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

file

April 6, 1981

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

Dear Mr. Atwood:

Hamilton County - AP
Auxiliary Boiler "C" Modification (COM)

The Department has received your application for a permit to modify an air pollution source. The application is being reviewed for conformance with all applicable State regulations by this office.

According to our records your existing plant is, by federal definition (40CFR 52.21(b)), a major stationary source. Any physical change or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any regulated pollutant is considered a major modification and subject to review under federal Prevention of Significant Deterioration (PSD) regulations (40CFR 52.21(i)). To determine if your proposed project is a major modification, a PSD applicability determination that takes into account contemporaneous increases and decreases in actual emissions of the other emission units at the plant site must be made.

The U.S. Environmental Protection Agency (EPA) has delegated to the Department's Bureau of Air Quality Management (BAQM) in Tallahassee responsibility for the technical and administrative review portion of the federal PSD program as it applies to sources in Florida. Specifically, the BAQM is charged with:

Making PSD applicability determinations
Carrying our control technology reviews
Reviewing ambient air quality analysis
Reviewing analyses of impacts on soils, vegetation and visibility
Notifying Federal Land Managers of source impacts on Class I areas
Providing opportunities for public participation

EPA has retained the authority to issue federal PSD permits based on preliminary and final PSD determinations written by the BAQM.

If you would like the BAQM to make a PSD applicability determination or review your project under the federal PSD regulations, please send your request to:

Steve Smallwood, Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

along with all information needed to make the applicability determination or process the permit pursuant to the requirements of 40 CFR 52.21 as amended August 7, 1980. No application fee or particular application form is required. A pre-application conference with the technical staff of the BAQM may help your staff in the preparation of the documents needed to make the determination.

Actions related to the processing of the federal permit are separate and distinct from those taken with respect to the State permit. The BAQM and District Offices will work closely with one another, however, to ensure that conflicting permit conditions are not imposed.

If you have any questions on this procedure or wish to arrange a pre-application conference with the BAQM, please telephone either of the following at 904/488-1344:

William A. Thomas, Supervisor
New Source Review Section

Lawrence A. George, Supervisor
Air Modeling Section

Sincerely,

John Ketteringham, P.E.

JK:vk

cc: Mark G. Hodges, BAQM
Willard Hanks, 5/8/81

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

SKEC 102-81-08

December 16, 1982

Bill
Teresa

DER
DEC 20 1982
BAQM

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

Subject: Occidental Chemical Company
Hamilton County, Florida
Preliminary Determination PSD-FL-082
Preliminary Determination PSD-FL-083

Dear Mr. Fancy:

On November 18, 1982, Mr. Wes Atwood and I visited your office to discuss the two subject PSD Applications and the FDER Air Pollution Source Construction Permits associated with the sources addressed in these applications. I would like to provide you with a written record of the matters which we discussed and provide you with documentation to support our comments.

PSD-FL-082

A request was made to modify the Public Notice contained in this application. The last sentence in the first paragraph of the Notice read, "No physical modifications to the plant equipment is required to accomplish these operational changes." We requested that this sentence be reworded to read, "No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit applications." The construction permit applications referenced are those for sulfuric acid plant "E" (AC24-56211) and sulfuric acid plant "F" (AC24-56209). The modifications are described on Page 2A of these applications and relate to modifications to handle the increased gas flow rate through the sulfuric acid plants.

Specific condition No. 5 of both sulfuric acid plant construction permits (referenced in the above paragraph) require that the applicant establish a conversion factor that requires a measurement of the sulfur dioxide concentration at the converter entrance. This conversion factor is then used with the continuous stack gas sulfur dioxide monitoring data to calculate a sulfur dioxide emission rate with units of pounds of sulfur dioxide per ton of acid produced.

Occidental has worked with EPA for quite some time to have an alternative method approved for calculating the sulfur dioxide emission rate per ton of acid produced. This method was proposed as an alternative to 40 CFR 60.84 in the Federal Register of July 16, 1982; a copy of which is attached. This method requires only that the sulfur dioxide and the oxygen concentrations be measured in the stack gas. These concentrations can then be used with the equation published in the Federal Register to calculate the pounds of sulfur dioxide emitted per ton of acid produced. To facilitate the use of the method published in the Federal Register, Occidental has installed continuous oxygen monitors on both the "E" and "F" sulfuric acid plant stacks. In the case of Occidental there is no auxiliary fuel used in the sulfuric acid plants, hence the "auxiliary fuel factor" used in the equation published in the Federal Register is equal to 0.00.

Occidental is of the opinion that the method published in the Federal Register is much easier to use than the method presently specified in the draft construction permits and requests that the method published in the Federal Register be substituted for the method presently proposed in specific condition No. 5. If you have any questions regarding the derivation of the method published in the Federal Register or any other questions regarding this method, please feel free to contact me.

Specific condition No. 9 of the draft construction permits for both sulfuric acid plants requires that compliance for emission limits be determined in accordance with specific test methods. For nitrogen oxide EPA Test Method 7 is specified. Nowhere in specific condition No. 9 or any other specific conditions attached to the permits does it specify the frequency with which compliance tests must be made.

It is requested that a condition to demonstrate compliance with the emission limit for nitrogen oxides be worded similar to the specific condition attached to the construction permit for auxiliary boiler "E"; also covered by PSD Application PSD-FL-082. This condition is worded, "Performance tests for nitrogen oxides. . . to determine emission compliance status shall be requested by the Department when deemed necessary."

PSD-FL-083

A typographical error was noted in Table 1 of the Preliminary Determination for this application. The "worst case" particulate matter emission rate for the "C" boiler, as proposed, will be 46.7 tons per year. This will result in an increase of 7.2 tons per year over the currently permitted emission rate. This increase, combined with other increases addressed in the PSD Application, will result in a total particulate matter increase for all sources addressed by the Application of 6.7 tons per year.

Specific condition No. 2 of the construction permit applications for boiler "C" (AC24-56214) and boiler "D" (AC24-56213) specify that the boilers shall be allowed to operate 25 percent of the time. Occidental requests that the 0.25 annual operating factor be removed as a permit condition. The entire Air Quality Review which is part of the subject PSD Application, was conducted under the assumption that both boilers would operate 100 percent of the time. The conclusion reached in the Application was that all of the modifications addressed could be approved with no threat to ambient air quality standards or to PSD increments.

The "25 percent" condition first appeared in an operating permit for either the "C" or "D" boiler and was stated ". . . the boiler will operate about 25 percent of the time." This condition came about, to the best of our knowledge as a result of a response to an inquiry by the Jacksonville FDER office regarding the approximate operating time of the boilers. At no time were the operating times of these boilers limited because of a threat to ambient air quality.

The original approval to construct the boilers, granted by EPA on March 21, 1978, did not limit the operating time of the "C" and "D" boilers, nor did the original state construction permits (AC24-2700 and 2701). The original operating permits for the boilers also did not limit the time of operation of the boilers and a construction permit granted to allow the use of a coal-oil mix in the "C" boiler (AC24-40968) issued on June 30, 1981, did not limit the operating time of this boiler.

In view of this history and the fact that we can uncover no concrete reason for the 0.25 annual operating factor to be a part of the construction permits for either the "C" or "D" boilers, Occidental requests that these conditions be removed.

If there are any questions regarding the matter addressed in this letter, please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS, INC.

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

JBK:sc
Attachments

cc: Mr. W. W. Atwood

40 CFR Part 60

[AD-FRL-2145-3]

Standards of Performance for New Stationary Sources; Alternative Sampling Procedures for Sulfuric Acid Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The purpose of this action is to propose an alternative procedure for determining the SO_2 or sulfuric acid mist emission rate based on measurements of O_2 and SO_2 or acid mist concentrations in the plant exhaust.

These revisions would apply to all sources subject to the standards of performance for sulfuric acid plants.

DATE: *Comments.* Comments must be received on or before September 14, 1982.

Public Hearing. A public hearing will be held, if requested. Persons wishing to request a public hearing must contact EPA by August 16, 1982. If a hearing is requested, an announcement of the date and place will appear in a separate Federal Register notice.

ADDRESS: *Comments.* Comments should be submitted (in duplicate if possible) to: Central Docket Section (A-130), Attention: Docket Number A-82-03, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

Public Hearing. Persons wishing to present oral testimony should notify Mrs. Naomi Durkee, Emission Standards and Engineering Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5578.

Docket. Docket No. A-82-03, containing materials relevant to this rulemaking, is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section, West Tower Lobby, Gallery 1, Waterside Mall, 401 M Street, SW., Washington, D.C. 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Roger Shigehara, Emmission Measurement Branch (MD-19), Emission Standards and Engineering Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-2237.

SUPPLEMENTARY INFORMATION: Subpart H of 40 CFR Part 60 contains standards of performance for the sulfuric acid manufacturing plant industry including sulfur dioxide (SO_2) and sulfuric acid mist emission rate limits and continuous monitoring requirements. Data from emission measurement tests and continuous monitoring systems must be converted from units of SO_2 or sulfuric acid mist concentrations to the units of the standard in kg per metric ton of acid produced (lb per short ton). The present procedure for this conversion requires the measurement of the inlet SO_2 to the plant converter and the calculation of a production rate factor in kg per metric ton per ppm (lb per short ton per ppm) for each 8-hour period.

The proposed revisions allow the source to measure O_2 concentrations in the exhaust gas as an alternative to measurements of SO_2 inlet concentrations and process production rates in obtaining SO_2 or sulfuric acid mist emission rates from sulfuric acid plants. The procedure is applicable to plants that oxidize elemental sulfur or oxidize ore that contains elemental sulfur. The procedure does not apply to plants which use spent acid or use gas streams containing hydrogen sulfide in the production of acid.

The alternative procedure is based on a sulfur mass balance determination of the sulfuric acid production progress and is accurate to the accuracy level of the measurements. The revision is appropriate for the applicable plants, it provides a means of reducing the testing requirements without loss of emissions data.

These revisions would apply to all sources subject to the standards of performance for sulfuric acid plants. This rulemaking would not impose any additional emission measurement requirements on any facilities. Rather, the rulemaking would simply revise the emission measurement calculation procedures allowing an alternative to procedures that would apply irrespective of this rulemaking.

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of Executive Order 12291.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small entities.

(Sec. 111, 114, and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7411, 7414, and 7601(a))

Dated: July 7, 1982.

Anne M. Gorsuch,

Administrator.

Lists of Subjects in 40 CFR Part 60

Air pollution control, Aluminum, Ammonium sulfate plants, Cement industry, Coal, Copper, Electric power plants, Glass and glass products, Grains, Intergovernmental relations, Iron, Lead, Metals, Motor vehicles, Nitric acid plants, Paper and paper products industry, Petroluem, Phosphate, Sewage disposal, Steel, Sulfuric acid plants, Waste treatment and disposal, Zinc.

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

It is proposed that Subpart H of 40 CFR Part 60 be amended as follows:

1. By adding a paragraph (d) to § 60.84 as follows:

§ 60.84 Emission monitoring.

* * * * *

(d) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emissions rates in terms of the standard. Continuous emission monitoring of SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator according to this procedure in Performance Specifications 2 and 3. This calibration procedure and span value for this SO_2 monitor shall be as specified in paregraph (b) of this section. This span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:

$$E_{SO_2} = C_{SO_2} S \frac{1}{0.263 - 0.0126(O_2) - A(CO_2)}$$

$$E_{SO_2} = C_{SO_2} \times S \times \frac{1}{0.263 - 0.0126(O_2) - A(CO_2)}$$

Where:

E_{SO_2} = SO_2 emission rate, kg/t acid (lb/ton acid).

C_{SO_2} = SO_2 concentration, kg/dscm (lb/dscf) (see Table below).

S = Acid production rate factor.
- = 365 dscm/t acid for metric units.
- = 11600 dscf/ton acid for English units.

O_2 = O_2 concentration, percent.

A = Auxiliary fuel factor.
- = 0.00 for no fuel.
- = 0.0226 for methane.
- = 0.0217 for natural gas.
- = 0.0196 for propane.
- = 0.0172 for #2 oil.
- = 0.0161 for #6 oil.
- = 0.0148 for coal.
- = 0.0126 for coke.

CO_2 = CO_2 concentration, percent.

Note.—It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following Table for such conversions:

From—	To—	Multiply by—
g/scm	kg/scm	10^{-3}
mg/scm	kg/scm	10^{-6}
ppm(SO_2)	kg/scm	2.660×10^{-6}
ppm(SO_2)	lb/scf	1.660×10^{-7}

2. By adding a paragraph (e) to § 60.85 as follows:

§ 60.85 Test methods and procedures.

* * * * *

(e) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur may use the SO_2, acid mist, O_2, and CO_2 (if required) measurement data in determining SO_2 and acid mist emission rates in terms of the standard. Data from the reference method tests as specified in (a) of this part are required; that is, Method 8 for SO_2 and acid mist and Method 3 for O_2 and CO_2. No determinations of production rate or total gas flow rate are necessary. Calculate the SO_2 and acid mist emission rate as described in § 60.84(d) substituting the acid mist concentration for C_{SO_2} as appropriate.

[FR Doc. 82-19406 Filed 7-15-82; 8:45 am]

BILLING CODE 6560-50-M

$$1050\,lb/ft^2 \times \frac{1\,ft^2}{12\,pulg^2} \times \frac{1\,pulg^2}{2.54\,cm^2} \times \frac{100\,cm^2}{1\,m^2} \times \frac{153\,m^2}{10}$$

144

6.45

Torr

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

DER
JAN 3 1983
BAQM

Larry

DEC 28 1982

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

Dear Mr. Fancy:

My staff has completed its review of your preliminary determination for Occidental Chemical Company's Swift Creek Chemical Complex (SCCC) Sulfuric Acid Plant Production Rate Increase (PSD-FL-082), and the Suwanne River Chemical Complex (SRCC) Fuel Conversion Project (PSD-FL-083), both of which are located in Hamilton County, Florida. Based upon our review, we offer the following comments:

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

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

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

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

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

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

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

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

If you have any questions concerning this matter, please contact Mr. Richard S. DuBose, Chief, Air Engineering Section at (404) 881-7654.

Sincerely yours,

James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

MAR 14 1983

Larry Tom
Patty

DER
MAR 21 1983
BAQM

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

Dear Mr. Fancy:

We have reviewed your preliminary determination for Occidental Chemical Company's Swift Creek Chemical Complex Sulfuric Acid Plant Production Rate Increase (PSD-FL-082) and the Suwannee River Chemical Complex Fuel Conversion Project (PSD-FL-083), both of which are located in Hamilton County, Florida, near the Class I PSD area on Okefenokee National Wildlife Refuge. We have only one comment on these determinations.

The Class I increment for sulfur dioxide will apparently be completely consumed as a result of these permits. We therefore support EPA's recommendation that a post-construction ambient monitor be located at the maximum impact area at the boundary of the Class I area. We realize that some problems may arise due to the location of Okefenokee in two states, Florida and Georgia. However, we are willing to work cooperatively in the establishment of the monitor to assure protection of the air quality related values on the Class I area.

Thank you for this opportunity to provide comments on the Occidental determinations. If you have questions concerning this matter, please contact John Eadie, Deputy Chief, Division of Refuge Management at (202) 343-4312.

Sincerely,

Walter R. McAllister

Acting Associate
Director

Teresa?

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

October 22, 1984

Mr. Clair Fancy
Environmental Administrator
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32302

RE: Your Letter of September 12, 1984
AC-24-56211, AC-24-56209
E and F Sulfuric Acid Plants

Dear Clair:

Thank you for your response to my letter of August 28, 1984, requesting an extension to the referenced permits.

New information has developed, which makes such an extension unnecessary. In accordance with PSD-FL-083 Sulfuric Acid Plants E and F were modified to produce 2,500 TPD of 100% H_2SO_4 as reflected in Occidental's Certificate of Completion of Construction submitted to the Jacksonville office.

After addition of catalyst and modification to the blower turbines, both plants are capable of 2,500 TPD as evidenced by the compliance tests and no further work is contemplated for the purpose of increasing production rates.

Therefore, as suggested by J. Cole, and reviewed with W. Thomas, we respectfully request that processing of Occidental's Certificate of Completion of Construction be continued and an operating permit reflecting the new approved rates be issued.

Thank you for your consideration. I plan to review this with Jacksonville to answer any questions the Department may have.

Sincerely yours,

Wes Atwood

W.W. Atwood
Manager, Environmental Control

WWA/jrh

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

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

October 31, 1984

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

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

Dear Bill,

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

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

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

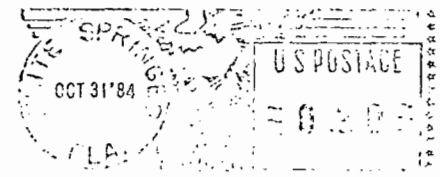
A similar request is made in connection with compliance testing with the use of #6 fuel oil for the dryer in DAP plant #2. It is currently running on gas and the fuel oil stand-by tanks still contain the previously approved fuel.

Sincerely,

W. W. Atwood
Manager, Environmental Control

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

OCCIDENTAL CHEMICAL COMPANY
FLORIDA OPERATIONS
Post Office Box 300, White Springs, Florida 32096



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

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

November 9, 1984

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

Dear Bill:

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

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

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

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

Very truly yours,

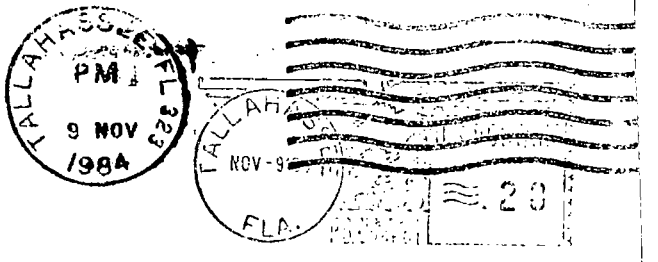
W. W. Atwood

W.W. Atwood
Manager, Environmental Control

WWA/jrh

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

LAW OFFICES
HOLLAND & KNIGHT
P. O. DRAWER 810
TALLAHASSEE, FLORIDA 32302



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

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 9, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

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

The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, Region IV, has reviewed your applications to modify the referenced sources under the provisions of the Prevention of Significant Deterioration Regulations (40 CFR 52.21) and has made a preliminary determination of approval with conditions. Please find enclosed one copy of each of the Preliminary Determinations.

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached Public Notice. The notice must appear, one time only, in the legal ad section of the Lake City Reporter. A copy of the Preliminary Determinations and your applications will be open to public review and comment for a period of 30 days after publication of the notice. The public can also request a public hearing to review and discuss specific issues. At the end of this period, the Department will evaluate the comments received and make a final determination regarding the proposed construction.

Should you have questions regarding this information, please contact Mr. Bill Thomas at (904) 488-1344.

Sincerely,

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

CHF/pa

Enclosure

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

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 9, 1982

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

Dear Mr. Wilburn:

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

Enclosed for your review and comment are the Public Notice and Preliminary Determinations for Occidental Chemical Company's Federal PSD permit applications for the Swift Creek Chemical Complex and the Suwannee River Chemical Complex in Hamilton County, Florida.

Please inform my office if you have comments or questions regarding this determination, at (904) 488-1344.

Sincerely,

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

CHF/pa

Enclosure

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

SKEC 102-81-08

April 26, 1982

Mr. Clair Fancy
Bureau of Air Quality Management
Department of Environemntal Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Occidental Chemical Company
PSD-FL-082, Swift Creek Chemical Complex
PSD-FL-083, Suwannee River Chemical Complex

Dear Mr. Fancy:

In the original PSD applications that the Occidental Chemical Company submitted to FDER for modifying operations at both the Swift Creek and Suwannee River Chemical Complexes, the impact of sulfur dioxide emissions on the Okefonokee Class I PSD area were reviewed. In these reviews, a half-life for sulfur dioxide in the atmosphere of 12 hours was used. This half-life was adopted based on a conversation with Mr. Lou Nagler with EPA Region IV in Atlanta and upon information contained in the document Guideline on Air Quality Models, Proposed Revisions, U.S. Environmental Protection Agency, October 1980.

In your letter of November 24, 1981 to Mr. Wes Atwood of the Occidental Chemical Company, you state that the use of an 8 hour half-life is unacceptable to your agency without documentation of its accuracy. Subsequent conversations with Mr. Lou Nagler indicated that EPA has also changed its position on the use of an 8 hour half-life. Both your November 24th letter and telephone conversations with EPA indicate that a 12 hour half-life for sulfur dioxide will be acceptable without documentation.

At the Swift Creek and Suwannee River Chemical Complexes the Occidental Chemical Company has six sulfur dioxide emitting sources which are classified as "new sources" for purposes of PSD determinations. Three of these sources are at the Swift Creek Chemical Complex (SCCC); the "E" and "F" sulfuric acid plants and the "E Boiler". The remaining three sources are at the Suwannee River Chemical Complex (SRCC); the "B", "C" and "D" auxillary boilers. Also at the SRCC is the No. 2 DAP Plant (Z Train), an existing source, for which a sulfur dioxide emission increase

is requested. All of these sources are also addressed in the two subject PSD applications. In the applications it was proposed to increase the permitted production rate of the "E" and "F" sulfuric acid plants from 2,000 tons of 100 percent sulfuric acid per day to 2500 tons of acid per day for each of the two plants. With the boilers, it was proposed to increased the sulfur content of the fuel oil used for firing the boilers from the presently permitted level of 0.8 percent to 1.3 percent. It was also proposed to increase the sulfur content of fuel oil used in the dryer of the No. 2 DAP Plant from 0.8 percent to 1.3 percent.

As the results of your November 24th letter, Occidental had two basic options. The first option would be to document an 8 hour half-life for sulfur dioxide and maintain the modifications proposed for the seven sources as outlined in the above paragraph. The second option would be to increase the half-life of sulfur dioxide to 12 hours and to decrease the sulfur dioxide emissions from the effected sources to a level which would not result in a significant impact on the Okefenokee National Wildlife Refuge.

In view of recent BACT determinations by your department, as they relate to controlling emissions from fossil fuel fired boilers, it was determined that it would be most expeditious to reduce the requested sulfur content of fuels for the four boilers to 1.0 percent, to maintain the same production rate increases requested for the "E" and "F" sulfuric acid plants and to request a sulfur dioxide emission rate from the No. 2 DAP Plant of 0.41 pounds of sulfur dioxide per ton P_2O_5 input to the plant (the use of 1.5 percent sulfur fuel oil).

These revisions to the modifications requested in the original PSD application will result in a net decrease in sulfur dioxide emissions over the increase requested in the orignial PSD applications of 51.2 pounds per hour (218.8 tons per year) for the Swift Creek Chemical Complex (SCCC) and 435.5 pounds per hour (1907.6 tons per year) for the Suwannee River Chemical Complex (SRCC). Since there is a decrease in the requested incremental increase in sulfur dioxide emissions all of the information contained in the original PSD applications and the supplemental information provided to your office on December 7, 1981 represents conditions much more severe that will actually exist. Because of this the only matter which will be addressed in this document is the impact of sulfur dioxide on the Okefenokee Class I PSD area.

The revised modified emissions from all of the effected sources are presented in Attachment 1. These emissions are based on a sulfur dioxide emission rate from the "E" and "F" sulfuric acid plant of 4.0 pounds of sulfur dioxide per ton of 100 percent acid produced and a 2500 ton per day production rate. The sulfur dioxide emission rates from the four

boilers are based on the use of fuel oil with a 1.0 percent sulfur content and the sulfur dioxide emission rate from the No. 2 DAP Plant is based on the use of fuel oil with 1.5 percent sulfur content and an 80 percent absorption factor.

The emissions from the effected sources were modeled to evaluate the impact on the Okefenokee Class I PSD area using the CRSTER air quality model and the ISC-ST model. The meteorological data input to the CRSTER air quality model represented data from Valdosta, Georgia for the period 1972 through 1976. These data were preprocessed using a program developed by the FDER to eliminate all days except those which contained a vector which would result in the transport of the pollutant from the Occidental Chemical Company to the boundary of the Okefenokee National Wildlife Refuge. The CRSTER model was also modified to review the output tape from that model and exclude non-zero sulfur dioxide concentration contributions to a receptor which resulted from periods with calm winds. This modification is consisted with the EPA recommendation which states:

> "Generally, concentrations calculated for those hours with calm winds (e.g., wind speeds less than 1 mps) should be excluded from averages of 24 hours or less, if a concentration during an hour with calm winds contributes to the average concentration for the period. For example, if six hours in a 24-hour period contain calms, and the source contribution to the 24-hour average is non-zero for each of the six calm hours, the 24-hour average would be the sum of concentrations for the 18 non-calm hours divided by 18; the contribution for the hours with calms should be discarded. However, if only one of the six calm hours contributes a concentration and the other five calm hours have no contribution, the 24-hour concentration would be the sum of concentrations for 23 hours divided by 23; only the calm hour which could make a contribution to the 24-hour average would be discarded" (Guideline on Air Quality Models, Proposed Revisions U.S. Environmental Protection Agency, October, 1980).

The receptors defined by the CRSTER air quality model are defined by a direction and a downwind distance from the source to the receptor. The receptors used for defining the boundary of the Okefenokee National Wildlife Refuge closest to the Occidental Chemical Company are shown in Figure 1. The UTM coordinates of each of these receptors were also calculated for use in the ISC-ST air quality model. The Okefenokee National Wildlife Refuge is at a direction between 30° and 80°, from the north, from Occidental. The nearest boundaries, the west and south boundaries, are at distances ranging from 39.4 to 61.9 kilometers from Occidental.

The results of the air quality modeling designed to evaluate the impact of the effective sources on the Okefenokee National Wildlife Refuge are summarized in Tables 1, 2 and 3. The annual impacts are summarized in Table 1, the 24-hour impacts are summarized in Table 2, and the 3-hour impacts are summarized in Table 3.

The annual sulfur dioxide impacts on the Okefenokee National Wildlife Refuge were calculated with the CRSTER air quality model. As previously stated, the meteorological data input to the CRSTER model were preprocessed with an FDER program so that only days which contained a vector which would allow the pollutants to be transported to the Class I PSD area were included. In 1972 for example, there were 159 such days in the total year of 366 days. To account for the days which contributed no sulfur dioxide to the annual impact on the Class I area, the annual concentrations calculated by the CRSTER air quality model were multiplied by the number of days which contributed a sulfur dioxide impact and divided by the total number of days in the year. For 1972, for example, the maximum annual impact at the Okefenokee boundary was calculated with the CRSTER air quality model, with 159 days of meteorology, to be 1.9 micrograms per cubic meter. To correct this impact to a true annual impact the 1.9 micrograms per cubic meter was multiplied by the factor 159/366. The resulting maximum annual impact for calendar year 1972, using this approach, was determined to be 0.8 micrograms per cubic meter; or an impact less than the significant impact level defined by State and Federal PSD Regulations. The maximum annual impact for each of the five years analyzed are summarized in Table 1.

The 24-hour impacts of sulfur dioxide emissions are summarized in Table 2. In this table two types of impacts are presented. One is the second-high impact occurring for each of the years calculated using all hours in the 24-hour period; both calm and non-calm hours. The second type of impacts are the second-high impacts calculated for each year using only non-calm hours as suggested by EPA.

All of the 24-hour impacts calculated using non-calm hours were less than the associated impacts calculated using all hours. All of the second-high non-calm hour impacts were also greater than 5.0 micrograms per cubic meter; the significant impact level as defined by State and Federal PSD Regulations. Factors contributing to high calculated impacts include the co-location of all sources as required by the CRSTER air quality model and the assumption that sulfur dioxide is an inert non-reactive pollutant. To over come these assumptions which are inherent in the CRSTER air quality model, the ISC-ST model was use to further evaluate the higher impacts.

The ISC-ST model can incorporate a sulfur dioxide half-life (12 hours) and will allow for inputing the actual location of each source. The results of the ISC-ST modeling for selected 24-hour periods are also summarized in Table 2. These results show that all impacts are less than 5.0 micrograms per cubic meter; the significant impact level.

The 3-hour sulfur dioxide impacts are summarized in Table 3. As with the 24-hour impacts, 3-hour impacts were calculated using "all hours" and "non-calm hours". The second-high impacts calculated for the 3-hour period were all in excess of 25 micrograms per cubic meter; the significant impact level for a 3-hour period as defined by State and Federal PSD Regulations. Again, the ISC-ST model was used to further refine the impacts resulting from selected 3-hour meteorological conditions. These results, summarized in Table 3, show that the ISC-ST predicts all 3-hour impacts to be below the 25.0 micrograms significant impact level.

The computer print-outs from which all of the above referenced data were derived are attached hereto as Attachment 2.

Based on the modeling reported herein, it can be concluded that Occidental can increase the permitted production rate of the "E" and "F" sulfuric acid plants to 2500 tons of 100 percent sulfuric acid per day, each plant; that Occidental can increase the sulfur content of fuel oil fired to the "B", "C", "D" and "E" Boilers from 0.8 to 1.0 percent; and that Occidental can increase the sulfur content of fuel oil fired to the No. 2 DAP Plant dryer from 0.8 percent to 1.5 percent without the resulting emissions having a significant impact on the Okefenokee National Wildlife Refuge. Since the emission rates represented by these proposed conditions are less than emission rates of sulfur dioxide requested in the original PSD applications, and since the higher emission rates did not result in violations of air quality standards or PSD increments other than as readdressed herein, it is not necessary to futher modify the PSD applications or supplement information already submitted to your office.

According to our records the submittal of this information should provide your office with all of the information required to complete the federal review of the two subject PSD Applications. The only additional information which we need to submit to your office are the State Air Pollution Source Construction Permit Applications for the effected sources. These are presently being prepared and will be submitted to your office within a week. If there are any questions regarding the information contained herein please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

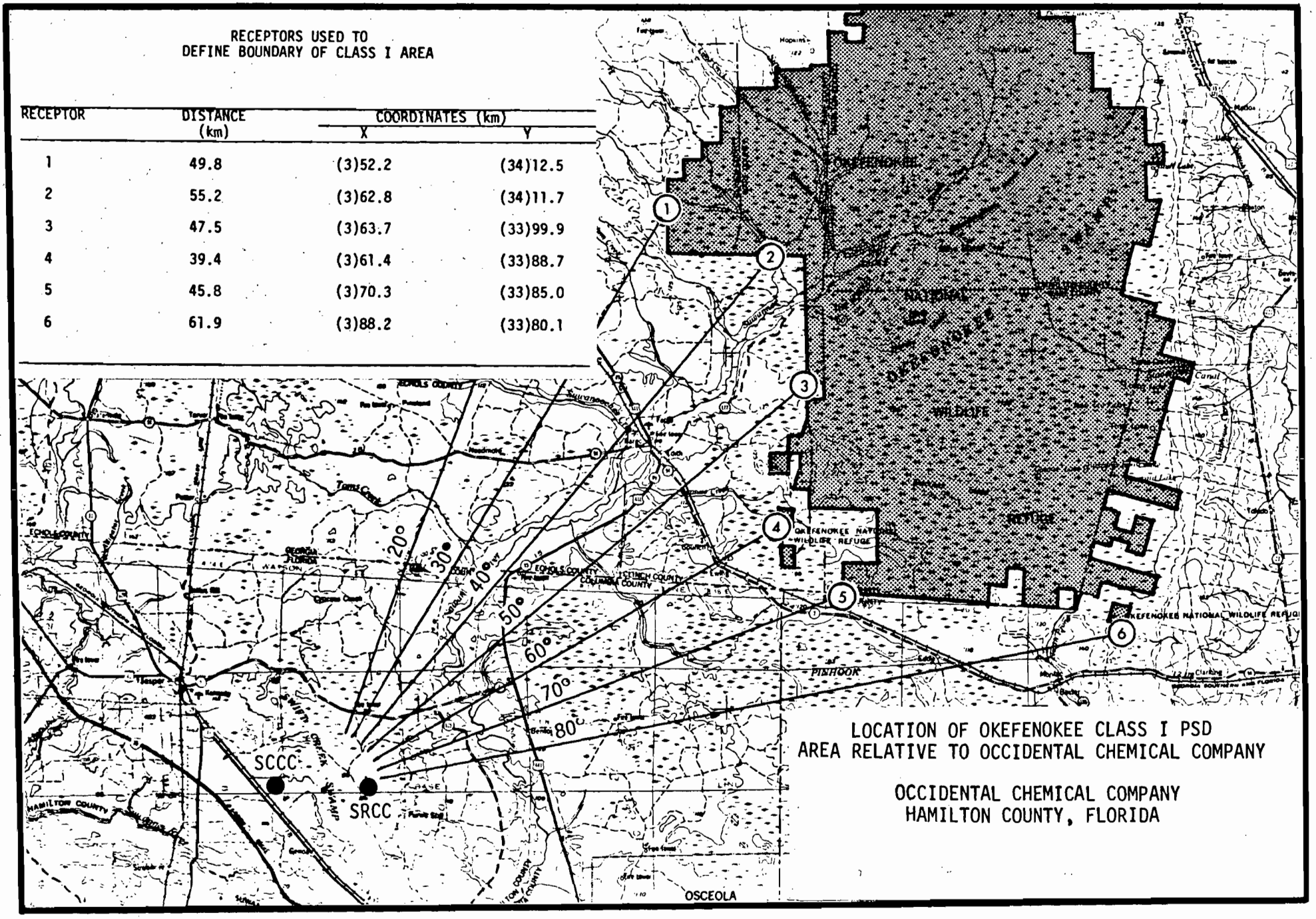
John B. Koogler, Ph.D., P.E.

JBK:ls
Attachments

cc: Mr. W. W. Atwood
Mr. T. Rogers
Mr. W. Hanks

RECEPTORS USED TO
DEFINE BOUNDARY OF CLASS I AREA

RECEPTOR	DISTANCE (km)	COORDINATES (km) X	Y
1	49.8	(3)52.2	(34)12.5
2	55.2	(3)62.8	(34)11.7
3	47.5	(3)63.7	(33)99.9
4	39.4	(3)61.4	(33)88.7
5	45.8	(3)70.3	(33)85.0
6	61.9	(3)88.2	(33)80.1



LOCATION OF OKEFENOKEE CLASS I PSD
AREA RELATIVE TO OCCIDENTAL CHEMICAL COMPANY

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

SHOLTES & KOOGLER

TABLE I

SUMMARY OF THE ANNUAL IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	ANNUAL IMPACT (ug/m^3)
1972	0.8
1973	0.7
1974	0.8
1975	0.6
1976	0.7
Significant Impact	1.0

TABLE 2

SUMMARY OF THE 24-HOUR IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	24-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	All Hours	Non-Calm Hours	Non-Calm Hours
1972	14.6/292/30°(1)	9.8/292/30°	4.5/292/30°
1973	12.3/015/60°	8.3/187/60°	--
1974	13.6/209/40°	8.8/070/60°	4.9/070/60°
1975	14.2/160/60°	9.1/070/50°	4.7/070/50°
1976	17.0/329/50°	9.2/265/50°	2.2/265/50°

Significant Impact - 5.0 ug/m^3

(1) aa/bb/cc - aa - impact (ug/m^3)
bb - Julian day
cc - direction at which impact occurs

TABLE 3

SUMMARY OF THE 3-HOUR IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	3-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	All Hours	Non-Calm Hours	Non-Calm Hours
1972	80.4/293(1)/60°[1]	47.3/232(7)/60°	--
1973	74.2/306(7)/50°	56.3/343(7)/60°	--
1974	86.9/197(1)/60°	68.2/198(1)/60°	24.9/198(1)/60°
1975	63.5/349(8)/50°	62.2/070(7)/50°	15.0/070(7)/50°
1976	92.4/259(7)/60°	51.7/198(8)/60°	--

Significant Impact - 25.0 ug/m^3

[1] aa/bb(c)/dd - aa - impact (ug/m^3)
bb - Julian day
(c) - three hour period during Julian day
dd - direction at which impact occurs

ATTAHMENT 1

Sulfur Dioxide Emission Rate Calculations

Occidental Chemical Company
Hamilton County, Florida

Swift Creek Chemical Complex

Sulfuric Acid Plant 'E' (New Source)

Present Permitted Rate - 2000 ton/day

Proposed Rate - 2500 ton/day

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

Sulfuric Acid Plant 'F' (New Source)

Identical to "E"

Boiler 'E' (New Source)

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

Proposed Fuel - No 6 0.1 w/ 1.0% S

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

Suwannee River Chemical Complex

Boiler 'B' (New Source)

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

Proposed Fuel - No 6 0.1 w/ 1.0% S

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

Boiler "C" (New Source)[1]

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

Proposed Fuel - No 6 Oil w/ 1.0% S

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

Boiler "D" (New Source)[1]

Identical to Boiler "C"

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

Present Permitted SO_2 Emission Rate - 6.3 lb/hr

Present and Proposed P_2O_5 input - 697 tpd ; 29.0 tph

Proposed Fuel - No 6 Oil w/ 1.5% S

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

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

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

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 24, 1981

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

Dear Mr. McArthur:

The Department of Environmental Regulation has received your federal PSD applications requesting a sulfuric acid plant production rate increase (PSD-FL-082) and use of higher sulfur content oil (PSD-FL-083). Based on the initial review of these applications, it has been determined that additional information is needed before they can be processed. The information required to complete the applications are listed below.

1. The SO_2 BACT economic analysis should be expanded. This analysis should include different alternatives to justify the use of a higher sulfur oil.

2. Recent letters that show current and projected cost and availability of the lower sulfur oil from at least three fuel oil suppliers.

3. Modeling information.

Questions Pertaining to Occidental Chemical - Suwannee River

A. It states in the plant description that the Suwannee River Chemical Complex (SRCC) was expanded in 1975. As any modification commencing construction after January 6, 1975 (of a major source) consumes increment, clarify the nature and dates of this expansion including all emission increases.

B. In the modeling analysis runs for SRCC using the PTMTPW dispersion model, the emission data is not consistant with that given in Table 5-1 of the report. The emission rates for the polyphos reactors A & B are given as 13.1 grams per second each in Table 5-1 and are modeled at 0.63 grams per second each. This can mean a significant difference in the

results, approximately 20 ug/m^3 on the maximum computed value which is already 259 ug/m^3. Correct or explain this inconsistancy.

C. On the PTMTPW model runs concerning the NAAQS, the maximum concentrations given in the report were not always the maximum concentrations shown in the computer output. Correct or explain. These differences (eg. 3-hour SO_2 @ 360° 1976 day 161; and 3-hour SO_2 @ 30° 1975 day 82).

Questions Pertaining to Occidental Chemical - Swift Creek

A. In the determination of SO_2 increment consumption on a 24-hour basis, day 246 of 1973 was not included. This day contained a second-high concentration for that year and was in fact the highest of the second-high values over the five year period. Include this day in the 24-hour increment analysis.

As soon as the requested information is received, we will begin processing your federal application. If you have any questions on the data requested, please contact this office, (904) 488-1344. Tom Rogers should be contacted on any questions related to modeling and Willard Hanks on the other data requested.

Sincerely,

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

CF:TR:WMH:TH:dav

cc: John Koogler

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

where,

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

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

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

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

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

Very truly yours,

SHOLTES & KOOGLER,
ENVIRONMENTAL CONSULTANTS

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

JBK:ldh
Enclosures

cc: Mr. W. W. Atwood

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

SKEC 102-75-06

October 19, 1984

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

DER
OCT 22 1984
BAQM

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

Dear Bill,

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

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

tates: "compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired." Consistent with this BACT determination, Occidental requested by letter dated February 6, 1984 that the specific conditions in the four construction permits requiring that compliance with the sulfur dioxide emission limit be determined by EPA Method 6, be changed to the method of compliance

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

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

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

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

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

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

THE LAKE CITY REPORTER

Lake City, Columbia County, Florida

DEP
APR 04 1983
BAQM

STATE OF FLORIDA,
COUNTY OF COLUMBIA.

Before the undersigned authority personally appeared Don L. Caldwell who on oath says that he is Publisher of the Lake City Reporter, a newspaper published at Lake City, Columbia County, Florida; that the attached copy of advertisement, being a legal advertisement in the matter of Notice of Proposed Agency Action in the Court, was published in said newspaper in the issues of March 31, 1983

Affiant further says that The Lake City Reporter is a newspaper published at Lake City in said Columbia County, Florida, and that the said newspaper has heretofore been continuously published in said Columbia County, Florida, and has been entered as second class mail matter at the post office in Lake City, in said Columbia County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Don L. Caldwell

Sworn to and subscribed before me this 31 st day of March A. D., 19 83

Vicki N. Hen
Notary Public

Notary Public, State of Florida at Large
My Commission Expires September 15,1985

Pat Summerall Printing - No. 8559

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue permits to Occidental Chemical Company. These permits will allow an increase in the production rate of two existing sulfuric acid plants and the use of fuel oil containing a higher percentage of sulfur than they are currently permitted to use in four existing steam boilers and a niammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No pbysical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit application.

A best available control technology (BACT) determinitation was required for sulfur dioxide (SO2).

Emission of criteria pollutants from the two chemical complexes will increase by the quantities in tons per year (TPY),

	SO2
SRCC	443.9
SCCC	951

Emissions from the modified sources will consume increment but will not voilate any state or federal ambient air quality standards. The maximum increment consumption in micrograms per cubic meter (ug/m3), and percent of available increment are listed below.

SO2	SRCC ug/m3	
Three hours	256	50 percent
24 hours	73	80 percent
Annual	12	60 percent

	SCCC ug/m3	
Three hours	416	81 percent
24 hours	79	87 percent
Annual	8	40 percent

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapter 17-1 and 28-5 Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, FL 32301, within (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request hearing under Section 120.57, Florida Statutes.

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by Occidental Chemical Company are available for public review in the following FDER offices:

Department of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, FL 32207

Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Columbia County Public Library
490 N. Columba Street
Lake City, FL 32052

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of publication of this notice will be considered in the Department's final determination.

No. 3355
March 31, 1983

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

BARKER		FANCY		STARNES	
BLOMMEL		THOMAS		MARSHALL MOTT-SMITH	
MANNING		GEORGE		J. ROGERS	
DAVIS		ADAMS PA			

REMARKS

Teresa T.H

send copy to Georgia

Sent 11/29

PA

INFORMATION

- REVIEW & RETURN
- REVIEW & FILE
- INITIAL & FORWARD

DISPOSITION

- REVIEW & RESPOND
- PREPARE RESPONSE
- FOR MY SIGNATURE
- FOR YOUR SIGNATURE
- LET'S DISCUSS
- SET UP MEETING
- INVESTIGATE & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

FILE:

FROM

STEVE SMALLWOOD

DATE

PHONE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

NOV 7 1983

DER
NOV 14 1983
BAQM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4AW-AM

Mr. M.P. McArthur
Vice President & General Manager
Occidental Chemical Company
P.O. Box 300
White Springs, Florida 32096

RE: PSD-FL-082

Dear Mr. McArthur:

Review of your May 7,1982, application to increase production and use alternate fuels at the Swift Creek Chemical Complex has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of air quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation performed the preliminary determination concerning the proposed construction and published a request for public comment on March 31, 1983. Comments were received from the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service, and Sholtes & Koogler Environmental Consultants. The final determination was performed by the Florida Department of Environmental Regulation on May 18, 1983.

The Environmental Protection Agency (EPA) has determined that the construction as described in the application meets all the applicable requirements of 40 CFR §52.21. Accordingly pursuant to 40 CFR §124.15, the Regional Administrator has made a final decision to issue the enclosed Permit to Construct-Part I Specific Conditions and Part II General Conditions. This authority to construct, granted as of the effective date of the permit, is based solely on the requirements of 40 CFR §52.21, the federal regulations governing significant deterioration of air quality. It does not apply to other permits issued by this agency or by other agencies. Please be advised that a violation of any permit condition, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

This final permit decision is subject to appeal under 40 CFR §124.19 by petitioning the Administrator of the EPA within thirty (30) days after receipt thereof. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit shall become effective upon notice of such action to the parties to the appeal. If the petition is granted, any applicable effective date shall be determined by the results of the appeal proceedings. If no appeal is filed with the Administrator, the permit shall become effective thirty (30) days after receipt of this letter. Upon the expiration of the thirty (30) day period, EPA will notify you of the status of the permit's effective date.

Receipt of this letter does not constitute authority to construct. Approval to construct this facility shall be granted as of the effective date of the permit. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Mr. Richard A. Schutt, Chief, Air Planning Section, Air Management Branch, Air and Waste Management Division at 404/881-3286.

Sincerely yours,

Thomas W. Devine, Director
Air and Waste Management Division

Enclosure

cc: Florida Department of Environmental
Regulation

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 U.S.C. §7470 et seq., and the regulations promulgated thereunder at 40 CFR §52.21, as amended at 45 Fed. Reg. 52676, 52735-41 (August 7, 1980),

The Occidental Chemical Company

is, as of the effective date of this permit (PSD-FL-082), authorized to construct/modify a stationary source at the following location:

Swift Creek Chemical Complex
UTM Coordinates: East 320.860 km, North 3369.70 km

Upon completion of authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

This permit is hereby issued on _____ and shall become effective thirty (30) days after receipt thereof unless a petition for administrative review is filed with the Administrator during that time. If a petition is filed any applicable effective date shall be determined in accordance with 40 CFR §124.19(f)(1).

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and local law.

Nov. 7 1983
Date Signed

Regional Administrator

Swift Creek Chemical Complex (PSD-FL-082)

A. Auxiliary Boiler "E"

1. The auxiliary boiler shall be allowed to operate 8,518 hours per year. Maximum heat input shall be 156 million btu per hour.

2. The boiler may be fired on natural gas or No. 6 fuel oil, sulfur content not to exceed 1% by weight.

3. Sulfur dioxide emissions from the boiler shall not exceed 1.1 pounds per million btu heat input, 170.7 pounds per hour. Compliance shall be determined with methods prescribed in 40 CFR 60 Appendix A.

B. Sulfuric Acid Plant "F" and "E"

1. Maximum production rate for each plant shall not exceed 2500 tons of 100% sulfuric acid (H_2SO_4) per day.

2. Emissions of sulfur dioxide from each sulfuric acid plant shall not exceed 4 pounds per ton of 100% H_2SO_4 produced.

3. Emissions of sulfuric acid mist from each sulfuric acid plant shall not exceed 0.15 lbs per ton of 100% H_2SO_4 produced. Visible emissions shall not exhibit an opacity of 10% or greater, as measured by EPA Reference Method 9 of 40 CFR 60 Appendix A.

4. Emissions monitoring and compliance testing shall be performed as prescribed in 40 CFR §60.84 and 40 CFR §60.85, Standards of Performance for Sulfuric Acid Plants.

C. Polyphos reactors "A" and "B" shall be limited to natural gas fuel usage.

PART II

GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of startup of operation.

2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.

3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitting source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the compliance testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.

4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years for the date of recording.

5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:

   (a) description of noncomplying emission(s),
   (b) cause of noncompliance,
   (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
   (d) steps taken by the permittee to reduce and eliminate the noncomplying emission, and
   (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.

7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit and to the permitting authority.

8. The permittee shall allow representatives of the state environmental control agency or representatives of the Environmental Protection Agency upon the presentation of credentials:

   (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;

   (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;

   (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

   (d) to sample at reasonable times any emission of pollutants; and

   (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to the:

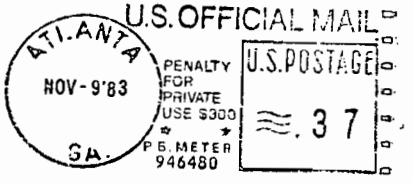
Chief, Air Management Branch
Air and Waste Management Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

10. The conditions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300



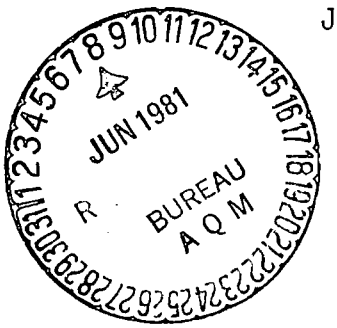
Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

20

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 sulfuric acid production rate increase and boiler fuel conversion at the Occidental Chemical Company's Swift Creek Chemical Complex (SCCC), located in Hamilton County, Florida.

The intention was to request an increase in sulfuric acid production rate for the two SCCC plants from 2,000 tons per day to 2,500 tons per day, each and an increase in boiler fuel sulfur content from 0.8 percent to 1.5 percent. The majority of the application is prepared according to this intent.

During the final phase of the air quality review; however, it was found that the increase in fuel oil sulfur content to 1.5 percent resulted in an impact on the Okeefenokee Class I area that was greater than permitted by federal requlations. Because of this impact the highest sulfur content in oil that can be tolerated is 1.3 percent. All other criteria were satisfied with sulfur dioxide emissions consistent with 1.5 percent sulfur oil.

In the interest of time, and the June 8, 1981 deadline for monitoring requirements, the application is being submitted without revising the sulfur dioxide emissions downward to reflect emissions resulting from the 1.3 percent sulfur fuel oil now requested. If you should have any questions regarding 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.)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 24, 1981

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

Dear Mr. McArthur:

The Department of Environmental Regulation has received your federal PSD applications requesting a sulfuric acid plant production rate increase (PSD-FL-082) and use of higher sulfur content oil (PSD-FL-083). Based on the initial review of these applications, it has been determined that additional information is needed before they can be processed. The information required to complete the applications are listed below.

1. The SO_2 BACT economic analysis should be expanded. This analysis should include different alternatives to justify the use of a higher sulfur oil.

2. Recent letters that show current and projected cost and availability of the lower sulfur oil from at least three fuel oil suppliers.

3. Modeling information.

Questions Pertaining to Occidental Chemical - Suwannee River

A. It states in the plant description that the Suwannee River Chemical Complex (SRCC) was expanded in 1975. As any modification commencing construction after January 6, 1975 (of a major source) consumes increment, clarify the nature and dates of this expansion including all emission increases.

B. In the modeling analysis runs for SRCC using the PTMTPW dispersion model, the emission data is not consistant with that given in Table 5-1 of the report. The emission rates for the polyphos reactors A & B are given as 13.1 grams per second each in Table 5-1 and are modeled at 0.63 grams per second each. This can mean a significant difference in the

results, approximately 20 ug/m^3 on the maximum computed value which is already 259 ug/m^3. Correct or explain this inconsistancy.

C. On the PTMTPW model runs concerning the NAAQS, the maximum concentrations given in the report were not always the maximum concentrations shown in the computer output. Correct or explain. These differences (eg. 3-hour SO_2 @ 360° 1976 day 161; and 3-hour SO_2 @ 30° 1975 day 82).

Questions Pertaining to Occidental Chemical - Swift Creek

A. In the determination of SO_2 increment consumption on a 24-hour basis, day 246 of 1973 was not included. This day contained a second-high concentration for that year and was in fact the highest of the second-high values over the five year period. Include this day in the 24-hour increment analysis.

As soon as the requested information is received, we will begin processing your federal application. If you have any questions on the data requested, please contact this office,(904) 488-1344. Tom Rogers should be contacted on any questions related to modeling and Willard Hanks on the other data requested.

Sincerely,

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

CF:TR:WMH:TH:dav

cc: John Koogler

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

CENTRAL AIR PERMITTING

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)				INITIAL	
ADAMS	AMODIO	FANCY	GEORGE	DATE	
2.				INITIAL	
HANKS	HERON	HOLLADAY	KING	DATE	
3.				INITIAL	
MITCHELL, Becky		MITCHELL, Bruce		DATE	
4.				INITIAL	
PALAGYI	POWELL	ROGERS	SVEC THOMAS	DATE	

REMARKS:

See PSD-FL-083
for attachment 2

INFORMATION
- REVIEW & RETURN
- REVIEW & FILE
- INITIAL & FORWARD

DISPOSITION
- REVIEW & RESPOND
- PREPARE RESPONSE
- FOR MY SIGNATURE
- FOR YOUR SIGNATURE
- LET'S DISCUSS
- SET UP MEETING
- INVESTIGATE & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

FROM:

DATE

PHONE

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

SKEC 102-81-08

April 26, 1982

Mr. Clair Fancy
Bureau of Air Quality Management
Department of Environemntal Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Occidental Chemical Company
PSD-FL-082, Swift Creek Chemical Complex
PSD-FL-083, Suwannee River Chemical Complex

Dear Mr. Fancy:

In the original PSD applications that the Occidental Chemical Company submitted to FDER for modifying operations at both the Swift Creek and Suwannee River Chemical Complexes, the impact of sulfur dioxide emissions on the Okefonokee Class I PSD area were reviewed. In these reviews, a half-life for sulfur dioxide in the atmosphere of 12 hours was used. This half-life was adopted based on a conversation with Mr. Lou Nagler with EPA Region IV in Atlanta and upon information contained in the document Guideline on Air Quality Models, Proposed Revisions, U.S. Environmental Protection Agency, October 1980.

In your letter of November 24, 1981 to Mr. Wes Atwood of the Occidental Chemical Company, you state that the use of an 8 hour half-life is unacceptable to your agency without documentation of its accuracy. Subsequent conversations with Mr. Lou Nagler indicated that EPA has also changed its position on the use of an 8 hour half-life. Both your November 24th letter and telephone conversations with EPA indicate that a 12 hour half-life for sulfur dioxide will be acceptable without documentation.

At the Swift Creek and Suwannee River Chemical Complexes the Occidental Chemical Company has six sulfur dioxide emitting sources which are classified as "new sources" for purposes of PSD determinations. Three of these sources are at the Swift Creek Chemical Complex (SCCC); the "E" and "F" sulfuric acid plants and the "E Boiler". The remaining three sources are at the Suwannee River Chemical Complex (SRCC); the "B", "C" and "D" auxillary boilers. Also at the SRCC is the No. 2 DAP Plant (Z Train), an existing source, for which a sulfur dioxide emission increase

is requested. All of these sources are also addressed in the two subject PSD applications. In the applications it was proposed to increase the permitted production rate of the "E" and "F" sulfuric acid plants from 2,000 tons of 100 percent sulfuric acid per day to 2500 tons of acid per day for each of the two plants. With the boilers, it was proposed to increased the sulfur content of the fuel oil used for firing the boilers from the presently permitted level of 0.8 percent to 1.3 percent. It was also proposed to increase the sulfur content of fuel oil used in the dryer of the No. 2 DAP Plant from 0.8 percent to 1.3 percent.

As the results of your November 24th letter, Occidental had two basic options. The first option would be to document an 8 hour half-life for sulfur dioxide and maintain the modifications proposed for the seven sources as outlined in the above paragraph. The second option would be to increase the half-life of sulfur dioxide to 12 hours and to decrease the sulfur dioxide emissions from the effected sources to a level which would not result in a significant impact on the Okefenokee National Wildlife Refuge.

In view of recent BACT determinations by your department, as they relate to controlling emissions from fossil fuel fired boilers, it was determined that it would be most expeditious to reduce the requested sulfur content of fuels for the four boilers to 1.0 percent, to maintain the same production rate increases requested for the "E" and "F" sulfuric acid plants and to request a sulfur dioxide emission rate from the No. 2 DAP Plant of 0.41 pounds of sulfur dioxide per ton P_2O_5 input to the plant (the use of 1.5 percent sulfur fuel oil).

These revisions to the modifications requested in the original PSD application will result in a net decrease in sulfur dioxide emissions over the increase requested in the orignial PSD applications of 51.2 pounds per hour (218.8 tons per year) for the Swift Creek Chemical Complex (SCCC) and 435.5 pounds per hour (1907.6 tons per year) for the Suwannee River Chemical Complex (SRCC). Since there is a decrease in the requested incremental increase in sulfur dioxide emissions all of the information contained in the original PSD applications and the supplemental information provided to your office on December 7, 1981 represents conditions much more severe that will actually exist. Because of this the only matter which will be addressed in this document is the impact of sulfur dioxide on the Okefenokee Class I PSD area.

The revised modified emissions from all of the effected sources are presented in Attachment 1. These emissions are based on a sulfur dioxide emission rate from the "E" and "F" sulfuric acid plant of 4.0 pounds of sulfur dioxide per ton of 100 percent acid produced and a 2500 ton per day production rate. The sulfur dioxide emission rates from the four

boilers are based on the use of fuel oil with a 1.0 percent sulfur content and the sulfur dioxide emission rate from the No. 2 DAP Plant is based on the use of fuel oil with 1.5 percent sulfur content and an 80 percent absorption factor.

The emissions from the effected sources were modeled to evaluate the impact on the Okefenokee Class I PSD area using the CRSTER air quality model and the ISC-ST model. The meteorological data input to the CRSTER air quality model represented data from Valdosta, Georgia for the period 1972 through 1976. These data were preprocessed using a program developed by the FDER to eliminate all days except those which contained a vector which would result in the transport of the pollutant from the Occidental Chemical Company to the boundary of the Okefenokee National Wildlife Refuge. The CRSTER model was also modified to review the output tape from that model and exclude non-zero sulfur dioxide concentration contributions to a receptor which resulted from periods with calm winds. This modification is consisted with the EPA recommendation which states:

> "Generally, concentrations calculated for those hours with calm winds (e.g., wind speeds less than 1 mps) should be excluded from averages of 24 hours or less, if a concentration during an hour with calm winds contributes to the average concentration for the period. For example, if six hours in a 24-hour period contain calms, and the source contribution to the 24-hour average is non-zero for each of the six calm hours, the 24-hour average would be the sum of concentrations for the 18 non-calm hours divided by 18; the contribution for the hours with calms should be discarded. However, if only one of the six calm hours contributes a concentration and the other five calm hours have no contribution, the 24-hour concentration would be the sum of concentrations for 23 hours divided by 23; only the calm hour which could make a contribution to the 24-hour average would be discarded" (Guideline on Air Quality Models, Proposed Revisions U.S. Environmental Protection Agency, October, 1980).

The receptors defined by the CRSTER air quality model are defined by a direction and a downwind distance from the source to the receptor. The receptors used for defining the boundary of the Okefenokee National Wildlife Refuge closest to the Occidental Chemical Company are shown in Figure 1. The UTM coordinates of each of these receptors were also calculated for use in the ISC-ST air quality model. The Okefenokee National Wildlife Refuge is at a direction between 30° and 80°, from the north, from Occidental. The nearest boundaries, the west and south boundaries, are at distances ranging from 39.4 to 61.9 kilometers from Occidental.

The results of the air quality modeling designed to evaluate the impact of the effective sources on the Okefenokee National Wildlife Refuge are summarized in Tables 1, 2 and 3. The annual impacts are summarized in Table 1, the 24-hour impacts are summarized in Table 2, and the 3-hour impacts are summarized in Table 3.

The annual sulfur dioxide impacts on the Okefenokee National Wildlife Refuge were calculated with the CRSTER air quality model. As previously stated, the meteorological data input to the CRSTER model were preprocessed with an FDER program so that only days which contained a vector which would allow the pollutants to be transported to the Class I PSD area were included. In 1972 for example, there were 159 such days in the total year of 366 days. To account for the days which contributed no sulfur dioxide to the annual impact on the Class I area, the annual concentrations calculated by the CRSTER air quality model were multiplied by the number of days which contributed a sulfur dioxide impact and divided by the total number of days in the year. For 1972, for example, the maximum annual impact at the Okefenokee boundary was calculated with the CRSTER air quality model, with 159 days of meteorology, to be 1.9 micrograms per cubic meter. To correct this impact to a true annual impact the 1.9 micrograms per cubic meter was multiplied by the factor 159/366. The resulting maximum annual impact for calendar year 1972, using this approach, was determined to be 0.8 micrograms per cubic meter; or an impact less than the significant impact level defined by State and Federal PSD Regulations. The maximum annual impact for each of the five years analyzed are summarized in Table 1.

The 24-hour impacts of sulfur dioxide emissions are summarized in Table 2. In this table two types of impacts are presented. One is the second-high impact occurring for each of the years calculated using all hours in the 24-hour period; both calm and non-calm hours. The second type of impacts are the second-high impacts calculated for each year using only non-calm hours as suggested by EPA.

All of the 24-hour impacts calculated using non-calm hours were less than the associated impacts calculated using all hours. All of the second-high non-calm hour impacts were also greater than 5.0 micrograms per cubic meter; the significant impact level as defined by State and Federal PSD Regulations. Factors contributing to high calculated impacts include the co-location of all sources as required by the CRSTER air quality model and the assumption that sulfur dioxide is an inert non-reactive pollutant. To over come these assumptions which are inherent in the CRSTER air quality model, the ISC-ST model was use to further evaluate the higher impacts.

The ISC-ST model can incorporate a sulfur dioxide half-life (12 hours) and will allow for inputing the actual location of each source. The results of the ISC-ST modeling for selected 24-hour periods are also summarized in Table 2. These results show that all impacts are less than 5.0 micrograms per cubic meter; the significant impact level.

The 3-hour sulfur dioxide impacts are summarized in Table 3. As with the 24-hour impacts, 3-hour impacts were calculated using "all hours" and "non-calm hours". The second-high impacts calculated for the 3-hour period were all in excess of 25 micrograms per cubic meter; the significant impact level for a 3-hour period as defined by State and Federal PSD Regulations. Again, the ISC-ST model was used to further refine the impacts resulting from selected 3-hour meteorological conditions. These results, summarized in Table 3, show that the ISC-ST predicts all 3-hour impacts to be below the 25.0 micrograms significant impact level.

The computer print-outs from which all of the above referenced data were derived are attached hereto as Attachment 2.

Based on the modeling reported herein, it can be concluded that Occidental can increase the permitted production rate of the "E" and "F" sulfuric acid plants to 2500 tons of 100 percent sulfuric acid per day, each plant; that Occidental can increase the sulfur content of fuel oil fired to the "B", "C", "D" and "E" Boilers from 0.8 to 1.0 percent; and that Occidental can increase the sulfur content of fuel oil fired to the No. 2 DAP Plant dryer from 0.8 percent to 1.5 percent without the resulting emissions having a significant impact on the Okefenokee National Wildlife Refuge. Since the emission rates represented by these proposed conditions are less than emission rates of sulfur dioxide requested in the original PSD applications, and since the higher emission rates did not result in violations of air quality standards or PSD increments other than as readdressed herein, it is not necessary to futher modify the PSD applications or supplement information already submitted to your office.

According to our records the submittal of this information should provide your office with all of the information required to complete the federal review of the two subject PSD Applications. The only additional information which we need to submit to your office are the State Air Pollution Source Construction Permit Applications for the effected sources. These are presently being prepared and will be submitted to your office within a week. If there are any questions regarding the information contained herein please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

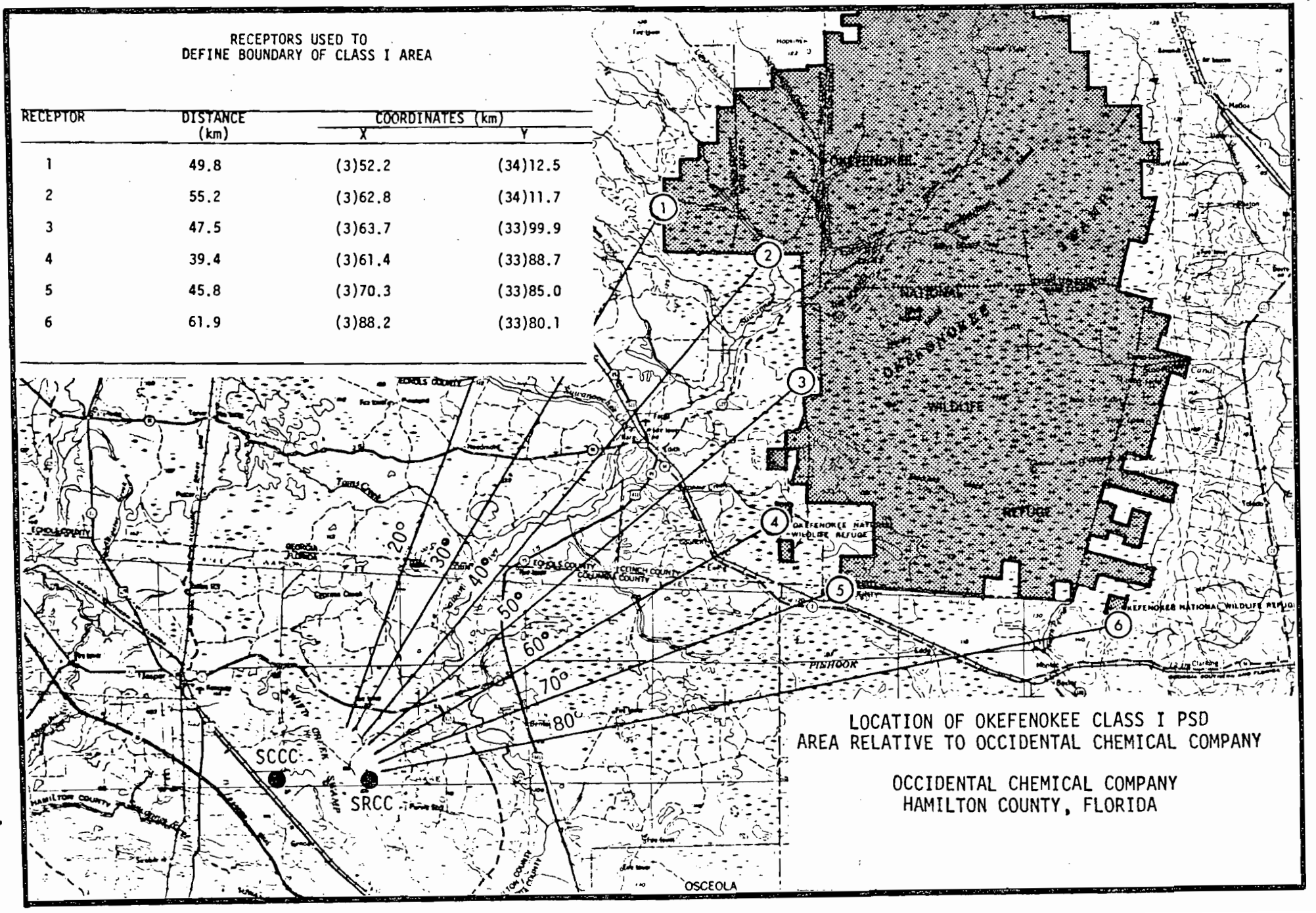
John B. Koogler, Ph.D., P.E.

JBK:ls
Attachments

cc: Mr. W. W. Atwood
Mr. T. Rogers
Mr. W. Hanks

RECEPTORS USED TO
DEFINE BOUNDARY OF CLASS I AREA

RECEPTOR	DISTANCE (km)	COORDINATES (km) X	Y
1	49.8	(3)52.2	(34)12.5
2	55.2	(3)62.8	(34)11.7
3	47.5	(3)63.7	(33)99.9
4	39.4	(3)61.4	(33)88.7
5	45.8	(3)70.3	(33)85.0
6	61.9	(3)88.2	(33)80.1



LOCATION OF OKEFENOKEE CLASS I PSD
AREA RELATIVE TO OCCIDENTAL CHEMICAL COMPANY

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

TABLE I

SUMMARY OF THE ANNUAL IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	ANNUAL IMPACT (ug/m^3)
1972	0.8
1973	0.7
1974	0.8
1975	0.6
1976	0.7
Significant Impact	1.0

TABLE 2

SUMMARY OF THE 24-HOUR IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	24-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	All Hours	Non-Calm Hours	Non-Calm Hours
1972	14.6/292/30°(1)	9.8/292/30°	4.5/292/30°
1973	12.3/015/60°	8.3/187/60°	--
1974	13.6/209/40°	8.8/070/60°	4.9/070/60°
1975	14.2/160/60°	9.1/070/50°	4.7/070/50°
1976	17.0/329/50°	9.2/265/50°	2.2/265/50°

Significant Impact - 5.0 ug/m^3

(1) aa/bb/cc - aa - impact (ug/m^3)
bb - Julian day
cc - direction at which impact occurs

TABLE 3

SUMMARY OF THE 3-HOUR IMPACTS OF SULFUR DIOXIDE
EMISSIONS FROM OCCIDENTAL CHEMICAL COMPANY NEW SOURCES
ON OKEFENOKEE CLASS I PSD AREA

OCCIDENTAL CHEMICAL COMPANY
HAMILTON COUNTY, FLORIDA

YEAR	3-HOUR SO_2 IMPACT (ug/m^3)		
	CRSTER		ISC-ST
	ATT Hours	Non-Calm Hours	Non-Calm Hours
1972	80.4/293(1)/60°(1)	47.3/232(7)/60°	--
1973	74.2/306(7)/50°	56.3/343(7)/60°	--
1974	86.9/197(1)/60°	68.2/198(1)/60°	24.9/198(1)/60°
1975	63.5/349(8)/50°	62.2/070(7)/50°	15.0/070(7)/50°
1976	92.4/259(7)/60°	51.7/198(8)/60°	--

Significant Impact - 25.0 ug/m^3

(1) aa/bb(c)/dd - aa - impact (ug/m^3)
bb - Julian day
(c) - three hour period during Julian day
dd - direction at which impact occurs

ATTAHMENT 1

Sulfur Dioxide Emission Rate Calculations

Occidental Chemical Company
Hamilton County, Florida

Swift Creek Chemical Complex

Sulfuric Acid Plant 'E' (New Source)

Present Permitted Rate - 2000 ton/day

Proposed Rate - 2500 ton/day

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

Sulfuric Acid Plant 'F' (New Source)

Identical to "E"

Boiler 'E' (New Source)

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

Proposed Fuel - No 6 Oil w/ 1.0% S

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

Suwannee River Chemical Complex

Boiler 'B' (New Source)

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

Proposed Fuel - No 6 Oil w/ 1.0% S

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

Boiler "C" (New Source)[1]

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

Proposed Fuel - No 6 Oil w/ 1.0% S

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

Boiler "D" (New Source)[1]

Identical to Boiler "C"

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

Present Permitted SO_2 Emission Rate - 6.3 lb/hr

Present and Proposed P_2O_5 input - 697 tpd ; 29.0 tph

Proposed Fuel - No 6 Oil w/ 1.5% S

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

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

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

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 9, 1982

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

Dear Mr. Wilburn:

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

Enclosed for your review and comment are the Public Notice and Preliminary Determinations for Occidental Chemical Company's Federal PSD permit applications for the Swift Creek Chemical Complex and the Suwannee River Chemical Complex in Hamilton County, Florida.

Please inform my office if you have comments or questions regarding this determination, at (904) 488-1344.

Sincerely,

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

CHF/pa

Enclosure

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
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BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 9, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

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

The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, Region IV, has reviewed your applications to modify the referenced sources under the provisions of the Prevention of Significant Deterioration Regulations (40 CFR 52.21) and has made a preliminary determination of approval with conditions. Please find enclosed one copy of each of the Preliminary Determinations.

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached Public Notice. The notice must appear, one time only, in the legal ad section of the Lake City Reporter. A copy of the Preliminary Determinations and your applications will be open to public review and comment for a period of 30 days after publication of the notice. The public can also request a public hearing to review and discuss specific issues. At the end of this period, the Department will evaluate the comments received and make a final determination regarding the proposed construction.

Should you have questions regarding this information, please contact Mr. Bill Thomas at (904) 488-1344.

Sincerely,

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

CHF/pa

Enclosure

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

file

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

REF: 4AW-AM

DEC 14 1982

DER

DEC 20 1982

BAQM

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

Re: PSD-FL-082-Occidental Chemical Company & File

Dear Mr. Fancy:

This is to acknowledge receipt of your November 19, 1982, letter containing the preliminary determination for the above company's Swift Creek Chemical Complex located in Hamilton County.

We have determined that the preliminary determination for the above company will be subject to review under the Region IV-Overview of State Programs policy. We will contact you if we have any questions or comments. In addition, we will retain a copy of the preliminary determination in our files.

Please advise us and submit a final determination and permit when they have been issued.

Sincerely yours,

for James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

May 25, 1983

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

Dear Mr. Wilburn:

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

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

Sincerely,

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

CHF/pa

Enclosure

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

May 25, 1983

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

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

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

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

Sincerely,

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

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