

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Agrico Chemical Company
South Pierce Chemical Works
Polk County, Florida

Application Number: AC 53-55780

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

October 29, 1982

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Agrico Chemical Company for the construction of receiving/transfer system to the sulfur melting pits at its South Pierce Chemical Works in Polk County. A determination of Best Available Control Technology (BACT) was not required.

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 Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (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 a hearing under Section 120.57, Florida Statutes.

The applications, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

DER Southwest District
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

I. PROJECT DESCRIPTION

A. Applicant

Agrico Chemical Company
P. O. Box 1969, S.P.C.W.
Bartow, Florida 33830

B. Project and Location

The applicant's proposed project consists of constructing a sulfur handling facility at the existing South Pierce Chemical Works to receive and transfer wetted prilled sulfur to a new sulfur melting system. The facility is located near Brewster on State Road 630 in Polk County. The universal transverse mercator (UTM) coordinates of the source are: Zone 17, 407.6 km East and 3071.3 km North.

C. Process Description and Controls

The handling system of wetted prilled sulfur will receive and transfer the material to the sulfur melting pits from which the molten sulfur will be used in the manufacturing of sulfuric acid. The sulfur is to be received either by rail or truck and is discharged into a hopper at an open unloading shed. From this hopper, the sulfur is discharged onto a covered conveyor. This discharge point is totally enclosed. The covered conveyor will transfer the sulfur into a 100 long ton (LT) surge hopper. The surge hopper is designed so that the displaced air will escape out of the top sides of the unit to the ambient air.

The surge hopper discharges into enclosed vibrating feeders which transfer the sulfur to the melting system. The melting system consists of three 900 LT/Day covered melters. One of the melters will provide spare capacity and the throughput of the system will not exceed 1800 LT/Day. Fume from the melting pits will be controlled by a wet scrubber utilizing a caustic solution to control hydrogen sulfide emissions.

II. RULE APPLICABILITY

The proposed project is located in an area designated as unclassifiable for particulate matter according to Florida Administrative Code Rule 17-2.430. The project is located in an area designated as attainment for the remaining criteria pollutants. The project is also in the area of influence of the Hillsborough County particulate matter nonattainment area.

The South Pierce Chemical Works is a major emitting facility as defined in Florida Administrative Code Rule 17-2.100(95) for the pollutants particulate matter, sulfur dioxide, and nitro-

gen oxides. The application is exempt from the new source review requirements for nonattainment area according to Florida Administrative Code Rule 17-2.510(2)(a)2.a.(i) since the application is for a new source of unconfined particulate matter emissions that is located greater than five kilometers from the nonattainment area.

The proposed project is classified as a modification to a major facility. Since the net emissions increase is below the significant net emissions increase listed in Table 500-2 and approximately 115 km from the nearest Class I area, the project is exempt from the requirements of the prevention of significant deterioration (PSD) regulation according to Florida Administrative Code Rule 17-2.500(2)(d)4.a.(ii).

The proposed project is classified as a source of unconfined emissions according to Florida Administrative Code Rule 17-2.100 (167). Therefore, the project must meet the requirements contained in Florida Administrative Code Rule 17- 2.610(3).

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutant emitted during the transfer operation from the unloading shed to the surge hopper is particulate matter. Pollutants emitted during the melting process are hydrogen sulfide and sulfur dioxide.

The particulate matter emissions generated during unloading and transfer operations were estimated using an emissions factor (0.0068 lb/ton transferred) developed by Dr. Lundgren of the University of Florida. This factor is based upon a moisture content of two percent in the wetted prilled sulfur. Annual emissions are based upon 600,000 long tons of sulfur per year.

Source	Maximum		
	Transfer Rate Tons per Hour	Particulate Matter Emissions Pounds per Hour	Tons per year
truck/rail dump	200	1.36	2.28
surge bin	120	0.82	2.28

For the melting pits, the hydrogen sulfide emission rate was estimated from information developed by the Sulfur Develop-

ment Institute of Canada (SUDIC). Maximum uncontrolled emissions were estimated to be 250 ppm. Actual emissions were based upon a 95% control efficiency guarantee for the caustic scrubbing system. Sulfur dioxide emissions were estimated based upon the hydrogen sulfide emissions. The ratio of hydrogen sulfide to sulfur dioxide is approximately 800 to 1 according from information provided by SUDIC. No other emissions of criteria pollutant are expected to occur since existing steam capacity will be capable of providing the required heat for remelting. Maximum input of the melting system is 1800 long tons per day and 600,000 long tons per year.

Maximum Emissions from Two Melting Pits*

Pollutant	Pounds Per Hour	Tons per Year
Hydrogen Sulfide	1.9	8.4
Sulfur dioxide	0.0025	0.21

*Two of the three melting pits only will be operated at one time.

B. Air Quality Analysis

Since the increase in particulate matter and hydrogen sulfide emissions are below the significance levels indicated in Table 500-2 of 17-2.500 FAC, an ambient air quality analysis is not required.

IV. CONCLUSIONS

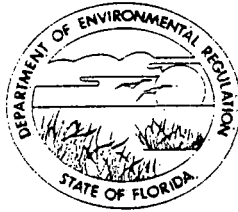
The emission limitation of 0.0068 pounds of particulate matter per ton of sulfur transferred meets the requirements of Florida Administrative Code Rule 17-2.610(3) - Unconfined Emissions of Particulate Matter in that other reasonable precautions to prevent emissions are not justifiable at the amounts of emissions proposed. The construction of ducting and other controls are not justified. However, a particulate emissions test and visible emissions test should be made of part of the compliance test prior to the issuance of the operating permit. A visible emissions standard will be made a condition of the operating permit.

Likewise the hydrogen sulfide emissions from the melting pits should be tested to ensure that the proposed levels will not be exceeded and the scrubbing system guarantee can be met.

The General and Specific Conditions listed in the proposed permits (attached) will assure compliance with all applicable requirements of Chapter 17-2, FAC.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT: Agrico Chemical Company
P. O. Box 1969, S. P. C. W.
Bartow, Florida 33830

PERMIT/CERTIFICATION
NO.AC53-55780

COUNTY: Polk

PROJECT: Prilled Sulfur
Transfer System and
Melting Pits

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

For the construction of a truck/railcar prilled sulfur unloading and
transfer facility and three 900 long ton per day melting pits to be
located at the South Pierce Chemical Works off State Road 630 near
Brewster. The UTM Coordinates of the proposed facility are Zone 17,
407.6 km East and 3071.3 km North.

Construction shall be in accordance with the attached permit application
and plans, documents, and drawings except as otherwise noted on pages
3 and 4 - "Specific Conditions".

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).
2. Response to incompleteness letter received September 24, 1982.

PERMIT NO.: AC53-55780
APPLICANT: Agrico Chemical Company

GENERAL CONDITIONS:

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

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

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

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

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

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

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

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

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

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

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

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

13. This permit also constitutes:

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

PERMIT NO.: AC53-55780
APPLICANT: AGRICO CHEMICAL COMPANY

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Source</u>	<u>Pollutant</u>	<u>Pounds per hour</u>	<u>Tons per year</u>
Truck/rail unloader	Particulate matter	1.36	2.28
Surge Hopper	Particulate matter	0.82	2.28
Melting Pit	Hydrogen Sulfide	1.90	8.40

No visible emissions (less than 5% opacity) shall be allowed from the transfer points.

2. Maximum transfer rate at the truck/rail car unloader shall be 200 tons per hour. Maximum loading of the surge bin shall be 120 tons per hour. Maximum input to the melting pits shall be 1800 long tons per day. No open storage of prilled sulfur shall be allowed at this facility.
3. Only two of the three melting pits shall be operated at any one time.
4. Only prilled sulfur received from the Agrico Chemical Company Big Bend Terminal shall be allowed at this facility.
5. Compliance with the emission limitations shall be determined by mass particulate matter sampling using DER method 5 for the transfer facilities and by EPA method 15 or equivalent for the hydrogen sulfide emissions from the melting pits. Visible emissions tests, using DER method 9 testing from the transfer sources shall be conducted concurrently with the mass particulate sampling.
6. Compliance with the process rate limitations shall be determined by record keeping of the daily hours of operation and the daily amount of sulfur melted. An annual operating report shall be submitted to the Southwest District Office. This report shall contain daily operating hours and daily consumption of prilled sulfur in the melting pits.
7. Prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, Southwest District Office. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

PERMIT NO.: AC53-55780

APPLICANT: Agrico Chemical Company

Expiration Date: April 30, 1985

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____ Pages Attached.

Signature

PAGE _____ OF _____.

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