PO Box 2439
Lk City 32055

Mr. John Speer
FDER - Air Quality Rpt
Twin Towers Rpt
2600 Blair Stone Rd
Tallahassee 32301

JACKSONVILLE FL
25 APR 1983
1 PM

USA 20c

1 Public Notice

...ge 1304,
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...ll
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...te Attorney

...n 31, 1983
...il 7, 1983

NOTICE OF PROPOSED AGENCY ACTION 3/31/83

Lake City Reporter

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

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

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

	SO2
SRCC	443.9
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.

SRCC

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

SCCC

ug/m3

Three hours	416	81 percent
24 hours	79	87 percent
Annual	8	40 percent

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

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

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

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

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

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

No. 3355
March 31, 1983

4/2-5/83

APR 27 1983

3490

Dear John —

Thank you for sending the OCC permit request information — hopefully we'll have some comments to contribute —

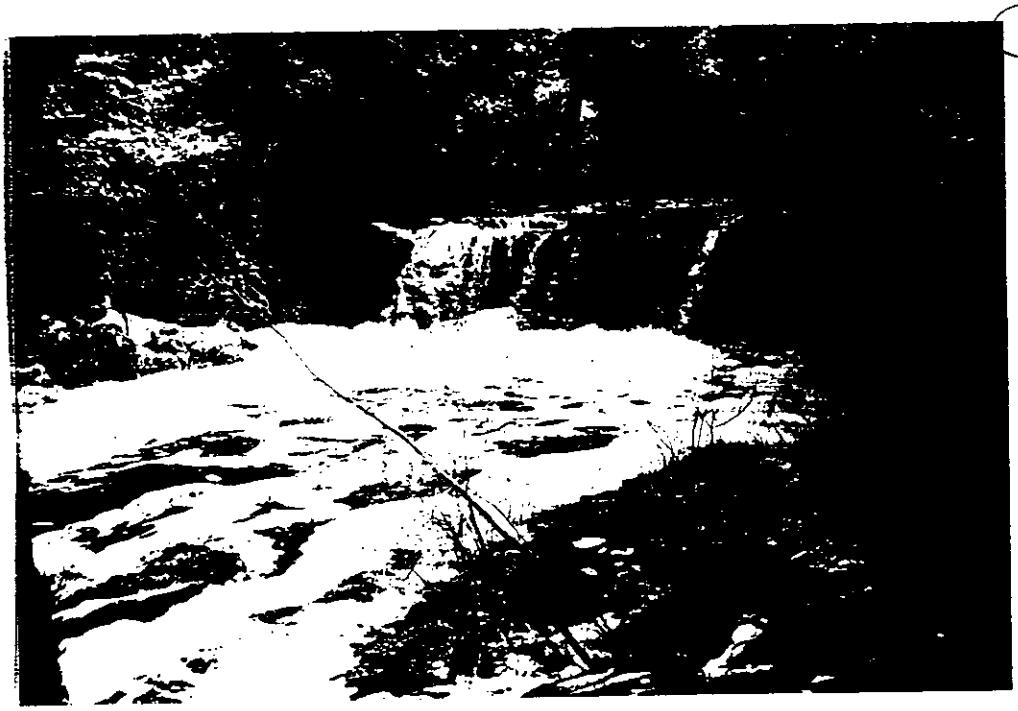
Am ~~also~~ sending along a picture of a Suwannee tributary creek in Columbia County, a Super nice stream — the headwaters of this creek are in the Osceola Forest & in one of the "proposed" lease areas, naturally, & it's nice in the Forest, too!

Will be back in touch —

Regards —

Judy Hancock

(1)



(2)

** ORIGINAL PHOTOS ARE IN "SUPPLEMENTAL DOCUMENTS"
DRAWER: OCCIDENTAL CHEMICAL CORPORATION
AC 24-50209, -10, -11, -12, -13, -14, -15
PSDFL-082, -083

(1)

Robinson Branch -
Osceola Forest -
This is also a
tributary creek to
the Swannee & it
has a nice waterfall
at the river below
Big Shoals - This
Creek is on Kerr-
McGee's claimed "lease"
in the forest
area & they own it.
at the confluence with
the Swannee
4/19/83

(2)

Falling Creek -
tributary to the
Swannee in
Columbia County
4/19/83

** ORIGINAL PHOTOS ARE IN SUPPLEMENTAL DOCUMENTS

DRAWER : OCCIDENTAL CHEMICAL CORPORATION
AC 24 - 560209 - 10, -11, -12, -13, -14, -15
PSD FL - 082, - 083

THE LAKE CITY REPORTER

Lake City, Columbia County, Florida

DER

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 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 diammonium phosphate dryer. These sources are located at the Suwannee River (SRCC) and Swift Creek Chemical Complexes (SCCC) near White Springs in Hamilton County, Florida. No physical modifications to the plant equipment are required to accomplish these operational changes except for the minor changes detailed in the construction permit application.

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

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

	SO2
SRCC	443.9
SCCC	861

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

SO2	SRCC ug/m3	
Three hours	256	50 percent
24 hours	73	89 percent
Annual	12	60 percent
	SCCC ug/m3	
Three hours	416	81 percent
24 hours	79	97 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:

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Tallahassee, FL 32301

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

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

No. 3255
March 31, 1983

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

SKEC 102-81-08

December 16, 1982

Bill
Teresa

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

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

Dear Mr. Fancy:

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

PSD-FL-082

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

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

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

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

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

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

PSD-FL-083

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

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

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

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

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

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

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS, INC.

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

JBK:sc
Attachments

cc: Mr. W. W. Atwood

40 CFR Part 60

[AD-FRL-2145-3]

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Dated: July 7, 1982.

Anne M. Gorsuch,

Administrator.

Lists of Subjects in 40 CFR Part 60

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

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

§ 60.84 Emission monitoring.

* * * * *

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

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

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

Where:

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

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

S = Acid production rate factor.

= 368 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.

= 0.0146 for coal.

= 0.0126 for coke.

CO_2 = CO_2 concentration, percent.

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

Use the following Table for such conversions:

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

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

§ 60.85 Test methods and procedures.

* * * * *

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

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

BILLING CODE 6560-50-M

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for _____
Steve Smallwood, Chief BAQM

Date: 11/7/82

Approved:

_____
Victoria J. Tschinkel, Secretary

Date: 11/18/82

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date: 11/18/82

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

for Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date: 11/18/82

Best Available Control Technology (BACT) Determination
Part I of III
Occidental Chemical Company
Hamilton County

The applicant plans to increase production from the sulfuric acid plants "E" and "F" located at their fertilizer grade phosphate rock processing facility at the Swift Creek Chemical Complex near White Springs, Florida. The production capacity of each acid plant is to be increased 25 percent to 2500 tons per day of 100% acid. Both acid plants have inherent in the initial design a production rate of 2300 tons per day with no major equipment modifications. It will be necessary to modify the economizer, gas handling and catalyst loading systems to achieve the 2500 tons per day production rate.

Air pollutants emitted from the sulfuric acid plants will be SO_2, NO_x, CO and sulfuric acid mist increasing the annual ambient air burden by 730,26,1, and 27 tons, respectively. Sulfur dioxide and sulfuric acid mist emissions increase exceeds the significant emission rate and requires a Best Available Control Technology determination as set forth in 17-2.500(2)(f), FAC.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Sulfuric Acid Plant E and F.

Pollutant	Emission Limit
SO_2	4.0 lb/ton 100% acid
H_2SO_4 mist	0.15 lb/ton 100% acid

Sulfur dioxide emissions will be controlled by double absorption with catalyst screening and make up every three to five years.

Sulfuric acid mist emissions will be controlled with HV mist eliminators.

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Sulfur dioxide emissions from sulfuric acid plants E and F not to exceed 4 pounds per tons of 100% sulfuric acid produced.

Sulfuric acid mist emissions from sulfuric acid plants E and F not to exceed 0.15 pounds per ton of 100% sulfuric acid produced.

Visible emissions to be less than 10% opacity.

Test methods and procedures per the NSPS, 40 CFR Part 60, Subpart H, Subsections 60.84 and 60.85.

Justification of DER Determination:

Sulfur dioxide and sulfuric acid mist emissions are subject to standards of performance for sulfuric acid plants (40 CFR 60.80) promulgated in 1971. U. S. EPA reviewed the standard in 1979 (44 FR15742) and decided not to change the emission limits.

BACT for the sulfuric acid plants E and F is determined to be equal to New Source Performance Standards (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.

Best Available Control Technology (BACT) Determination
Part II of III
Occidental Chemical Company
Hamilton County

The applicant plans to fire a higher sulfur content fuel in four fossil-fuel fired steam generators located at their facilities near White Springs, Florida. Boiler E is at the Swift Creek Complex and boilers B, C, D are at the Suwannee River Complex. The existing sources are as follows.

1. Gas fired auxiliary steam boiler "B" is rated at 160 million BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants B and C. Boiler B is operated at 25% of rated capacity when the sulfuric acid plants are in operation. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

2. Gas fired auxiliary steam boiler "C" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Boiler "C" has recently been modified to fire a coal-oil mixture (COM), also a stand-by fuel for this unit. The sulfur content of the COM is limited by permit conditions at 0.7% maximum.

3. Gas fired auxiliary steam boiler "D" is rated at 120 million BTU per hour heat input. The steam produced is used in the superphosphoric acid evaporators. No. 6 oil is used as a stand-by fuel, the sulfur content of which is limited by permit conditions at 0.8% maximum.

The combustion gases from boiler "C" and boiler "D" exhaust through a common stack. There is a fabric filter baghouse which is used to control particulate emissions only when COM is fired.

4. Oil fired auxiliary steam boiler "E" is rated at 156 BTU per hour heat input. The steam produced is used to augment the steam produced by the sulfuric acid plants. No. 6 oil is fired, the sulfur content of which is limited by permit conditions at 0.8% maximum.

Emission Evaluation: (1)

Pollutant	Boiler B	Boiler C	Boiler D	Boiler E
Particulates	lb/hr	lb/hr	lb/hr	lb/hr
current	12.01	9.01	9.01	11.55
proposed	14.20	10.65	10.65	13.9
increase	2.19	1.64	1.64	2.35
SO_2	lb/hr	lb/hr	lb/hr	lb/hr
current	137.16	102.87	102.87	131.88
proposed	174.8	128.58	128.58	170.7
increase	37.64	25.71	25.71	38.82
Fuel Use	GPH	GPH	GPH	GPH
MAX	1092	819	819	1050
AVE	273	210	210	252
COM		922		

(1) AP-42 Emission Factors, Table 1.3.1

The applicant plans to fire No. 6 oil having a sulfur content of 1.0 percent instead of the 0.8 percent maximum presently allowed. The increase in sulfur dioxide emissions, as a result of burning the higher sulfur fuel, exceeds the significant emission rate of 40 tons per year and requires a BACT determination (17-2.500(5)(c)FAC) for the pollutant sulfur dioxide.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Boilers, B, C, D, and E

Pollutant	Emission Limit
SO_2 (oil)	1.1 lb/million BTU heat input (1% sulfur content)
SO_2 (com)	0.9% sulfur content

Date of Receipt of a BACT application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Modeling Section.

BACT Determined by DER:

Auxiliary boiler E - Swift Creek Complex
Auxiliary boiler B, C, D - Suwannee River Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.0 percent and the COM fuel to 0.9 percent.

Compliance with the SO_2 emission limit will be based upon the Sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

The facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class 1 area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

PART III OF III

OCCIDENTAL CHEMICAL COMPANY

HAMILTON COUNTY

The applicant plans to increase the sulfur content of the fuel oil fired in the diammonium phosphate plant (DAP) dryer. The dryer is in the Suwannee River complex located near White Springs, Florida. The existing dryer is gas fired with No. 6 residual oil fired only during periods of gas curtailment. The sulfur content of the oil is to be increased to 1.5 percent from the presently permitted maximum of 0.8 percent.

At maximum dryer capacity No. 6 oil is fired at a rate of 246 gallons per hour. SO_2 emissions, at this rate of oil consumption (assume 80% SO_2 absorption), when firing 0.8% and 1.5% sulfur content oil is 6.3 and 11.8 pounds per hour respectively. The increase in SO_2 emissions would be 5.5 pounds per hour.

A Venturi scrubber in series with a packed tail-gas scrubber is used to reduce the air pollutants emitted in the dryer exhaust gases. Sulfur dioxide emissions are reduced by the control system, and, in addition, by reaction with the material being dried.

The applicant has submitted several applications that require a BACT determination. Three determinations have been made by combining similar sources as follows:

PART I - Sulfuric Acid Plants,
PART II - Boiler Fuel Conversions
PART III - DAP Dryer Fuel Conversion.

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO_2	0.41 lb/ton P_2O_5 input (fuel with 1.5% sulfur)

Date of Receipt of a BACT Application:

May 27, 1982

Date of Publication in the Florida Administrative Weekly:

June 11, 1982

Review Group Members:

The final determination was based upon comments received from the New Source Review Section and the Air Monitoring Section.

BACT Determined by DER:

Diammonium Phosphate Plant No. 2 product rotary dryer.
Suwannee River Chemical Complex

Sulfur dioxide emissions controlled by limiting the sulfur content of the No. 6 oil fired to a maximum of 1.5 percent, and SO_2 emissions to 0.20 lb. SO_2/ton DAP.

The applicant shall prepare a procedure to prevent the unloading of No. 6 oil containing 1.5% sulfur into the tank(s) which contain No. 6 oil having a lower sulfur content. A record will be kept of the amount of 1.5% oil received and the DAP dryer oil consumption rate. The records shall be made available to the department upon request.

Compliance with the SO_2 emission limit will be based upon the sulfur content of the fuel fired. Each shipment of fuel delivered to the facility will be sampled and the sulfur content determined and recorded. A certified analysis from the applicants fuel supplier may be substituted for on-site analysis. Applicable test methods by the American Society for Testing Material (A.S.T.M.) will be used.

Justification of DER Determination:

To reiterate per the BACT determination, Part II, the facility is within 50 kilometers of the Okefenokee National Wilderness area, a Class I area. Air modeling indicates that at the conditions determined as BACT, the impact of sulfur dioxide emissions from the facility will be just less than the maximum allowable increase for a Class 1 area.

The quantity of controlled SO_2 emissions from the dryer, when firing 1.5% sulfur content oil, is comparable to the amount of uncontrolled SO_2 emissions when firing 1.0% sulfur content oil. Oil is the stand-by fuel for this unit and would be fired only during periods of gas curtailment.

The use of the same grade fuel oil, but with different sulfur contents, will require, at the minimum, two fuel oil storage tanks. The applicant will have to set up a fuel oil handling procedure to prevent the transfer of the higher sulfur content oil to the wrong tank or other sources.

The department has determined, in this case, that the increase in the sulfur content of the oil fired (0.8% to 1.5%) is reasonable.

provided the anticipated 80% reduction in SO_2 emissions is documented.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

(C.H. Fancy)

Steve Smallwood, Chief BAQM

Date: 11/2/82

Approved:

Victoria J. Tschinkel, Secretary

Date: 11/18/82

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee

To: _____ Loctn.: _____
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____

Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: _____ Date Due: _____

RECEIVED
NOV 18 1982
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Steve Smallwood

DATE: November 18, 1982

SUBJ: BACT Determination for Occidental Chemical Company

Attached please find 3 BACT determinations for several source modifications located in White Springs, Hamilton County, Florida.

We recommend that you approve and sign the determination, the results of which will be made specific conditions of the construction permit.

EP/ks

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfur	Dust	1-2	136,464*	A
* Maximum utilization rate; this use rate will normally occur when there is an interruption in the normal supply of molten sulfur and the E and F sulfuric acid plants are operating at 100 percent permitted capacity.				

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

1. Total Process Input Rate (lbs/hr): 83,333 sulfur vatting rate

2. Product Weight (lbs/hr): 136,464 maximum reclaimation rate of sulfur from a vat.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fugitive Part.	9.8	21.3	NA	9.8	97.5	213	B
Matter*							
* These emissions will be generated only when sulfur is being reclaimed from a vat.							

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Water Sprays with wetting agent	Sulfur Dust	90	< 75 μm	Estimate

[1] See Section V, Item 2.

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

[3] Calculated from operating rate and applicable standard

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

[5] If Applicable

SECTION V - SUPPLEMENTAL REQUIREMENTS

1. Use Rate

Sulfur will be reclaimed from rail cars in a molten state and pumped to the vats at a rate of 83,333 pounds per hour (1000 tpd).

Sulfur will be reclaimed from the vats and delivered to a sulfur melter at the rate of 136,464 pounds per hour. This is the maximum rate at which sulfur will be consumed in the E and F sulfur acid plants.

2&3. Uncontrolled and Actual Emissions

Activity	Uncontrolled Emission Factor (1) (lb/ton)	Control Efficiency (2) (%)	Sulfur Handling Rate (tph)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tpy) (3)	Controlled Emissions (lb/hr)	Controlled Emissions (tpy)
Loading Vat (4)	0	--	41.7	0	0	0	0
Traffic	1.00	90	--	69	149	6.9	14.9
Wind Erosion (5)	0	--	--	0	0	0	0
Off-Loading	0.43	90	68.2	29	64	2.9	6.4
TOTAL				98	213	9.8	21.3

(1) EPA 450/3-77-010
(2) EPA 450/3-77-010
(3) Based on 4380 hours per year of activity
(4) Sulfur is in molten form; therefore there will be no significant emissions
(5) Sulfur in vat form is not subject to effects of wind erosion

4. Attachment 2

5. Control Efficiency

Uncontrolled Emissions (V, 2 & 3) - 98.0 lb/hr
Controlled Emissions (V, 2 & 3) - 9.8 lb/hr

Efficiency = (98.0 - 9.8) x 100/34.1
= 90.0%

6. Attachment 3

7. Attachment 4

8. Attachment 5

REVISED 11/17/82

SHOLTES & KOOGLER

Fugitive Sulfur Dust Emission Estimates

Vatted Sulfur Storage Area
Occidental Chemical Company
Hamilton Co, FL

Original Application

"Traffic" related emissions from sulfur reclaimation activities were assumed to be included in "off-loading" emissions; perhaps erroneously so. To be more conservative, and consistent with the intent of EPA 450/3-77-010, the permit application has been modified to include emissions generated by the rubber tired excavator and the rubber tired front end loader as "traffic" related emissions.

Emissions resulting from discharging the reclaimed sulfur into the sulfur melter were accounted for twice. "Off-loading" emissions, by a front end loader, include emissions generated when the front end loader picks the reclaimed materials up and those generated when the material is discharged; i.e., a complete reclaimation cycle. At the Occidental vatted sulfur area, the front end loader will discharge the reclaimed sulfur directly into the sulfur melter; thus, the emissions associated with melter loading are included in "pile off-loading" activities. In the original application, a separate, and duplicate, emission estimate was made for melter loading emissions.

Revised Application

Traffic - One rubber tired excavator and one rubber tired front end loader operating 24 hours per day, 7 days per week. Maximum annual operating factor will be 0.5.

Sulfur Consumption from Vatted Storage Area - Maximum hourly reclaimation rate will be 68.2 tons/hour. Maximum annual reclaimation will be 298,716 tons.

Basic Storage Pile Emission Factor - Reference EPA-450/3-77-010. Emission factor for "active" pile is 0.22 pounds of fugitive dust per ton of material exclusive of wind generated emissions. This is for a pile with activity 5 days per week

and 8-12 hours per day. The Occidental storage will, at maximum activity, have activity 24 hours per day, 7 days per week

Basic Emission Factor = BEF (exclusive of wind)

= 0.22 (7/5)(24/12)

= 0.62 lb/ton, uncontrolled

Basic Emission Factor (loading)

= 0.62 x loading emissions as fraction of loading, traffic and off-loading emissions

= 0.62 (12% / [12% + 40% + 15%])

= 0.11 lb/ton, uncontrolled

Basic Emission Factor (traffic)

= 0.62 (40% / [12% + 40% + 15%])

= 0.37 lb/ton, uncontrolled

Basic Emission Factor (off-loading)

= 0.62 (15% / [12% + 40% + 15%])

= 0.14 lb/ton, uncontrolled

Basic Emission Factor (wind)

= 0, see rationale in cover letter

Activity Factors - Reference EPA 450/3-77-010, pg 2-35)

K_1 (loading) = 0; sulfur discharged to vat in a molten state, hence emissions will be nil.

K_2 (traffic) = 1.33; a factor of 1.0 is assumed for the front end loader and a factor of 0.33 is assumed for the excavator which will travel one-third or less the distance of the front end loader

K_3 (load-out) = 1.5; a factor of 0.5 is assumed for the excavator which breaks "large" chunks of sulfur from the vat. A factor of 1.0 was assumed for load-out and discharge to the melter by front end loader

Silt Content - Assumed to be 3.0 % = S

PE Index - 99 for north Florida

Duration in Storage - not applicable; see discussion of wind erosion in cover letter

Adjusted Uncontrolled Emission Factors

Loading into Vat
= 0 lb / ton

Traffic
$= BEF(traffic) \times K_2 \times (S/1.5)/(PE/100)^2$
$= 0.37 (1.33)(3/1.5)/(99/100)^2$
= 1.00 lb / ton

Wind
= 0 lb / ton

Off-loading
$= BEF(off\text{-}loading) \times K_3 \times (S/1.5)/(PE/100)^2$
$= 0.14 (1.5)(3/1.5)/(99/100)^2$
= 0.43 lb / ton

Control Technology - "Traffic" related emissions and pile "off-loading" emissions are both associated to the reclaimation of sulfur from the vat and the discharge of sulfur into the melter. Control efficiencies for traffic relate activities were assumed to be the same as those listed for pile off-loading (EPA 450/3-77-010, pp 2-38 & 39) since explicit control efficiencies are not listed for traffic activities. Control by water sprays alone is reported to be 50 percent. The effectiveness of water sprays with a wetting agent is not addressed for "pile off-loading" activities. For other pile related activities, however, the addition of a wetting agent increases the effectiveness of water sprays to:

80-90 percent for loading onto piles,
90 percent for movement of pile, and
90 percent for wind erosion.

For "traffic" and "off-loading" related emissions the use of a wetting agent in the water spray system was assumed to be 90 percent effective for reducing fugitive emissions..

Controlled Fugitive Sulfur Dust Emission Rate

Traffic = 1.00 lb/ton (1-0.90)(68.2 tons/hour) = 6.82 lb/hr
Off-loading = 0.43 lb/ton (1-0.90)(68.2 tons/hour) = 2.93 lb/hr

Total = 9.75 lb/hour

- or -

Traffic = 1.00 lb/ton (1-0.9)(298716 tpy)/2000 lb/ton = 14.9 tpy
Off-loading = 0.43 lb/ton (1-0.9)(298716 tpy)/2000 lb/ton = 6.4 tpy

Total = 21.3 tons/yr

Loading into Melter - Included in "pile off-loading" emission estimates. See discussion in above sections.

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfur	Dust	1-2	136,464*	A
* Maximum utilization rate; this use rate will normally occur when there is an interruption in the normal supply of molten sulfur and the E and F sulfuric acid plants are operating at 100 percent permitted capacity.				

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

1. Total Process Input Rate (lbs/hr): 83,333 sulfur vatting rate

2. Product Weight (lbs/hr): 136,464 maximum reclaimation rate of sulfur from a vat.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fugitive Part.	9.8	21.3	NA	9.8	97.5	213	B
Matter*							
* These emissions will be generated only when sulfur is being reclaimed from a vat.							

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Water Sprays with wetting agent	Sulfur Dust	90	< 75 μm	Estimate

[1] See Section V, Item 2.

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

[3] Calculated from operating rate and applicable standard

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

[5] If Applicable

SECTION V - SUPPLEMENTAL REQUIREMENTS

1. Use Rate

Sulfur will be reclaimed from rail cars in a molten state and pumped to the vats at a rate of 83,333 pounds per hour (1000 tpd).

Sulfur will be reclaimed from the vats and delivered to a sulfur melter at the rate of 136,464 pounds per hour. This is the maximum rate at which sulfur will be consumed in the E and F sulfur acid plants.

2&3. Uncontrolled and Actual Emissions

Activity	Uncontrolled Emission Factor (1) (lb/ton)	Control Efficiency (2) (%)	Sulfur Handling Rate (tph)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tpy) (3)	Controlled Emissions (lb/hr)	Controlled Emissions (tpy)
Loading Vat (4)	0	--	41.7	0	0	0	0
Traffic	1.00	90	--	69	149	6.9	14.9
Wind Erosion (5)	0	--	--	0	0	0	0
Off-Loading	0.43	90	68.2	29	64	2.9	6.4
TOTAL				98	213	9.8	21.3

(1) EPA 450/3-77-010
(2) EPA 450/3-77-010
(3) Based on 4380 hours per year of activity
(4) Sulfur is in molten form; therefore there will be no significant emissions
(5) Sulfur in vat form is not subject to effects of wind erosion

4. Attachment 2

5. Control Efficiency

Uncontrolled Emissions (V, 2 & 3) - 98.0 lb/hr
Controlled Emissions (V, 2 & 3) - 9.8 lb/hr

Efficiency = (98.0 - 9.8) x 100/34.1
= 90.0%

6. Attachment 3

7. Attachment 4

8. Attachment 5

REVISED 11/17/82

SHOLTES & KOOGLER

No. 0157763

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
M. P. McArthru

STREET AND NO.
P. O. Box 300

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

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

CONSULT POSTMASTER FOR FEES

POSTMARK OR DATE

11/10/82

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered.....¢
- ☐ Show to whom, date and address of delivery.....¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered.....¢
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(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
M. P. McArthur
Post Office Box 300
White Springs, FL 32096

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157763	

(Always obtain signature of addressee or agent)

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

4. Clarence Rogers

DATE OF DELIVERY
11-10-82

POSTMARK

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6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
MC

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-300-459

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 9, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. McArthur:

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

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

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

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

Sincerely,

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

CHF/pa

Enclosure

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