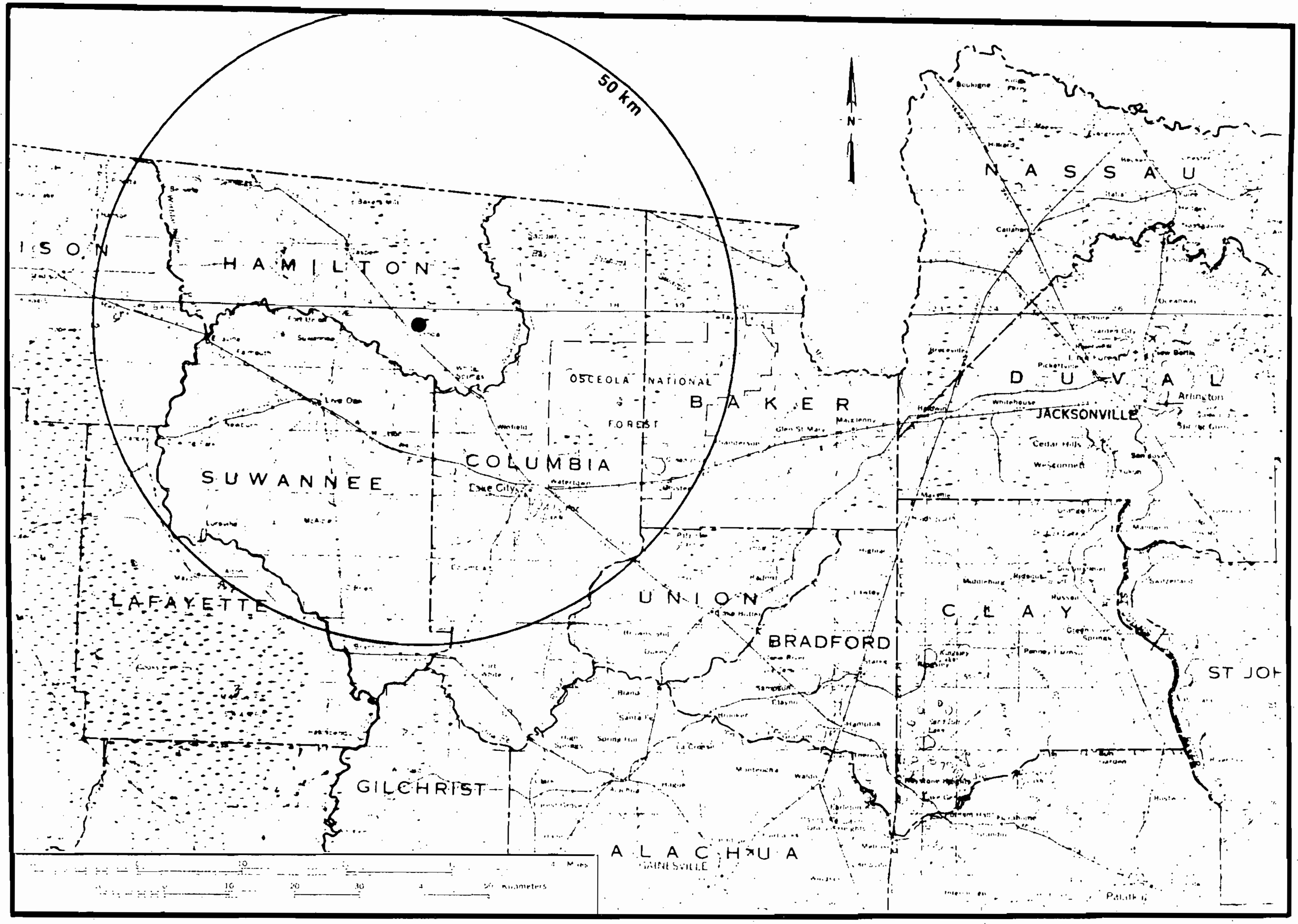
OCCIDENTAL OF FLORIDA

JOB NO.
CHANGE NO.
REV. NO.
SHEET NO. 14

ATTACHMENT 2



ATTACHMENT 3



ATTACHMENT 4

ATTACHMENT 1

FUEL PRICES

EASTERN SEABOARD PETROLEUM COMPANY, INC.
P. O. BOX 3233, STATION F—6531 EVERGREEN AVE.
JACKSONVILLE, FLORIDA 32206

OFFICES
JACKSONVILLE
TAMPA

TELEPHONE 904/358-9675
CABLE ADDRESS
EASTPET

August 20, 1981

Mr. Gilbert McGhin
Occidental Chemical Company
PO Box 300
White Springs, FL 32096

Dear Mr. McGhin:

In response to your request for projections on No. 6 fuel prices, I submit the following:

Grade #6	Current Price per bbl	4th Qtr (DEC) 81	1st Qtr 82	2nd Qtr 82	3rd Qtr 82	Actual Dec. 1981 Cost(1)
.8%	$29.900	$31.39	$34.53	$34.53	$36.26	34.07/bbl
1%	29.265	30.73	33.80	33.80	35.49	32.77/bbl
1.5%	28.75	30.19	33.21	33.21	34.87	30.38/bbl
2.0%	27.75	29.14	32.05	32.05	33.65	29.38/bbl

Each of the above prices are fob Jacksonville, delivery to White Springs is an additional $1.13 per barrel.

Barring any flare-up in the Middle East, we should see fuel oil prices somewhat more stable than in the last two years. The current meeting in Geneva of the OPEC countries will have a great impact on price and supply. We believe the Saudi's will be successful in stabilizing crude prices from that region of the world.

I hope you will find this information helpful and if I can be of any further assistance, please give me a call.

Very truly yours,

Arnold E. Seaton

Arnold E. Seaton
Assistant Vice President

AES/tab

cc: Craig Taylor

(1) Price quoted by Arnold E. Seaton to J. B. Koogler during telephone conversation of 11/24/81.

Belcher

August 20, 1981

Mr. J. Craig Taylor
Occidental Chemical Company
Florida Operations
P. O. Box 300
White Springs, FL 32096

Dear Mr. Taylor:

The following are prices, effective August 20, 1981, for the products listed below:

		Dec. 1981 Price(1)	
Diesel Fuel/#2	$1.0036 Per Gallon		
#6 Fuel Oil (.8% Sulphur)	.7731 Per Gallon	0.8733 Per Gallon	36.63/bbl
#6 Fuel Oil (1.0% Sulphur)	.7255 Per Gallon	0.7898 Per Gallon	33.17
#6 Fuel Oil (1.5% Sulphur)	.7017 Per Gallon	0.7612 Per Gallon	31.97
#6 Fuel Oil (2.0% Sulphur)	.6779 Per Gallon	0.7269 Per Gallon	30.53
#6 Fuel Oil (2.5% Sulphur)	.6707 Per Gallon		

These prices, exclusive of taxes, are delivered prices to your White Springs, Florida location.

Thank you for your business.

Sincerely,

J R Sauls

BELCHER OIL COMPANY
J. R. Sauls
Manager-Mid-Gulf Area

JRS/ke

cc: Bob Travis

(1)Prices quoted by Mr. Huhn of Belcher to J.B. Koogler during telephone conversation of 11/24/81.

B. & M. Oil Company
P.O. Box 1288—909 S. Ohio Ave.
Live Oak, FL 32060
(904)362-6340
Night-(904)362-1182

August 18, 1981

Occidental Chemical Company
P. O. Box 300
White Springs, FL 32096
Attn: Mr. Gilbert McGinn, Supervisor
Materials Management

Dear Gilbert:

Based upon our phone conversation of August 18, 1981, our current bid price on #6 fuel oil is as follows:

Maximum Sulfer Content of .8%	$.81 gal.	34.02
Maximum Sulfer Content of 1.0%	Not Available	
Maximum Sulfer Content of 1.5%	$.78 gal.	32.76
Maximum Sulfer Content of 2.0%	Not Available	
Maximum Sulfer Content of 2.5%	$.73 gal.	30.66

Above listed prices include freight to White Springs, Florida.

Prices are not firm, but may fluctuate from time-to-time as the World Oil Market fluctuates.

Based upon my observation of the leading oil price indicators, I believe the projected price for the next several months will remain stable to approximately a 2 to 3% maximum increase in cost.

Therefore, the projected cost of #6 fuel oil for the next 2 to 3 quarters should remain at or not over the below cost:

Maximum Sulfer Content of .8%	$.84 gal.
Maximum Sulfer Content of 1.0%	Not Available
Maximum Sulfer Content of 1.5%	$.81 gal.
Maximum Sulfer Content of 2.0%	Not Available
Maixmum Sulfer Content of 2.5%	$.75 gal.

Thanking you for all your courteousness in this matter and I will be looking forward to hearing from you.

Sincerely,

Don Boyette
President

DB:vbh

Fuel costs not updated in December, 1981 because of unfavorable cost differential between this quotation and quotations from Belcher and Eastern Seaboard.

ATTAHMENT 1

ATTACHMENT 1

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 × 1/24 day/hr × 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

SO_2 = 125,000 lb/hr steam × 1000 BTU/lb × 1/0.8 efficiency
× 1/18300 lb oil/BTU × (0.01 × 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 × 10^6 BTU/hr input × 1/18300 lb oil/BTU × (0.01 × 2) lb SO_2/lb oil
= 174.9 lb SO_2/hr

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

Boiler 'D' (New Source)[1]

Identical to Boiler "C"

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 2

OCCIDENTAL FUEL USES & ANNUAL FUEL COSTS

FUEL USE BY SOURCE

The sources affected by the proposed fuel changes are:

I. PSD-FL-082 (SCCC)

Auxiliary Boiler E - Annual Operating Factor - 97.5%
- Heat Input - 156 x 10^6 Btu/hr

II. PSD-FL-083 (SRCC)

Auxiliary Boiler B - Annual Operating Factor - 25%
- Heat Input - 160 x 10^6 Btu/hr

Boiler C - Annual Operating Factor - 25%
- Heat Input - 120 x 10^6 Btu/hr

Boiler D - Annual Operating Factor - 25%
- Heat Input - 120 x 10^6 Btu/hr

Z Train (DAP No.2) - Annual Operating Factor - 95%
- Heat Input - 30 x 10^6 Btu/hr

DECEMBER, 1981 FUEL COSTS

Sulfur Content (%)	Heat Content (Btu/gal)	Price per Gallon ($)	Price per 10^6Btu ($)
Eastern Seaboard			
0.8	144,650	0.8112	5.6080
1.3(1)	148,140	0.7461	5.0364
Belcher			
0.8	144,650	0.8733	6.0373
1.3(1)	148,140	0.7726	5.2153

(1) Price for 1.3% sulfur fuel was obtained by interpolation between prices of 1.0 and 1.5 percent sulfur fuels.

assume 100% oil fuel - gas is used when available

FUEL COST BY SOURCE

Source	Annual Heat Input (10^{12} Btu/yr)	Fuel Cost ($/year) 0.8% Sulfur	Fuel Cost ($/year) 1.3% Sulfur	Fuel Cost Differential ($/year) 0.8 - 1.3% Sulfur
Eastern Seaboard Prices				
Boiler E	1.332	7,472,077	6,710,479	761,597
Boiler B	0.350	1,965,043	1,764,754	200,289
Boiler C	0.263	1,473,782	1,323,566	150,216
Boiler D	0.263	1,473,782	1,323,566	150,216
Z Train (DNP)	0.250	1,400,093	1,257,388	142,706
Total		13,784,777	12,379,753	1,405,024
Belcher Prices				
Boiler E	1.332	8,044,074	6,948,845	1,095,230
Boiler B	0.350	2,115,470	1,827,441	288,029
Boiler C	0.263	1,586,602	1,370,581	216,022
Boiler D	0.263	1,586,602	1,370,581	216,022
Z Train (DNP)	0.250	1,507,272	1,302,052	205,221
Total		14,840,020	12,819,500	2,020,520

ATTACHMENT 3

POLLYPHOS PLANT SULFUR DIOXIDE EMISSION MEASUREMENTS

SUMMARY OF SULFUR DIOXIDE EMISSION MEASUREMENTS

A & B POLLYPHOS REACTORS

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
WHITE SPRINGS, FLORIDA

MARCH, 1981

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS
1213 NW 6TH STREET
GAINESVILLE, FLORIDA 32601
(904) 377-5822

TABLE OF CONTENTS

To the best of my knowledge, all applicable field and analytical procedures except as noted in Section 4.0 comply with FDER requirements and all test data and plant operating data are true and correct.

George F. Allen

Signature

Date

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

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/
= 174.9 lb SO_2/hr

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

Boiler "D" (New Source)[1]

Identical to Boiler "C"

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

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

Reading

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

VIN TOWERS OFFICE BUILDING
00 BLAIR STONE ROAD
ALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

May 17, 1982

John Koogler, P.E., Ph.D.
Sholtes and Koogler, Environmental Consultants
1213 N.W. 6th Street
Gainesville, Florida 32601

Dear Dr. Koogler:

Re: Occidental Chemical Company: Impact on the Okefenokee Class I Area; Modeling.

Your recent correspondence dated April 26, 1982, contained additional modeling of the Occidental Chemical Company's impact on the Okefenokee Class I area. The modeling included all increment consuming emissions from the Swift Creek and the Suwannee River chemical complexes. Changes made from previous modeling included an increase in the sulfur dioxide half-life from eight to 12 hours, a reduction in the sulfur content of the fuel from 1.3 percent to 1.0 percent for the four boilers, and an increase in the sulfur content of the fuel for the No. 2 DAP plant from 1.3 percent to 1.5 percent.

A review of the submitted modeling has been completed. Further information is needed by the Department before a preliminary determination can be written. Please respond to the following questions and comments.

1. What were the input data to the FDER preprocessor program used to eliminate days (24-hour periods) in which the magnitude of the resultant wind vectors in the desired directions were not great enough to transport the pollutant to the receptor site?

2. What wind profile exponents were used in the preprocessor and CRSTER model runs?

3. The Department would like a copy of the program used to eliminate hours of calm winds from the CRSTER modeling--for verification purposes and to check for adherence to Department policy on the elimination of calms. An explanation of how the program works should be included.

4. In the output of the above program it is not clear whether the hierarchy of maximum concentrations are recomputed after the elimination of calm hours. That is, are the highest and highest, second-highest concentration tables recomputed?

5. It appears that the version of CRSTER you are using does not convert all hours of stability class 7 to stability class 6 for calculation of concentrations. This modification should be made to your program.

The purpose of the preceding questions is to verify that the "critical" days used in the more detailed model (ISCST) to determine the impact on the Class I area are in fact the worst-case days containing reasonable meteorology.

Finally, in the ISCST model runs the rural wind profile exponents used are not totally correct. The stability class 6 exponent should be 0.55 instead of 0.35. This error is believed to result in slightly more conservative concentrations.

Sincerely,

Thomas Rogers
Bureau of Air Quality Management

TR/jf

cc: Mr. W. W. Atwood

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

SKEC 102-81-08

April 26, 1982

Mr. Clair Fancy
Bureau of Air Quality Management
Department of Environemntal Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Occidental Chemical Company
PSD-FL-082, Swift Creek Chemical Complex
PSD-FL-083, Suwannee River Chemical Complex

Dear Mr. Fancy:

In the original PSD applications that the Occidental Chemical Company submitted to FDER for modifying operations at both the Swift Creek and Suwannee River Chemical Complexes, the impact of sulfur dioxide emissions on the Okefonokee Class I PSD area were reviewed. In these reviews, a half-life for sulfur dioxide in the atmosphere of 12 hours was used. This half-life was adopted based on a conversation with Mr. Lou Nagler with EPA Region IV in Atlanta and upon information contained in the document Guideline on Air Quality Models, Proposed Revisions, U.S. Environmental Protection Agency, October 1980.

In your letter of November 24, 1981 to Mr. Wes Atwood of the Occidental Chemical Company, you state that the use of an 8 hour half-life is unacceptable to your agency without documentation of its accuracy. Subsequent conversations with Mr. Lou Nagler indicated that EPA has also changed its position on the use of an 8 hour half-life. Both your November 24th letter and telephone conversations with EPA indicate that a 12 hour half-life for sulfur dioxide will be acceptable without documentation.

At the Swift Creek and Suwannee River Chemical Complexes the Occidental Chemical Company has six sulfur dioxide emitting sources which are classified as "new sources" for purposes of PSD determinations. Three of these sources are at the Swift Creek Chemical Complex (SCCC); the "E" and "F" sulfuric acid plants and the "E Boiler". The remaining three sources are at the Suwannee River Chemical Complex (SRCC); the "B", "C" and "D" auxillary boilers. Also at the SRCC is the No. 2 DAP Plant (Z Train), an existing source, for which a sulfur dioxide emission increase

is requested. All of these sources are also addressed in the two subject PSD applications. In the applications it was proposed to increase the permitted production rate of the "E" and "F" sulfuric acid plants from 2,000 tons of 100 percent sulfuric acid per day to 2500 tons of acid per day for each of the two plants. With the boilers, it was proposed to increased the sulfur content of the fuel oil used for firing the boilers from the presently permitted level of 0.8 percent to 1.3 percent. It was also proposed to increase the sulfur content of fuel oil used in the dryer of the No. 2 DAP Plant from 0.8 percent to 1.3 percent.

As the results of your November 24th letter, Occidental had two basic options. The first option would be to document an 8 hour half-life for sulfur dioxide and maintain the modifications proposed for the seven sources as outlined in the above paragraph. The second option would be to increase the half-life of sulfur dioxide to 12 hours and to decrease the sulfur dioxide emissions from the effected sources to a level which would not result in a significant impact on the Okefenokee National Wildlife Refuge.

In view of recent BACT determinations by your department, as they relate to controlling emissions from fossil fuel fired boilers, it was determined that it would be most expeditious to reduce the requested sulfur content of fuels for the four boilers to 1.0 percent, to maintain the same production rate increases requested for the "E" and "F" sulfuric acid plants and to request a sulfur dioxide emission rate from the No. 2 DAP Plant of 0.41 pounds of sulfur dioxide per ton P_2O_5 input to the plant (the use of 1.5 percent sulfur fuel oil).

These revisions to the modifications requested in the original PSD application will result in a net decrease in sulfur dioxide emissions over the increase requested in the orignial PSD applications of 51.2 pounds per hour (218.8 tons per year) for the Swift Creek Chemical Complex (SCCC) and 435.5 pounds per hour (1907.6 tons per year) for the Suwannee River Chemical Complex (SRCC). Since there is a decrease in the requested incremental increase in sulfur dioxide emissions all of the information contained in the original PSD applications and the supplemental information provided to your office on December 7, 1981 represents conditions much more severe that will actually exist. Because of this the only matter which will be addressed in this document is the impact of sulfur dioxide on the Okefenokee Class I PSD area.

The revised modified emissions from all of the effected sources are presented in Attachment 1. These emissions are based on a sulfur dioxide emission rate from the "E" and "F" sulfuric acid plant of 4.0 pounds of sulfur dioxide per ton of 100 percent acid produced and a 2500 ton per day production rate. The sulfur dioxide emission rates from the four

boilers are based on the use of fuel oil with a 1.0 percent sulfur content and the sulfur dioxide emission rate from the No. 2 DAP Plant is based on the use of fuel oil with 1.5 percent sulfur content and an 80 percent absorption factor.

The emissions from the effected sources were modeled to evaluate the impact on the Okefenokee Class I PSD area using the CRSTER air quality model and the ISC-ST model. The meteorological data input to the CRSTER air quality model represented data from Valdosta, Georgia for the period 1972 through 1976. These data were preprocessed using a program developed by the FDER to eliminate all days except those which contained a vector which would result in the transport of the pollutant from the Occidental Chemical Company to the boundary of the Okefenokee National Wildlife Refuge. The CRSTER model was also modified to review the output tape from that model and exclude non-zero sulfur dioxide concentration contributions to a receptor which resulted from periods with calm winds. This modification is consisted with the EPA recommendation which states:

> "Generally, concentrations calculated for those hours with calm winds (e.g., wind speeds less than 1 mps) should be excluded from averages of 24 hours or less, if a concentration during an hour with calm winds contributes to the average concentration for the period. For example, if six hours in a 24-hour period contain calms, and the source contribution to the 24-hour average is non-zero for each of the six calm hours, the 24-hour average would be the sum of concentrations for the 18 non-calm hours divided by 18; the contribution for the hours with calms should be discarded. However, if only one of the six calm hours contributes a concentration and the other five calm hours have no contribution, the 24-hour concentration would be the sum of concentrations for 23 hours divided by 23; only the calm hour which could make a contribution to the 24-hour average would be discarded" (Guideline on Air Quality Models, Proposed Revisions U.S. Environmental Protection Agency, October, 1980).

The receptors defined by the CRSTER air quality model are defined by a direction and a downwind distance from the source to the receptor. The receptors used for defining the boundary of the Okefenokee National Wildlife Refuge closest to the Occidental Chemical Company are shown in Figure 1. The UTM coordinates of each of these receptors were also calculated for use in the ISC-ST air quality model. The Okefenokee National Wildlife Refuge is at a direction between 30° and 80°, from the north, from Occidental. The nearest boundaries, the west and south boundaries, are at distances ranging from 39.4 to 61.9 kilometers from Occidental.

The results of the air quality modeling designed to evaluate the impact of the effective sources on the Okefenokee National Wildlife Refuge are summarized in Tables 1, 2 and 3. The annual impacts are summarized in Table 1, the 24-hour impacts are summarized in Table 2, and the 3-hour impacts are summarized in Table 3.

The annual sulfur dioxide impacts on the Okefenokee National Wildlife Refuge were calculated with the CRSTER air quality model. As previously stated, the meteorological data input to the CRSTER model were preprocessed with an FDER program so that only days which contained a vector which would allow the pollutants to be transported to the Class I PSD area were included. In 1972 for example, there were 159 such days in the total year of 366 days. To account for the days which contributed no sulfur dioxide to the annual impact on the Class I area, the annual concentrations calculated by the CRSTER air quality model were multiplied by the number of days which contributed a sulfur dioxide impact and divided by the total number of days in the year. For 1972, for example, the maximum annual impact at the Okefenokee boundary was calculated with the CRSTER air quality model, with 159 days of meteorology, to be 1.9 micrograms per cubic meter. To correct this impact to a true annual impact the 1.9 micrograms per cubic meter was multiplied by the factor 159/366. The resulting maximum annual impact for calendar year 1972, using this approach, was determined to be 0.8 micrograms per cubic meter; or an impact less than the significant impact level defined by State and Federal PSD Regulations. The maximum annual impact for each of the five years analyzed are summarized in Table 1.

The 24-hour impacts of sulfur dioxide emissions are summarized in Table 2. In this table two types of impacts are presented. One is the second-high impact occurring for each of the years calculated using all hours in the 24-hour period; both calm and non-calm hours. The second type of impacts are the second-high impacts calculated for each year using only non-calm hours as suggested by EPA.

All of the 24-hour impacts calculated using non-calm hours were less than the associated impacts calculated using all hours. All of the second-high non-calm hour impacts were also greater than 5.0 micrograms per cubic meter; the significant impact level as defined by State and Federal PSD Regulations. Factors contributing to high calculated impacts include the co-location of all sources as required by the CRSTER air quality model and the assumption that sulfur dioxide is an inert non-reactive pollutant. To over come these assumptions which are inherent in the CRSTER air quality model, the ISC-ST model was use to further evaluate the higher impacts.

The ISC-ST model can incorporate a sulfur dioxide half-life (12 hours) and will allow for inputing the actual location of each source. The results of the ISC-ST modeling for selected 24-hour periods are also summarized in Table 2. These results show that all impacts are less than 5.0 micrograms per cubic meter; the significant impact level.

The 3-hour sulfur dioxide impacts are summarized in Table 3. As with the 24-hour impacts, 3-hour impacts were calculated using "all hours" and "non-calm hours". The second-high impacts calculated for the 3-hour period were all in excess of 25 micrograms per cubic meter; the significant impact level for a 3-hour period as defined by State and Federal PSD Regulations. Again, the ISC-ST model was used to further refine the impacts resulting from selected 3-hour meteorological conditions. These results, summarized in Table 3, show that the ISC-ST predicts all 3-hour impacts to be below the 25.0 micrograms significant impact level.

The computer print-outs from which all of the above referenced data were derived are attached hereto as Attachment 2.

Based on the modeling reported herein, it can be concluded that Occidental can increase the permitted production rate of the "E" and "F" sulfuric acid plants to 2500 tons of 100 percent sulfuric acid per day, each plant; that Occidental can increase the sulfur content of fuel oil fired to the "B", "C", "D" and "E" Boilers from 0.8 to 1.0 percent; and that Occidental can increase the sulfur content of fuel oil fired to the No. 2 DAP Plant dryer from 0.8 percent to 1.5 percent without the resulting emissions having a significant impact on the Okefenokee National Wildlife Refuge. Since the emission rates represented by these proposed conditions are less than emission rates of sulfur dioxide requested in the original PSD applications, and since the higher emission rates did not result in violations of air quality standards or PSD increments other than as readdressed herein, it is not necessary to futher modify the PSD applications or supplement information already submitted to your office.

According to our records the submittal of this information should provide your office with all of the information required to complete the federal review of the two subject PSD Applications. The only additional information which we need to submit to your office are the State Air Pollution Source Construction Permit Applications for the effected sources. These are presently being prepared and will be submitted to your office within a week. If there are any questions regarding the information contained herein please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

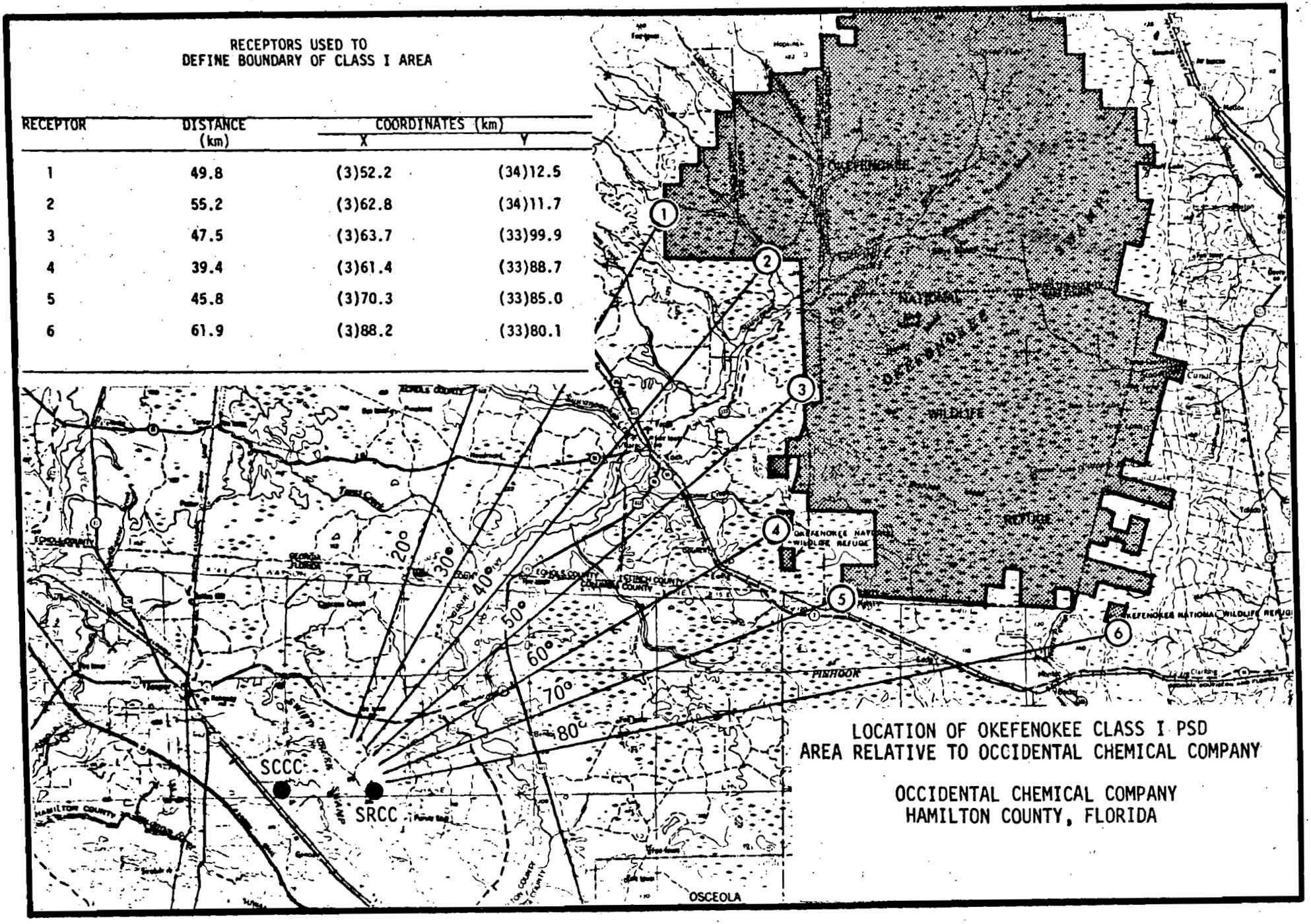
John B. Koogler, Ph.D., P.E.

JBK:ls
Attachments

cc: Mr. W. W. Atwood
Mr. T. Rogers
Mr. W. Hanks

RECEPTORS USED TO
DEFINE BOUNDARY OF CLASS I AREA

RECEPTOR	DISTANCE (km)	COORDINATES (km) X	Y
1	49.8	(3)52.2	(34)12.5
2	55.2	(3)62.8	(34)11.7
3	47.5	(3)63.7	(33)99.9
4	39.4	(3)61.4	(33)88.7
5	45.8	(3)70.3	(33)85.0
6	61.9	(3)88.2	(33)80.1



LOCATION OF OKEFENOKEE CLASS I PSD
AREA RELATIVE TO OCCIDENTAL CHEMICAL COMPANY

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

TABLE I

SUMMARY OF THE ANNUAL IMPACTS OF SULFUR DIOXIDE EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	ANNUAL IMPACT (ug/m^3)
1972	0.8
1973	0.7
1974	0.8
1975	0.6
1976	0.7
Significant Impact	1.0

TABLE 2

SUMMARY OF THE 24-HOUR IMPACTS OF SULFUR DIOXIDE EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	24-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	All Hours	Non-Calm Hours	Non-Calm Hours
1972	14.6/292/30°(1)	9.8/292/30°	4.5/292/30°
1973	12.3/015/60°	8.3/187/60°	--
1974	13.6/209/40°	8.8/070/60°	4.9/070/60°
1975	14.2/160/60°	9.1/070/50°	4.7/070/50°
1976	17.0/329/50°	9.2/265/50°	2.2/265/50°

Significant Impact - 5.0 ug/m^3

(1) aa/bb/cc - aa - impact (ug/m^3)
bb - Julian day
cc - direction at which impact occurs

TABLE 3

SUMMARY OF THE 3-HOUR IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	3-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	All Hours	Non-Calm Hours	Non-Calm Hours
1972	80.4/293(1)/60°(1)	47.3/232(7)/60°	--
1973	74.2/306(7)/50°	56.3/343(7)/60°	--
1974	86.9/197(1)/60°	68.2/198(1)/60°	24.9/198(1)/60°
1975	63.5/349(8)/50°	62.2/070(7)/50°	15.0/070(7)/50°
1976	92.4/259(7)/60°	51.7/198(8)/60°	--

Significant Impact - 25.0 ug/m^3

(1) aa/bb(c)/dd - aa - impact (ug/m^3)
bb - Julian day
(c) - three hour period during Julian day
dd - direction at which impact occurs

ATTAHMENT 1

ATTACHMENT 1

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

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 oil
= 174.9 lb SO_2/hr

Boiler 'C' (New Source)[1]

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

Proposed Fuel - No 6 Oil 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

Boiler 'D' (New Source)[1]

Identical to Boiler "C"

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 Oil 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)

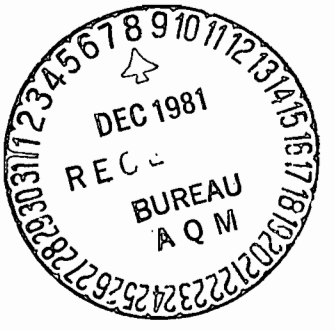
SO_2 increase = 11.8 - 6.3 lb/hr
= 5.5 lb/hr
= 0.69 g/sec

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

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

SKEC 102-81-08

December 7, 1981



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

Subject: Occidental Chemical Company
PSD-FL-082, Swift Creek Chemical Complex
PSD-FL-083, Suwannee River Chemical Complex

Dear Mr. Fancy:

On July 24th, 1981, your office sent the Occidental Chemical Company a letter requesting additional information so that the processing of the two subject PSD applications could be completed. The attachments to this letter respond, using the same enumeration used in your July 24th letter, to the six issues addressed by your letter.

Items 1 and 2 are related to BACT for sulfur dioxide emissions from fuel burning sources. These items apply to both PSD applications PSD-FL-082 and PSD-FL-083. The Items 3A, 3B, and 3C reference PSD application PSD-FL-083; the Suwannee River Chemical Complex application. The Item identified as "A" refers to PSD application PSD-FL-082; the Swift Creek Chemical Complex application.

In addition to the material attached hereto, a response is being prepared to your letter dated November 24th, 1981 addressing the sulfur dioxide half-life used in the model runs evaluating the sulfur dioxide impact on the Okeefenokee National Wildlife Refuge. We are also preparing State Air Pollution Source Construction Permit Applications for the sources addressed in the two PSD applications. These should be in your office within two weeks.

If there are any questions regarding the material attached hereto, please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

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

JBK:sc
Attachments

cc: Mr. W. W. Atwood

ITEMS 1 & 2

Occidental has requested the use of fuel oil with an increased sulfur content in one source covered by PSD application PSD-FL-082 (SCCC); and in four sources covered by PSD application PSD-FL-083 (SRCC). The SCCC source and three of the four sources at the SRCC are boilers. The fourth source at the SRCC is a DAP plant which uses fuel oil in a product dryer.

4 (3 boilers 1 DAP plant)

Best Available Control Technology for sulfur dioxide control in boilers of the size operated by Occidental (120-160 million Btu per hour heat input) involves varying the sulfur content of the boiler fuel. Varying the sulfur content of the fuel is more practical, particularly in the case at Occidental, than injecting an absorbent into the fire box of the boiler or adding a flue gas desulfurization system. The use of absorbents for sulfur dioxide control is effective on coal fired units which none of the Occidental boilers or the DAP plant are. The use of scrubbers for flue gas desulfurization would add completely new pieces of process equipment and would compound water treatment and disposal problems at Occidental.

The feasible alternative available to Occidental for controlling sulfur dioxide from the effected sources is through the control of the sulfur content of fuels used in the sources. At the SCCC the alternative fuels that Occidental could consider are coal, oil and a coal-oil mix (COM). At the SRCC the available alternative fuels include coal, oil, COM and natural gas.

Coal is not considered a feasible alternative by Occidental at either of the chemical complexes at the present time because of the problems encountered in storing and handling a solid fuel. At the SRCC in particular, space constraints are such that it would be virtually impossible to store a necessary stockpile of coal. In addition, the transfer of coal at the SRCC to the four individual sources which are the subject of PSD application PSD-FL-083 would be very cumbersome. At the SCCC coal storage and coal transfer would not be as severe a problem as at the SRCC; however, it would be severe enough to preclude the consideration of coal as a feasible alternative fuel.

The use of COM fuel would be feasible at both chemical complexes. Occidental recently had the operating permit for the "C" boiler at the SRCC (one of the sources addressed in PSD application PSD-FL-083) revised to permit the use of COM with a 0.8 percent sulfur content as an alternative fuel. After some operating experience has been gained with this fuel Occidental may very well request permit modifications for some or all fuel burning sources to allow the use of COM as an alternative fuel. Until operating experience is gained with this fuel; however, Occidental is hesitant to consider this fuel as an alternative for other sources.

At the SRCC natural gas is available and is used as an alternative fuel in most all fuel burning sources when it is available. Natural gas is presently the most ideal fuel available because of present pricing and because the combustion of the fuel results in practically no sulfur dioxide or particulate matter emissions. The problem with this fuel is

the availability. Occidental, as with virtually all industrial users of natural gas, is on an interruptable service. This means the gas supply can be interrupted when gas is needed to provide energy for residential and other non-interruptable services. Occidental has experienced a greater frequency of interruptions in recent years because of the energy situation in this country.

The only fuel other than natural gas at the SRCC, that Occidental would consider at this particular time is No. 6 fuel oil. All of the subject sources are permitted to use this fuel with a 0.8 percent sulfur content or less. Occidental is requesting the use of a No. 6 fuel oil with a sulfur content of 1.3 percent. The request by Occidental is based on these factors; one being the existing cost differential between fuel oil with a 0.8 percent sulfur content and fuel oil with a 1.3 percent content; the second being the anticipated difficulty in obtaining low sulfur fuel oil at any reasonable price on the future market; and the third is the fact that Occidental owns or leases all property within several miles of both chemical complexes and has no sensitive sulfur dioxide receptors on the property.

Occidental obtained quotations for No. 6 fuel oil with varying sulfur contents in mid-August, 1981 and updated these price quotations by telephone conversation in early December, 1981. These price quotations are appended hereto as Attachment 1.

Based on quoted fuel oil prices and the heat input required by the four boilers and the DAP plant, annual fuel costs were calculated assuming the use of fuel oil with 0.8 percent sulfur (currently permitted conditions) and the use of fuel oil with 1.3 percent sulfur. The fuel costs, the fuel use by each source and the annual fuel costs are summarized in Attachment 2.

For the five sources involved, the annual fuel cost for No. 6 oil with 0.8 percent sulfur content ranges between $13.8 and $14.8 million per year depending upon the price quotation used. For a fuel oil with 1.3 percent sulfur content the annual fuel costs ranged between $12.4 million and $12.8 million; or an averaged annual cost differential over 0.8 percent sulfur fuel of $1,712,772 or 12.0 percent.

The maximum impacts on air quality resulting from the use of fuel oil with a 1.3 percent sulfur content over the impacts resulting from the use of 0.8 percent sulfur fuel oil are 74-84 micrograms per cubic meter, 3-hour average; 19-26 micrograms per cubic meter, 24-hour average; and 1.4-2.0 micrograms per cubic meter, annual average. The ranges stated take into account the impacts at both the SRCC and the SCCC.

Taking the average of these increased impacts and the annual costs associated with the fuels, the annual costs associated with increased sulfur dioxide levels were calculated. Burning fuel oil with a 0.8 percent sulfur rather than fuel oil with 1.3 percent sulfur is costing Occidental $10,900 per year for each microgram per cubic meter the maximum 3-hour sulfur dioxide level is decreased; $38,500 per year for each microgram per cubic meter the maximum 24-hour sulfur dioxide level

is decreased; and $1,019,500 per year for each microgram per cubic meter the sulfur dioxide level is decreased on the average for each year.

Occidental's request to use a fuel oil with a higher sulfur content is based on the cost differential between 0.8 percent sulfur fuel oil and 1.3 percent sulfur fuel oil and on a potential availability factor. Regarding the cost, Occidental is of the opinion that $1.02 million per year to decrease the sulfur dioxide level one microgram per cubic meter on an annual average is excessive. This is particularly so when one considers the fact that Occidental owns or leases all of the property within several miles of both the Swift Creek and Suwannee River Chemical Complexes. Also, there are no sensitive receptors to sulfur dioxide on either the property controlled by Occidental or adjoining property owned or controlled by others.

Another matter to take into consideration when evaluating the Best Available Control Technology for sulfur dioxide is changes in the prices of fuel oils with various sulfur contents. These price changes are brought on in part by the availability of the various fuels and in part by the demand for the fuels. For example, if the prices quoted by Eastern Seaboard Petroleum Company, Inc. (See Attachment 1) are reviewed one finds that the cost of fuel oil with a 0.8 percent sulfur content increased by $4.17 per barrel (14 percent) between August, 1981 and December, 1981. During the same time period the cost of fuel oil with 1.3 percent sulfur content increased $2.37 per barrel or eight percent.

Translated to the fuel use of Occidental, the increase in cost of fuel oil with 0.8 percent sulfur content over the four month period from August, 1981 through December, 1981 calculates to an annual fuel cost increase of $1,922,782.00 to Occidental. During the same period the cost increase for fuel oil with a 1.3 percent sulfur content calculates to an annual fuel cost increase of $1,012,772.00. Just the differential in cost increases of 0.8 percent sulfur fuel over 1.3 percent sulfur fuel in a four month period translates to a $910,000.00 per year annual cost to Occidental.

The fact that the oil with 0.8 percent sulfur content increased in cost at a much greater rate (6 percent greater) during the period August-December, 1981, is undoubtedly related to the fact that there is a greater demand for the lower sulfur fuel oil. At present there appears to be a supply of the 0.8 percent sulfur content oil that will satisfy the demand of all users. Changes in world political situations; however, greatly influenced the availability of this grade fuel oil, as well as other fuel oils, as experienced a few years ago.

Anticipating possible supply shortages of 0.8 percent sulfur content oil in the future, considering the cost differential between the 0.8 percent sulfur fuel and the 1.3 percent sulfur fuel, and taking into consideration the fact that there are no sensitive sulfur dioxide receptors in the areas where the highest expected sulfur dioxide levels will occur, Occidental suggests that the use of fuel oil with a 1.3 percent sulfur content represents Best Available Control Technology for sulfur dioxide emissions from fuel burning sources at the Swift Creek and Suwannee River Chemical Complexes.

ITEM 3A

The original Occidental Suwannee River Chemical Complex was constructed in 1966. At this time the chemical complex consisted of the "A" and "B" sulfuric acid plants, auxiliary boiler "A", phosphoric acid plant "A" the "X" and "Y" trains (granular products plants), the No. 1 SPA plant and the East and West Suwannee River Mine dryers. In 1970-71 Occidental constructed an animal feed facility referred to as the Pollyphos plant. In 1974 FDER construction permits were obtained for the "B" and "C" phosphoric acid plants, the "C" and "D" sulfuric acid plants, the "Z" train (a DAP plant) and the Swift Creek Mine dryer. None of these sources were subject to PSD.

Following the adoption of Federal PSD Regulations in January, 1975, the "B" auxiliary boiler was permitted and installed (1975). On February 27, 1978 a final PSD approval was granted by EPA for the "C" and "D" boilers at the Suwannee River Chemical Complex, the "E" auxiliary boiler at the Swift Creek Chemical Complex and the "E" and "F" sulfuric acid plants at the Swift Creek Chemical Complex.

In January, 1981, Occidental received final PSD approval from EPA to increase the production capacity of the phosphoric acid and superphosphoric acid facilities at the Suwannee River Chemical Complex and to convert the "X" train to an animal feed production facility. The animal feed produced in the modified "X" train is referred to as Dical.

since the subject PSD application addresses only sulfur dioxide and particulate matter emitting sources, only those sources constructed or modified since January 6, 1975 are classified as PSD increment consuming for the purposes of the subject PSD application. The sources owned and operated by Occidental that are increment consuming are:

Auxiliary Boiler "B" (SRCC)
Auxiliary Boilers "C" & "D" (SRCC)
Auxiliary Boiler "E" (SCCC)
Sulfuric Acid Plants "E" & "F" (SCCC)

Correct based on earlier discussion

In addition to these sources, the sulfur dioxide and particulate matter increases expected, and addressed in the SCCC PSD application (PSD-FL-082) and the SRCC PSD application (PSD-FL-083) will also be increment consuming. In both referenced PSD applications these sources have been classified and treated as an increment consuming source.

ITEM 3B

The sulfur dioxide emission rates for the "A" and "B" pollyphos reactors are listed in Table 5-1 of both PSD applications (PSD-FL-082 and PSD-FL-083) as 13.1 grams per second (104 pounds per hour). This is also the emission rate listed in the current operating permit application for the two reactors.

fuel oil (No. 4 w 1%S) used in emergency by Pollyphos Plants

The stated emission rate was based upon sulfur dioxide emission measurements conducted some time ago on the reactor stacks. Subsequent to that time, and prior to preparation of the PSD applications, SKEC conducted sulfur dioxide emission measurements on the two reactor stacks as described in the attached report (Attachment 3). With both reactors, the sulfur dioxide emission rate was measured to be less than five pounds per hour.

on gas!

SHANTES & ASSOCIATES

For purposes of the PSD air quality review; however, an emission rate of 0.63 grams per second (5.0 pounds per hour) was used. Occidental will amend the "A" and "B" pollyphos reactor air pollution source operating permit applications on file with FDER in Jacksonville to reflect this reduced emission rate.

ITEM 3C

The sulfur dioxide levels reported for some of the receptors in PSD application PSD-FL-083 were less than the maximum concentrations shown in the computer outputs as a result of oversights. This occurred for the 24-hour sulfur dioxide impact at receptor No. 4 (See Figure 6-2 of subject PSD application) and for the 3-hour sulfur dioxide impacts at Receptors 8 and 9. The corrected maximum impacts are shown on the revised Figure 6-2, appended hereto as Attachment 4.

The changes in the reported maximum sulfur dioxide levels do not change any of the conclusions stated in the original PSD application.

PSD-FL-082
Item A

The analysis of the 24-hour sulfur dioxide impact with meteorology from day 246, 1973 was omitted by oversight. Attached hereto is a revised Figure 6-5 of the subject PSD application (Attachment 5) and the PTMTPW computer print-out of this model run (Attachment 6).

The results of this model run show that the maximum 24-hour sulfur dioxide impact resulting from the meteorology of day 246, 1973 is 45 micrograms per cubic meter. This impact occurrs, as shown in revised

Figure 6-5, at the north edge of the Swift Creek Chemical Complex cooling water pond. This impact is well below the 24-hour sulfur dixoide standard of 260 micrograms per cubic meter and the new source impact of 43 micrograms per cubic meter is well below the 24-hour Class II sulfur dioxide PSD increment of 91 micrograms per cubic meter.

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

November 24, 1981

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

Re: Permit Applications (PSD-FL-082) and (PSD-FL-083)

Dear Mr. Atwood:

An incompleteness letter concerning the subject permit applications was sent to your firm and your consultant on July 24, 1981. As of this date we have not received a response. The Bureau would appreciate an update on the status of the permit applications.

Also, as you may recall, we discussed briefly in your visit here in early July, the use of a half-life in the modeling for SO_2. In your model runs evaluating the impact on the Okeefenokee National Wildlife Refuse, you used a half-life of eight hours. The use of this half-life is unacceptable without documentation as to its accuracy. A 12-hour half-life has been accepted by the Bureau in the past and would also be accepted in this case without further documentation. I am enclosing a copy of an alternative method for determining SO_2 depletion that was used by Trinity Consultants for a project in South Carolina. This method was accepted by EPA and may also be useful for this project or future projects.

Sincerely,

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

CF/TR/bjm

cc: J. Koogler (w/enclosure)

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

July 24, 1981

Mr. M.P. McArthur, V.P.
General Manager
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. McArthur:

The Department of Environmental Regulation has received your federal PSD applications requesting a sulfuric acid plant production rate increase (PSD-FL-082) and use of higher sulfur content oil (PSD-FL-083). Based on the initial review of these applications, it has been determined that additional information is needed before they can be processed. The information required to complete the applications are listed below.

1. The SO_2 BACT economic analysis should be expanded. This analysis should include different alternatives to justify the use of a higher sulfur oil.

2. Recent letters that show current and projected cost and availability of the lower sulfur oil from at least three fuel oil suppliers.

3. Modeling information.

Questions Pertaining to Occidental Chemical - Suwannee River

A. It states in the plant description that the Suwannee River Chemical Complex (SRCC) was expanded in 1975. As any modification commencing construction after January 6, 1975 (of a major source) consumes increment, clarify the nature and dates of this expansion including all emission increases.

B. In the modeling analysis runs for SRCC using the PTMTPW dispersion model, the emission data is not consistant with that given in Table 5-1 of the report. The emission rates for the polyphos reactors A & B are given as 13.1 grams per second each in Table 5-1 and are modeled at 0.63 grams per second each. This can mean a significant difference in the

results; approximately 20 ug/m^3 on the maximum computed value which is already 259 ug/m^3. Correct or explain this inconsistancy.

C. On the PTMTPW model runs concerning the NAAQS, the maximum concentrations given in the report were not always the maximum concentrations shown in the computer output. Correct or explain. These differences (eg. 3-hour SO_2 @ 360° 1976 day 161; and 3-hour SO_2 @ 30° 1975 day 82).

Questions Pertaining to Occidental Chemical - Swift Creek

A. In the determination of SO_2 increment consumption on a 24-hour basis, day 246 of 1973 was not included. This day contained a second-high concentration for that year and was in fact the highest of the second-high values over the five year period. Include this day in the 24-hour increment analysis.

As soon as the requested information is received, we will begin processing your federal application. If you have any questions on the data requested, please contact this office, (904) 488-1344. Tom Rogers should be contacted on any questions related to modeling and Willard Hanks on the other data requested.

Sincerely,

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

CF:TR:WMH:TH:dav

cc: John Koogler

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

SKEC 102-81-08

June 18, 1981

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Application for Federal PSD Approval
Occidental Chemical Company
Swift Creek Chemical Complex
Hamilton County, Florida

Dear Mr. Smallwood:

On June 8, 1981 we submitted to your office an application for Federal PSD Approval for a sulfuric acid production rate increase and for the use of a fuel oil with a higher sulfur content at the Occidental Chemical Company, Swift Chemical Complex in Hamilton County, Florida. At the time this application was submitted we requested that we be able to retain Volume II of the application, the computer printouts generated during the Air Quality Review, so that we could make copies of this material for our file. This material has been copied and I am returning, under this letter, the originial computer printouts as submitted to your office on June 8, 1981. We appreciate the use of this material for copying purposes.

In reviewing Volume I of the application we noted some typographical errors which we would like to bring to your attention. These are described on the attached Errata sheet. We have corrected some of the pages containing errors and have attached four sets of corrected copies of these pages. These pages can be inserted into the application received in your office on June 8. The errors noted in no way change the content of the application or the conclusions reached therein.

If there any questions regarding the corrections referenced in the Errata sheet or the pages attached hereto or any questions regarding the

application itself, please feel free to contact us. We are willing to work with your staff in anyway possible to assist in the review of this application.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

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

JBK:ls

cc: W. W. Atwood, Occidental Chemical Company

ERRATA

Page 2-8, line 4 - "1.3 pounds" should read "91.3 pounds"
line 6 - "3.9 pounds per hour or 17 tons . . ." should read "1.5 pounds per hour or 6.7 tons . . ."

Appendix 2-2 - Operating permit application for "B" Auxillary boiler is duplicated; duplicate should be removed.

Appendix 2-4 - Emission Summary - Hourly particulate matter emissions for Boiler "B"; Proposed should read "17.5 lb/hr" not "19.7 lb/hr" and Increase should read "1.5 lb/hr" not "3.7 lb/hr".

Page 5-2, Auxillary Boiler B(2) (C & D Sulfuric) - Maximum emission rate of 28.64 gr/sec is at 100 percent of maximum rate; not at 25 percent of maximum rate.

Page 6-5, last paragraph, line 2 - "at this rate;" should read "at these rates;"

permitted to fire No. 6 fuel with a 1.5 percent sulfur content in some of the sources and No. 6 fuel oil with 0.8 percent sulfur content in other sources. Due to the increased difficulty in maintaining a reliable supply of No. 6 fuel oil with a 0.8 percent sulfur content and because of a more rapid rate in the cost of this fuel, Occidental is requesting, by this permit application, permit modifications that will permit the use of fuel oil with a 1.3 percent sulfur content in all sources at the SRCC presently permitted to use 0.8 percent sulfur oil. The sources that will be affected by this proposed modification are the No. 2 DAP plant, the "B" auxillary boiler serving the "C" and "D" sulfuric acid plants and the "C" and "D" boilers used primarily for providing auxillary steam to the SPA evaporators.

The proposed fuel change will affect sulfur dioxide and particulate matter emissions. The increases in the emission rates of both of these pollutants will exceed de minimus levels as established in 40 CFR 52.21 (Table 2-1). Because of this the proposed fuel change is subject to Federal PSD Review.

Other pollutants emitted from the affected sources include nitrogen oxides, carbon monoxide and hydrocarbons generated by fuel burning and fluorides from the No. 2 DAP plant. The emission rates of none of these pollutants will be affected by the proposed fuel conversion.

In the following paragraphs each of the affected sources are described and emission rate increases resulting from the proposed fuel change are estimated.

TABLE 6-1

SUMMARY OF AIR QUALITY REVIEW FOR SULFUR DIOXIDE & PARTICULATE MATTER

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

	CLASS II			CLASS I
Pollutant	Max. New Source Impact (ug/m^3)	Max. Impact of all Sources (ug/m^3)	Max. Increase From Proposed Fuel Conversion (ug/m^3)	Max. New Source Impact (ug/m^3)
Sulfur Dioxide				
Annual	5	25 (at SRCC)	2	1
24-Hour	47*	259*(at SRCC)	19*	4.9
3-Hour	208	915 (at SRCC)	94	19.4
Particulate Matter				
Annual	Not Significant	--	--	--
24-Hour	Not Significant	--	--	--

* With boiler "B" at 60 percent operating factor

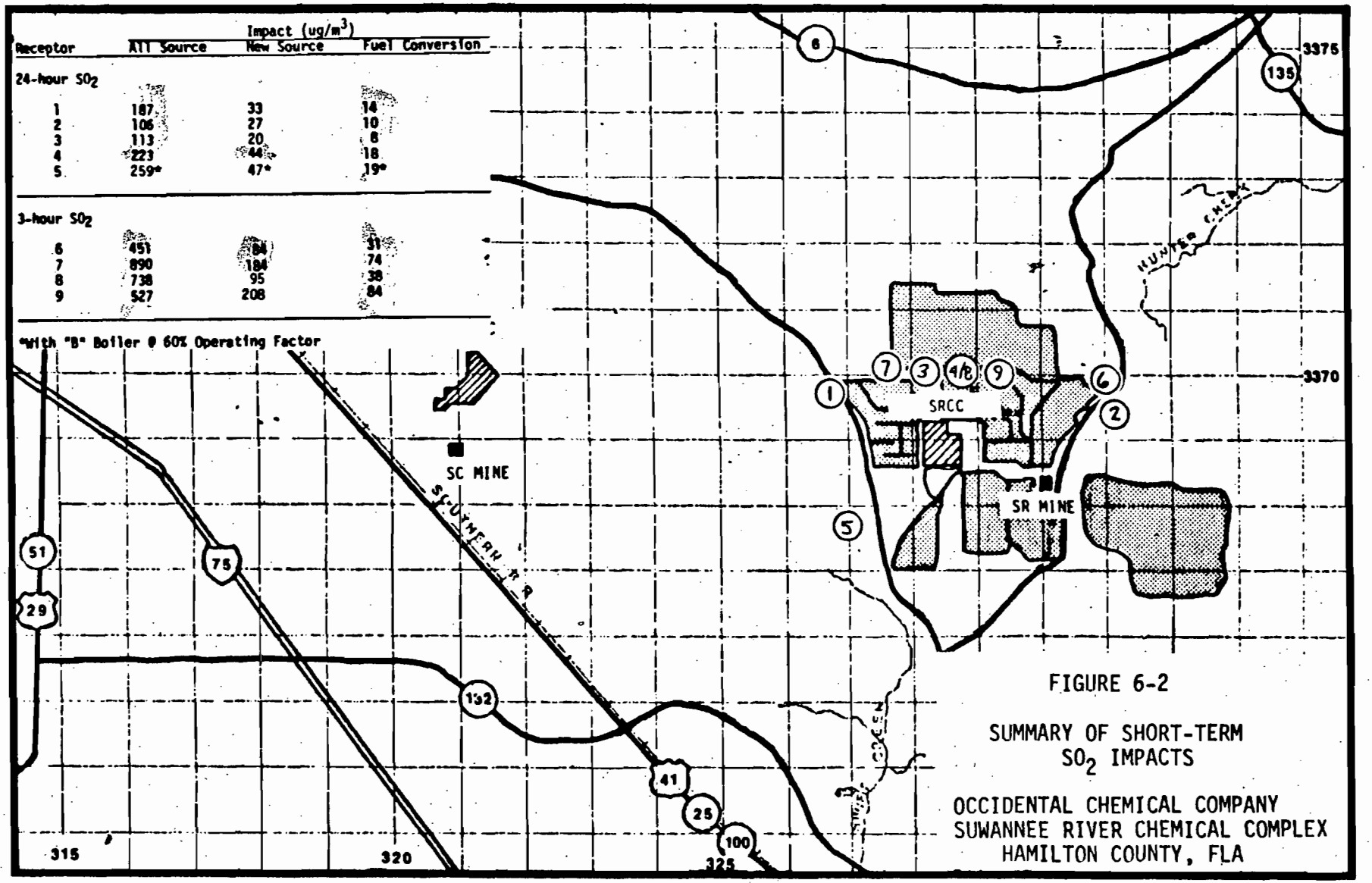


FIGURE 6-2

SUMMARY OF SHORT-TERM SO_2 IMPACTS

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLA

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

MEMORANDUM

TO: W. W. Atwood
Occidental Chemical Company

FROM: Robert S. Sholtes, Ph.D., P.E.
Sholtes & Koogler Environmental Consultants

SUBJECT: Sulfur Dioxide Content of Pollyphos Reactor Stack Gases

DATE: February 24, 1981

This memorandum constitutes a brief report on the above subject. On February 23, 1981, I visited the Suwannee River Chemical Complex (SRCC) and obtained two samples from the "B" Pollyphos Reactor Stack. At the time the samples were collected the plant was reported to be operating normally at a production rate of 7.5 tons per hour. These samples were collected in Tedlar bags using an inlet tube made of teflon. Within approximately 1/2-hour of sample acquisition these gases were injected into the DuPont sulfur dioxide monitor installed at the "D" sulfuric acid plant at the SRCC. The DuPont monitor indicated that if any sulfur dioxide were present, it was in a concentration below 15 parts per million (ppm) by volume. The certainty of this quotation is mildly limited by the fact that welding activities in the vicinity of the "D" sulfuric acid plant imposed an electronic noise signal on the strip chart recorder at the time of these activities. It is my firm conclusion that if sulfur dioxide exists in the pollyphos reactor stack, it is at a very low concentration.

If you have any questions with respect to this brief evaluation, please let me know.

RSS:sc

TECHNICAL SERVICES, INC.

ENVIRONMENTAL CONSULTANTS — INDUSTRIAL CHEMISTS

105 STOCKTON STREET — P.O. BOX 52329

JACKSONVILLE, FLORIDA 32201

(904) 353-5761

Laboratory No. 39238

Feb. 9, 19 81

Sample of CYLINDERS

Date Received Feb. 2, 1981

For Sholtes & Koogler, 1213 N. W. 6th Street, Gainesville, Fl 32601

Marks: OCCIDENTAL CHEMICAL CO. - POLYPHOF

CERTIFICATE OF ANALYSIS OR TESTS

INITIAL VACUUM ON EACH CYLINDER	SULFUR DIOXIDE ppm (V/V)
25.55 in. Hg @ 67° F.	0.50
26.95 in. Hg @ 67° F.	0.80
26.45 in.Hg @ 67° F.	0.77

Samples collected 1/29/81 in evacuated Stainless steel cylinders by JJKoogler at 1440-1450. Samples from "B" Reactor

Respectfully submitted,

TECHNICAL SERVICES, INC.

BY Harvey C. Gray, Jr.

PROJECT PARTICIPANTS

John B. Koogler, Ph.D., P.E.	Project Advisor
Robert S. Sholtes, Ph.D., P.E.	Project Manager
Rodney C. Paul	Field Test Crew
George F. Gabel	Field Test Crew

ATTACHMENT 4
REVISED FIGURE 6-2, PSD-FL-083
FUEL CONVERSION - SUWANNEE RIVER CHEMICAL COMPLEX

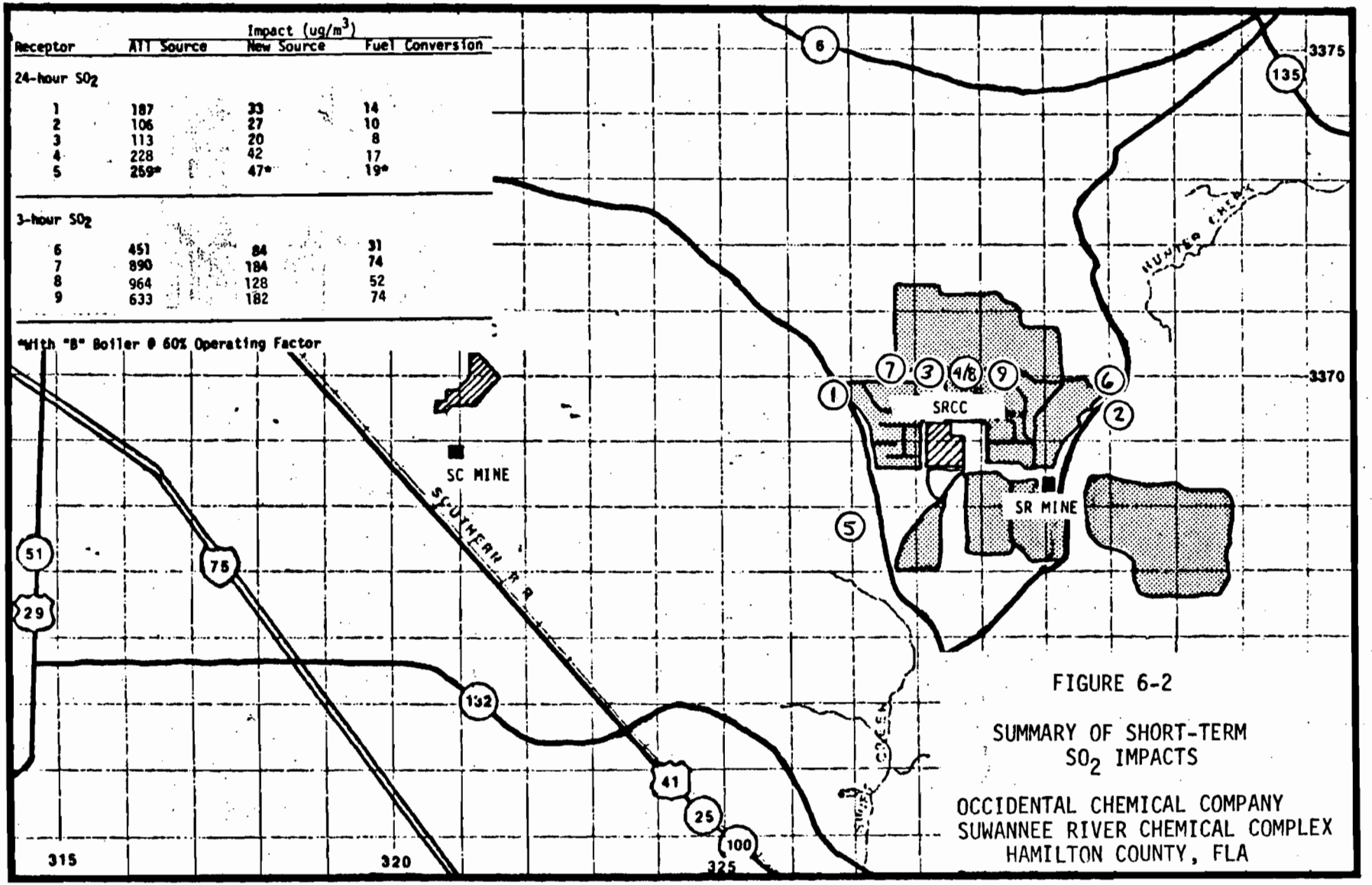


FIGURE 6-2

SUMMARY OF SHORT-TERM SO_2 IMPACTS

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLA

Revised 12/7/81
SHOLTES & KOOGLER
Revised 6/15/81

ATTACHMENT 5
REVISED FIGURE 6-5, PSD-FL-082
SULFURIC ACID PLANT RATE INCREASE
SWIFT CREEK CHEMICAL COMPLEX

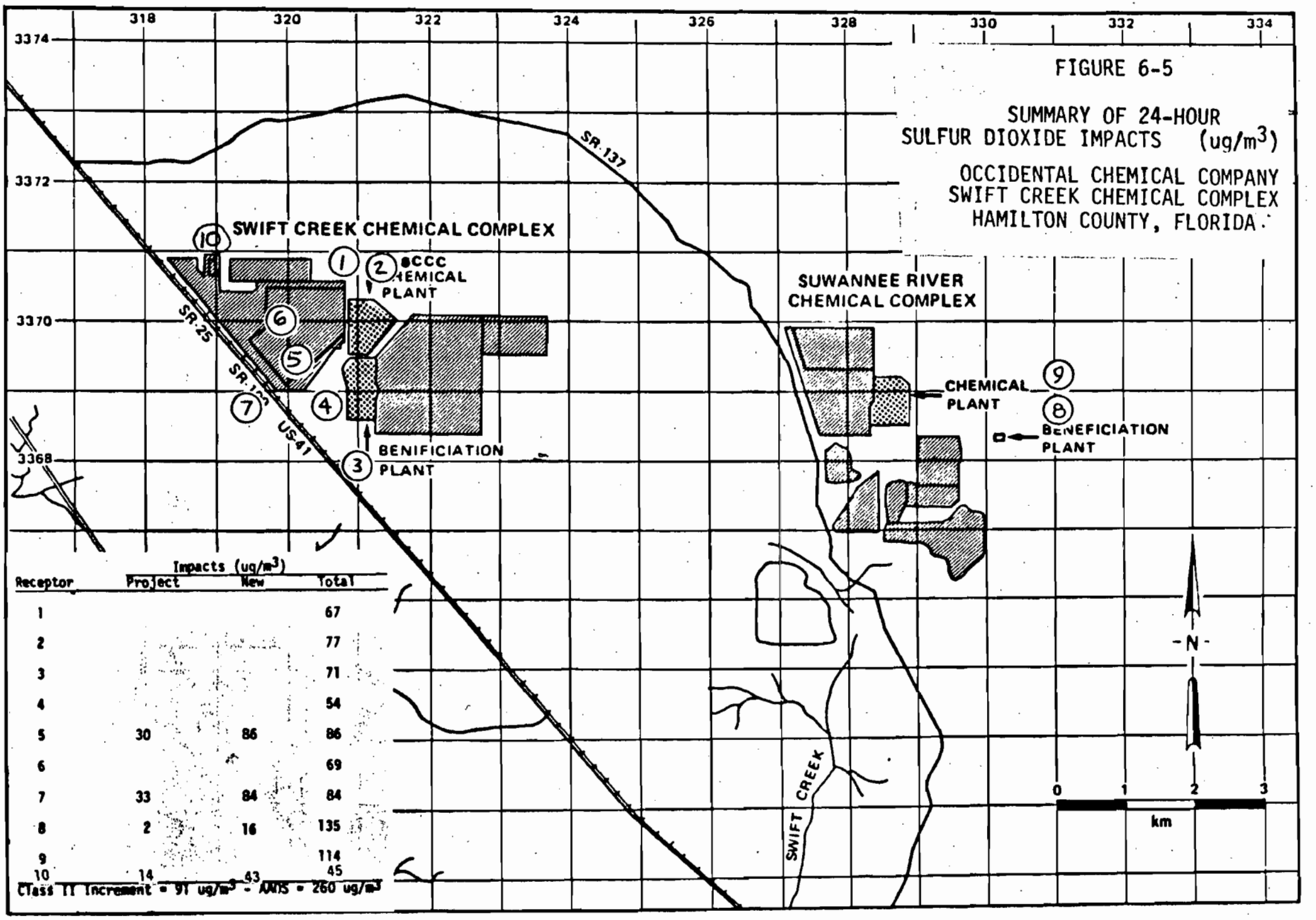


FIGURE 6-5

SUMMARY OF 24-HOUR SULFUR DIOXIDE IMPACTS (ug/m^3)

OCCIDENTAL CHEMICAL COMPANY
SWIFT CREEK CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Receptor	Impacts (ug/m^3) Project	New	Total
1			67
2			77
3			71
4			54
5	30	86	86
6			69
7	33	84	84
8	2	16	135
9			114
10	14	43	45

Class II Increment = 91 ug/m^3 - AAQS = 260 ug/m^3

ATTACHMENT 6

PTMTPW OUTPUT, PSD-FL-082

24-Hour Sulfur Dioxide Impact at Receptor 10
SUWANNEE RIVER CHEMICAL COMPLEX

Meteorology - Day 246, 1973

STACK HEIGHT ADJUSTMENT = 0.0

* * * S O U R C E D A T A * * *

SOURCE NAME	EMM. RATE (G/SEC)	STACK HT. (M)	STACK TEMP. (DEG-K)	EXIT VEL. (M/SEC)	STACK DIA. (M)	VOL. FLOW (M**3/SEC)	X-COORD. (KM)	Y-COORD. (KM)
SULFURIC ACID A	152.25	61.0	350.0	15.50	1.80	0.	28.690	68.990
SULFURIC ACID B	152.25	61.0	350.0	15.50	1.80	0.	28.690	69.070
SULFURIC ACID C	37.80	45.7	356.0	28.70	1.59	0.	28.710	69.170
SULFURIC ACID D	37.80	45.7	356.0	28.70	1.59	0.	28.710	69.230
DAP 1	1.40	36.6	322.0	12.20	2.13	0.	28.480	68.890
DAP 2	0.79	42.7	325.0	13.10	2.44	0.	28.450	68.870
GTSP/DICAL	1.40	32.3	314.0	13.10	2.13	0.	28.490	69.030
AUXILIARY BOILER A	3.23	12.2	466.0	12.50	1.13	0.	28.660	69.030
POLLYPHOS FEED PREP.	0.62	28.7	342.0	14.90	1.07	0.	28.870	68.850
POLLYPHOS REACTOR A	0.63	30.5	322.0	10.10	1.22	0.	28.870	68.830
POLLYPHOS REACTOR B	0.63	30.5	322.0	10.10	1.22	0.	28.880	68.830
SPA #1	0.10	30.5	318.0	17.80	0.43	0.	28.680	68.790
ROCK DRYER #3 (SCCC)	4.80	15.2	317.0	17.20	2.16	0.	20.900	68.960
ROCK DRYER EAST	3.61	18.3	343.0	5.70	2.95	0.	30.170	68.470
ROCK DRYER WEST	3.61	18.3	343.0	5.70	2.95	0.	30.150	68.470
AUXILIARY BOILER B	4.30	10.7	468.0	9.50	1.46	0.	28.680	69.180
AUXILIARY BOILERS C&D	26.44	31.7	468.0	15.20	1.98	0.	28.900	68.900
SULFURIC ACID E	52.50	61.0	356.0	9.30	2.90	0.	20.950	69.820
SULFURIC ACID F	52.50	61.0	356.0	9.30	2.90	0.	20.900	69.700
AUXILIARY BOILER E	32.25	15.3	428.0	15.90	1.60	0.	20.900	69.750

* * * R E C E P T O R S * * *

NO.	X(KM)	Y(KM)	Z(KM)
1.	18.500	70.900	0.0
2.	18.600	70.900	0.0
3.	18.700	70.900	0.0
4.	18.800	70.900	0.0
5.	18.900	70.900	0.0
6.	19.000	70.900	0.0
7.	19.100	70.900	0.0
8.	19.200	70.900	0.0
9.	19.300	70.900	0.0
10.	19.400	70.900	0.0
11.	19.500	70.900	0.0
12.	19.600	70.900	0.0
13.	19.700	70.900	0.0
14.	19.800	70.900	0.0
15.	19.900	70.900	0.0
16.	20.000	70.900	0.0

* * * M E T E O R O L O G Y * * *

	WIND DIR. (DEG)	WIND VEL. (M/SEC)	STABILITY CLASS	MIX.HT. (M)	AMB.TEMP. (DEG-K)	PRESS. (MB)
1.	46.	3.10	6	592.	297.	1000.00
2.	58.	2.10	6	592.	297.	1000.00
3.	60.	2.60	6	592.	296.	1000.00
4.	59.	4.10	5	592.	296.	1000.00
5.	61.	3.60	5	592.	296.	1000.00
6.	63.	2.10	6	592.	297.	1000.00
7.	85.	2.10	5	663.	297.	1000.00
8.	61.	3.10	4	755.	298.	1000.00
9.	92.	4.10	3	847.	301.	1000.00
10.	121.	7.70	4	939.	303.	1000.00
11.	109.	5.10	3	1031.	304.	1000.00
12.	116.	5.10	3	1122.	305.	1000.00
13.	116.	2.10	2	1214.	305.	1000.00
14.	95.	3.10	2	1306.	304.	1000.00
15.	116.	4.10	3	1306.	305.	1000.00
16.	117.	3.60	2	1306.	305.	1000.00
17.	116.	5.10	3	1306.	304.	1000.00
18.	116.	3.10	4	1306.	303.	1000.00
19.	125.	3.10	5	1282.	301.	1000.00
20.	92.	2.10	6	1113.	299.	1000.00
21.	92.	3.10	6	943.	299.	1000.00
22.	90.	2.60	6	774.	298.	1000.00
23.	88.	2.60	6	604.	297.	1000.00
24.	93.	2.60	6	435.	297.	1000.00

AVERAGE CONCENTRATIONS (UG/M**3) AND PERCENT CONTRIBUTIONS FOR 24 HOURS

RECEPTORS	1.		2.		3.		4.		5.		6.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID A	0.57	1.38	0.58	1.34	0.59	1.32	0.60	1.33	0.61	1.37	0.62	1.45
SULFURIC ACID B	0.59	1.41	0.59	1.36	0.60	1.34	0.61	1.34	0.61	1.38	0.62	1.46
SULFURIC ACID C	0.16	0.38	0.16	0.37	0.16	0.36	0.16	0.36	0.16	0.37	0.17	0.39
SULFURIC ACID D	0.16	0.39	0.16	0.38	0.17	0.37	0.17	0.37	0.17	0.38	0.17	0.40
DAP 1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
DAP 2	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
GTSP/DICAL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
AUXILIARY BOILER A	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04
POLLYPHOS FEED PREP.	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
POLLYPHOS REACTOR A	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
POLLYPHOS REACTOR B	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
SPA #1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROCK DRYER #3 (SCCC)	0.63	1.52	0.32	0.74	0.15	0.32	0.06	0.14	0.03	0.07	0.02	0.04
ROCK DRYER EAST	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.04
ROCK DRYER WEST	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.02	0.04
AUXILIARY BOILER B	0.02	0.06	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.06
AUXILIARY BOILERS C&D	0.11	0.26	0.11	0.25	0.11	0.25	0.11	0.25	0.11	0.26	0.12	0.27
SULFURIC ACID E	12.08	29.13	13.22	30.38	14.15	31.61	14.76	32.77	14.93	33.70	14.57	34.16
SULFURIC ACID F	13.15	31.69	13.37	30.74	13.21	29.52	12.63	28.03	11.61	26.19	10.18	23.86
AUXILIARY BOILER E	13.95	33.62	14.90	34.24	15.53	34.70	15.85	35.19	15.98	36.06	16.10	37.75
TOTAL CONCENTRATION (UG/M**3)	41.49		43.51		44.76		45.05		44.32		42.66	

NEW = 43 ug/m3

Project = (H_2SO_4) x 0.2 + Boiler E x 0.51 = 14 ug/m3

RECEPTORS	7.		8.		9.		10.		11.		12.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID A	0.63	1.57	0.64	1.79	0.65	2.25	0.67	3.25	0.68	5.34	0.70	9.04
SULFURIC ACID B	0.63	1.58	0.64	1.79	0.65	2.24	0.66	3.22	0.68	5.27	0.69	8.89
SULFURIC ACID C	0.17	0.42	0.17	0.47	0.17	0.59	0.17	0.85	0.18	1.38	0.18	2.31
SULFURIC ACID D	0.17	0.43	0.17	0.48	0.17	0.60	0.18	0.86	0.18	1.40	0.18	2.34
DAP 1	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.04	0.01	0.06	0.01	0.10
DAP 2	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.06
GTSP/DICAL	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.03	0.01	0.06	0.01	0.10
AUXILIARY BOILER A	0.02	0.04	0.02	0.05	0.02	0.06	0.02	0.09	0.02	0.15	0.02	0.26
POLLYPHOS FEED PREP.	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
POLLYPHOS REACTOR A	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
POLLYPHOS REACTOR B	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
SPA #1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
ROCK DRYER #3 (SCCC)	0.01	0.03	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
ROCK DRYER EAST	0.02	0.04	0.02	0.04	0.02	0.06	0.02	0.08	0.02	0.13	0.02	0.22
ROCK DRYER WEST	0.02	0.04	0.02	0.04	0.02	0.06	0.02	0.08	0.02	0.13	0.02	0.23
AUXILIARY BOILER B	0.02	0.06	0.03	0.07	0.03	0.09	0.03	0.13	0.03	0.20	0.03	0.34
AUXILIARY BOILERS C&D	0.12	0.30	0.12	0.34	0.12	0.43	0.13	0.61	0.13	1.01	0.13	1.72
SULFURIC ACID E	13.62	34.05	12.07	33.76	9.98	34.33	7.56	36.71	5.15	40.21	3.19	41.05

SULFURIC ACID F	8.39	20.98	6.38	17.86	4.41	15.16	2.77	13.48	1.64	12.83	0.94	12.13
AUXILIARY BOILER E	16.16	40.41	15.44	43.19	12.80	44.03	8.34	40.50	4.07	31.71	1.64	21.08

TOTAL CONCENTRATION (UG/M**3)

	40.00		35.74		29.08		20.59		12.82		7.76	

RECEPTORS	13.		14.		15.		16.					
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID A	0.72	14.16	0.74	20.22	0.76	26.50	0.79	31.59				
SULFURIC ACID B	0.71	13.87	0.72	19.71	0.74	25.72	0.76	30.52				
SULFURIC ACID C	0.18	3.59	0.19	5.07	0.19	6.59	0.19	7.77				
SULFURIC ACID D	0.18	3.62	0.19	5.10	0.19	6.60	0.19	7.77				
DAP 1	0.01	0.16	0.01	0.23	0.01	0.31	0.01	0.37				
DAP 2	0.00	0.09	0.00	0.13	0.00	0.17	0.01	0.21				
GTSP/DICAL	0.01	0.15	0.01	0.22	0.01	0.29	0.01	0.34				
AUXILIARY BOILER A	0.02	0.40	0.02	0.57	0.02	0.75	0.02	0.89				
POLLYPHOS FEED PREP.	0.00	0.07	0.00	0.10	0.00	0.13	0.00	0.15				
POLLYPHOS REACTOR A	0.00	0.07	0.00	0.10	0.00	0.13	0.00	0.15				
POLLYPHOS REACTOR B	0.00	0.07	0.00	0.10	0.00	0.13	0.00	0.15				
SPA #1	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.03				
ROCK DRYER #3 (SCCC)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
ROCK DRYER EAST	0.02	0.35	0.02	0.51	0.02	0.66	0.02	0.79				
ROCK DRYER WEST	0.02	0.36	0.02	0.51	0.02	0.67	0.02	0.80				
AUXILIARY BOILER B	0.03	0.53	0.03	0.75	0.03	0.98	0.03	1.15				
AUXILIARY BOILERS C&D	0.14	2.69	0.14	3.85	0.15	5.05	0.15	6.03				
SULFURIC ACID E	1.84	36.12	1.00	27.31	0.49	17.16	0.20	8.22				
SULFURIC ACID F	0.51	9.96	0.24	6.61	0.10	3.34	0.03	1.19				
AUXILIARY BOILER E	0.70	13.73	0.33	8.91	0.14	4.80	0.05	1.87				

TOTAL CONCENTRATION (UG/M**3)

5.09	3.66	2.88	2.49	

TCP OUTPUT CHARGE: $ .06

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION FOR TRANSFER OF PERMIT

APPLICATION OR
Permit No. SEE ATTACHED Date Issued SEE ATTACHED Date Expires SEE ATTACHED

NOTIFICATION OF SALE OR LEGAL TRANSFER

Source Name: SEE ATTACHED County: HAMILTON

Source Location: EAST OF US 41, NORTH OF WHITE SPRINGS, FL City: N.A.

Permittee Name: SEE ATTACHED Title:

Mailing Address: P. O. BOX 300, WHITE SPRINGS, FL 32096

The undersigned hereby notifies the department of the sale or legal transfer of this pollution source. He further agrees to assign his rights as permittee to the applicant in the event the department agrees to the transfer of permit.

Sworn to and subscribed before me at Hamilton
County, White Springs, Florida
this 18th day of December 19 87

Notary Public

My Commission Expires: NOTARY PUBLIC, STATE OF FLORIDA
My commission expires Apr. 5, 1989

HUDSON C. SMITH Hudson C. Smith
Signature of Permittee

GENERAL MANAGER
Title

Date: DECEMBER 18, 1987

REQUEST FOR TRANSFER OF PERMIT

Source Name: SEE ATTACHED

Applicant Name: OCCIDENTAL CHEMICAL CORPORATION Title: ENVIRONMENTAL COORDINATOR

Mailing Address: P. O. BOX 300, WHITE SPRINGS, FL 32096

Telephone: (904) 397-8269
area

Project Engineer: Name: N. A.

Mailing Address:

Telephone: ( )
area

The undersigned hereby notifies the department of his having acquired title to this pollution source. He further states that he has examined the application and documents submitted by the current permittee the basis on which Permit No. was issued by the department, and states that they accurately and completely describe the permitted activity or project. He further states that he is familiar with the permit, agrees to comply with its terms and conditions, and agrees to assume the rights and liabilities contained therein. He also agrees to promptly notify the department of any future change in ownership of, or responsibility for, the permitted activity or project.

Sworn to and subscribed before me at Hamilton
County, White Springs, Florida
this 18th day of December 19 87

Notary Public

My Commission Expires: NOTARY PUBLIC, STATE OF FLORIDA
My commission expires Apr. 5, 1989

W. M. MILLER W. M. Miller
Signature of Applicant*

ENVIRONMENTAL COORDINATOR
Title

Date: DECEMBER 18, 1987

*Attach authorization if other than owner or corporate officer.

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. M. P. McArthur
Occidental Chemical Company
P. O. Box 300
White Springs, Florida 32096

4. Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number: 0155541

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee

X

6. Signature – Agent

X Clarence Rogers

7. Date of Delivery

4/8/85

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

DOMESTIC RETURN RECEIPT

No. 0155541

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
Mr. M. P. McArthur

STREET AND NO.

P.O., STATE AND ZIP CODE

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

4/3/85

PS Form 3800, Apr. 1976

No. 0155792

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., STATE AND ZIP CODE

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

POSTMARK OR DATE

12/17/84

PS Form 3800, Apr. 1976

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.)
   - [X] 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.
	0155792	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [X] Authorized agent

Clarence Rogers

4. DATE OF DELIVERY
12/19/84

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
MS

☆GPO : 1979-300-459

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.)
   - [x] 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:
   W.W. Atwood
   P.O.Box 300
   White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P16 7682467	

(Always obtain signature of addressee or agent)

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

Clarence R...

4. DATE OF DELIVERY — POSTMARK: WHITE SPRINGS, FL DEC 17 PM 1984 32096

5. ADDRESS (Complete only if requested)
   12/17/84

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

☆GPO : 1979-300-459

P16 7682467

RECEIPT FOR CERTIFIED MAI[L]

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

SENT TO
W.W. Atwood
STREET AND NO.
P.O.Box 300
P.O., STATE AND ZIP CODE
White Springs, FL 3209[6]

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

PS Form 3800, Apr. 1976

No. 0156563

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., STATE AND ZIP CODE

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

POSTMARK OR DATE

9/14/84

PS Form 3800, Apr. 1976

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.)
   - [X] 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.
	0156563	

(Always obtain signature of addressee or agent)

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

4. Clarence Rogers
DATE OF DELIVERY 9-17-84
POSTMARK JACKSON FL

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆GPO : 1979-300-459

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. M. P. McArthur
   Post Office Box 300
   White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0158260	

(Always obtain signature of addressee or agent)

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

4. Clarence Rogers
   DATE OF DELIVERY: 2-29-84
   POSTMARK: WHITE SPRINGS FEB 29 2PM 1984

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

32096

☆GPO : 1979-300-459

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

PS Form 3800, Apr. 1976

No. 0158260

RECEIPT FOR CERTIFIED MAIL

**NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL**

(See Reverse)

SENT TO: Mr. M. P. McArthur
STREET AND NO.:
P.O., STATE AND ZIP CODE:

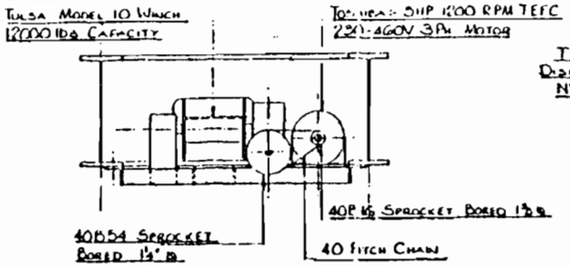
POSTAGE			$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		¢
	OPTIONAL SERVICES	SPECIAL DELIVERY	¢
		RESTRICTED DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE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

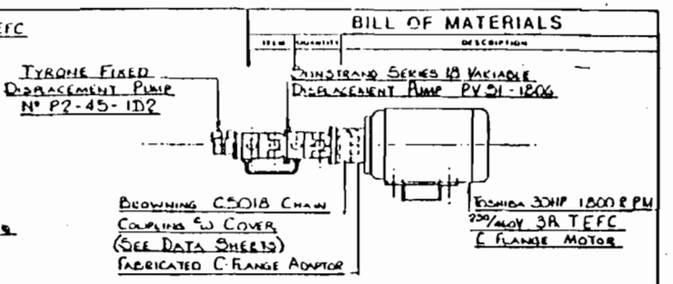
2/28/84

ATTACHMENT 1

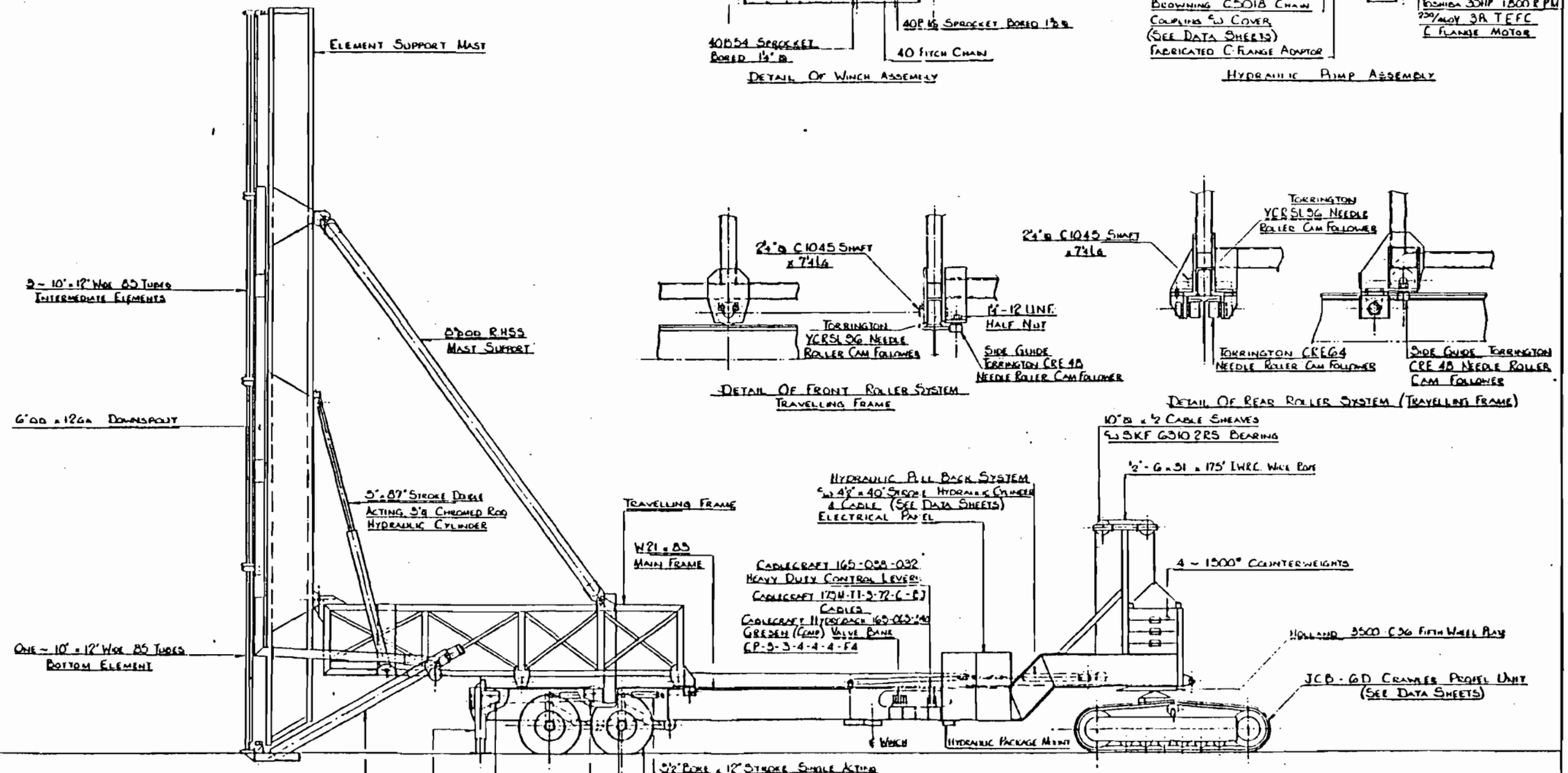
BILL OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION



DETAIL OF WINCH ASSEMBLY



HYDRAULIC PUMP ASSEMBLY



DETAIL OF FRONT ROLLER SYSTEM TRAVELLING FRAME

DETAIL OF REAR ROLLER SYSTEM (TRAVELLING FRAME)

CONMAT engineering ltd.

WESTERN SULFIN REMELTERS Ltd.

PS Form 3811, Jan. 1970

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.)
- [X] 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. M. P. McArthur
P. O. Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P408530316	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE [ ]Addressee [ ]Authorized agent

Clarence Rogers

4. DATE OF DELIVERY
5-27-83

POSTMARK
WHITE SPRINGS FLA
MAY 27 1983
CLERK'S INITIALS

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

☆GPO : 1979-300-459

P 408 530 316

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

PS Form 3800, Feb. 1982

Sent to	M. P. McArthur
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	5/26/83

DER/123/83

APR 27 1983

BAQM

Dear John —

Thank you for sending the OCC permit request information — hopefully we'll have some comments to contribute —

Am ~~also~~ sending along a picture of a Suwannee tributary creek in Columbia County, a Super nice stream — the headwaters of this creek are in the Osceola Forest & in one of the "proposed" lease areas, naturally + — it's nice in the Forest, too!

Will be back in touch —

Regards —

Judy Hancock

BEST AVAILABLE COPY

PDB 2436
LC 32055

...k 1304,
...s 21st day

...ı II
...el III

...te Attorney

...n 31, 1983
...ril 7, 1983

NOTICE OF PROPOSED AGENCY ACTION 3/31/83

Lake City Reporter

The Department of Environmental Regulation gives notice of its intent to issue permits to Occidental Chemical Company. These permits will allow an increase in the production rate of two existing sulfuric acid plants and the use of fuel oil containing a higher percentage of sulfur than they are currently permitted to use in four existing steam boilers and a diammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit application.

A best available control technology (BACT) determinitation was required for sulfur dioxide (SO2).

Emission of criteria pollutants from the two chemical complexes will increase by the quantities in tons per year (TPY),

	SO2
SRCC	443.0
SCCC	951

Emissions from the modified sources will consume increment but will not voilate any state or federal ambient air quality standards. The maximum increment consumption in micrograms per cubic meter (ug/m3), and percent of available increment are listed below.

SRCC

SO2	ug/m3	
Three hours	256	50 percent
24 hours	73	80 percent
Annual	12	60 percent

SCCC

	ug/m3	
Three hours	416	81 percent
24 hours	79	87 percent
Annual	8	40 percent

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapter 17-1 and 28-5 Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, FL 32301, within (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request hearing under Section 120.57, Florida Statutes.

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by Occidental Chemical Company are available for public review in the following FDER offices:

Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, FL 32207

Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Columbia County Public Library
490 N. Columbia Street
Lake City, FL 32052

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of publication of this notice will be considered in the Department's final determination.

No. 3355
March 31, 1983

Mr. John Svec
FDER - Air Quality
Twin Towers Bldg
2600 Blair Stone Rd
Tallahassee 32301

JACKSONVILLE
PM
25 APR
1983

No. 0157765

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
M. P. McArthru

STREET AND NO.
P. O. Box 300

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

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

POSTMARK OR DATE

11/10/82

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.)
- [X] 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:
M. P. McArthur
Post Office Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157763	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [X] Authorized agent

Clarence Rogers

4. DATE OF DELIVERY
11-10-82

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
MP

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-300-459

BEST AVAILABLE COPY

OXY SO2

1	1016600150	F	02	1	YR 82	MO. 04				
42401	20	07	3							

FDER-SJRSD GBO	SO_2	PULSED FLUOR.
COUNTY RD. 137 @ OXY. ENT. WHITE SPRINGS	SITE ORIENT.	CONT.
PPM		

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	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		9.77
05	00		0	0	0	20	25	0	0	0	0	0	0	
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	10.2
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	0	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	
12	12	0	0	0	0	0	0	0	0	0	0			
13	00	0	0	0	0	0	0	0	0	0	0	0	0	
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	

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EPARTMENT OF ENVIRONMENTAL REGULATION – AIR QUALITY INPUT FORM HOURLY DATA

STATE	AREA	SITE	AGENCY	PROJECT	TIME	YEAR	MONTH
1	10/66/01/5		F	02	1	82	04

AGENCY	PARAMETER OBSERVED	METHOD	PARAMETER CODE	METHOD	UNITS	DP
FDER-SJRSD CBC	SO2	PULSED FLOUR.	42401	20	07	3

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

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		
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		
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		
19	0	0	0	0	0	10	25	0	0	0	0	0	0	0
19	1	2	0	0	35	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0	0	25	0	0
20	1	2	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		
22	0	0	0	0	0	0	0	0	0	0	15	25	30	0
22	1	2	0	0	0	5	5	0	0	0	0	0		
23	0	0	0	0	0	95	5	5	5		10	10	10	5
23	1	2	5	5	0	0	0	0	0	0	0	0		
24	0	0	30	20	0	0	0	0	0	0	0	0	0	0
24	1	2	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		
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		
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												

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FDER-SUBSD CBO	SO_2	PULSED FLOUR.		
COUNTY RD. 137 ONV. ENT. WHITE SPRINGS		SITE ORIENT.	CONT.	PPM

1 | 1 0 1 6 6 0 0 1 5 | F | 82 | 05 | 3

Day (19-20)	Hr (21-22)	33-36	37-40	41-44	45-48	49-52	53-56	57-60	61-64	65-68	69-72	73-76	77-80
01	00	0	0	0	0	0	0	0	5	5	0	0	0
01	12	0	0	0	0	0	0	0	0	0	0	0	
02	00	0	0	0	0	0	0	0	0	25	5	0	0
02	12	0	0	0	0	0	0	0	0	0	0	0	
03	00		0	0	0	15	5	5	10	10	15	15	20
03	12	5	5	0	0	0	0	0	0	0	0		
04	00	5	0	5	0	0	0	0	0	0	0	0	20
04	12	0	0	0	0	0	0	0	0	0	0	0	
05	00	0	0	0	0	0	0	5	0	0	0	0	5
05	12	5	5	5	5	5	0	5	5	5	5		
06	00	0	0	0	0	0	0	0	0	0	5	5	5
06	12	5	5	0	0	0	0	0	0	0	0	.	
07	00	0	0	0	0	0	0	5	0	0	0	0	
07	12	5	5	0	0	5	5	0	0	0	0	0	0
08	00	0	0	0	0	0	0	0	0	0	0	0	
08	12	0	0	0	0	0	0	0	0	0	0	0	0
09	00	0	0	0	0	0	0	0	5	10	5	5	
09	12	5	5	0	5	0	0	0	0	0	0	0	0
10	00	0	0	0	0	0	0	5	5	35	70	20	
10	12	5	5	0	0	5	5	0	0	0	0	0	0
11	00	0	0	0	0	0	0	0	0	0	0		
11	12	10	10	5	5	0	0	0	0	5	0	0	0
12	00	0	0	0	0	0	0	0	0	20	0	0	
12	12		0	5	5	5	5	5	5	5	0	0	0
13	00			0	0	0	0	0	0	5	0	0	0
13	12	0	0	0	0	0	0	0	0	0	0	0	0
14	00			0	0	0	0	0	0	0	0	0	0
14	12	0	0	0	0	0	0	0	0	0	0	0	0
15	00			0	0	0	0	0	0	0	15	30	10
15	12	0	0	5	5	5	0	0	0	5	5	5	0
[illegible]	[illegible]			0	0	0	0	0	0	0	0	5	5

BEST AVAILABLE COPY

Agency	Parameter	Method					
FPER-SJRSD GBO	SO2	PULSED FLOUR.	1	1 0 1 6 6 0 0 1 5		82	05

Site Address	Project		Units		
ONT (SRCO) ENT. , COUNTY RD. 137, WHITE SPGS.	SITE ORIENT.	CONT.	ppm		3

DAY (19–20)	ST HR (21–22)	RDG 1 (33–36)	RDG 2 (37–40)	RDG 3 (41–44)	RDG 4 (45–48)	RDG 5 (49–52)	RDG 6 (53–56)	RDG 7 (57–60)	RDG 8 (61–64)	RDG 9 (65–68)	RDG 10 (69–72)	RDG 11 (73–76)	RDG 12 (77–80)
15	12	25	10	10	15	5	0	0	0	5	5	5	0
[illegible]	[illegible]			0	0	0	0	0	0	0	0	0	0
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	0
18	[illegible]			0	0	0	0	0	0	5	0	5	10
18	[illegible]	0	0	0	0	0	0	0	0	0	0	0	[illegible]
[illegible]	[illegible]			0	0	0	0	0	0	0	0	5	5
[illegible]	[illegible]	10	0	0	0	0	0	0	0	0	5	0	
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	5	5	5
[illegible]	[illegible]	5				0	0	0	0	0	0	0	
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	10
2[illegible]	[illegible]	0	10	10	10	20	0	0	0	0	0	0	
2[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	[illegible]	5	0	0	0	0	0	0	0	0	0	0	
[illegible]	[illegible]	0	0	0	0	0	0	0	0	0	0	0	0
24	12		0	0	0	0	0	0	0	0	0	0	0
25	00	0	0	0	0	0	0	0	0	0	0	0	0
25	12	0	0	0	0	0	0	0	0	0	0	0	
26	00	0	10	0	0	0	0	0	0	0	0	20	30
2[illegible]	12	0	2	0	0	0	0	0	0	0	0	0	
27	00	0	0	0	0	0	0	0	0	0			
27	12												
28	00												
2[illegible]	12												
2[illegible]	00												
29	12												
3[illegible]	00												
3[illegible]	[illegible]												
3[illegible]	[illegible]												
[illegible]	[illegible]2												

BEST AVAILABLE COPY

1 0 1 6 6 0 0 1 5 2 1 82 06

COUNTY RD. 137 @ CONVENT ... SITE 0 ... C ... ppm ... 1 2 4 0 1 ... 2 ... 3

01		0	0	0	0	0	0	0	0	0	0	0
01	0	0	0	0	0	0	0	0	0	0	0	0
02	0	10	0	0	0	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0	0	0	0	0	0
04		0	0	0	0	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0	0	0	0	10	10
07	10	10	0	0	0	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0	0	0	0	0	0
08	0	0		0	0	0	0	0	0	0	0	0
09	0	0	0	0	0	0	0	0	0	0	0	0
0912	0	0	0	0	0	0	0	0	0	0	0	0
1000	0	0	0	0	0	0	0	0	0	0	0	0
1012	0	0	0	0	0	0	0	0	0	0	0	0
1100	0	0	0	0	0	0	0	0	0	0	0	0
1112	0	10	00	30	130	30	0	0	0	0	0	0
1200	0	0	0	0	0	0	0	0	0	0	0	0
1212	0	0	0	0	0	0	0	10	0	0	0	0
1300	0	0	0	0	0	0	0	0	0	0	0	0
1312	0	0	0	0	0	0	0	0	0	0	0	0
1400	0	0	0	0	0	0	0	10	10	0	0	0
1412	0	0		0	0	0	0	0	0	0	0	0
1500	0	0	0	0	0	0	0	0	0	0	0	0
1512	0	0	0	0	0	0	0	0	0	0	0	0
1600	0	0	0	0	0	0	0	0	10	10	0	0

BEST AVAILABLE COPY

1	1 0 1 6 6 0 0 1 5	82	06

COUNTY RD. 137 @ CXVENT WASTE(?) — ppm

19-20	21-22	36	40	44	48	52	56	60	64	68	72	76	80
16	12	0	0	0	0	10	0	0	0	0	0		0
17	00	0	0	0	0	0	0	0	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0	0		0
18		0	0	0	10	20	20	20	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0	0		0
19		0	0	0	0	0	0	0	0	0	0	0	0
19		0	0	0	0	0	0	0	0	0	0		0
20		0	0	0	0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	0	0	0	0		0
21		0	0	0	0	0	0	0	0	0	0	0	
21		0	0	0	0	0	0	0	0	0	0		0
22		0	0	0	0	0	0	0	0	0	0	0	0
22		0	0	0	0	0	0	0	0	0	0		0
23		0	0	0	0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0	0		0
24		0	0	0	0	0	0	0	0	0	0	0	0
24		0	0	0	20	20	0	0	0	0	0		0
25		0	0	10	10	10	0	10	0	0	0	0	0
25		0	0	0	10	0	0	0	0	0	0		0
26		0	0	0	0	0	0	0	0	0	0	0	0
26		0	0	0	0	0	0	0	0	0	0		0
27		0	0	0	0	0	0	0	0	0	0	0	0
27	12	0	0	0	0	0	0	0	0	0	0		0
28		0	0	0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0		0
29		0	0	0	0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0	0		0
30		0	0	0	0	0	0	0	0	0	0	0	0
30		0	0	0	0	0	0	0	0	0	0		0
31	00												
31	12												

SO_2 OXY

DEPARTMENT OF ENVIRONMENTAL REGULATION – AIR QUALITY INPUT FORM HOURLY DATA

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

STATE	AREA	SITE	AGENCY	PROJECT	TIME	YEAR	MONTH
1	10166001 5		F	02	1	82	07

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
01	00		0	0	0	0	0	0	0	0	0	0	0	0
01	12		0	0	0	0	0	0	0	0	0		0	0
02	00		0	0	0	0	0	0	0	0	0	0	0	0
02	12		0	0	0	0	0	0	0	0	0		0	0
03	00		0	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	0	0
04	12		0	0	0	0	0	0	0	0	0		0	0
05	00		0	0	0	0	0	0	0	0	0	0	0	0
05	12		0	0	0	0								
06	00													
06	12													
07	00													
07	12							0	0	0	0	0	0	
08	00		0	0	0	0	0	0	0	0	0	0	0	0
08	12		0	0	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	0
10	00		0	0	0	0	0	0	0	0	0	0	0	0
10	12		0	0	0	0	0	0	0	0	0	0	0	
11	00		0	0	0	0	0	0	0	0	0	0	0	0
11	12		0	0	0	0	0	0	0	0	0	0	0	
12	00		0	0	0	0	0	0	0	0	0	0	0	0
12	12		0	0	0	0	0	0	0	0	0	0	0	
13	00		0	0	0	0	0	0	0	0	0	0	0	0
13	12		0	0	3	4	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	0	0	30	10
15	12		0	0	0	0	0	0	0	0	40	20	0	
16	00		0	0	0	10	20	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

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

STATE	AREA	SITE	AGENCY	PROJECT	TIME	YEAR	MONTH
1	101	66 001 5	F	02	1	82	07

PARAMETER CODE	METHOD	UNITS	DP
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
15	1	2	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	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												
28	1	2					0	0	0	0	0	0	0	
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

P167682474

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 3209

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

4. DATE OF DELIVERY
6-28-82

POSTMARK
USPO FL WHITE SPRINGS JUN 28 1982

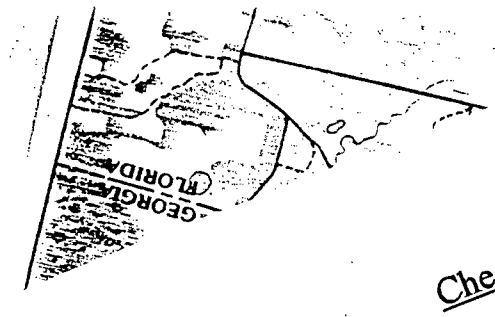
5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-300-459



Check Sheet

Company Name: Occidental Chemical Corporation
Permit Number: AC24-56212, -56214, -56213, -56215, -09, -10, -11
PSD Number: 882, 83
Permit Engineer:

Cross References:
- ☐
- ☐
- ☐

Application:
- ☑ Initial Application
- ☑ Incompleteness Letters
- ☑ Responses
- ☐ Waiver of Department Action
- ☐ Department Response
- ☐ Other

Intent:
- ☐ Intent to Issue
- ☑ Notice of Intent to Issue
- ☑ Technical Evaluation
- ☑ BACT or LAER Determination
- ☑ Unsigned Permit
- ☑ Correspondence with:
  - ☐ EPA
  - ☐ Park Services
  - ☐ Other
- ☑ Proof of Publication
- ☐ Petitions - (Related to extensions, hearings, etc.)
- ☐ Waiver of Department Action
- ☐ Other

Final Determination:
- ☑ Final Determination
- ☑ Signed Permit
- ☒ BACT or LAER Determination
- ☐ Other

Post Permit Correspondence:
- ☐ Extensions/Amendments/Modifications
- ☐ Other

Revision #5

In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. That folder can be found in one of the file drawers labeled Supplementary Documents Drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: Occidental Chemical Corporation

Permit(s) Numbered:

AC	24	-	056209
AC	24	-	056210
AC	24	-	056211
AC	24	-	056212
AC	24	-	056213
AC	24	-	056214
AC	24	-	056215
PSD	FL	-	082
PSD	FL	-	083

Period during which document was received:		Detailed Description
APPLICATION 27 MAY 1982	1.	B & W PRINT: PLOT PLAN SULFUR PRILL HANDLING (DRAWING NUMBER: 68G-225)
	2.	24"x36" BLUEPRINT: PLOT PLAN SURFER VAT EXHIBIT 1 (DRAWING NUMBER: 68G-217)
	3.	24"x36" BLUEPRINT: PLOT PLAN SULFUR VAT ATTACHMENT 4 (DRAWING NUMBER: 68G-217)
	4.	24"x36" BLUEPRINT: SULFUR VATTING H2O PIPING ARRANG'T ATTACHMENT 2 (DRAWING NUMBER: 68-P-219)
16 SEPT 1982	5.	32"x34" AERIAL MAP OF SITE
27 APRIL 1983	6.	3.5" x 5" COLOR PHOTOS (2)