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

SKEC 102-81-08

June 8, 1981

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

Dear Steve:

Enclosed are four (4) copies of an Application for Federal PSD Review for a fuel oil conversion at the Occidental Chemical Company's Suwannee River Chemical Complex located in Hamilton County, Florida.

If you should have any questions concerning this application or if further information is needed, please don't hesitate to call me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

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

JBK:sc
Enclosures

cc: Mr. W. W. Atwood (w/enc.)

APPLICATION FOR FEDERAL PSD APPROVAL

FUEL CONVERSION

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

JUNE 1981

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS
1213 NW 6TH STREET
GAINESVILLE, FLORIDA 32601
(904) 377-5822

SHOLTES & KOOGLER

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1.0 INTRODUCTION

The Occidental Chemical Company (Occidental) is a member of the Agricultural Products Group of the Hooker Chemical Corporation, a subsidiary of Occidental Petroleum Corporation.

The Florida operation of Occidental, located in Hamilton County, north of White Springs, Florida, is one of many fertilizer grade phosphate rock processing complexes in the State of Florida. Occidental is the only company, however, presently mining and processing phosphate in northern Florida. The operation which began in 1964 is situated on reserves encompassing an area of approximately 144,000 acres. There are two mines and two chemical complexes operated by Occidental; the Swift Creek and Suwannee River Mines and the Swift Creek and Suwannee River Chemical Complexes.

Occidental is proposing a change at the Suwannee River Chemical Complex (SRCC) that will trigger Federal PSD review. Occidental proposes to increase the sulfur content of the fuel oil used to fire the sulfuric acid plant auxillary boiler, the SPA heaters and the No. 2 DAP plant from 0.8 percent to 1.3 percent. These modifications will result in an increase in sulfur dioxide and particulate matter emissions at the SRCC in excess of 40 tons per year and 25 tons per year, respectively; the de minimus levels for these pollutants as defined in 40 CFR 52.21. Emission rate increases of other regulated pollutants (nitrogen oxides, hydrocarbons and carbon monoxide) will not be affected by the proposed change. The change in boiler fuel will result in no physical changes to the boiler.

The proposed change in fuel oil sulfur content is to provide Occidental with a more reliable supply of oil at a more competitive price.

Consistent with the requirements of 40 CFR 52.21, the following sections of the application include a description of the existing facilities and a description of the proposed project; a review of Best Available Control Technology (BACT) for sulfur dioxide and particulate matter; an air quality review for sulfur dioxide and particulate matter; and a review of the secondary impacts of the proposed project.

2.0 PLANT DESCRIPTION

Occidental is the only company presently mining and processing phosphate in northern Florida. The operation which begain in 1964 is situated on reserves encompassing an area of approximately 144,000 acres. There are two mines and two chemical complexes; the Swift Creek and Suwannee River Mines and the Swift Creek and Suwannee River Chemical Complexes (Figures 2-1 and 2-2). The two chemical complexes have been determined by EPA to be separate facilities (See Appendix 2-1).

2.1 Description of Existing Facilities

The Suwannee River Mine started in 1964 and the Swift Creek Mine in December 1975. Each mine has the capacity to produce about 2.5 million tons of phosphate rock concentrate per year.

The mining and recovery of phosphate is a process of removing phosphate ore (matrix) from the ground by draglines and transporting it hydraulically to the beneficiation plants where the clays (approximately 23 percent) and sand (approximately 57 percent) are screened and removed. The remaining (approximately 20 percent) phosphate concentrate is stored above ground and graded according to the quality of the material.

The Suwannee River Chemical Complex (SRCC) started in 1966 and was expanded in 1975. This operation uses approximately two-thirds of the Suwannee River Mine production for the chemical upgrading into products for agriculture; chiefly high-analysis fertilizers. The chemical processing is necessary to convert the phosphate into a form that is available to plant life.

There are four sulfuric acid plants at the SRCC with a total capacity of 5,600 tons per day of 100 percent sulfuric acid. Two of these plants are double absorption plants complying with Federal New Source Performance Standards (NSPS) (3,600 TPD) and two are single absorption plants (2,000 TPD). Wet phosphate rock is transported to the SRCC by conveyor and reacted with the sulfuric acid, filtered to remove a calcium sulfate (gypsum) by-product, and evaporated to form a concentrated phosphoric acid. This material is sold as a "merchant grade" phosphoric acid or is further processed to a granular, high-analysis fertilizer called triple superphosphate (TSP). Another product is produced by the reaction of ammonia with the phosphoric acid followed by granulation. This product is diammonium phosphate (DAP). A third granular product is produced by a process that calcines phosphate rock into a form suitable for use as an animal feed supplement.

Superphosphoric acid (SPA) plants and ancillary facilities at the SRCC provide for diversion of part of the phosphoric acid capacity to SPA. These facilities; equipment for acid clarification, concentration, storage and loading were completed in late 1978. Ancillary facilities at the SRCC include rock grinders, rock handling facilities, steam boilers and product shipping facilities.

The Swift Creek Chemical Complex (SCCC) was started in late 1979 under PSD Approval granted in February, 1978. This facility was originally capable of producing and shipping 511,000 tons per year of P_2O_5 as SPA. The SPA contains 68-70 percent P_2O_5, with 25-40 percent conversion of total P_2O_5 to polyphosphates. This product is used to produce stable solutions of balanced liquid fertilizers near the user. In September,

1980, Occidental received EPA and FDER approval to increase the phosphoric acid and SPA capacities of the SCCC to 620,500 tons and 711,000 tons P_2O_5 per year, respectively. These rate increases affected fluoride emissions only.

Process units and related facilities at the SCCC include:

- Conveying of wet phosphate rock between the existing mine and the Chemical Complex (SCCC),
- Manufacture of sulfuric acid,
- Manufacture of phosphoric acid from sulfuric acid and phosphate rock,
- Clarification of phosphoric acid,
- Evaporation of phosphoric acid to SPA, and
- Storage, loading and shipping of SPA.

This complex presently is capable of producing 4,000 short tons per day of sulfuric acid as an intermediate product in the production of phosphoric acid and SPA. Because of the production rate increase approved for the phosphoric acid and SPA facilities in 1980, Occidental now requires additional sulfuric acid at the SCCC. This acid could be obtained from (1) the open market, (2) the SRCC at the expense of causing a sulfuric acid shortage at SRCC, or (3) by utilizing excess capacity built into the two sulfuric acid plants at the SCCC. Occidental has chosen the third alternative and, concurrent with this PSD application, Occidental is submitting a PSD Application to increase sulfuric acid production at the SCCC.

The SCCC and the SRCC are both self-contained for sewage treatment, fire protection, potable water, storm drainage and garbage disposal. Process

water is contained in pond systems designed, constructed, and operated to maintain a surge capacity equal to the runoff from the 25-year, 24-hour rainfall event. When chronic or catastrophic precipitation cause the water level to equal or exceed the midpoint of the surge capacity, process waters are treated at a neutralization station to meet U.S. Environmental Protection Agency guidelines and discharged.

The two chemical complexes are 5.5 miles apart (Figure 2-2) and are considered by EPA to be two separate facilities (See Appendix 2-1). All of the existing facilities at both the SRCC and the SCCC meet applicable State and Federal Air Pollution emission standards and all have been constructed under conditions set forth in applicable State and Federal air pollution source construction permits.

2.2 Description of Proposed Project

There are several fuel burning sources at the SRCC. These include auxiliary boilers for the sulfuric acid plants and the SPA evaporators, dryers in the DAP and granular triple superphosphate plants and a calciner in the pollyphos plant. In addition to these sources phosphate rock dryers located at the Suwannee River mine are also fuel fired. Some of these sources are dual fueled, that is, they can be fired with either natural gas or No. 6 fuel oil. The natural gas is used when available; however, during periods of natural gas curtailment, No. 6 fuel is used in these sources.

Under present air pollution source operating permits issued by the Florida Department of Environmental Regulation (FDER) Occidental is

permitted to fire No. 6 fuel with a 1.3 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. The sources that will be affected by this proposed modification are the No. 2 DAP plant, the "B" auxiliary boiler serving the "C" and "D" sulfuric acid plants and the "C" and "D" boilers used primarily for providing auxiliary 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.

2.2.1 No. 2 DAP Plant

The No. 2 diammonium phosphate (DAP) plant has a design production rate of 60 tons of DAP per hour or 1,440 short tons of DAP per day. The DAP contains 42 percent P_2O_5 and 18 percent nitrogen.

DAP is produced by reacting 30 percent and 50 percent phosphoric acid with ammonia. The initial reaction occurs in a reactor where gaseous ammonia is reacted with 50 percent phosphoric acid. The slurry formed in this reactor is transferred to a blunger where additional ammonia is introduced to produce a granular product. The product then passes through a rotary dryer fired with No. 6 fuel oil with a current permitted sulfur content of 0.8 percent. Fuel is fired through the dryer at an average rate of 205 gallons per hour. From the dryer the intermediate product is screened, cooled and conveyed to storage. The current operating permit and operating permit application for the No. 2 DAP plant is included in Appendix 2-2. This application contains additional information regarding the plant.

Gases from the DAP plant dryer pass through a venturi scrubber utilizing 30 percent phosphoric acid as scrubbing liquor to recover particulate matter and ammonia. The gases then pass through a packed tail-gas scrubber utilizing pond water as a scrubbing medium to control fluoride emissions and further reduce ammonia and particulate matter emissions.

It has been the experience of Occidental and other fertilizer manufacturers that 80-95 percent of the sulfur in the fuel fired to the DAP dryers is retained in the product. This is because of the free ammonia present in

the dryer. For purposes of this permit application, it was conservatively assumed that 80 percent of the sulfur dioxide generated by the combustion of fuel oil will be absorbed in the DAP dryer and air pollution control system. As a result of this absorption, only 10 pounds of the 51 pounds per hour of sulfur dioxide generated will be emitted to the atmosphere.

Because of the nature of the operation and the effectiveness of the air pollution control system serving the DAP plant dryer, the conversion from fuel oil with 0.8 percent sulfur to a fuel oil with 1.3 percent sulfur is not expected to have any effect on particulate matter emissions. Only sulfur dioxide emissions will increase as a result of fuel conversion in this source.

2.2.2 Auxiliary Boiler "B"

The "B" auxiliary boiler is a fossil fuel fired steam generator capable of producing 125,000 pounds of steam per hour. The heat input to this boiler is 160 million Btu per hour. The boiler can be fired with either natural gas or fuel oil.

The auxiliary boiler is used to augment steam produced by the "B" and "C" sulfuric acid plants. When these sulfuric acid plants are operating at capacity the "B" boiler is normally fired at 25 percent rated capacity.

The modification proposed by Occidental for this boiler calls for a permit revision which will permit the use of fuel oil with a 1.3 percent sulfur content. The current permit limits the sulfur content of the fuel oil to 0.8 percent.

When fired with fuel oil, the oil consumption of the boiler is 1,067 gallons per hour. The conversion from 0.8 percent sulfur content oil to 1.3 percent sulfur content oil will result in an increased sulfur dioxide emission rate of 1.3 pounds per hour or 399 tons per year assuming oil firing 100 percent of the time. Particulate matter emissions will increase approximately 3.9 pounds per hour or 17 tons per year under these same conditions. The current FDER operating permit for the "B" boiler is included in Appendix 2-2. This permit sets forth the current operating conditions and provides additional information regarding this boiler.

2.2.3 Auxiliary Boilers "C" & "D"

The "C" and "D" auxiliary boilers are identical fossil fuel fired steam generators each capable of producing 100,000 pounds of steam per hour. The heat input to these boilers is 120 million Btu per hour each. The boilers were constructed primarily for the purpose of providing steam for superphosphoric acid evaporators.

At rated capacity, the oil firing rate to the boilers is 820 gallons per hour each. Occidental is presently proposing a permit modification which would allow the use of a fuel oil with 1.3 percent sulfur content in these boilers rather than the presently permitted fuel oil which is limited to 0.8 percent sulfur. This conversion in fuel oil will result in an increase in the sulfur dioxide emission for each boiler of approximately 709 pounds per hour or 304 tons per year each if both boilers are fired with oil 100 percent of the time.

The fuel conversion will result in a particulate matter increase from each boiler of 4.2 pounds per hour or 18 tons per year assuming the boilers are fired with oil 100 percent of the time.

The "C" and "D" boilers are constructed in such a way that the combustion gases from the boilers are vented into a common stack. This arrangement is shown in the current FDER operating permit for the two boilers, a single permit for those boilers, included in Appendix 2-2.

Recently a construction permit application was submitted to FDER which would permit the use of a coal-oil mix fuel in the "C" auxiliary boiler. This conversion would permit the use of a coal-oil mix containing 0.8 percent sulfur. The conversion would result in no significant change in sulfur dioxide emissions, an increase of approximately 24 tons per year in nitrogen oxides emissions and a reduction of approximately 22 tons per year in particulate matter emissions since a fabric filter air pollution control system will be installed on the unit to control particulate matter emissions.

The use of the coal-oil mix fuel in this boiler, if approved, will be as an alternative fuel. The second alternative fuel will be fuel oil, presently permitted to contain 0.8 percent sulfur.

A copy of the construction permit application for the coal-oil mix conversion for the "C" auxiliary boiler is included in Appendix 2-3.

2.3 Air Pollutant Emissions

The conversion requested by Occidental from a 0.8 percent sulfur fuel to a 1.3 percent sulfur fuel will result in a change in the sulfur dioxide emission rates from the No. 2 DAP plant and from the "B", "C" and "D" boilers. The fuel oil conversion will result also in an increase in particulate matter emission rates from the three boilers. The particulate matter emission rate from the No. 2 DAP plant will not be affected by the fuel switch because of the nature of the operation and the air pollution control system serving the DAP plant.

Other pollutants emitted from the affected sources include hydrocarbons and carbon monoxide as a result of fuel combustion and fluorides from the manufacture of DAP. The emission rates of these pollutants will not be affected by the proposed fuel conversion.

In calculating the increases in emission rates of sulfur dioxide and particulate matter, it was assumed that the affected sources would operate 100 percent of the time and would be fired with No. 6 fuel oil with 1.3 percent sulfur content the entire time they were operating. The emission rate increases from these sources are summarized in Table 2-1. The calculations to support these numbers are included in Appendix 2-4.

TABLE 2-1

SUMMARY OF AIR POLLUTANT EMISSION RATE CHANGES
RESULTING FROM PROPOSED FUEL CONVERSION

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Source	Pollutant Emission Rate (tons/year)					
	Particulate Matter			Sulfur Dioxide		
	Permitted	Proposed	Increase	Permitted	Proposed	Increase
No. 2 DAP Plant			0	27.7	44.8	17.1
Boiler "B"	70.0	76.7	6.7	597.0	995.6	398.6
Boilers "C" & "D" (Total)	79.0	115.2	36.2	884.8	1493.4	608.6
TOTAL			42.9			1024.3
De minimus levels			25			40

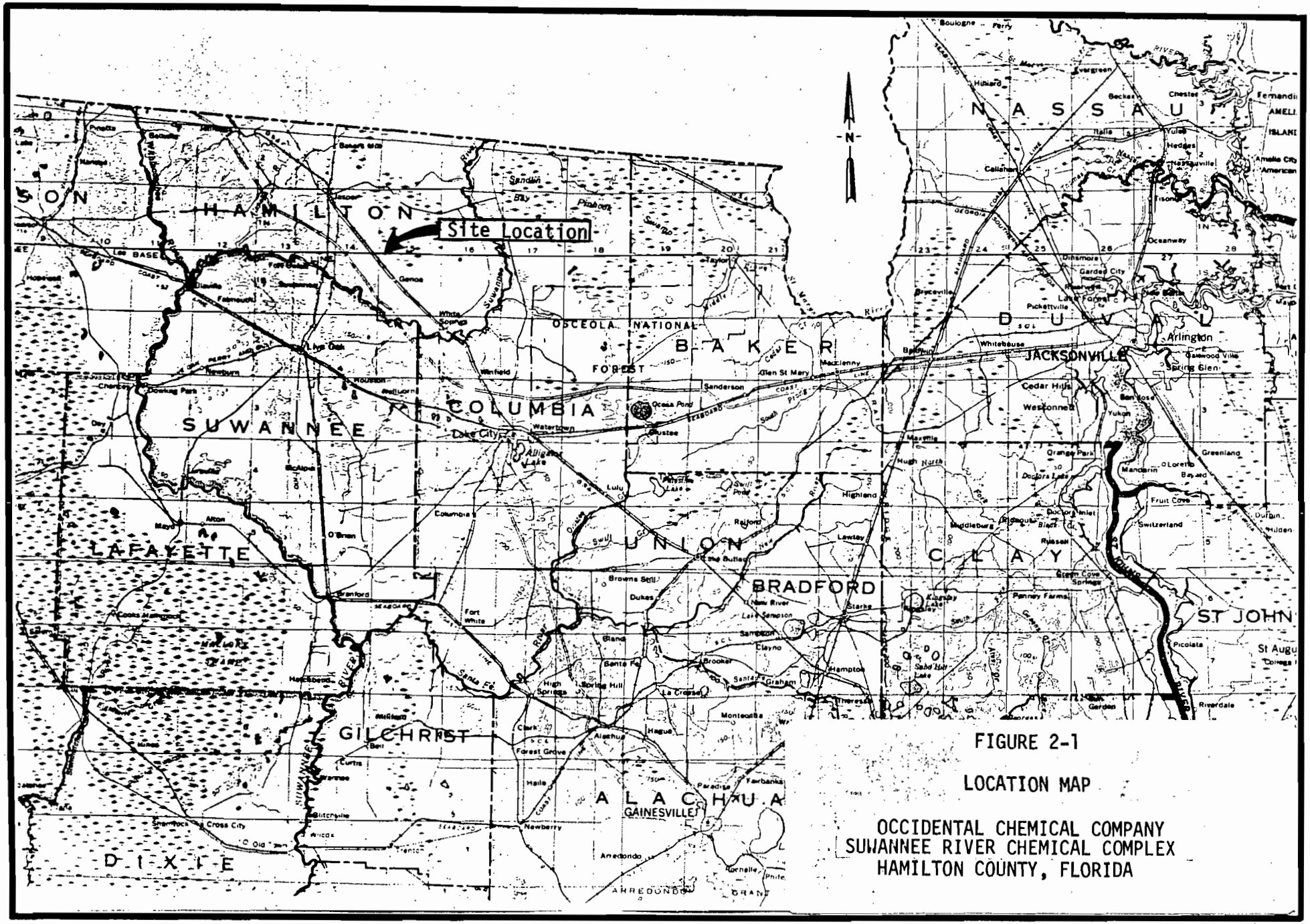


FIGURE 2-1

LOCATION MAP

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

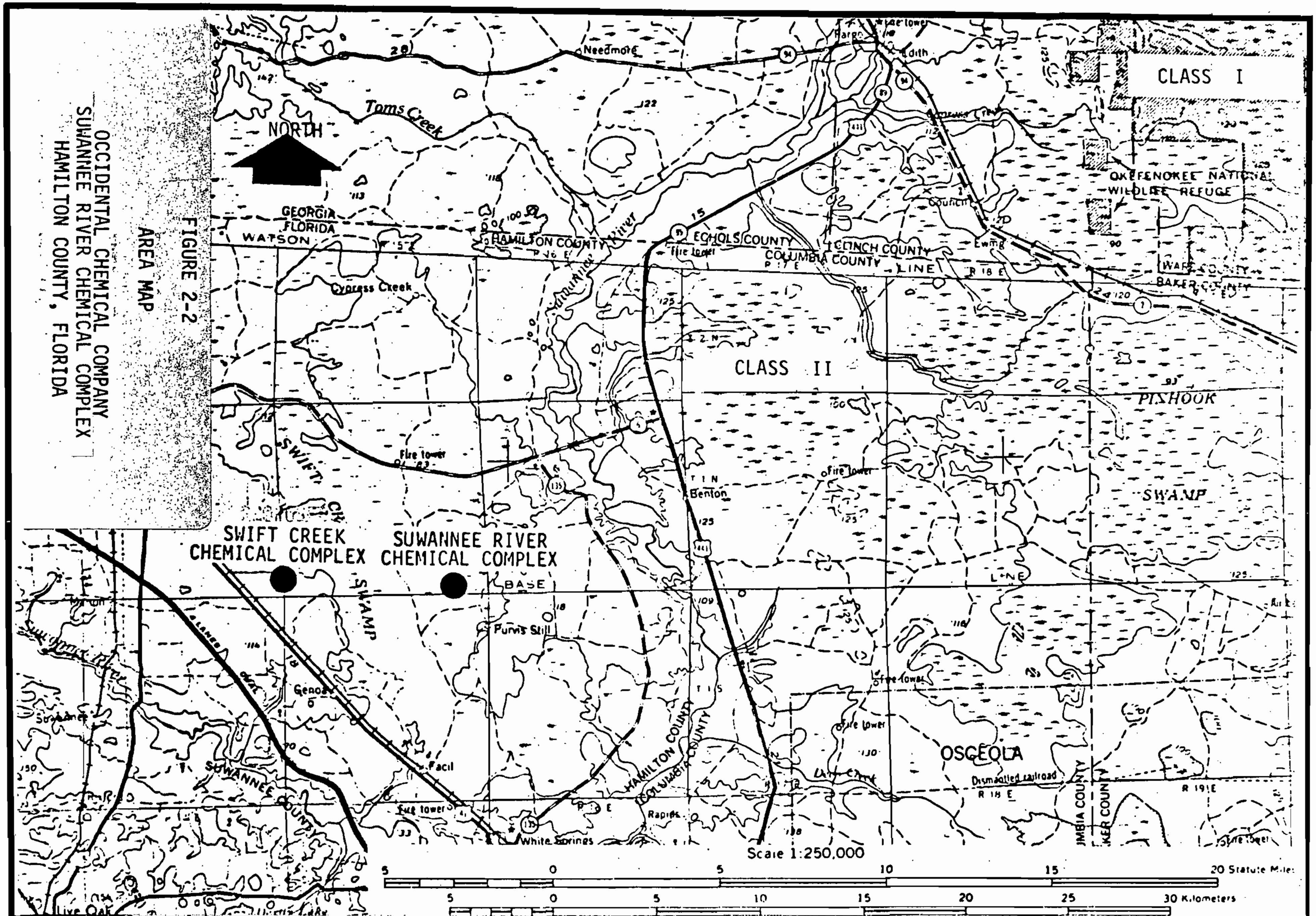


FIGURE 2-2
AREA MAP
OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

APPENDIX 2-1

OCCIDENTAL/EPA CORRESPONDENCE

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

March 14, 1980

Tommie A. Gibbs, Chief
Air Facilities Branch
United States Environmental
Protection Agency
Region IV
345 Courtland Street
Atlanta, GA 30308

Re: Occidental Chemical Company
White Springs Operations

Dear Mr. Gibbs:

On November 1, 1979, representatives of Occidental met with you, William Rhea and Michael Brandon of the Air Facilities Branch. We discussed the applicability of federal PSD review, under the June 19, 1978 regulations, to the Swift Creek and Suwannee River Chemical Complexes as a result of changes in the Florida air permits for those facilities.

As you will recall, the permits issued by the State of Florida, Department of Environmental Regulation for the facilities in question had been amended on October 29, 1979, to reflect an increased allowable daily instantaneous production rate. Although this increase in the allowable maximum production rate did not result in any physical change to the facilities and would result in only an insignificant or no net increases in actual emissions during the course of the year, Occidental was concerned about the applicability of federal PSD review to these permit changes.

After the discussions with you on November 1, 1979, we received a letter which confirmed that the Swift Creek and Suwannee River Chemical Complexes would be treated as two separate sources for the purpose of PSD applicability determinations. The result of this determination by EPA is that under the regulations then in effect, PSD review would not be applicable unless the permit changes constituted "modifications" and resulted in an increase in each respective sources' potential to emit of more than 100 tons per year of any regulated pollutant. Of course, "potential to emit" is to be calculated on the basis of uncontrolled emissions.

We believe that these permit changes do not constitute "modifications" under the definitions contained in the PSD regulations. However, to assure that Occidental would comply with all applicable regulatory requirements, the consulting firm of Sholtes & Koogler was retained to perform an analysis on the facilities to determine whether the 100 tons per year threshold would be exceeded.

I have attached a copy of the summary of the potential (uncontrolled) and actual emissions increases which will result from these state permit changes. The only pollutant affected is fluoride. As you can see, the annual increases in uncontrolled emissions of fluoride expected at the Suwannee River Chemical Complex will be approximately 72.2 tons per year. At the Swift Creek Chemical Complex the expected annual increase in uncontrolled fluoride emissions will be approximately 71.8 tons per year. Since this is well below the 100 tons per year threshold, we have concluded that PSD review at the federal level does not apply even if the permit change is considered a "modification." However, we felt it appropriate to advise you in writing of the conclusions reached by our consultant since this matter had been discussed with you and your staff.

Should you have any questions concerning this matter or require further information, please do not hesitate to contact me at your convenience.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood
Environmental Coordinator

WWA/sc
Enclosure

cc: Mr. R. E. McNeil, Manager Environmental, Safety & Hygiene, White Springs
Mr. Lawrence N. Curtin, Holland & Knight
Mr. Russell A. Bowman, Manager, Environmental, Safety & Hygiene, Houston
Mr. M. P. McArthur, General Manager
Mr. Johnny Cole, Air Engineer, FDER
Dr. John B. Koogler, Sholtes & Koogler Environmental Consultants

APPENDIX 2-2

CURRENT FDER OPERATING PERMITS

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

September 16, 1980

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

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Co.
Diammonium Phosphate (DAP) Plant No. 2

Enclosed is Permit Number A024-33051 , dated September 16, 1980 , to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code (see reverse side). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

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

Sincerely,

Frank Watkins

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:jck

cc: Records Center, Tallahassee
John B. Koogler, Ph.D, P.E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

OCCIDENTAL CHEMICAL COMPANY
East of U.S.41, East of S.R. 137
White Springs, FL

OPERATION
PERMIT

NO. A024-33051
Diammonium Phosphate Plant No. 2

DATE OF ISSUANCE

September 16, 1980

G. Doug Dutton
Subdistrict Manager

DATE OF EXPIRATION

September 16, 1985

DER FORM PERM 11-40

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

APPLICANT:

Occidental Chemical Company
Post Office Box 300
White Springs, FL 32096

PERMIT/CERTIFICATION NO.
A024-33051

COUNTY: Hamilton

PROJECT: Diammonium Phosphate Plant #2

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

Diammonium Phosphate (DAP) Plant No. 2, Controlled by Cyclonic and Venturi Scrubbers. P_2O_5 Input Is from a 30% - 50% Split Acid Feed.

Located East of U.S. 41, East of S.R. 137, North of White Springs, Hamilton County, Florida

UTM: E-328320 N-3368820

In accordance with the application dated July 21, 1980.

PERMIT NO.: A024-33051
APPLICANT: Occidental Chemical Co.

GENERAL CONDITIONS:

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

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

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

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

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

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

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

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

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

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

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

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

13. This permit also constitutes:

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

PERMIT NO.: A024-33051
APPLICANT: Occidental Chemical Co.

SPECIFIC CONDITIONS:

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

   a. operation permit application
   b. August 25, 1980 test report

2. Testing of emissions must be accomplished at least 90% of 72,632 lbs/hr of 30% P_2O_5 acid and 72,632 lbs/hr of 50% P_2O_5 acid inputs.

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

Pollutant	Emission Rate (lbs/hr)	Emission Rate (TPY)
Particulate	46	193
Fluoride	1.74	6.1
SO_2	6.3	27.7

4. Test the emission for the following pollutants at intervals indicated from the date of July 3, 1980, notify us 14 days prior to testing, and submit a cooy of the test report to this office within 15 days after completion of the testing:

Particulate	12 mos.
Fluorides	6 mos.

The test reports are to include the data in accordance with our July 24, 1980 stack test meeting.

5. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

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

7. Forms for renewal will be sent five (5) months prior to September 16, 1985, and the completed forms with test results are due 90 days prior to September 16, 1985.

Expiration Date: September 16, 1985 Issued this 16th day of September, 1980.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

G. Doug Dutton Signature Subdistrict Manager

PERMITTED
BY
LOWER ST. JOHNS RIVER SUB DISTRICT
DEPARTMENT OF ENVIRONMENTAL REGULATION
PERMIT NO. A024-33051
DATE 9/16/80

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
RECEIVED
JUL 22 1980
SUB DISTRICT-JAX

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Granular Fertilizer Plant [ ] New[1] [x] Existing[1]

APPLICATION TYPE: [ ] Construction [x] Operation [ ] 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; Peaking Unit No. 2, Gas Fired) Diammonium Phosphate Plant #2

SOURCE LOCATION: Street SR-137 City White Springs, FL

UTM: East 3283.20 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, 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 an operation 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: _____ 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.

Signed: _____

John B. Koogler, Ph.D., P.E.
Name (Please Type)

(Affix Seal)
STATE OF FLORIDA

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 7/21/80 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.

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

Start of Construction N/A Completion of Construction N/A

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.)

N/A

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. AO-24-10781 issued July 7, 1978 and expiring August 31, 1980.

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

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

If seasonal, describe: ____

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

1. Is this source in a non-attainment area for a particular pollutant? NOT APPLICABLE -
   a. If yes, has "offset" been applied? For Air Construction
   b. If yes, has "Lowest Achievable Emission Rate" been applied? Permit (ACP) Only
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

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

SECTION 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	NH_3	0	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	17-2.04(6)	1.74	NOT APPLICABLE		7
					For ACP Only		
DAP Dust (6)	46	193	Process Wgt. Table	46	"		7
Sulfur Dioxide(7)	5	23	17-2.03 (See Sect. III E)		"		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 ratio of 9.3:1 on average design rate of 50 TPH.

(7) Assuming stand-by oil used 100% of time with 80% removal of SO_2 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

Note: Uncontrolled avg. SO_2 is 26#/hr (30mm ÷ 18,300 x 0.008 x 2) scrubbers reduce by 80%. Therefore, max. SO^2 is 5#/hr or 23 TPY. Gas will be use about 60% of time.

Fuel Analysis:

Percent Sulfur: 0.8 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.

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: 120 °F.

Water Vapor Content: 10 % Velocity: 43 FPS

SECTION IV: INCINERATOR INFORMATION N/A

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.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). N/A
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. (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).
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.

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)

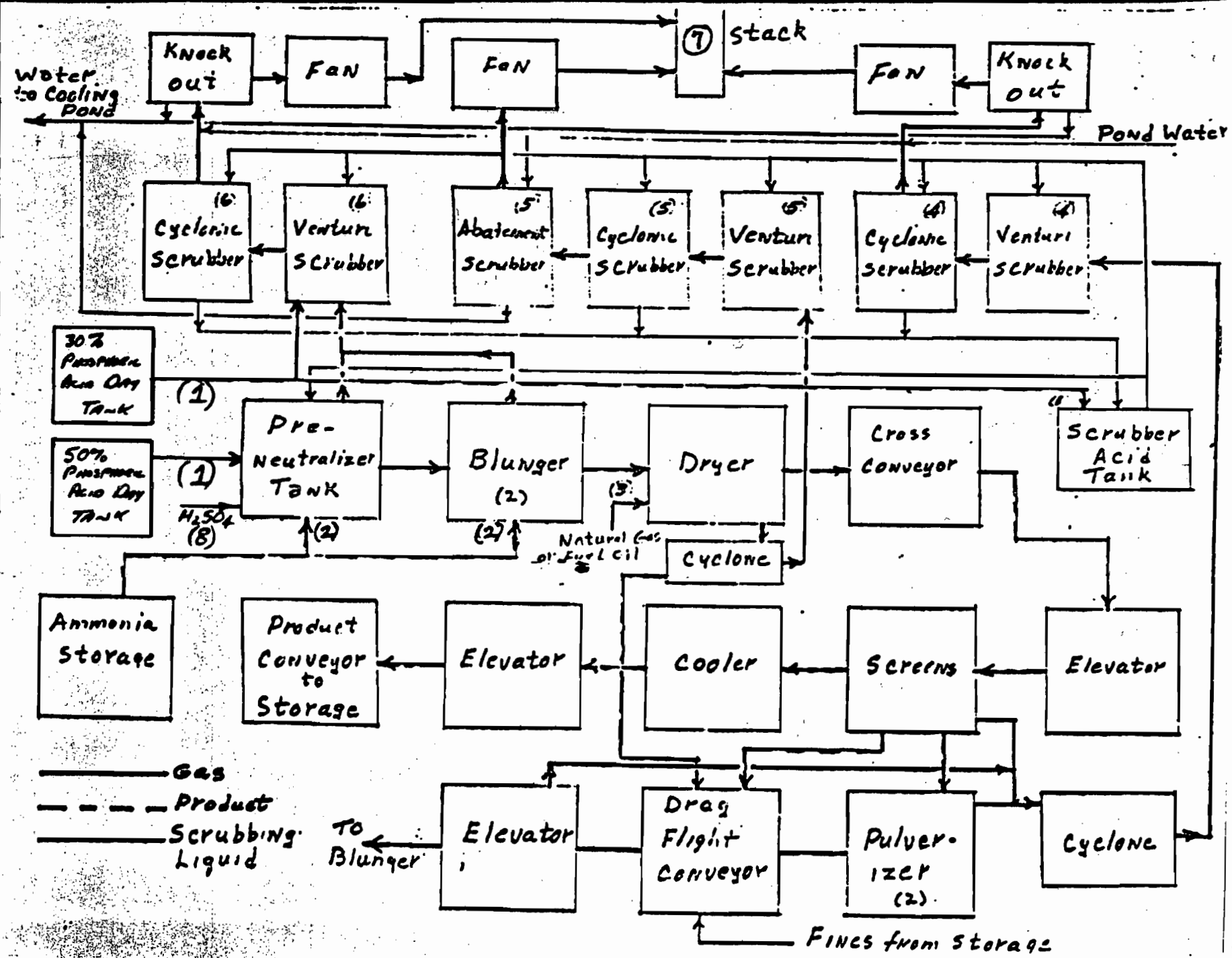
ALLOWABLE EMISSIONS:

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.

ATTACHMENT 2

DAP PRODUCTION USING A 30% - 50% SPLIT PHOSPHORIC ACID FEED



DRAWN BY
DATE
SCALE
REVISION
REVISION
REVISION

FLOW DIAGRAM

DIAMMONIUM PHOSPHATE PLANT

OCCIDENTAL OF FLORIDA

CHARGE NO.
JOB NO.
SHEET NO. 14
REV. NO

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

October 10, 1980

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

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Co.
Auxiliary Boiler "B"

Enclosed is Permit Number A024-34186 , dated October 10, 1980 , to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code (see reverse side). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

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

Sincerely,

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:jck

cc: Records Center, Tallahassee
John B. Koogler, P.E.

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

APPLICANT:

Occidental Chemical Company
Post Office Box 300
White Springs, FL 32096

PERMIT/CERTIFICATION NO.
A024-34186

COUNTY: Hamilton

PROJECT: Auxiliary Boiler "B"

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

"B" Auxiliary Steam Boiler, Gas Fired with Standby Oil. Maximum Heat Input is 160 MMBTU/H.Maximum % Sulfur in Oil is 0.8%.

Located East of S.R. 137, North of White Springs, Hamilton County, FL
UTM: E-328320 N-3368810

In accordance with the application dated August 20, 1980.

PERMIT NO.: A024-34186 Auxiliary Boiler "B"
APPLICANT: Occidental Chemical Co.

GENERAL CONDITIONS:

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

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

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

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

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

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

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

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

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

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

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

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

13. This permit also constitutes:

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

PERMIT NO.: A024-34186 Auxiliary Boiler "B"
APPLICANT: Occidental Chemical Co.

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

a. operation permit application
b. VE report

2. Testing of emissions must be accomplished at least at 90% of 160 MMBTU/H heat input when using oil.

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

Pollutant	Emission Rate (lbs/hr)	Emis. Rate (TPY)
(1) Particulate	16	70
(2) SO2	136	597
(3) SO2	34	149

4. Test the emission for the following pollutant(s) at intervals indicated from the date of June 18, 1980, notify us 14 days prior to testing, and submit a copy of the test report to this office within 15 days after completion of the testing:

Pollutant	Interval
Particulates	12 mos; VE report including heat input rate when oil is used
SO2	12 mos; oil analysis if used

5. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

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

7. Forms for renewal will be sent 5 months prior to September 30, 1985 and the completed forms with test results are due 90 days prior to September 30, 1985.

NOTES:
(2) Limit when a sulfuric acid plant is down.
(3) Limit when sulfuric plants are in operation; i.e., the maximum operation rate for this boiler is 25% of capacity.
(1) Limit is 20% opacity, except to 40% for 2 min/hr.

Expiration Date: September 30, 1985

Issued this 10th day of October, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

G. Doug Dutton, Subdistrict Manager

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

OCCIDENTAL CHEMICAL COMPANY
S.R. 137, NORTH OF
WHITE SPRINGS, FL

OPERATION PERMIT

NO. A024-34186
Auxiliary Boiler "B"

DATE OF ISSUANCE

October 10, 1980

G. Doug Dutton
Subdistrict Manager

DATE OF EXPIRATION

September 30, 1985

DER FORM PERM 11-40

PERMITTED
BY
LOWER ST. JOHNS RIVER SUB DISTRICT
DEPARTMENT OF ENVIRONMENTAL REGULATION
PERMIT NO. AO24-34486
DATE 10/10/80

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/[redacted]
AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [X] Operation [ ] 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 S.R. 137 City White Springs

UTM: East 7,328,320 E. North 3,368,810 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 an operating 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: [signature]

M.P. McArthur, V.P. & General Manager
Name and Title (Please Type)

Date: 8/20/80 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.~~

Signed: [signature]

John B. Koogler, P.E.
Name (Please Type)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 N.W. 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

(Affix Seal)

Florida Registration No. 12925 Date: ____ 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. (Previously identified as auxiliary boiler #2)

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

Start of Construction _____ Completion of Construction _____

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

NOT APPLICABLE

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. AO-24-2500 issued October 28, 1975 and expiring on September 30, 1980.

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

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

if seasonal, describe: _____

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

NOT APPLICABLE - FOR AIR CONSTRUCTION PERMIT ONLY.

1. Is this source in a non-attainment area for a particular pollutant?

   a. If yes, has "offset" been applied?

   b. If yes, has "Lowest Achievable Emission Rate" been applied?

   c. If yes, list non-attainment pollutants.

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

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

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

A. Raw Materials and Chemicals Used in your Process, if applicable: NOT APPLICABLE (See Page 4)

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 (See Page 4)

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See Attachment 1

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	68	448	17-2.03	68	NOT APPLICABLE		NONE
					FOR ACP ONLY		
Particulate	16	70		16			
NO_x as NO_2	47	206		47			

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

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

[1] See Section V, Item 2.

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

[3] Calculated from operating rate and applicable standard

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

[5] If Applicable

E. Fuels See Attachment 1

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	6.3	25.4	160
Gas	0.04	0.156	160

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr Average Usage at 25% of maximum.

Fuel Analysis: (Oil)

Percent Sulfur: 0.8 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: 1/10 % 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 (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

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

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

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

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

Brief description of operating characteristics of control devices: _____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

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

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

*Explain method of determining efficiency.

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

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

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

B. Meteorological Data Used for Air Quality Modeling

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

2. Surface data obtained from (location) _____

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

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

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

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

ATTACHMENT 1

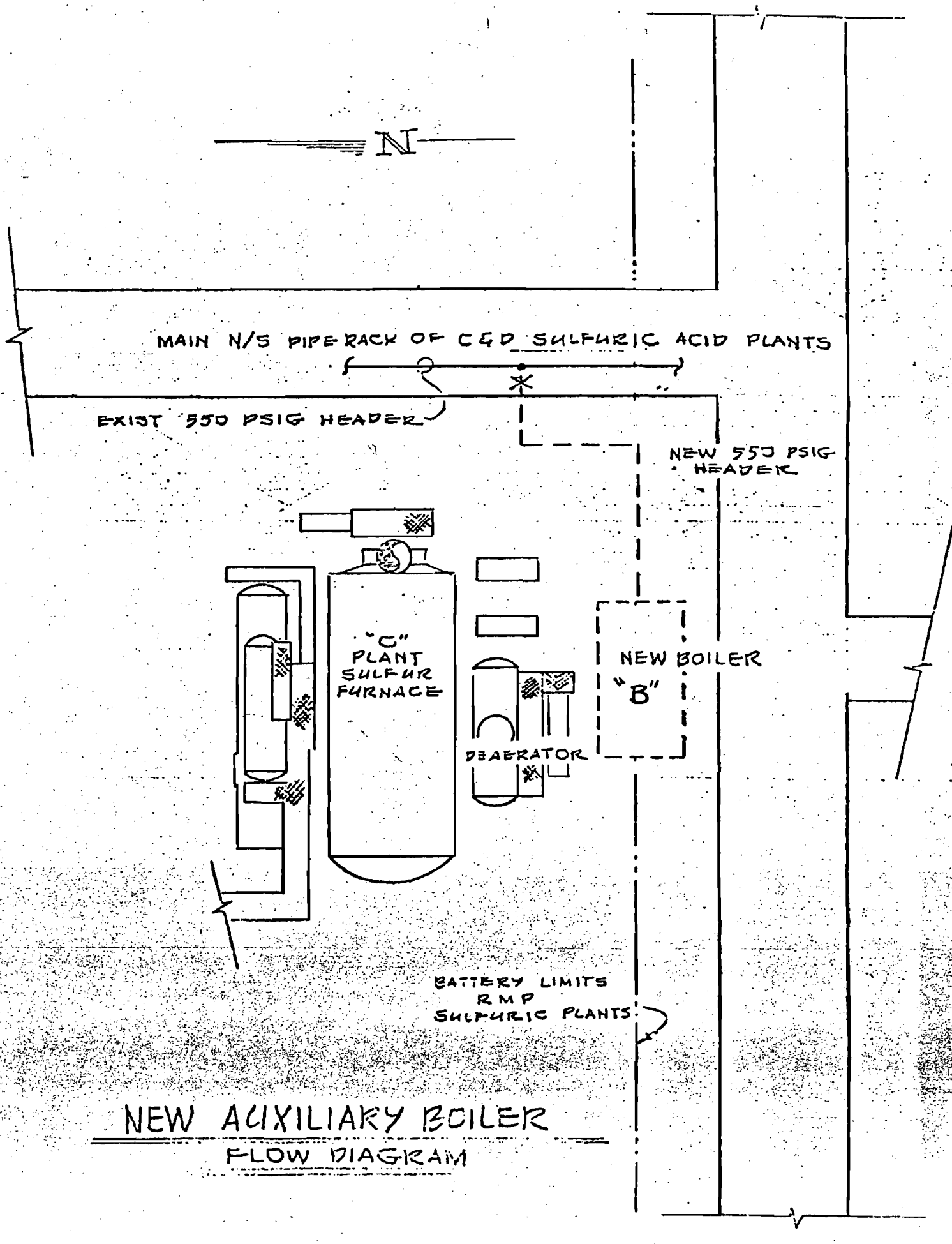
CALCULATION FOR SECTION III-C & E

FUEL:	Gas, or oil at 0.8% S
CONTAMINANT:	Sulfur Dioxide
PRODUCT:	125,000 lb/hr steam @ 1000 BTU/lb
EFFICIENCY:	80%
HEAT INPUT:	156.0 MM BTU/hr (125,000 ÷ 0.8 x 1000)
FUEL INPUT:	
Oil:	8525 lbs/hr (156MM ÷ 18,300) or 25.4 BBLS/hr (156 MM ÷ 146,400 ÷ 42)
Gas:	0.1560 MM CF/hr (156 ÷ 1000) (NOTE: "Average" usage @ 25% of maximum)

EMISSION:

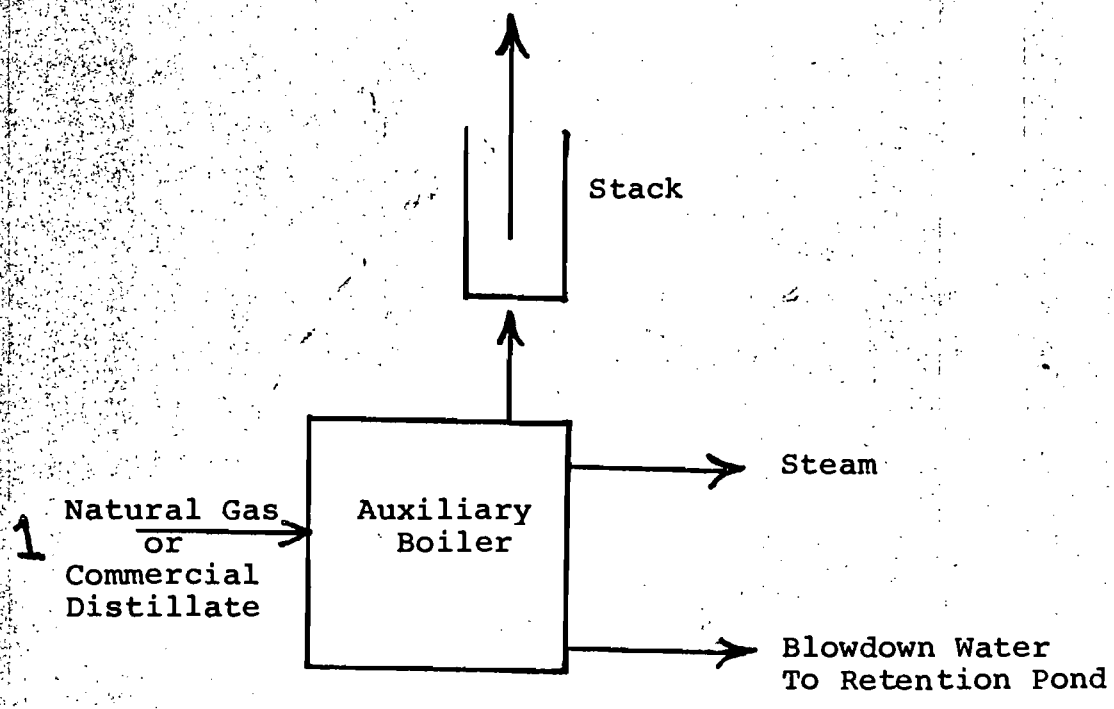
Sulfur Dioxide: 68.2 lbs/hr sulfur (8525 x .008) -or-
136.4 lbs/hr sulfur dioxide (68.2 x 64 ÷ 32) -or-
597 TPY sulfur dioxide (136.4 x 24 x 365 ÷ 2000)
(But, this assumes 100% on oil)

NO_x & PARTICULATE: Reference EPA, AP-42 Supplement 7, Page 6.



NEW AUXILIARY BOILER

FLOW DIAGRAM



AUXILIARY BOILER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/[redacted] AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [X] Operation [ ] 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 S.R. 137 City White Springs

UTM: East 7,328,320 E. North 3,368,810 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 an operating 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, V.P. & General Manager
Name and Title (Please Type)

Date: _____ 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.~~

Signed: _____

John B. Koogler, P.E.
Name (Please Type)

(Affix Seal)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 N.W. 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: _____ 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 intthe phosphoric acid production and evaporation process. (Previously identified as auxiliary boiler #2)

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

Start of Construction _____ Completion of Construction _____

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

NOT APPLICABLE

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. AO-24-2500 issued October 28, 1975 and expiring on September 30, 1980.

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

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

if seasonal, describe: _____

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

NOT APPLICABLE - FOR AIR CONSTRUCTION PERMIT ONLY.

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

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

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

A. Raw Materials and Chemicals Used in your Process, if applicable: NOT APPLICABLE (See Page 4)

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 (See Page 4)

2. Product Weight (lbs/hr): NOT APPLICABLE

C. Airborne Contaminants Emitted: See Attachment 1

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	68	448	17-2.03	68	NOT APPLICABLE		NONE
					FOR ACP ONLY		
Particulate	16	70		16			
NO_x as NO_2	47	206		47			

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]
		NONE		

[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 See Attachment 1

Type (Be Specific)	Consumption* avg/hr	max./hr	Maximum Heat Input (MMBTU/hr)
Oil	6.3	25.4	160
Gas	0.04	0.156	160

*Units Natural Gas, MMCF/hr, Fuel Oils, barrels/hr; Coal, lbs/hr Average Usage at 25% of maximum.

Fuel Analysis: (Oil)

Percent Sulfur: 0.8 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: 1/10 % 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.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved, and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

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

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

*Explain method of determining efficiency.

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

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

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

B. Meteorological Data Used for Air Quality Modeling

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

2. Surface data obtained from (location) _____

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

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

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

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

ATTACHMENT 1

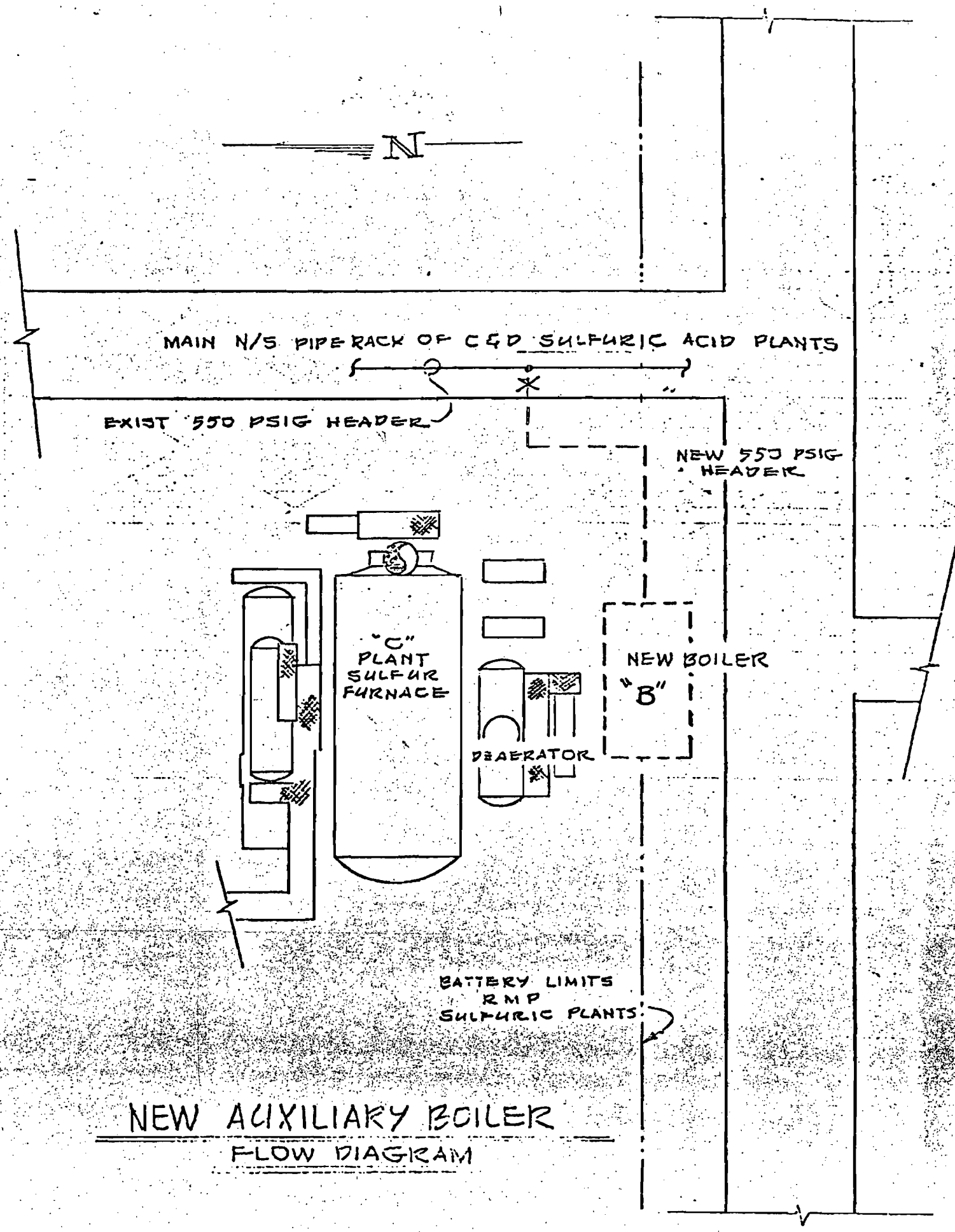
CALCULATION FOR SECTION III-C & E

FUEL:	Gas, or oil at 0.8% S
CONTAMINANT:	Sulfur Dioxide
PRODUCT:	125,000 lb/hr steam @ 1000 BTU/lb
EFFICIENCY:	80%
HEAT INPUT:	156.0 MM BTU/hr (125,000 ÷ 0.8 x 1000)
FUEL INPUT:	
Oil:	8525 lbs/hr (156 MM ÷ 18,300) or 25.4 BBLS/hr (156 MM ÷ 146,400 ÷ 42)
Gas:	0.1560 MM CF/hr (156 ÷ 1000) (NOTE: "Average" usage @ 25% of maximum)

EMISSION:

Sulfur Dioxide: 68.2 lbs/hr sulfur (8525 x .008) -or-
136.4 lbs/hr sulfur dioxide (68.2 x 64 ÷ 32) -or-
597 TPY sulfur dioxide (136.4 x 24 x 365 ÷ 2000)
(But, this assumes 100% on oil)

NO_x & PARTICULATE: Reference EPA, AP-42 Supplement 7, Page 6.



NEW AUXILIARY BOILER

FLOW DIAGRAM

102-79-09

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

March 10, 1980

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

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Company
Auxiliary Boilers "C" & "D"

Enclosed is Permit Number A024-21059 , dated March 6, 1980 , to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.15, Florida Administrative Code (see reverse side). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

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

Sincerely,

Frank Watkins Jr

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:JCK

cc: Records Center, Tallahassee
John B. Koogler, P.E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

OCCIDENTAL CHEMICAL COMPANY
POST OFFICE BOX 300
WHITE SPRINGS, FL 32096

OPERATION
PERMIT

NO. A024-21059
Auxiliary Boilers "C" & "D"

DATE OF ISSUANCE

March 6, 1980

for G. Doug Dutton
Subdistrict Manager

DATE OF EXPIRATION

January 31, 1985

DER-FORM PERM 11-40

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

APPLICANT:

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

PERMIT/CERTIFICATION NO. A024-21059

COUNTY: Hamilton

PROJECT: Auxiliary Boilers "C" & "D"

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

Auxiliary Boilers "C" and "D", Gas Fired with Stand-by 0.8% Sulfur Fuel Oil. Will Be Operated About 25% of the time. Exhaust to a Common Stack.

PERMIT NO.: A024-21059 Auxiliary Boilers "C" and "D"
APPLICANT: Occidental Chemical Co.

GENERAL CONDITIONS:

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

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

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

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

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

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

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

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

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

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

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

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

13. This permit also constitutes:

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

PERMIT NO.: A024-21059 Auxiliary Boilers "C" & "D"
APPLICANT: Occidental Chemical Company

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

a. operation permit application

2. Testing of emissions must be accomplished at least 90% of 120 MMBTU/Hr. heat input for each boiler.

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

Pollutant	Emission Rate (lbs/hr)
SO_2	101
VE	≤ 20% opacity except 40% for 2 min/hr.

4. Test the emission for the following pollutant(s) at intervals indicated from the date of October 15, 1979, notify us 14 days prior to testing, and submit a copy of the test report to this office within 15 days after completion of the testing:

SO_2	12 mos; fuel oil analysis
VE	12 mos; while using oil and include heat input rate

5. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

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

7. Forms for renewal will be sent 5 months prior to January 31, 1985 and the completed forms with test results are due 90 days prior to January 31, 1985.

Expiration Date: January 31, 1985

Issued this 6th day of March, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

for Frank Watson Jr.

G. Doug Dutton, Subdistrict Manager

PERMITTED

BY

LOWER ST. JOHNS RIVER SUB DISTRICT

DEPARTMENT OF ENVIRONMENTAL REGULATION

PERMIT NO. AO24-21059

DATE 2/6/80

ST. JOHNS RIVER

RECEIVED

NOV 5 1979

SUB DISTRICT – JAX

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE ~~/CONSTRUCT~~ AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boilers [ ] New[1] [x] Existing[1]

APPLICATION TYPE: [ ] Construction [x] Operation [ ] 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 Boilers "C" and "D"

SOURCE LOCATION: Street S.R. 137 City White Springs

WA UTM: East 7,328,320 E North 3,368,810 N

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 n operating 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: 11/2/79 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.~~

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)

(Affix Seal)

Florida Registration No. 12925 Date: ____ Telephone No. (904)377-5822

* These instructions will be furnished by the vendors supplying the pollution control equipment. Said instructions and vendor guarantees will be reviewed for satisfactory operation and recommendations made where required.

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 boilers 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.

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

Start of Construction _____ Completion of Construction _____

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

N/A (See Page 4)

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

Units were constructed under FDER Construction Permit No. AC-24-2700 and 2701 issued on July 6, 1977 and expiring on December 31, 1979.

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

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

if seasonal, describe: _____

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

Not Applicable (For Air Construction Permit only)

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

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

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

December 19, 1979

Mr. Johnny Cole
State of Florida
Department of Environmental Regulation
3476 Bills Road
Jacksonville, FL 32207

Dear Mr. Cole:

This will respond to your request for additional information on OXY/SPA Phase 1 Operating Permit Applications submitted November 5,1979.

The numbered responses below correspond to those in your letter of November 20, 1979.

1. SPA "A" & "B"

a. Please refer to Page 3, Section IIIC and change:

Emission ÷ Actual T/Yr. from: 1.8
to: 1.2 for each plant
(707 x 350 x 0.01 ÷ 2000)

b. Test report submitted December 10, 1979.

2. Auxiliary Boilers "C" & "D"

a. Please refer to Pages 3 and 4, Section III C and E and add note: "Each boiler - Two (2) Boilers Total".

Also refer to Page 4, Section III H and add note: "One (1) stack - Combined Gas Flow from Two (2) Boilers".

b. Boiler will operate about 25 percent of the time.

c. Flowsheet attached.

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

A. Raw Materials and Chemicals Used in your Process, if applicable: Not Applicable (See Page 4)

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 (See Page 4)
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: NOTE: EACH BOILER - TWO (2) BOILERS TOTAL

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	105	414	17-2.03	105	N/A (for ACP only)		NONE

D. Control Devices: (See Section V, Item 4) Not Applicable (See Page 4)

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

[1] See Section V, Item 2.

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

[3] Calculated from operating rate and applicable standard

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

[5] If Applicable

E. Fuels NOTE - EACH BOILER - TWO (2) BOILERS TOTAL

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	5	20	120
Gas	0.03	0.12	120

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

Fuel Analysis:

Percent Sulfur: 0.8 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): _____

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: 80 ft. Stack Diameter: 6 ft.

Gas Flow Rate: 100,000 ACFM Gas Exit Temperature: 380 °F.

Water Vapor Content: 1/10 % Velocity: 59 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.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable (For ACP only)

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

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

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

*Explain method of determining efficiency.

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*: 3. Capital Cost:

4. Life: 5. Operating Cost:

6. Energy: 7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data — Not Applicable

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

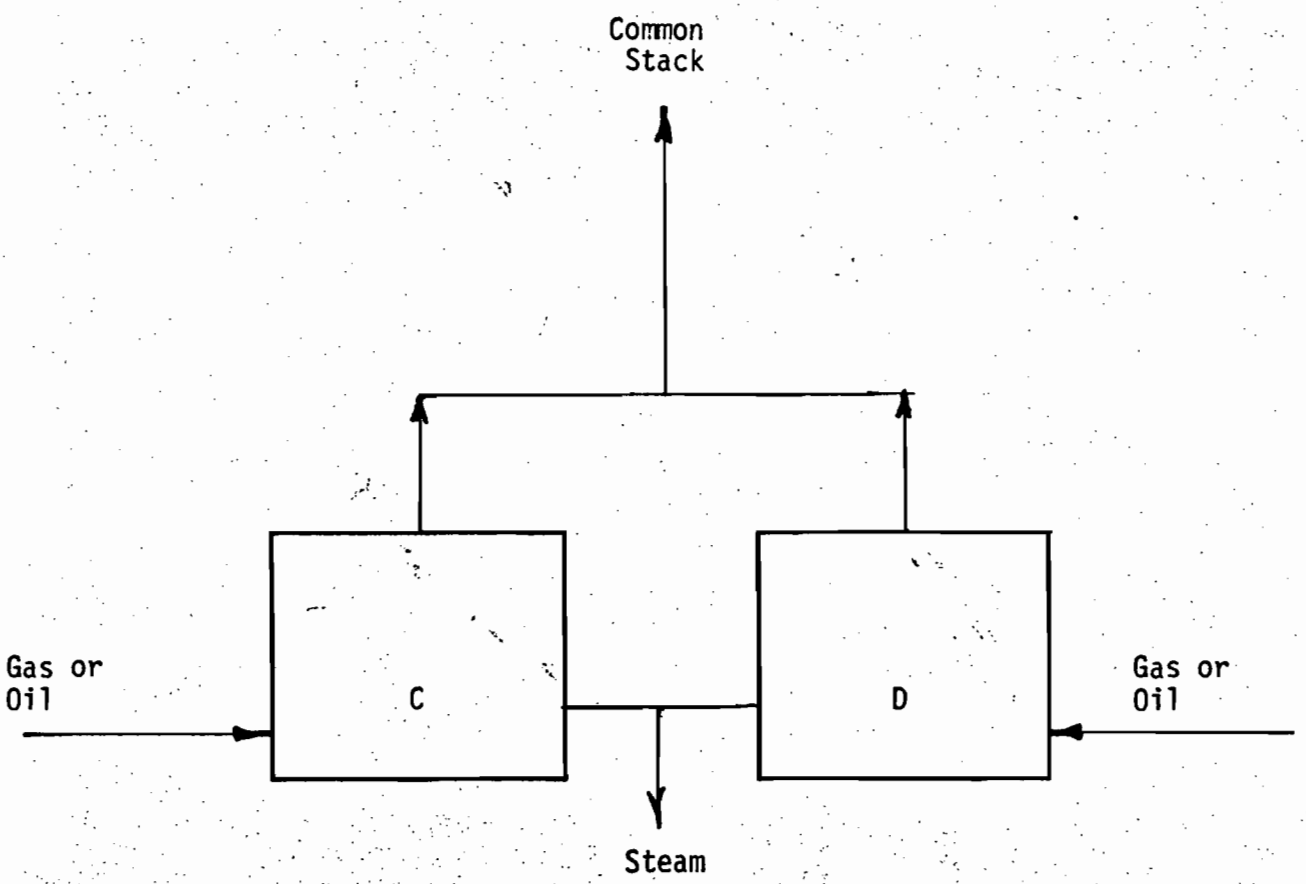
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

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.



FLOW SHEET

AUXILIARY BOILERS C & D
SUWANNEE RIVER CHEMICAL COMPLEX

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

APPENDIX 2-3

FDER CONSTRUCTION PERMIT APPLICATION FOR COAL/OIL MIX FUEL MODIFICATION TO "C" BOILER

3/17/81

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Auxiliary Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [ ] 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 "C", Coal-oil Mix (COM) Retrofit

SOURCE LOCATION: Street S. R. 137 City White Springs

UTM: East 328,320 E North 3,368,810 N

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: ____ 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 operation and maintenance of the pollution control facilities and, if applicable, pollution monitoring equipment.

Signed: J.B. Koogler

John B. Koogler, P.E.
Name (Please Type)

(Affix Seal)

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 NW 6th St., Gainesville, Fl. 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: ____ 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.

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

Start of Construction _____ Completion of Construction _____

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

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

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 ____ No

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

if seasonal, describe: _____

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

1. Is this source in a non-attainment area for a particular pollutant?

   a. If yes, has "offset" been applied?

   b. If yes, has "Lowest Achievable Emission Rate" been applied?

   c. If yes, list non-attainment pollutants.

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

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

SECTION II: GENERAL PROJECT INFORMATION

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

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 will be modified to accept a mix of ground coal and oil with same sulfur content but increased ash. A dust collector will be installed to mitigate particulate emissions.

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

Start of Construction May, 1981 Completion of Construction August, 1981

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

$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.

Unit was constructed under FDER Construction Permit No. AC-24-2700 and 2701 issued on July 6, 1977 and expiring on December 31, 1979. Unit currently operating on Permit No. AO-24-21059 issued March 6, 1980 and expiring January 31, 1985 covering two identical boilers "C" and "D".

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

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

if seasonal, describe: ____

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

NOT APPLICABLE (For ACP Only)

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

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

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

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

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

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

1. Total Process Input Rate (lbs/hr): Not Applicable (See Page 4)

2. Product Weight (lbs/hr):

C. Airborne Contaminants Emitted: Oil/COM (Coal-Oil Mix)(See Attachment 1)

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	103/102	451/445	17-2.03	103/102	103/102	451/445	1
Part. Matter**	9.0/3.7	36/16	17-2.03	9.0/3.7	9.0/3.7	36/162	1&2
NO_x	49/55	216/239	17-2.03	49/55	49/55	216/239	1
**V.E. Emissions	Only.						

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE (See Page 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
			40% > 20 u	
			50% > 15 u	
Bin Vent Dust Collector(6)	Part.	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% of Baghouse Emissions. When burning oil Baghouse will be by-passed for maintenance.

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Oil	5	20	120
Gas	0.03	0.12	120
Coal-Oil Mix (COM)	5.1	20.4	120

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

Fuel Analysis: Oil/COM

Percent Sulfur: 0.8/0.7 Percent Ash: 0.09/4.5

Density: 8 /9.3 lbs/gal Typical Percent Nitrogen: Nil/0.737

Heat Capacity: 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) to landfill

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): (single stack - two 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: 5 % Velocity: 50 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.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

NOT APPLICABLE (For ACP only)

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

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

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

*Explain method of determining efficiency.

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*: 3. Capital Cost:

4. Life: 5. Operating Cost:

6. Energy: 7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

NOT APPLICABLE

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

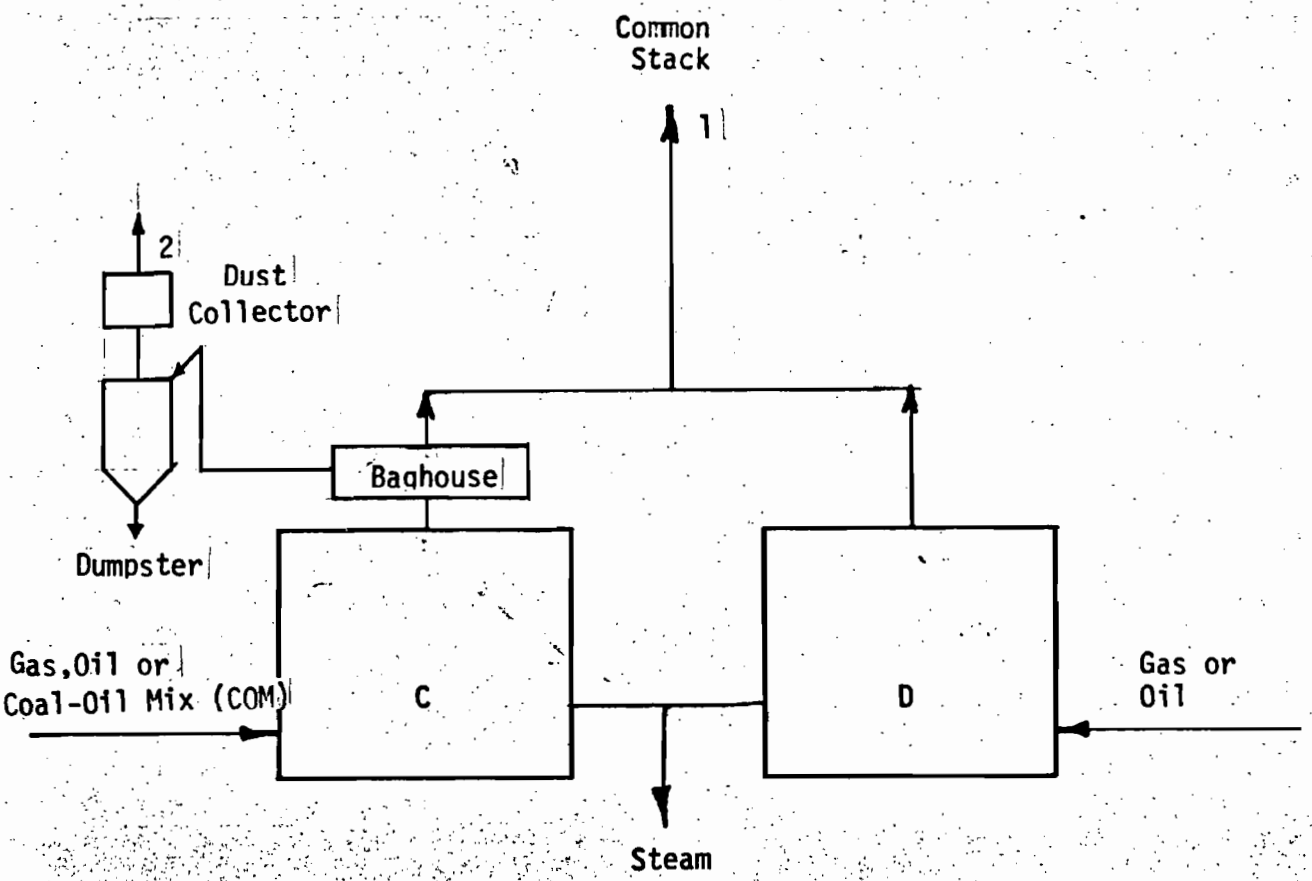
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

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.



FLOW SHEET

AUXILIARY BOILERS C & D
SUWANNEE RIVER CHEMICAL COMPLEX

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

ATTACHMENT 1

Fuel: Oil at 0.8% sulfur
Coal-Oil Mix at 0.7% sulfur

Contaminants: Sulfur Dioxide, NO_x and Particulate Matter

Heat Input: 120 x 10^6 BTU/ hr with operating factor at 100%.

Fuel Input: Oil - 120 x 10^6 BTU/hr x 1/146,400 gal/BTU
= 820 gal/hr.

Coal-Oil - 120 x 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.

Emissions:

Sulfur Dioxide (Potential and Actual)

Oil: SO_2 = (0.157 x 0.8) lb SO_2/gal x 820 gal/hr
= 103.0 lbs/hr
x 8760/2000 x 1.0 operating factor
= 451.1 TPY

Coal-Oil: SO_2 = 7481 lb/hr x 0.007 lbs/lb x 2 lb SO_2/lb S x 0.97
= 101.6 lbs/hr.
x 8760/2000 x 1.0 operating factor
= 445.0 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 x 10^6) BTU/hr
= 54.6 lbs/hr
x 8760/2000
= 239.2 TPY

Particulate Matter (Potential)

Oil: PM = [10(0.8) + 3]/1000 lb/gal x 820 gal/hr
= 9.0 lbs/hr
= 8760/2000 x 1.0
= 36.0 TPY

Revised 4/22/81

Coal-Oil: PM = 17 lb/ton coal x 3741/2000 tons/hr + [10(0.8) + 3]/1000 lb/gal
x 467 gal/hr
= 31.8 + 5.1
= 36.9 lbs/hr
x 8760/2000 x 1.0
= 161.8 TPY

Particulate Matter (Actual)

Oil: PM = 9.0 lbs/hr
= 36.0 TPY

Coal-Oil: PM = 36.9 lb/hr x (1-0.9)
= 3.7 lb/hr
x 8760/2000
= 16.2 TPY

APPENDIX 2-4

EMISSION CALCULATIONS

Emission Rate Calculations

Suwannee River Chemical Complex

A. No 2 DAP Plant

Particulate Matter - No Change

Sulfur Dioxide

Permitted Rates (See Appendix 2-2)

Hourly - 6.3 lb/hr
Annual - 27.7 tons/yr

Proposed

$$\text{Hourly} = 36\times10^{6}\ \text{BTU/hr} \times 1/146{,}400\ \text{gal/BTU} \times 8\ \text{lb/gal} \times (0.013\times2)\ \text{lb SO}_2\text{/lb oil} \times (1-0.8)\ \text{removed}$$

$$= 10.2\ \text{lb/hr}$$

$$\text{Annual} = 10.2 \times 8760/2000$$

$$= 44.8\ \text{tpy}$$

B. Auxillary Boiler "B"

Particulate Matter

Permitted Rates (See Appendix 2-2)

Hourly - 16.0 lb/hr
Annual - 70.0 tpy

Proposed

$$\text{Hourly} = 160\times10^{6} \times 1/146{,}400 \times (10\times1.3+3)/1000$$

$$= \boxed{17.5}\ \text{lb/hr}$$

$$\text{Annual} = \boxed{17.5} \times 8760/2000$$

$$= \boxed{76.7}\ \text{tpy}$$

B. Auxillary Boiler 'B' (cont)

Sulfur Dioxide

Permitted Rates

Hourly - 136 lb/hr
Annual - 597 tpy

Proposed

Hourly = $160 \times 10^6 \times 8/146,400 \times (0.013 \times 2)$
= 227.3 lb/hr

Annual = 227.3 x 8760/2000
= 995.6 tpy

C. Auxillary Boilers C & D

Particulate Matter (Each boiler)

Permitted Rates - None (See Appendix 2-2)

Hourly = $120 \times 10^6 \times 1/146400 \times (10 \times 0.8 + 3)/1000$
= 9.0 lb/hr
Annual = 9 x 8760/2000
= 39.5 tpy

Proposed

Hourly = $120 \times 10^6 \times 1/146,400 \times (10 \times 1.3 + 3)/1000$
= 13.2 lb/hr

Annual = 13.2 x 8760/2000
= 57.6 tpy

Sulfur Dioxide (Each boiler)

Permitted Rates

Hourly - 101 lb/hr
Annual - None
= 101 x 8760/2000
= 442.4 tpy

Proposed

Hourly = $120 \times 10^6 \times 8/146400 \times (0.013 \times 2)$
= 170.5 lb/hr
Annual = 170.5 x 8760/2000
= 746.7 tpy

Emission Summary

Pollutant	No 2 DAP	Boiler B	Boiler C & D (Total)	Total
SO2				
Hourly - Permitted	6.3	136	202.0	
- Proposed	10.2	227.3	341.0	
- Increase	3.9	91.3	139.0	
Annual - Permitted	27.7	597	884.8	
- Proposed	44.8	995.6	1493.4	
- Increase	17.1	398.6	608.6	1024.3
Part. Matter				
Hourly - Permitted		16.0	18.0	
- Proposed		19.7	26.4	
- Increase	0	3.7	8.4	
Annual - Permitted		70.0	79.0	
- Proposed		76.7	115.2	
- Increase	0	6.7	36.2	42.9

3.0 BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology (BACT) is required to control pollutants emitted from major modifications in air pollution sources if the increases in the emission rates exceed the de minimus levels defined in 40 CFR 52.21. The de minimus level for sulfur dioxide is 40 tons per year and the de minimus level for particulate matter is 25 tons per year. The emission rate increases resulting from the proposed fuel oil conversion of both sulfur dioxide and particulate matter exceed these de minimus levels. Because of this, the sources are subject to BACT review for both pollutants.

For boilers with a heat input of less than 250 million Btu per hour, EPA has determined the most effective means of controlling emissions is through the sulfur content of the fuel burned. Currently Occidental is permitted to operate the four sources with No. 6 fuel oil containing 0.8 percent sulfur content. Occidental is requesting a change in FDER operating permits to allow the use of No. 6 fuel oil with 1.3 percent sulfur content. The reason for the requested fuel change is related to both cost and the reliability of supply.

Currently Occidental can obtain fuel oil with a 0.8 percent sulfur content at a cost of $0.6523 per gallon. This fuel has a heat content of 136,000 Btu per gallon. The cost of fuel oil containing 1.3 percent sulfur content is approximately $0.5824 per gallon and the heat content of this oil is 146,000 Btu per gallon. The cost per million Btu for the 0.8 percent sulfur oil and the 1.3 percent sulfur oils are $4.80 per million Btu and $3.99 per million Btu, respectively.

The four affected sources have a total heat input requirement of 430 million Btu per hour; 30 million Btu per hour to the DAP plant and 400 million Btu per hour to the three boilers. If it is assumed that all four sources operate at 100 percent of the time and all four sources are fired with No. 6 fuel oil during the entire period of operation, the cost differential between the 0.8 percent sulfur oil and the less expensive 1.3 percent sulfur oil is $3.05 million per year.

If it is assumed that the boilers operate annually 25 percent of the time and that the DAP plant operates 100 percent of the time annually and if it is further assumed that the sources are fired with No. 6 fuel oil during the entire time of operation, the cost differential between the two fuel oils is $920,000 per year.

In addition to the cost advantage of using the fuel oil with a higher sulfur content, Occidental is also concerned about having an adequate supply of fuel oil. Presently the Occidental fuel supplier has informed Occidental that a supply of 0.8 percent sulfur fuel oil is available. The supplier goes on the state; however, that fuel oils with low sulfur contents are becoming more difficult to obtain and that long-term supplies cannot be guaranteed (See Appendix 3-1).

In order to maintain a reliable supply of oil at a competitive price, Occidental is requesting the modification which would allow the use of 1.3 percent sulfur oil in the No. 2 DAP plant, and the "B", "C" and "D" boilers at the SRCC.

Occidental is proposing that BACT for controlling particulate matter and sulfur dioxide emissions from these boilers is the use of fuel oil with 1.3 percent sulfur content based on the cost differential between this oil and oils with a lower sulfur content and, probably more importantly, the fact that fuel oils with a sulfur content below 1.5 percent are becoming more and more difficult to obtain.

APPENDIX 3-1

FUEL OIL COSTS AND AVAILABILITY

G' 1 JKoogler SREC

INTER-OFFICE MEMO
OCCIDENTAL CHEMICAL COMPANY

DATE: September 16, 1980

TO: W. Atwood

FROM: L. R. Peiper

SUBJECT: NO. 6 FUEL OIL PRICES

As we discussed, the latest prices for No. 6 residual fuel oil are as follows:

0.8% Sulfur - $.6523/Gal. and 136,000 BTu/gal

1.0% Sulfur - .6373/Gal.

1.5% Sulfur - .5824 Gal. and 146,000 BTu/gal

2.5% Sulfur - .5224/Gal.

Larry R. Peiper

LARRY R. PEIPER
ENERGY CONSERVATION MANAGER

dsa

EASTERN SEABOARD PETROLEUM COMPANY, INC.
P. O. BOX 3233, STATION F—6531 EVERGREEN AVE.
JACKSONVILLE, FLORIDA 32206

OFFICES
JACKSONVILLE
TAMPA

TELEPHONE 904/355-9675
CABLE ADDRESS
EASTPET

November 11, 1980

RECEIVED
NOV 13 1980
W. A. BAKER

Mr. Bill Baker
Manager of Utilities
Occidental Chemical
PO Box 300
White Springs, FL 32096

Dear Bill:

You asked for our comments concerning the availability of certain grades of fuel oil for the operation of your White Springs plant. Specifically, you mentioned 0.8% No. 6, 1.5% No. 6 and 2.5% No. 6 all indicating the percentage of sulfur by weight in the fuel.

Our best estimate of the supply situation reveals periods, such as last fall, when the lower sulfur grades will be very tight in supply and availability of fuels with sulfur contents of less than 2.0% almost nonexistent. On the other hand, mild winters and availability of natural gas will relieve this situation and all grades will be in surplus similar to the present situation.

Further, we know that the light lower sulfur crudes worldwide are diminishing in supply and that refiners are being forced both economically as well as from an availability standpoint to run heavy sour crudes in their refineries. Producing nations are keeping more of these light crudes for their own refineries. This certainly will have a great effect on the supply of low sulfur fuels in the future. Increasing demand for low sulfur coupled with decreasing manufacturing capability will surely create supply problems in the years ahead.

The Iran-Iraq war has added a greater burden on supply of low sulfur crudes and even if it ended today most observers speculate it would be one to two years before any production from these countries began again.

Certainly we are in a fragile position in this country having to depend so heavily on foreign crude sources. Any event that disrupts the world balance of supply and demand will be felt first in these lower sulfur grades.

Very truly yours,

Arnold E. Seaton

Arnold E. Seaton
Assistant Vice President

AES/tab

4.0 EXISTING AIR QUALITY DATA

4.1 Existing Data

The pollutants for which monitoring data might be required are particulate matter and sulfur dioxide. Various factors, including air quality modeling and existing monitoring data justify the elimination of the requirement for Occidental to enter into a preconstruction ambient air monitoring program.

The existing PSD regulations state that applications submitted, and determined to be complete, prior to June 8, 1981 must meet the monitoring requirements of the 1978 PSD regulations. These regulations state [40 CFR 52.21(n)] "As necessary (underlining added for emphasis) to determine whether emissions from the proposed source or modification would cause or contribute to a violation of a national ambient air quality standard, any permit applications submitted after August 7, 1978, shall include an analysis of continuous air quality monitoring data . . ." This requirement has been discussed with EPA staff personnel several times in the past three years. In cases where sources have been relatively isolated and air quality modeling has demonstrated there was no threat to ambient air quality standards, it has always been agreed that preconstruction monitoring would not be required.

It is the opinion of Occidental and its consultant that the air quality modeling results included in Section 6.0 demonstrate that air quality standards are sufficiently protected and because of this perconstruction monitoring should not be required.

4.2 Background Concentrations

Background levels for sulfur dioxide have been assumed to be zero. This assumption was made since all of the sulfur dioxide emitted within several miles of the two Occidental, Hamilton County facilities is emitted from permitted air pollution sources. Emission data for these sources are on file with the FDER office in Jacksonville, Florida and were taken into consideration in developing emission inventories which were used for air quality modeling.

The fact that all significant sulfur dioxide emissions in the study area are from permitted sources; sources that can readily be accounted for by modeling, is another reason for suggesting that preconstruction air quality monitoring is not necessary.

Particulate matter (TSP) levels have been monitored at the Occidental site since October, 1975 and the program is continuing. An analysis of a representative portion of these data show that the second high expected TSP levels at six sites ranged from 69-148 micrograms per cubic meter.

To establish a background TSP level for a 24-hour period, the 95th percentile 24-hour TSP concentrations from three of these sites, which were judged to be representative of background sites were selected and averaged. This average concentration, calculated by taking the geometric mean of the 95th percentile concentration from each of the three sites, is 61 micrograms per cubic meter.

The 24-month geometric mean TSP concentration from these same sites collectively was 31 micrograms per cubic meter. This concentration was selected as the annual average background TSP level.

5.0 EMISSION DATA AND METEROLOGICAL DATA

5.1 Emission Data

Several air quality impact studies conducted by Occidental in the past and reviewed by FDER have confirmed that the only sources that have a significant sulfur dioxide or particulate matter impact at the Occidental site are the sources at the SCCC and the SRCC. Emission data from these sources have been confirmed with the FDER office in Jacksonville. The emission data for sulfur dioxide are summarized in Tables 5-1 through 5-3.

The emission data included in Tables 5-1 and 5-2 include emission data for the No. 2 DAP plant and the "B", "C" and "D" boilers as they will be modified. The data in these tables also reflects modified emission data for SCCC sources for which a PSD application has also been filed.

5.2 Meterological Data

Surface meterological data from Valdosta, Georgia and upper air data from Waycross, Georgia for the years 1972-1976 were used for all air quality studies. These data are summarized in Table 5-4 and Figure 5-1.

February 12, 1981

TABLE 5-1

SULFUR DIOXIDE EMISSION DATA AND STACK PARAMETERS

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

Source	Emission Rate Annual (tons/day)	Emission Rate Maximum (gr/sec)	Stack Data Height (m)	Stack Data Temp (°K)	Stack Data Velocity (m/sec)	Stack Data Dia. (m)	Source Location X Cord. (km)	Source Location Y Cord. (km)	
Sulfuric Acid A	14.500	152.25	61.0	350.0	15.5	1.80	28.69	68.99	
Sulfuric Acid B	14.500	152.25	61.0	350.0	15.5	1.80	28.69	69.07	
Sulfuric Acid C	3.600	37.80	45.7	356.0	28.7	1.59	28.71	69.17	
Sulfuric Acid D	3.600	37.80	45.7	356.0	28.7	1.59	28.71	69.23	
DAP 1	0.13	1.40	36.6	322.0	12.2	2.13	28.48	68.89	
DAP 2	0.123	1.28	42.7	325.0	13.1	2.44	28.45	68.87	
GTSP/Dical	0.13	1.40	32.3	314.0	13.1	2.13	28.49	69.03	Revised 4/23/81
Auxiliary Boiler A (A & B Sulfuric)	0.31	3.23(1)	12.2	466.0	12.5	1.13	28.66	69.03	
Auxiliary Boiler B(2) (C & D Sulfuric)	2.728	28.64(1)	10.7	468.0	9.5	1.46	28.68	69.18	
Pollyphos Feed Prep.	0.06	0.62	28.7	342.0	14.9	1.07	28.87	68.85	
Pollyphos Reactor A	1.25	13.10	30.5	322.0	10.1	1.22	28.87	68.83	
Pollyphos Reactor B	1.25	13.10	30.5	322.0	10.1	1.22	28.88	68.83	
SPA #1	0.009	0.10	30.5	318.0	17.8	0.43	28.68	68.79	
Rock Dryer #3 (SCCC)	0.46	4.80	15.2	317.0	17.2	2.16	20.90	68.96	
Rock Dryer East	0.34	3.61	18.3	343.0	5.7	2.95	30.17	68.47	
Rock Dryer West	0.34	3.61	18.3	343.0	5.7	2.95	30.15	68.47	
Auxiliary Boilers C & D(2)	4.092	42.97	31.7	468.0	15.2	1.98	28.90	68.90	Revised 5/6/81
Sulfuric Acid E(2)	5.00	52.5	61.0	356.0	9.3	2.90	20.95	69.82	
Sulfuric Acid F(2)	5.00	52.5	61.0	356.0	9.3	2.90	20.90	69.70	
Auxiliary Boiler E(2) (E & F Sulfuric)	2.728	28.64	15.3	428.0	15.9	1.60	20.90	69.75	

(1) 25 percent of maximum rate.

(2) Not included in baseline.

TABLE 5-2

1981 PARTICULATE MATTER EMISSION DATA & STACK PARAMETERS — February 12, 1981

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

Source	Emission Rate		Stack Data				Source Location		
	Annual (tons/day)	Maximum (gr/sec)	Height (m)	Temp (°K)	Velocity (m/sec)	Dia. (m)	X Cord. (km)	Y Cord. (km)	
DAP 1	0.525	5.80	36.6	322.0	12.2	2.13	28.48	68.69	
DAP 2	0.525	5.80	42.7	325.0	13.1	2.44	28.45	68.87	
DAP Shipping	0.485	5.09	36.6	314.0	23.8	0.71	28.56	68.77	
Phos Acid A	0.057	0.63	30.5	314.0	11.3	1.07	28.78	68.87	
Phos Acid B	0.057	0.63	32.3	314.0	16.2	1.22	28.76	68.90	
Phos Acid C	0.057	0.63	32.3	314.0	16.2	1.22	28.77	68.95	
GTSP/Dical	0.523	5.78	32.3	314.0	13.1	2.13	28.49	69.03	Revised 4/23/81.
GTSP Shipping & Storage 1	0.434	4.56	30.5	314.0	15.2	1.98	28.53	69.10	
GTSP Shipping & Storage 2	0.468	4.91	36.6	314.0	12.7	2.44	28.57	69.15	
Boiler A	0.019	0.20(1)	12.2	466.0	12.5	1.13	28.66	69.03	
Boiler B	0.210	2.48	10.7	468.0	9.5	1.46	28.68	69.18	
Pollyphos 11	0.171	1.89	28.7	342.0	14.8	1.07	28.87	68.85	
Pollyphos 13A	0.228	2.52	30.6	322.0	10.1	1.22	28.87	68.83	
Pollyphos 13B	0.228	2.52	30.6	322.0	10.1	1.22	28.88	68.83	
Pollyphos 12	0.171	1.89	15.4	561.0	20.2	1.22	28.89	68.85	
Dical Acid Prep.	0.017	0.18	22.9	319.0	14.1	0.61	28.39	68.76	
Dical Shipping & Storage	0.025	0.26	16.8	319.0	13.8	0.61	28.34	68.70	
Rock Grinder 2	0.262	2.90	39.6	336.0	6.6	0.71	28.76	68.79	
Rock Grinder 1	0.419	4.63	36.6	339.0	9.5	1.07	28.79	68.77	
Rock Dryer 3	0.529	5.85	15.2	317.0	17.2	2.13	20.90	68.96	
Rock Dryer E	0.491	5.43	18.3	343.0	5.7	2.95	30.17	68.47	
Rock Dryer W	0.491	5.43	18.3	343.0	5.7	2.95	30.15	68.47	
Rock Silo (SR)	0.549	6.07	33.5	314.0	6.5	1.52	28.83	68.74	
Rock Grinder (SRM)	0.347	3.83	18.3	322.0	9.9	0.43	30.13	68.43	
Rock Silo (SC)	0.529	5.85	33.5	314.0	6.5	1.52	20.93	68.94	
Boilers C & D	0.316	3.33	31.7	468.0	15.2	1.98	28.90	68.90	Revised 5/6/81
Boiler E	0.210	2.48	15.3	428.0	15.9	1.60	20.90	69.75	
Phos Acid D	0.509	5.35	32.0	314.0	14.2	1.22	21.30	69.83	
Acid Clarification (SR)	0.024	0.25	12.2	322.0	17.8	0.30	28.84	69.05	
Acid Clarification (SC)	0.024	0.25	12.2	322.0	17.8	0.30	21.05	69.97	

(1) 25 percent rated capacity.

TABLE 5-3

BASELINE PARTICULATE MATTER EMISSION DATA & STACK PARAMETERS

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

Source	Emission Rate		Stack Data				Source Location		
	Annual (tons/day)	Maximum (gr/sec)	Height (m)	Temp (°K)	Velocity (m/sec)	Dia. (m)	X Cord. (km)	Y Cord. (km)	
DAP 1	0.525	5.80	36.6	322.0	12.2	2.13	28.48	68.89	
DAP 2	0.525	5.80	42.7	325.0	13.1	2.44	28.45	68.87	
DAP Shipping	0.485	5.09	36.6	314.0	23.8	0.71	28.56	68.77	
Phos Acid A	0.057	0.63	30.5	314.0	11.3	1.07	28.78	68.87	
Phos Acid B	0.057	0.63	32.3	314.0	16.2	1.22	28.76	68.90	
Phos Acid C	0.057	0.63	32.3	314.0	16.2	1.22	28.77	68.95	
GTSP	0.523	5.78	32.3	314.0	13.1	2.13	28.49	69.03	Revised 4/23/81
GTSP Shipping & Storage 1	0.434	4.56	30.5	314.0	15.2	1.98	28.53	69.10	
GTSP Shipping & Storage 2	0.468	4.91	36.6	314.0	12.7	2.44	28.57	69.15	
Boiler A	0.019	0.20(1)	12.2	466.0	12.5	1.13	28.66	69.03	
Pollyphos 13	0.456	5.04	30.6	314.0	15.5	0.91	28.87	68.83	
Pollyphos 11	0.171	1.89	28.7	342.0	14.8	1.07	28.87	68.85	
Pollyphos 12	0.171	1.89	15.4	561.0	20.2	1.22	28.89	68.85	
Rock Grinder 2	0.262	2.90	39.6	336.0	6.6	0.71	28.76	68.79	
Rock Grinder 1	0.419	4.63	36.6	339.0	9.5	1.07	28.79	68.77	
Rock Dryer 3	0.529	5.85	15.2	317.0	17.2	2.13	20.90	68.96	
Rock Dryer E	0.491	5.43	18.3	343.0	5.7	2.95	30.17	68.47	
Rock Dryer W	0.491	5.43	18.3	343.0	5.7	2.95	30.15	68.47	
Rock Silo (SR)	0.549	6.07	33.5	314.0	6.5	1.52	28.83	68.74	
Rock Grinder (SRM)	0.347	3.83	18.3	322.0	9.9	0.43	30.13	68.43	
Rock Silo (SC)	0.529	5.85	33.5	314.0	6.5	1.52	20.93	68.94	

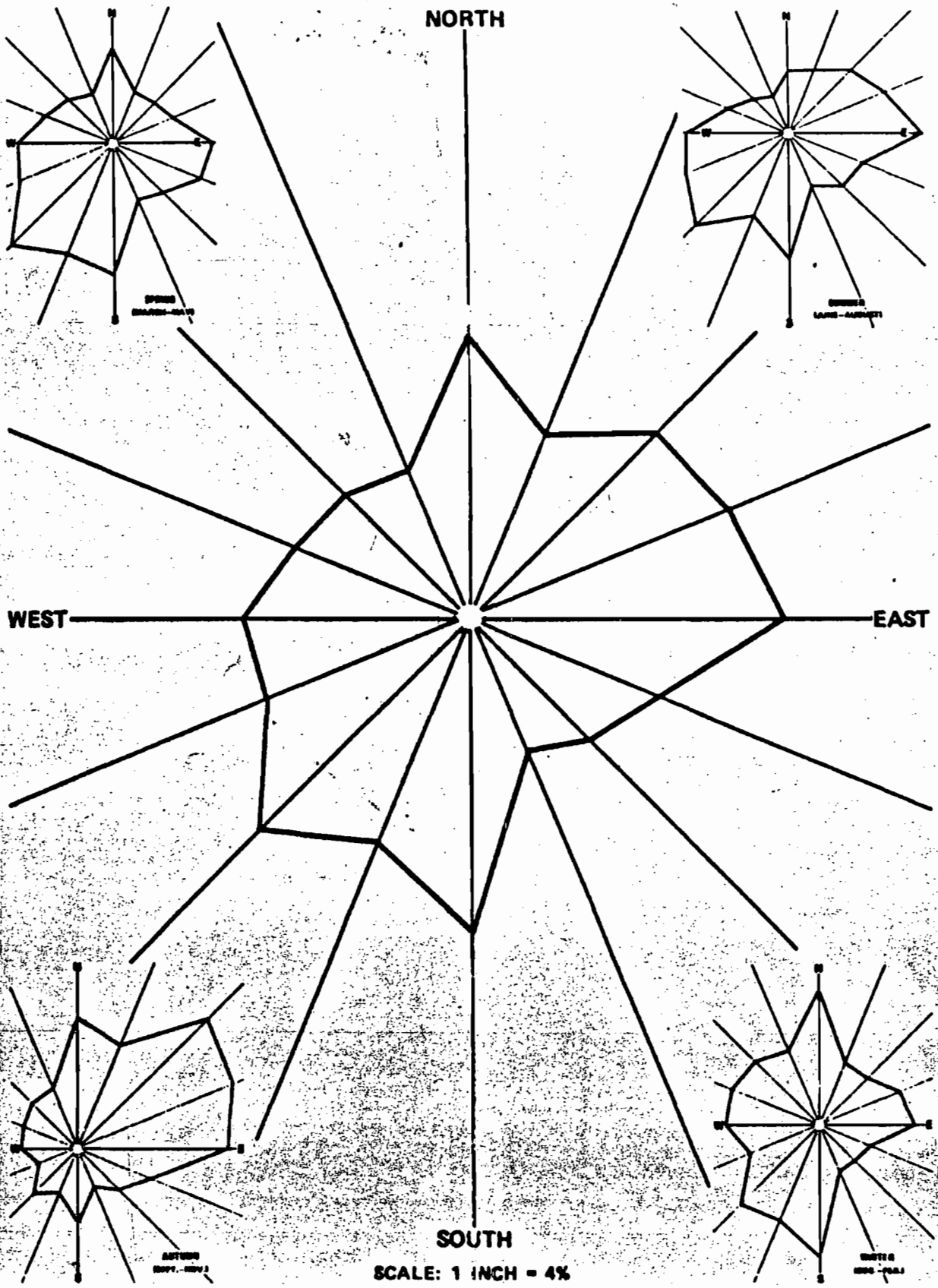
(1) 25 percent rated capacity.

TABLE 5-4

ANNUAL WIND SPEED-WIND DIRECTION DISTRIBUTION FOR
ALL STABILITY CLASSES - VALDOSTA, GEORGIA 1972-1976

OCCIDENTAL CHEMICAL COMPANY
WHITE SPRINGS, FLORIDA

Wind Direction	Windspeed (m/sec) 0-1.5	1.6-3	4-5	6-8	9-11	> 11
N	0.0170	0.0269	0.0254	0.0063	0.0002	0.0
NNE	0.0135	0.0204	0.0174	0.0030	0.0000	0.0
NE	0.0145	0.0272	0.0240	0.0053	0.0001	0.0
ENE	0.0174	0.0305	0.0231	0.0048	0.0001	0.0
E	0.0192	0.0355	0.0266	0.0046	0.0001	0.0
ESE	0.0139	0.0238	0.0151	0.0027	0.0001	0.0
SE	0.0139	0.0208	0.0102	0.0011	0.0000	0.0
SSE	0.0110	0.0165	0.0091	0.0020	0.0002	0.0
S	0.0193	0.0297	0.0253	0.0100	0.0011	0.0
SSW	0.0131	0.0229	0.0198	0.0096	0.0006	0.0
SW	0.0175	0.0294	0.0239	0.0103	0.0011	0.0
WSW	0.0133	0.0220	0.0182	0.0055	0.0002	0.0
W	0.0144	0.0253	0.0164	0.0055	0.0004	0.0
WNW	0.0116	0.0208	0.0135	0.0057	0.0003	0.0
NW	0.0107	0.0172	0.0143	0.0051	0.0001	0.0
NNW	0.0090	0.0161	0.0135	0.0039	0.0004	0.0



SCALE: 1 INCH = 4%

ANNUAL WIND DIRECTION DISTRIBUTION VALDOSTA,GEORGIA 1972-1976

SOURCE: NATIONAL WEATHER SERVICE SCALE FOR INSETS: 1/2 INCH = 5%

FIGURE 5-1

6.0 AIR QUALITY IMPACT ANALYSIS

6.1 Introduction

Air quality modeling has been conducted to evaluate the impact of the increased sulfur dioxide and particulate matter emissions from the SRCC sources. The baseline concentration for these pollutants and the impact of new or modified sources (all major sources constructed since January 6, 1975 and all sources since August 7, 1977) have been established by air quality modeling. The impact of new or modified sources within the area of the SRCC have been included in the air quality impact analysis.

The air quality modeling for both long-term and short-term impacts was conducted in accordance with guidelines established by EPA (Guideline for Air Quality Models, March 1978). For sulfur dioxide the annual, the 24-hour and the 3-hour time periods were investigated. For particulate matter the impacts for the annual and 24-hour periods were investigated.

The annual impacts were evaluated by using the Air Quality Display Model (AQDM). Meteorological data from Valdosta for the period 1972-1976 were used with this model.

For the 24-hour and 3-hour periods, the CRSTER and PTMTPW models were used. The CRSTER was used to establish the area of significant impact and the meteorological conditions resulting in the highest second-high impacts in various directions from the fertilizer complex. Once the meteorological conditions were established, these data plus emission data from Occidental SRCC sources and sources up-wind of the SRCC were input into the PTMTPW model and the maximum impacts were determined. Receptor spacing of 0.1 km were used in determining the maximum impacts.

The results of the modeling are summarized in Table 6-1 and various Figures. The computer print-outs for all of the air quality modeling are bound as a separate document.

6.2 Impact Analysis

The short-term impact is defined as the 3-hour and 24-hour impact of pollutants emitted from sources in the study area. The short-term impact analysis was conducted with the CRSTER and PTMTPW air quality models.

The CRSTER model was run first using as input the emission data from the proposed sources and meteorological data for the period 1972-1976 from Valdosta, Georgia. The receptor distances in the CRSTER model were set to predict the point of maximum impact and also the boundary of the area of significant impact of the proposed sources. Significant, as it is used in this context, is defined in Table 6-2.

Air pollutant emissions from all major sources that are within 50 kilometers of Occidental and that have a significant impact on air quality at Occidental were included in the impact studies. This includes sources well beyond the area of significant impact of the proposed action.

The emission inventory for sulfur dioxide in the area of influence was developed from data on file at the Florida Department of Environmental Regulation District Office in Jacksonville, Florida. These files were reviewed source by source to develop an emission inventory which is as realistic as possible.

Meteorological data for evaluating the 3-hour and 24-hour pollutant levels in the ambient air were selected from the CRSTER model output. Meteorological data resulting in the highest second-high 24-hour particulate matter and sulfur dioxide levels and 3-hour sulfur dioxide concentrations in several directions from Occidental were selected for evaluating impacts.

The long-term impact is defined as the annual average impact of pollutants emitted from sources within the study area. The long-term impact analysis was conducted with the AQDM. The input data to the AQDM included emission data for sulfur dioxide and particulate matter resulting from all sources within approximately 50 kilometers of Occidental. This includes sources outside the area of significant impact of the proposed sources.

The meteorological data input to the AQDM were for the 1972-1976 period from Valdosta, Georgia. These data were in the STAR format with five stability classes. Receptor spacing used in the AQDM was 1.0 kilometer.

6.2.1 Sulfur Dioxide Impact Analysis

6.2.1.1 Short-Term Sulfur Dioxide Impact

The short-term impact analysis for sulfur dioxide involved a 24-hour impact analysis and a 3-hour impact analysis. These time periods correspond to applicable ambient air quality standards.

The CRSTER model was run multiple times with sulfur dioxide emission data for the new and proposed Occidental sources and meteorological data for the period 1972-1976 for Valdosta, Georgia. On the first set of

runs, the receptors were set to determine the maximum air quality impact of the new and proposed sources. From this run the meteorological conditions resulting in the highest second-high 24-hour and 3-hour impacts at several locations were selected. The locations selected represented the direction to the maximum highest second-high concentration for both the 24-hour and 3-hour periods and directions that would allow investigation of source interaction between SRCC sources and other sources which would be aligned with SRCC during the occurance of various wind directions. The direction selected for evaluation and the meteorological conditions resulting in the highest second-high impact for each direction are presented in Table 6-3.

The second series of runs with the CRSTER model were made to determine the area of significant impact of the proposed sources. The distance to the boundary of the area of annual significant impact was determined to be 12.6 kilometers; distance to the boundary for the 24-hour period was 45.4 kilometers and for the 3-hour period 54.3 kilometers. The areas of significant influence for SO_2 are shown in Figure 6-1. Also shown in this figure is the Class I PSD area nearest Occidental; the Okeefenokee Wildlife Refuge in Georgia. It can be seen that the proposed sources do potentially impact significantly on the Class I area, for the 3-hour period. The PTMTPW runs for all new sources for 24-hour and 3-hour periods are summarized in Table 6-1 and show the actual impacts are less than permitted for Class I areas. This is further discussed in Section 6.4.

The sulfur dioxide emission inventory used for the air quality impact analysis included all major sources that are within approximately 50 kilometers of the Occidental site and that have a significant impact on air quality at Occidental.

The critical meteorological conditions established with the CRSTER model and the emission inventory were input to the PTMTPW model to determine the maximum impact for each condition investigated. The receptor spacing used for determining the point of maximum impact was 0.1 kilometer. The results of these runs are summarized in Table 6-1 and Figure 6-2.

In evaluating the 24-hour sulfur dioxide impacts with all sources operating at 100 percent rate capacity, a maximum impact of 282 micrograms per cubic meter was discovered to the west of the SRCC. This impact was reduced to 259 micrograms per cubic meter by assuming the "B" Boiler to be operating at 60 percent rated capacity. Under these conditions the four SRCC sulfuric acid plants were operating at 100 percent capacity, the "C" and "D" boilers were operating at 100 percent capacity, the "A" boiler was operating at 25 percent rated capacity, all other fuel burning sources at the SRCC and Suwannee River Mines were operating 100 percent capacity and the "B" boiler was operating at 60 percent capacity.

It is not conceivable that Occidental would operate all of the steam producing sources at SRCC at this rate; these sources being the four sulfuric acid plants and the "A", "B", "C" and "D" boilers. Normally, when the four sulfuric acid plants are operating at 100 percent rated capacity there is sufficient steam at the SRCC for the chemical complex to be independent of other steam sources, including the four boilers.

As a point of reference, in previous modeling conducted for FDER it was always assumed that with the four sulfuric acid plants operating at 100 percent rated capacity the "A" and "B" boilers would operated at 25 percent rated capacity.

In view of these circumstances Occidental is willing to accept a permit provision that would limit the firing rate of the "B" Auxillary Boiler 60 percent or less when the four sulfuric acid plants are operating at 100 percent rated capacity and the "C" and "D" boilers are operating at 100 percent rated capacity.

6.2.1.2 Long-Term Sulfur Dioxide Impact

The AQDM was run once to determine the impact of sulfur dioxide emissions resulting from the proposed emission rate increases, a second time to determine the impact of new and proposed sources, and a third time to determine the impact of all sources.

The annual average sulfur dioxide levels for all sources, new and proposed sources and proposed action are summarized in Figures 6-3 through 6-5, respectively.

6.2.2 Particulate Matter Impact Analysis

An air quality review was conducted to determine the impact of particulate matter emitted from the sources at the SRCC and the SCCC. This review was conducted in a manner similar to the sulfur dioxide air quality review. In the first step of the review, the determination of the area of significant impact with the CRSTER, it was found that the particulate matter

impacts resulting from the SRCC fuel conversion were not significant at any distance. Because of this no further particulate matter modeling was required.

6.3 Downwash Analysis

When pollutants are emitted from a stack or vent at a velocity less than two times the prevailing wind speed or at a height less than approximately 2.5 times the height of the nearby structures, there is a possibility that the pollutant will be entrapped in the turbulent wake generated by the structure or stack and be mixed immediately to ground level. Such an event is referred to as a downwash.

The stack height of the "B" auxiliary boiler stack is 35 feet, the stack gas velocity is 9.5 meters per second and the stack gas temperature is 383°F. There are structures at the SRCC higher than the boiler stack but the structures greater than 35 feet high that are close proximity of the boiler are "open" structures; that is, the structures consist of piping, ducts, structural members and/or cylindrical vessels. Because of the nature of these structures and the relatively high velocity and temperature characteristics of the boiler stack gas, it is doubtful that plume downwash will occur.

The "C" and "D" boiler stack, a single stack for the two boilers, is 104 feet high. The stack gases have a temperature of 383°F and a velocity of 15.2 meters per second. There are no structures within several hundred feet of this stack that exceed this height. Because of this and the relatively high stack gas velocity and temperature it is doubtful that downwash will occur.

The No. 2 DAP plant stack is 140 feet high and the stack gases have a temperature of 150°F and a velocity of 13.1 meters per second. This stack is approximately 1.2 times higher than the DAP plant building but because of the relatively high stack gas velocity, downwash has not been observed to be a problem.

In all three cases the stack gas velocities are three to five times greater than the average wind speed at the site and in two of the cases, those of the boilers, the high stack gas temperature provides a considerable bouyance lift. Because of these factors, downwash has not been observed to occur from any of the three stacks during the two to six years these sources have been in operation. This has been the case even though the stack heights are less than 2.5 times the height of "near-by" structures.

6.4 Impact on Class I Areas

The Okeefenokee National Wildlife Refuge is located approximately 41 kilometers northeast of Occidental. The impact of sulfur dioxide emissions from the proposed SRCC modifications was determined with the CRSTER and ISC models. The meteorological conditions resulting in worst-case 24-hour and 3-hour impacts at the Okeefenokee boundary were determined with the CRSTER.

These meteorological conditions and emission data from all new Occidental sources including the modifications proposed for the SCCC were then input to the ISC model. A sulfur dioxide half-life of eight hours was used with the model in accordance with a suggestion of Lou Nagler of EPA, Region IV. The results of this analysis are summarized in Table 6-1.

6.5 Air Quality Review Summary

The air quality review for the proposed fuel conversion was conducted in accordance with modeling guidelines established by the U.S. Environmental Protection Agency. The long-term impact analyses were conducted with the AQDM and the short-term analyses with the CRSTER and PTMTPW. Meteorological data from Valdosta for the period 1972-1976 were used in the air quality review.

The emission data utilized in conducting the air quality review were obtained from the FDER office in Jacksonville. With the Occidental sources it was assumed that all sources would be operating at maximum permitted rates for short-term and annual periods. Under this assumption the six sulfuric acid plants at Occidental, the auxiliary boilers, and all other sources were assumed to be operating at maximum rated capacity.

The air quality review indicates that the modifications concurrently requested for the SCCC and the fuel conversion proposed for the SRCC can be undertaken with no threat to ambient air quality standards or PSD increments.

The proposed action does not have a significant impact on the Okeefenokee National Wildlife Refuge; the Class I PSD area nearest to Occidental. There are no sulfur dioxide non-attainment areas in North Florida that can be impacted by the sulfur dioxide emissions from the proposed action and the impact particulate matter emissions from the proposed actions are not significant at any distance.

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	--	25 (at SRCC)	2	1
24-Hour	47*	259*(at SRCC)	23*	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 of operating factor.

TABLE 6-2

AIR QUALITY STANDARDS AND
CLASS II PSD INCREMENTS FOR SULFUR DIOXIDE & PARTICULATE MATTER

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Time Period	Air Quality Standard (ug/m^3)	Class II PSD Increment (ug/m^3)	Class I PSD Increments (ug/m^3)	Significant Impact Levels (ug/m^3)
Sulfur Dioxide				
Annual	60	20	2	1
24-Hour	260	91	5	5
3-Hour	1300	512	25	25
Particulate Matter				
Annual	60	19	5	1
24-Hour	150	37	10	5

TABLE 6-3

SUMMARY OF METEOROLOGICAL CONDITIONS USED
EVALUATE THE SHORT-TERM IMPACTS OF
SULFUR DIOXIDE AND PARTICULATE MATTER EMISSIONS

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

Pollutant	Meteorology Day	3-Hr. Period	Year	Direction From SRCC
Particulate Matter	Impact Not Significant			
Sulfur Dioxide				
24-Hour				
1	246		1973	300°
2	225		1974	95°
3	238		1974	310°
4	138		1974	360°
5	349		1976	230°
3-Hour				
1	066	5	1974	95°
2	128	5	1972	310°
3	161	6	1976	360°
4	082	5	1975	30°

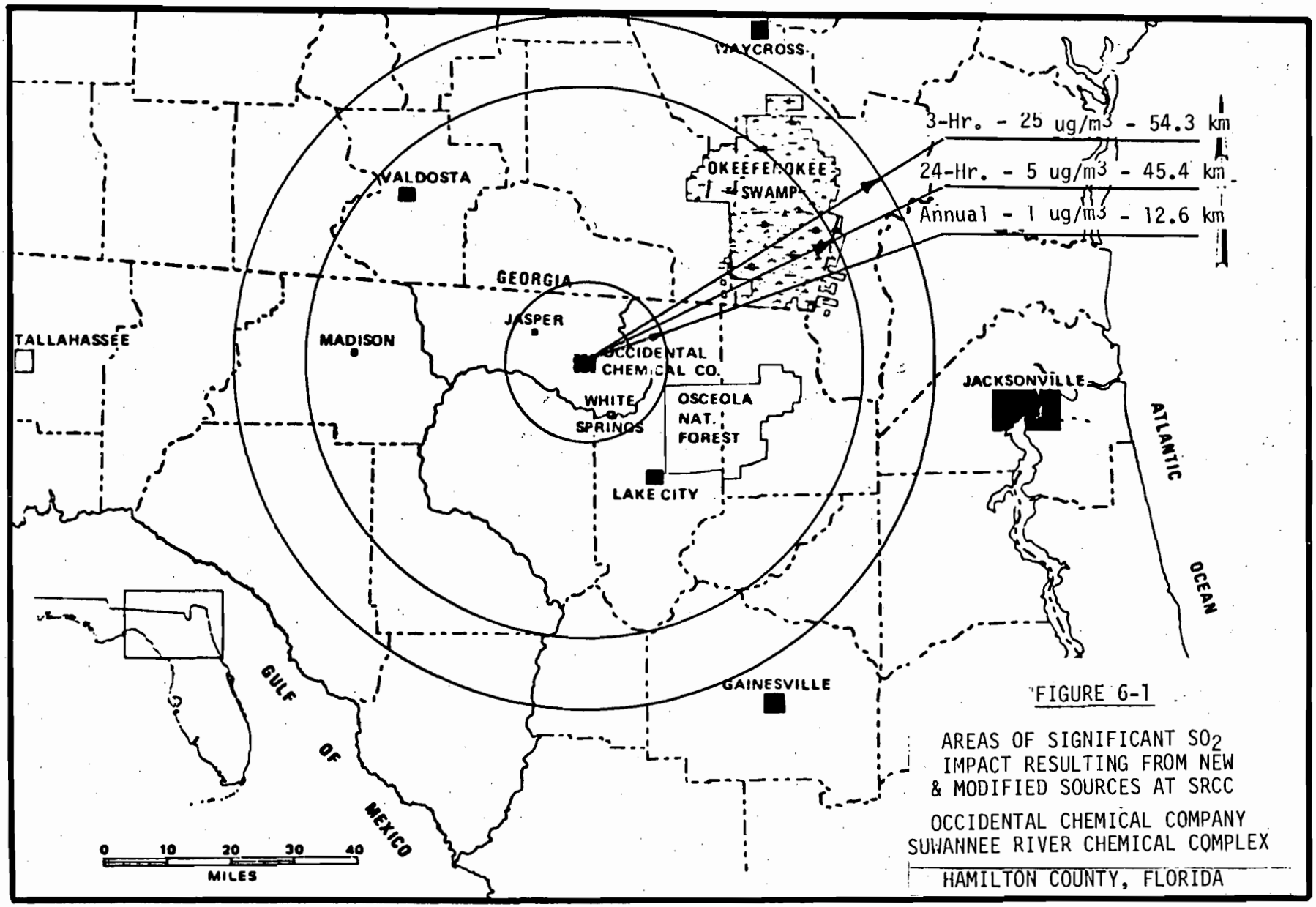


FIGURE 6-1

AREAS OF SIGNIFICANT SO_2 IMPACT RESULTING FROM NEW & MODIFIED SOURCES AT SRCC

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX

HAMILTON COUNTY, FLORIDA

Receptor	ATT Source	Impact (ug/m^3) New Source	Fuel Conversion
24-hour SO_2			
1	191	33	18
2	110	27	14
3	115	20	9
4	228	45	21
5	259*	47*	23*
3-hour SO_2			
6	462	85	42
7	915	185	94
8	750	95	39
9	553	208	84

*With "B" Boiler @ 60% Operating Factor

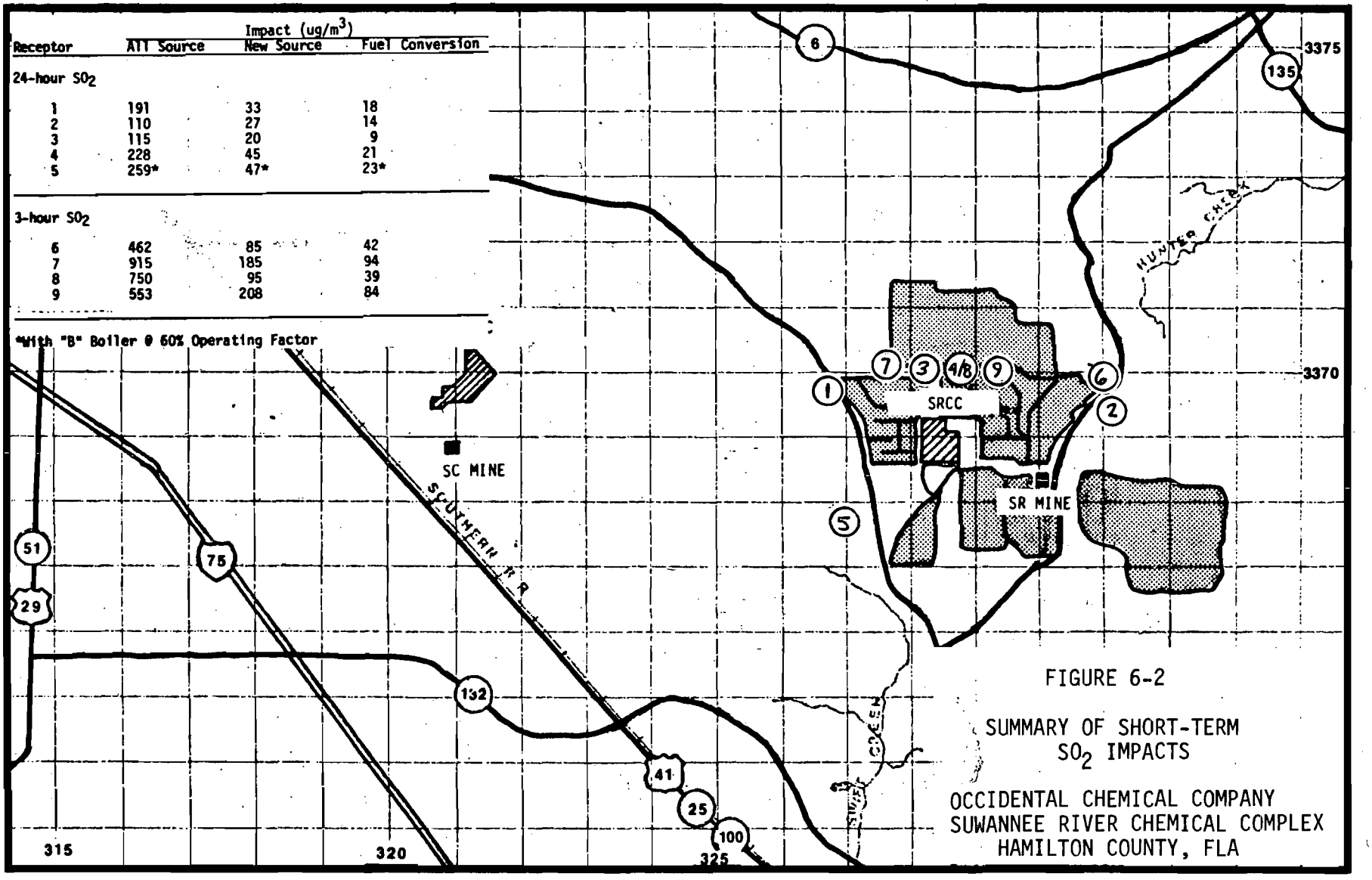


FIGURE 6-2

SUMMARY OF SHORT-TERM SO_2 IMPACTS

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLA

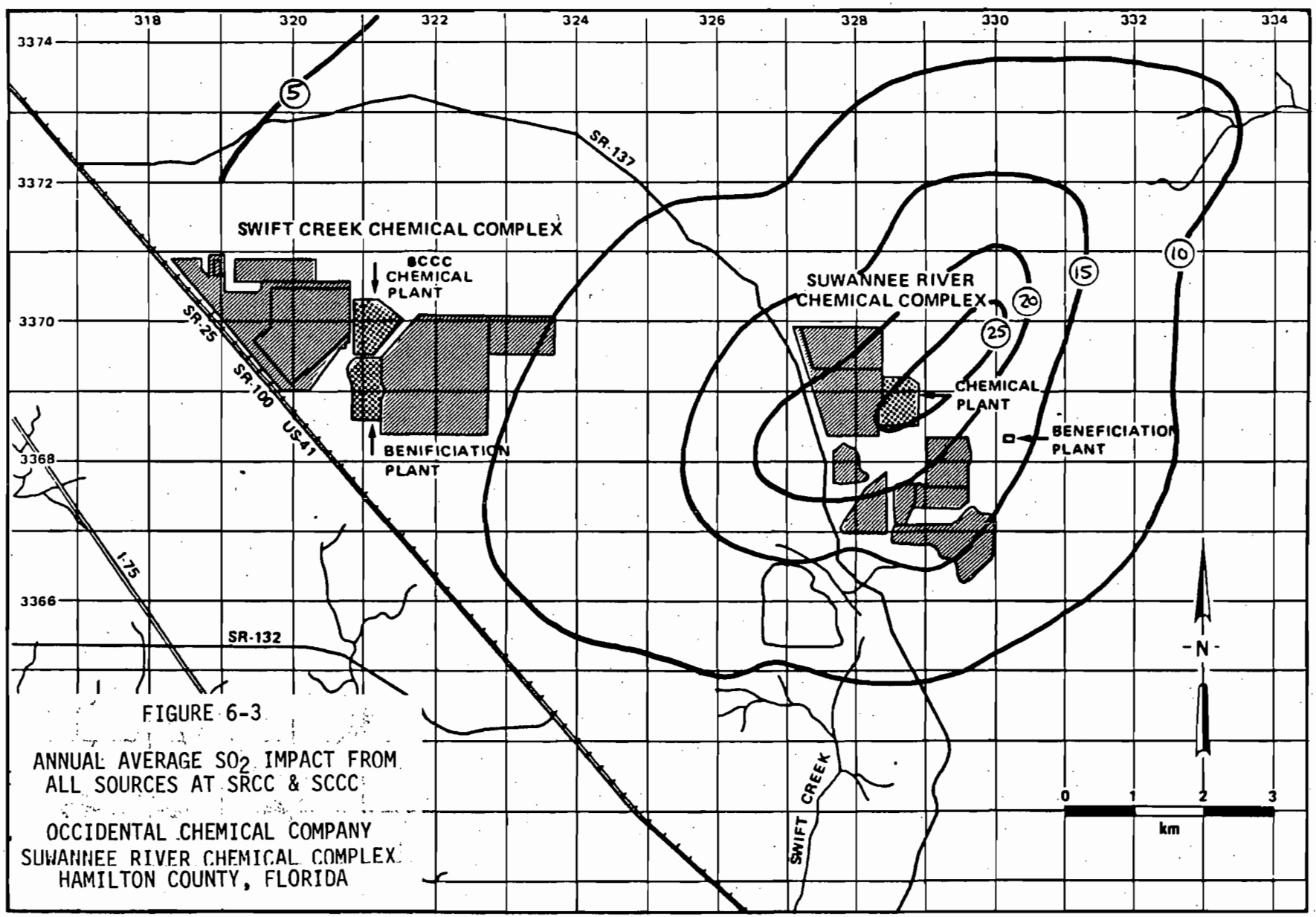


FIGURE 6-3

ANNUAL AVERAGE SO_2 IMPACT FROM ALL SOURCES AT SRCC & SCCC

OCCIDENTAL CHEMICAL COMPANY
SUWANNEE RIVER CHEMICAL COMPLEX
HAMILTON COUNTY, FLORIDA

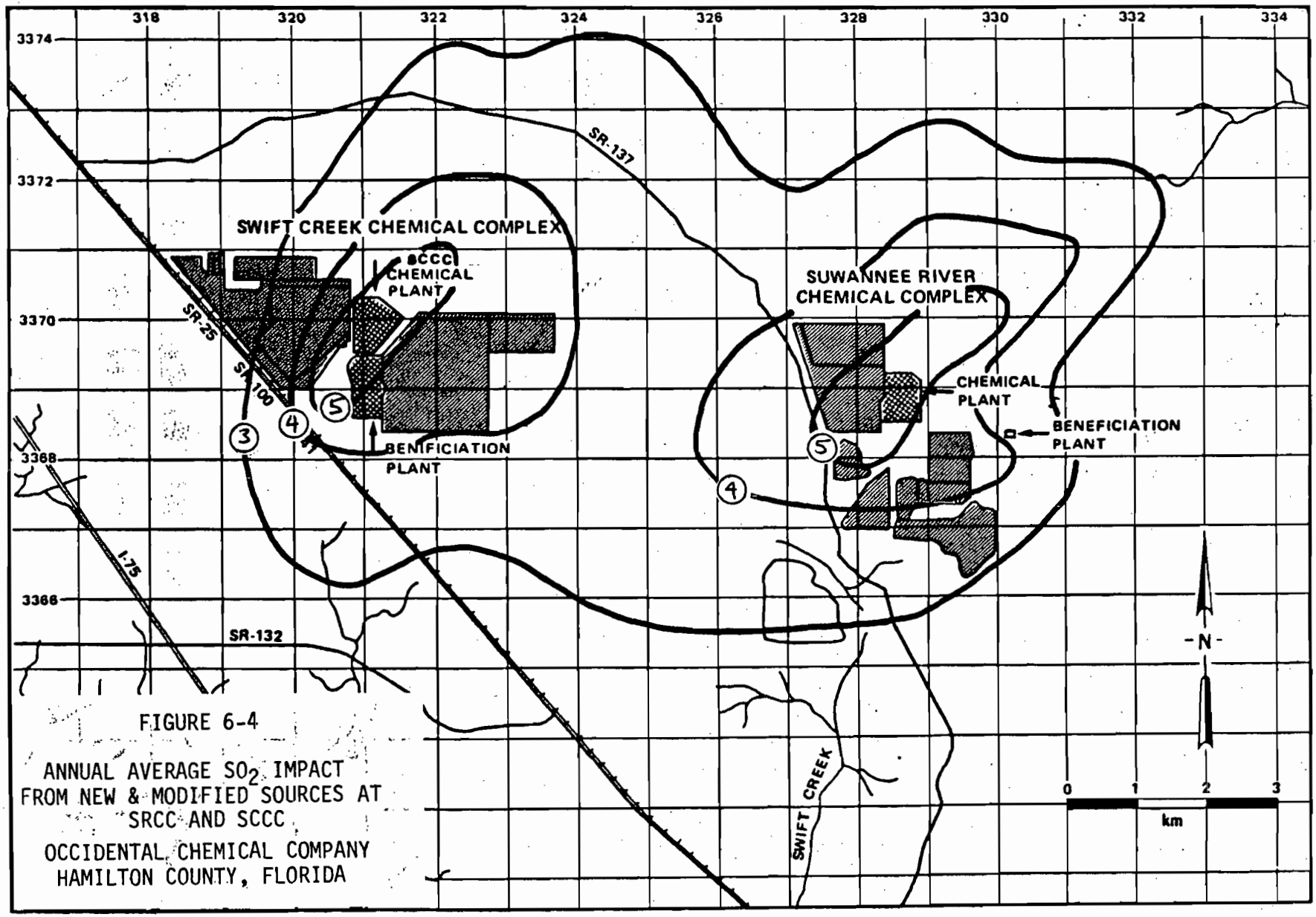


FIGURE 6-4

ANNUAL AVERAGE SO_2 IMPACT FROM NEW & MODIFIED SOURCES AT SRCC AND SCCC

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

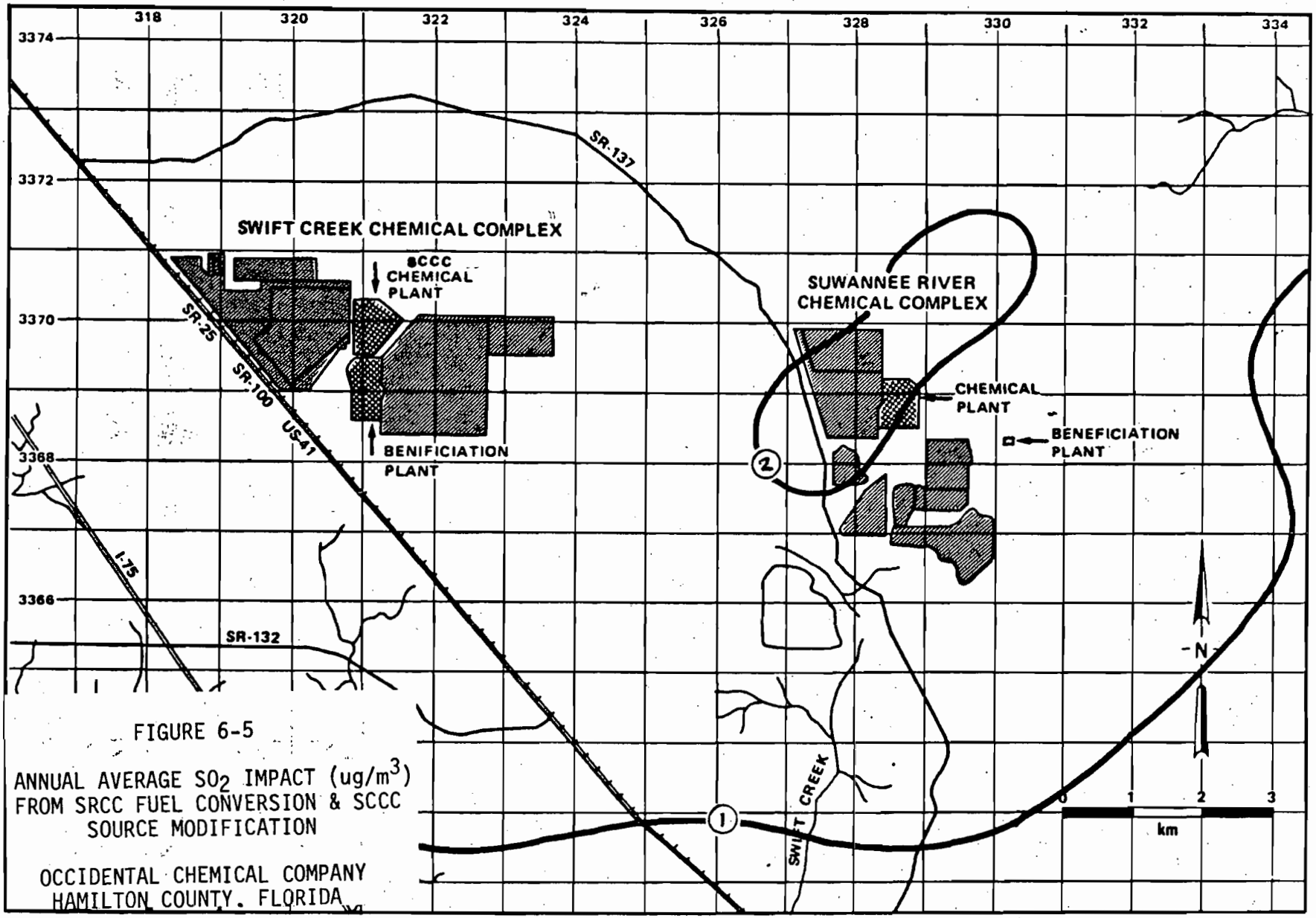


FIGURE 6-5

ANNUAL AVERAGE SO_2 IMPACT (ug/m^3) FROM SRCC FUEL CONVERSION & SCCC SOURCE MODIFICATION

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

7.0 SECONDARY IMPACTS FROM MOBILE SOURCES

The proposed fuel conversion will have no affect on truck or auto traffic at the SRCC. The same quantity of oil that is consumed now will continue to be consumed; only the sulfur content of the oil will change.

8.0 IMPACT ON SOILS, VISIBILITY AND VEGETATION

A qualitative evaluation of the proposed expansion on soils, visibility, vegetation and commercial growth in the area has been prepared.

Air quality modeling has demonstrated that sulfur dioxide levels after the proposed fuel conversion will be below the national secondary air quality standards. Since these standards were promulgated to protect welfare related values, it is projected that the proposed expansion will not adversely impact soils, vegetation and visibility in the surrounding area. There are no crops of commercial value in the vinicity of Occidental that are sensitive to sulfur dioxide to the extent they would not be protected by the secondary air quality standards for SO_2. The major commercial "crop" in the area is planted pines and Occidental owns or leases the land these pines are on. There are a few small farms in the area but these are three or more miles away from the SRCC. The increases in SO_2 emissions are not expected to have an impact on visibility and the particulate matter impact was determined to be not significant; a good indication that it will not adversely impact soils, vegetation or visibility.

The proposed fuel conversion will result in no new jobs and, hence, no impact on population growth or automotive traffic in the area.

PSD-FL-083

APPLICATION FOR FEDERAL PSD APPROVAL

FUEL CONVERSION

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

JUNE 1981

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