

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

October 31, 1986

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

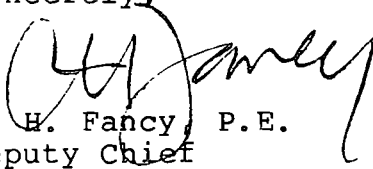
Mr. Hudson C. Smith
General Manager
Occidental Chemical Agricultural
Products, Inc.
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Smith:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to construct a sulfur pellets storage and handling facility at your Swift Creek Chemical Complex in White Springs, Hamilton County, Florida.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,


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

CHF/pa

Attachments

cc: W. W. Atwood
W. M. Miller
J. D. B. Kuersteiner
J. B. Koogler
B. Stewart

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department gives notice of its intent to issue a permit to Occidental Chemical Agricultural Products to construct a sulfur pellets storage and handling facility at the applicant's existing chemical complex at Swift Creek in White Springs, Hamilton County, Florida. A determination of best available control technology (BACT) was not required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the department's final determination.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Occidental Chemical Agricultural
Products, Inc.
Post Office Box 300
White Springs, Florida 32096

DER File No. AC 24-119008

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Occidental Chemical Agricultural Products, Inc., applied on April 16, 1986, to the Department of Environmental Regulation for a permit to construct a sulfur pellets storage and handling facility at the applicant's existing chemical complex at Swift Creek in White Springs, Hamilton County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit was needed for the proposed work.

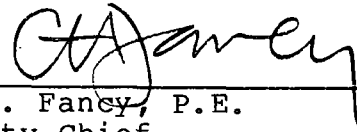
Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit application. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of

the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. Petitions must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32301-8241. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

H. C. Smith
W. W. Atwood
W. M. Miller
J.D.B. Kuersteiner
J. B. Koogler
B. Stewart

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on October 31, 1986.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Patricia G. Adams Oct. 31, 1986
Clerk Date

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners;
 - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
 - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
 - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
 - (f) A demand for the relief to which the petitioner deems himself entitled; and
 - (g) Such other information which the petitioner contends is material.

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of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to an administrative determination (hearing) under Section 120.57, F.S.

(4) Notice to substantially affected persons concerning applications for Department permits is an essential and integral part of the state environmental licensing process. Therefore, no application for a permit for which publication of notice is required shall be granted until and unless proof of publication of Notice is furnished to the appropriate Department permitting office.

(5)(a) Any applicant or person benefiting from the Department's action may elect to publish notice of proposed agency action in the manner provided by subsection (2) or (3). Any person who elects to publish notice of proposed agency action, upon presentation of proof of publication to the Department, prior to final agency action, shall be entitled to the same benefits under this rule as a person who is required to publish notice of proposed agency action. Since persons whose substantial interests are affected by a Department decision on a permit application may petition for an administrative proceeding within fourteen (14) days after receipt of notice and since, unless notice is given or published as prescribed in this rule, receipt of notice can occur at any time, the applicant or persons benefiting from the Department's action cannot justifiably rely on the finality of

the Department's decision without the notice having been duly given or published.

(b) The notices required by this rule may be combined with other notices required by the Department pursuant to Chapter 403, 376, or 253, F.S., or Chapter 17, FAC.

(c) The provisions of this section shall also apply to the permitting of hazardous waste facilities, but only to the extent it is consistent with Chapter 17-30, Part IV, FAC. Whenever Chapter 17-30, Part IV, FAC, provides for a different time or notice procedure than that set forth in this section the time and notice provisions of Chapter 17-30 shall govern.

(6) Failure to publish any notice of application, notice of proposed agency action, or notice of agency action required by the Department shall be an independent basis for the denial of a permit. Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

17-103.155 Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding.

(1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of

17-103.150(3)(d) -- 17-103.155(1)(a)

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agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.

(b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

(c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action, has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.

(2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first

occurs.

(b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.

(3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:

(a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.

(b) the materials and information relied upon by the agency in determining the final agency action or order;

(c) any notices issued or published; and

(d) the final agency action or order entered concerning the permit application.

(4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by

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the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law

Implemented: 120.53, F.S.

History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

17-103.160 Uniformity in Approval and Denial of Applications for Department Permits and Certifications. To the extent possible and consistent with the public interest, the Department approves and denies applications for permits and certifications on a uniform and consistent basis. Final Department actions on applications for permits and certifications shall be consistent with prior Department actions, unless deviation therefrom is explained by the Department in writing or the hearing officer who submits a recommended order to the Department for final agency action in accordance with Section 120.57, Florida Statutes.

Specific Authority: 120.53(1), F.S. Law Implemented: 120.53(1), 120.68(12), F.S. History: New 2-6-78, Transferred from 17-1.63, 6-1-84.

17-103.170 Designation, Preparation and Transmittal of Record for Administrative Appeals.

When any Department action or order is the subject of an administrative appeal under Chapter 17-103, Part II, FAC, the following requirements shall apply:

(1) Designation of Record. Within fifteen (15) days of rendition of the Department's final order, the appellant shall designate

to the Department, in writing, with copies to other parties, those documents or things under the control of, or in the possession of the Department which the appellant desires to have included in the record, and which were received or considered in the Department proceeding below. If a proceeding was reported by mechanical recording devices, the appellant shall designate those portions of the proceeding for which it requires written transcription or tapes for transcription. Any other party may designate other portions of the record in the manner provided herein. Such cross-designation shall be filed with the Department, with copies provided other parties, within seven (7) days after receipt of the designation by the appellant.

(2) Original Record. The Department shall thereupon include in the record all of the designated portions of the original papers and exhibits in the proceedings or matter from which administrative appeal is taken, together with a copy of any such parts of the proceedings as were stenographically reported or transcribed from tapes, and as have been designated by the parties and certified by a notary public, the reporter, or other officer for inclusion in the record on appeal or review, and certified copies of the order, if any, of which review is sought. The Department may, at its discretion, substitute certified copies for original papers or documents in its possession.

(3) Preparation of Record. Upon tender or deposit by appellant of the estimated cost of preparation, the Department shall prepare the record in accordance with the designations of the parties. The cost of preparation, and reproduction,

Technical Evaluation
and
Preliminary Determination

Occidental Chemical Agricultural Products, Inc.
White Springs, Hamilton County, Florida

Sulfur Pellets Storage and Handling Facility
(Swift Creek Chemical Complex)

Permit No. AC 24-119008

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

October 31, 1986

I. Application

A. Applicant

Occidental Chemical Agricultural Products, Inc.
Post Office Box 300
White Springs, Florida 32096

B. Project and Location

The applicant proposes to expand sulfur storage capacity at Occidental's Swift Creek Chemical Complex (SCCC) in White Springs, Hamilton County, Florida. Standard sulfur pellets will be brought in by either railcars or trucks, transferred by covered conveyors to an open storage pile (150,000 ton capacity), recovered using payloaders and covered conveyors, and melted using an existing static melter. A maximum of 300,000 tons per year (TPY) of sulfur pellets will be processed at this facility to supply to the sulfuric acid plants located at SCCC.

The UTM coordinates of the proposed facility are Zone 17, 321.3 km E, and 3369.8 km N.

C. Sources Reviewed

The primary sources reviewed in this technical evaluation will be:

- a) Railcar/truck unloading
- b) Conveyor transfer to storage
- c) Recovery using payloaders
- d) Vehicle travel in recovery area
- e) Wind erosion of storage pile
- f) Conveyor transfer to melter
- g) Static melter

Occidental applied for a construction permit for this facility on April 16, 1986. The application was deemed complete on September 30, 1986.

D. Facility Category

The facility at Occidental is classified under the Standard Industrial Classification (SIC) Code as Group No. 20, Chemical and Allied Products, and Industry No. 2819, Sulfuric Acid Contact Process. SCCC is a major facility, however, the proposed project is a minor project therein.

II. Project Description

A. Process

The proposed sulfur pellet storage and handling facility is designed to receive prilled solid sulfur by railcar or truck. The sulfur received by either means will be off-loaded in a receiving building and transferred by covered conveyor belt to an open storage area. The maximum designed sulfur receiving rate is 1,000 tons per hour, 10 hours per day for railcar receiving and 600 tons per hour, 24 hours per day for truck receiving. Sulfur will be recovered from the sulfur storage pile by front-end loader and loaded into a portable hopper-conveyor system that will transfer the recovered sulfur to a fixed ground-level conveyor belt running along one side of the sulfur storage area. The sulfur will be transferred by the fixed conveyor belt system to an existing 1,680 tons per day static sulfur melter (permitted under FDER Permit No. AC 24-61435).

The sulfur pellets storage and handling facility is designed to operate in conjunction with the sulfur vating and reclamation facility currently permitted by Occidental. The static melter will be used for both vat-recovered sulfur as well as sulfur pellets, however, the maximum throughput will remain 300,000 TPY.

B. Controls

In order to reduce the particulate matter (PM) emissions resulting from sources in the sulfur pellet storage and handling facility, control measures will be taken. An unloading building for sulfur pellet receiving, water sprays at all transfer points and also on the open storage pile, covered conveyor system, wind walls built on to hoppers, and also wind walls on the static melter, will be used.

Hydrogen Sulfide (H_2S) will also be emitted from this facility as a result of melting recovered sulfur pellets. This situation will occur when the existing molten sulfur supply to the sulfuric acid plants is disrupted. Since the H_2S content of the sulfur pellets is expected to be less than that of the molten sulfur supply, the use of sulfur pellets in place of molten sulfur will not result in a net H_2S emissions increase.

C. Operating Hours and Rates

The maximum operating hours and rates for the primary sources in the sulfur pellet facility will be:

Operation	TPH	TPD	Hrs/Day
Sulfur Unloading - Railcar	1000	10,000	10
Truck	600	14,400	24
Conveyor to Storage	1000	14,400	24
Recovery from Storage	70	1,680	24
Conveyor to Melter	70	1,680	24
Melter	70	1,680	24

Note: TPH is tons per hour, TPD is tons per day. Maximum annual throughput will not exceed 300,000 tons, for any activity. The facility may operate continuously within its maximum operational limits.

III. Rule Applicability

The proposed project will emit the pollutants particulate matter (PM) and hydrogen sulfide (H₂S) and is therefore subject to a preconstruction review in accordance with Chapters 17-2 and 17-4 of the Florida Administrative Code (FAC), and Chapter 403, of the Florida Statutes.

The project will be located in an area designated as attainment for all pollutants (Hamilton County), in accordance with Rule 17-2.420, FAC.

The proposed project will be a new minor project within an existing major facility, with less than significant emissions increase (as per table 500-2 in 17-2, FAC). It will therefore, not be subject to Prevention of Significant Deterioration (PSD) Review in accordance with Rule 17-2.500(2)(d), FAC.

The proposed project will be subject to the Source Specific New Source Review Requirements in accordance with Rule 17-2.540(2), FAC, Sulfur Storage and Handling Facilities. The requirements include Preconstruction Ambient Air Quality Analysis and Sulfur Deposition Analysis, and also Postconstruction Ambient Air Monitoring and Sulfur Deposition Monitoring.

The proposed project will be subject to Specific Source Emission Limiting Standards in accordance with Rule 17-2.600(11)(b), FAC, Solid Sulfur Handling. These standards specify reasonable emission limiting measures to be implemented and also a 10% opacity limit for visible emissions from any source in the sulfur pellet facility.

The applicant will be required to conduct annual compliance tests using DER Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources, in accordance with Rule 17-2.700(6)(a)9, FAC, for all sources within the sulfur pellet facility.

The applicant will be required to file reports of compliance tests in accordance with Rule 17-2.700(7), FAC.

IV. Ambient Air Quality and Deposition Analysis

A. Introduction

Occidental Chemical Company is proposing to construct a prilled sulfur handling and melting facility at their existing Swift Creek Chemical Complex (SCCC) located near White Springs in Hamilton County. The proposed facility will have the capacity for receiving and melting 300,000 tons of prilled sulfur per year. This new facility will complement a recently permitted sulfur vating facility located at SCCC which is permitted to throughput 300,000 tons of the vatted sulfur per year. In practice, however, much of the sulfur received in molten form will be directed to the existing molten sulfur storage tanks where it is available for direct input to the sulfuric acid plants.

The construction of the prilled sulfur handling facility is subject to Rule 17-2.540, FAC, Source Specific New Source Review Requirements. These requirements include:

- ° Preconstruction Ambient Air Quality Analysis;
- ° Preconstruction Sulfur Deposition Analysis, and;
- ° Postconstruction Monitoring

The applicant has submitted the required preconstruction analyses. Based on these analyses, the department has reasonable assurance that the proposed sulfur handling and melting facility, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any ambient air quality standard or prevention of significant deterioration (PSD) increment. A discussion of the modeling methodology and required analyses follows.

B. Modeling Methodology

The EPA-approved Industrial Source Complex (ISC) models were used to predict 24-hour average and annual average particulate sulfur ambient concentrations, and monthly and annual average sulfur deposition. The ISC short-term (ISCST) model was used to estimate the 24-hour maximum concentrations using sequential hourly meteorological data. The ISC long-term (ISCLT) model was used to predict annual average ambient concentrations, and monthly and annual average sulfur deposition using joint frequency distributions of wind direction, wind speed, and atmospheric stability.

The ISC models allow for various options to be selected which make the models more accurately depict the specific geography and source characteristics of the subject facility. These options include: distinguishing between point, area, and volume type sources; urban or rural geography; building induced downwash; variable emission rates by hour of day or wind speed; and gravitational settling of large particulates. These options, with the exception of downwash, were used by the applicant in completing the required modeling analyses. In addition, for the short-term modeling, the average concentrations were adjusted to correct for calm wind conditions. This procedure adjusts for the artificial persistence of wind direction in the processed hourly meteorological data set.

The analysis of particulate emissions at the SCCC facility included both the proposed new prilled sulfur handling facility and the recently permitted sulfur vatting and melting facility. All sources of particulate from these facilities were modeled taking into account different scenarios which preclude all sources from emitting at the same time. Table 1 lists all sources modeled. Table 2 lists the sulfur particulate matter emission rates used in the modeling. The detailed calculation of these emission rates can be found in the permit application.

The surface meteorological data used for the analysis consisted of the five-year period, 1972-1976, of hourly observations from the National Weather Service station in Valdosta, Georgia. The upper air data for this same period were collected at Waycross, Georgia. Since five years of data were used, the highest, second-high short-term predicted concentrations were compared with the appropriate standards. For the long-term (monthly and annual) predicted concentrations and deposition, these same data were processed into joint frequency distributions of wind speed, wind direction, and atmospheric stability.

The particulate sulfur deposition rate analysis required the applicant to define the particle size distribution of the emissions. Table 3 lists the distribution used. The applicant separated the total particulate emissions into 10 size categories, each containing 10 percent of the total mass. The gravitational settling velocity and surface reflection coefficient for each size category were calculated as specified in the ISC User's Manual. The ISCLT model used this information to estimate the maximum monthly and annual deposition. Particulate deposition was also taken into account in predicting the maximum concentrations of suspended particulates for both the 24-hour and the annual averages.

Since some of the emissions from the sulfur vatting operation occur less than 24 hours per day, the applicant has

specified in the model exactly which hours of the day these operations are emitting. For example, the railcar unloading of molten sulfur is modeled to occur only two hours per day, always between 1:00 p.m. and 3:00 p.m. This is somewhat restrictive since railcar unloading may not always occur between these hours. However, restrictions of the model do not allow for a more realistic random variation.

Emissions due to wind erosion were set in the model to occur only when the wind speed for any hour exceeded 12 miles per hour.

The receptor grid used in the modeling consisted of 108 receptors located along 36 radials 10 degrees apart and at three distances, 500, 700, and 2000 meters from an arbitrary center of the facility. All of the receptors within the 700 meter ring are within the plant property or in an uninhabited swamp area. A relatively small area of private property lies between 700 meters and 2000 meters to the northwest of the emission sources. Otherwise, most of the area within 2000 meters of the arbitrary center of emissions is within plant property or on uninhabited lands. The applicant has based the facility's maximum impacts on the predicted concentrations occurring at 700 meters in the direction of the private property and at 2000 meters in the direction of the nearest public access, located southwest of the facility.

C. Analysis of Existing Air Quality

The total ambient impact to an area is determined by adding the maximum predicted modeled impacts to the existing background concentration. The existing background is often estimated from air quality monitoring data located near the proposed new or modified facility. The background concentrations should account for all sources of emissions not included in the dispersion modeling calculations.

The nearest particulate monitor to the Occidental facility is located a few hundred meters off plant property to the southwest.

It is approximately 2000 meters from the sulfur handling and storage facilities. Data for this monitor exist from 1980 to 1984. The monitor was shut down in 1984 due to logging operations in the vicinity and has only recently been started up again. Therefore, the background concentrations is determined by the 1980-1984 data set.

The applicant has evaluated this five-year data set and estimated the second highest 24-hour concentration for each year based on an extrapolation of the six-day sampling frequency. The

year 1980 had the highest measured concentrations. As result the background concentrations used in the air quality analysis are 112 ug/m^3 , 24-hour average, and 36 ug/m^3 , annual average.

D. PSD Increment Analysis

The Occidental facility is located in an area designated as "attainment" for meeting the ambient air quality standards for particulate matter. As such, the Class II PSD increments can not be exceeded more than once per year. This restriction means that increased emissions of particulate matter occurring after the baseline date must not cause ambient concentrations to increase more than specified amounts. These amounts are 37 ug/m^3 , 24-hour average, and 19 ug/m^3 , annual average. Both the sulfur vating and prilled sulfur handling facilities are restricted to these increases.

The results of the PSD increment analysis show that the maximum ambient increase of particulate matter occurring at the nearest property line is 17 ug/m^3 , 24-hour average, and 0.7 ug/m^3 , annual average. Concentrations of particulate matter within plant property are predicted to be well above the increment for the 24-hour average.

E. Ambient Air Quality Standards Analysis

Given existing air quality in the area of the SCCC facility, the increased emissions of particulate matter from the handling and melting of vatted and prilled sulfur are not expected to cause or contribute to an exceedance (off plant property) of the ambient air quality standards. These standards are 150 ug/m^3 , 24-hour average (not to be exceeded more than once per year), and 60 ug/m^3 , annual average. The predicted maximum 24-hour average, including a background concentration of 112 ug/m^3 , is 129 ug/m^3 . The predicted maximum annual concentration, including the background level of 36 ug/m^3 , is 37 ug/m^3 . Within the plant property, however, the 24-hour ambient standard is predicted to be exceeded.

F. Particulate Sulfur Deposition Analysis

The results of the sulfur deposition analysis are as follows. The maximum monthly deposition predicted is 0.0061 g/m^2 (0.134 lb/hectare). The maximum annual deposition predicted is 0.0479 g/m^2 (1.055 lb/hectare). The above results are off-property impacts. Within plant property, deposition is predicted to be as high as 0.2067 g/m^2 (4.547 lb/hectare), maximum monthly value, and 1.957 g/m^2 ($43.058 \text{ lb/hectare}$), maximum annual value.

V. Conclusion

The Occidental Chemical Company has applied for a permit to construct a prilled sulfur handling facility at their Swift Creek Chemical Complex near White Springs, Florida. The applicant currently receives sulfur in molten form which is stored in storage tanks. The applicant recently received a construction permit to vat up to 300,000 tons of molten sulfur per year. The proposed project would allow the applicant to handle up to 300,000 tons of prilled sulfur per year.

The applicant has submitted an analysis of the impacts predicted to occur on the ambient air as a result of the proposed new prilled sulfur handling and sulfur vating facilities. The analysis addressed the requirements of Rule 17-2.540, FAC, for an air quality impact analysis.

Based on this analysis, submitted by Occidental Chemical Company, the department has reasonable assurance that construction of the new prilled sulfur handling facility, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of an ambient air quality standard or PSD increment.

Table 1

Occidental Chemical Company
Prilled and Vatted Sulfur Sources

Source	Type	Relative Location		Release Height (m)	Vertical	Horizontal	Diameter (m)
		X(m)	Y(m)		Dimension (m)(1) or Temp. (K)	Dimension (m)(2) or Exit Velocity (ms ⁻¹)	
<u>Prilled Sulfur Facility</u>							
Receiving Bldg. (controlled)	point	381	69	12.2	300	20.2	1.22
Receiving Bldg. (unconfined)	volume	396	58	4.6	4.3	10.6	-
Belt to Belt	point	465	108	15.2	300	1.0	1.00
Belt to Pile	point	442	99	6.1	300	1.0	1.00
Loader Travel	volume	366	152	3.0	2.8	7.1	-
Loader to Hopper	point	381	146	2.4	300	1.0	1.00
Hopper to Belt	point	381	146	1.2	300	1.0	1.00
Belt to Belt	point	366	142	1.2	300	1.0	1.00
Belt to Belt	point	308	63	6.1	300	1.0	1.00
Belt to Melter	volume	52	63	3.0	4.3	2.1	-
Wind Erosion	volume	320	180	6.1	5.7	17.7	-
Wind Erosion	volume	381	131	6.1	5.7	17.7	-
Wind Erosion	volume	439	66	6.1	5.7	17.7	-
Wind Erosion	volume	497	30	6.1	5.7	17.7	-
<u>Sulfur Vattng Facility</u>							
Vat Reclamation	volume	35	120	3.8	3.5	17.7	-
Sulfur Recovery	volume	35	120	3.8	3.5	17.7	-
Sulfur to Melter	volume	52	63	6.0	1.4	1.4	-
Vehicle Travel (reclaim)	volume	35	120	3.8	3.5	17.7	-
Vehicle Travel (to melter)	volume	35	120	3.8	3.5	17.7	-
Melter	volume	52	63	4.0	3.6	1.1	-
Wind Erosion	volume	35	120	3.8	3.5	17.7	-
Wind Erosion	volume	115	120	3.8	3.5	17.7	-
Railcar Unloading	area	25	0	5.0	-	32.0	-
Sulfur Vattng	area	25	82	6.0	-	30.5	-

(1) For volume type sources.

(2) For volume and area type sources.

Table 2

Occidental Chemical Company
Prilled and Vatted Sulfur Emissions

Source	Suspended Particulate (g/s)	(ton/yr)	Total Particulate (ton/yr)
<u>Prilled Sulfur Facility</u>			
Receiving Bldg. (controlled)	0.005	0.007	0.016
Receiving Bldg. (unconfined)	0.008	0.017	0.036
Belt to Belt	0.015	0.031	0.065
Belt to Pile	0.176	0.351	0.737
Loader Travel	0.159	2.635	5.531
Loader to Hopper	0.009	0.142	0.298
Hopper to Belt	0.001	0.003	0.004
Belt to Belt	0.001	0.010	0.021
Belt to Belt	0.001	0.010	0.021
Belt to Melter	0.001	0.010	0.021
Wind Erosion	0.296	0.351	0.739
Wind Erosion	0.296	0.351	0.739
Wind Erosion	0.296	0.351	0.739
Wind Erosion	0.296	0.351	0.739
<u>Sulfur Vatting Facility</u>			
Vat Reclamation	0.190	0.720	1.521
Sulfur Recovery	0.063	0.240	0.504
Sulfur to Melter	0.011	0.165	0.346
Vehicle Travel (reclaim)	0.302	1.024	2.150
Vehicle Travel (to melter)	0.330	1.024	2.150
Melter	0.001	0.015	0.030
Wind Erosion	0.384	0.073	0.152
Wind Erosion	0.384	0.073	0.152
Railcar Unloading	0.0000934(1)	0.051	0.051
Sulfur Vatting	0.000298(1)	1.275	1.275

(1) units = $gs^{-1}m^{-2}$

Table 3

Occidental Chemical Company
Prilled Sulfur Particle Size Distribution

Class	Mass Fraction Range (%)	Size Range (μm)	Mean Diameter (μm)	Settling Velocity (m/s)	Reflection Coefficient
1	0-10	0.5-4.0	2.6	0.0004	1.00
2	10-20	4.0-8.5	6.5	0.0025	0.90
3	20-30	8.5-15	12.0	0.0086	0.78
4	30-40	15-21	18.2	0.0197	0.72
5	40-50	21-30	26.3	0.0412	0.65
6	50-60	30-45	38.4	0.0877	0.53
7	60-70	45-62	53.9	0.1729	0.34
8	70-80	62-90	76.9	0.3519	0.00
9	80-90	90-125	108.0	0.6940	0.00
10	90-100	125-300	224.0	2.9856	0.00

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.
P. O. Box 300
White Springs, Florida 32096

Permit Number: AC 24-119008
Expiration Date: December 31, 1989
County: Hamilton
Latitude/Longitude: 30° 25' 56"N/
83° 47' 51"W
Project: Sulfur Pellet Storage and
Handling Facility

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

For the construction of a sulfur pellet storage and handling facility consisting of a sulfur receiving building, covered conveying system, open storage system, and a facility-wide water spray system.

Construction shall be in accordance with the attached permit application unless otherwise stated in the General and Specific Conditions herein.

Attachments are as follows:

1. Occidental's application package dated April 16, 1986.
2. DER's letter dated May 15, 1986.
3. Occidental's response dated July 1, 1986.
4. DER's letter for additional information dated July 30, 1986.
4. Occidental's response dated September 29, 1986.

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

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

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

13. This permit also constitutes:

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

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

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

PERMITTEE:
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Products, Inc.

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Expiration Date: December 31, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

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

SPECIFIC CONDITIONS:

1. The maximum annual throughput of sulfur pellets at this facility shall not exceed 300,000 tons per year (TPY). The maximum storage capacity of the open storage pile shall not exceed 150,000 tons.
2. The maximum operating hours and rates of the sulfur pellets processing activities shall not exceed:

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

SPECIFIC CONDITIONS:

Operation	TPH	TPD	Hrs/Day
Sulfur Unloading - Railcar	1000	10,000	10
Truck	600	14,400	24
Conveyor to Storage	1000	14,400	24
Recovery from Storage	70	1,680	24
Conveyor to Melter	70	1,680	24
Melter	70	1,680	24

Note: TPH is tons per hour, TPD is tons per day. The melter is permitted to be used for both vat-recovered sulfur and sulfur pellets, but is still restricted to 300,000 TPD maximum throughput..

3. The primary emissions from the sulfur pellet storage and handling facility shall not exceed 10 tons per year, of sulfur particulate matter.
4. Visible emissions shall not exceed 10% opacity from any source or activity in the sulfur pellet facility, as determined by DER Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources.
5. All applicable emission limiting precautions and procedures specified in this permit application and in Rule 17-2.600(11), FAC, shall be followed at all times.
6. A minimum of 90 days prior to receiving sulfur pellets, the permittee shall submit adequate proof of the solid sulfur being "standard sulfur pellets" as defined in Rule 17-2.100(179), FAC, and details of the water spray system (referred to in the permit application), to the Central Air Permitting office (CAPS) and to the DER's District office for approval.
7. A 15 day prior notice shall be given to DER's District office of the compliance testing dates.
8. Initial and annual compliance tests shall be conducted at 90-100% of the permitted equipment capacities using DER Method 9, for all sources in the sulfur pellet facility.

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

SPECIFIC CONDITIONS:

9. The permittee shall submit a Sulfur Deposition and an Ambient Air Monitoring Plan to CAPS for approval, within 90 days of issuance of this permit. These monitoring plans shall be implemented for a minimum of 2 years from the date of issuance of the initial operating permit. Monitoring may be required beyond the initial 2 years should the department deem it necessary at the end of the initial monitoring period.

10. The following shall be submitted for approval to DER's District office within 45 days of completion of compliance tests, and a minimum of 90 days before the expiration date of this permit (copy to CAPS):

- a) Compliance test results of DER Method 9.
- b) Initial sulfur deposition monitoring report conducted according to Rule 17-2.753(2), FAC (DER Reference Method for Monitoring the Deposition of Sulfur Particulate).

11. Upon obtaining an operating permit the permittee will be required to submit annual reports on the actual operation and emissions of the sources to the DER's District office.

12. Any change in the method of operation, equipment, or operating hours shall be submitted for approval to the Department's District office.

13. An emissions summary is tabulated below for inventory purposes only. Emission estimates have been calculated in accordance with the method prescribed in Rule 17-2, FAC.

Source/Activity	Suspended Particulate (TPY) up to 30 u.	Total Particulate (TPY)
Receiving Building	0.034	0.073
Transfer to Storage	0.170	0.357
Recovery by Payloaders	0.142	0.298
Vehicle Traffic	2.634	5.531
Wind Erosion	1.408	2.957
Transfer to Melter	0.038	0.102
Static Melter	0.030	0.030
Total		9.348

PERMITTEE:
Occidental Chemical Agricultural
Products, Inc.

Permit Number: AC 24-119008
Expiration Date: December 31, 1989

SPECIFIC CONDITIONS:

14. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, the Department must be notified in writing 60 days prior to the expiration of the construction permit and submit a new schedule and request for an extension of the construction permit. (Rule 17-4.09, FAC)

15. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the Department's District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (Rules 17-4.22 and 17-4.23, FAC)

16. If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct which can take up to 90 days to process a complete application. (Rule 17-4.10, FAC)

Issued this _____ day of _____, 19__

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

VICTORIA J. TSCHINKEL, Secretary

_____ pages attached.

P 408 532 053

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Hudson C. Smith	
Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date 10/31/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. Show to whom, date and address of delivery.
2. Restricted Delivery.

3. Article Addressed to:
Mr. Hudson C. Smith
Occidental Chem. Agricultural
P. O. Box 300
White Springs, FL 32096

4. Type of Service: <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail	<input type="checkbox"/> Insured <input checked="" type="checkbox"/> COD	Article Number P 408 532 053
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Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee
X

6. Signature - Agent
X *Clarence Rogers*

7. Date of Delivery
11-3-86

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

DOMESTIC RETURN RECEIPT