

Technical Evaluation  
and  
Preliminary Determination

Agrico Chemical Company  
Big Bend Terminal  
Hillsborough County, Florida

Solid Sulfur Handling and  
Storage Operation

Permit Number: AC 29-5954

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

August 13, 1985

State of Florida  
Department of Environmental Regulation  
Notice of Proposed Agency Action  
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Agrico Chemical Company to modify a permit to construct a solid sulfur handling and storage system at Agrico's existing Big Bend facility in Hillsborough 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 proceeding (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 Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen<sup>(14)</sup> days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have 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 Model 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  
Southwest District  
7601 Highway 301 North  
Tampa, Florida 33610

Hillsborough County Environmental Protection Commission  
1900 Ninth Avenue  
Tampa, Florida 33605

Dept. of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301

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

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.

I. Application Synopsis

A. Applicant

Agrico Chemical Company  
P. O. Box 1110  
Mulberry, Florida 33860

B. Project and Location

The applicant proposes to modify a permit to construct a solid sulfur handling and storage system at the applicant's existing Big Bend facility in Hillsborough County. The project will consist of a marine vessel unloading system, storage system and a truck loadout system.

The UTM coordinates of the facility are: Zone 17-360,945 m East and 3,076,218 m North.

C. Sources Reviewed

Material transfer operations at the proposed sulfur facility will result in unconfined, fugitive, and vented emissions of sulfur particulate matter. The primary sources of these particulate emissions (from sulfur pellets handling) are listed below.

i) Ship Unloading Area

- Clamshell to hopper
- Hopper to conveyor belt
- Belt to belt transfer

ii) Storage Pile Enclosure

- Tripper conveyor to storage pile
- Payloader traffic
- Payloader to conveyor belt

iii) Truck Loadout Area

- Conveyor belt to bin
- Bin dump
- Bin to truck

D. Standard Industrial Classification Code (SIC)

The facility at Big Bend is classified as: Group No: 422  
Public Warehousing, Industry No: 4225 General Warehousing

#### E. Facility Category

Agrico's marine terminal facility at Big Bend is classified as a minor emitting facility for the air pollutant particulate matter.

#### F. Application Completeness Date

- i) Initial application: October 12, 1984
- ii) Application deemed complete: June 17, 1985

### II. Project Description

#### A. Project and Controls

The proposed solid sulfur installation will consist of a system to unload standard sulfur pellets, as designated in Rule 17-2.100(179), FAC, from a marine vessel; transfer to a storage enclosure at a maximum rate of 600 long tons per hour (LT/hr); and loadout from storage to trucks, at a maximum rate of 75 LT/hr. The sulfur pellets will be unloaded from a marine vessel by a tight lipped clamshell bucket and transferred into an enclosed hopper, which will feed a covered belt conveyor. The pellets will then be transferred to the storage building, where a tripper conveyor will unload it onto the enclosed storage pile. Storage capacity within the building will be 50,000 LT. Payloaders operating inside the building will transfer the sulfur pellets from the storage pile to a conveyor belt. An inclined covered conveyor belt will transfer the material from the storage building to the truck loading area. Sulfur pellets will be fed into a hopper which in turn will load trucks for shipment to Agrico's South Pierce facility. Annual throughput of sulfur at this marine terminal will be limited to 600,000 LT.

Control of unconfined and fugitive emissions will be maintained by covering/enclosing equipment and areas where sulfur pellets will be transferred or stored, using water sprays with effective wetting agents at transfer points, maintaining cautious operating practice, and adhering to regular maintenance schedules for various equipment and roads.

#### B. Operating Times and Rates

The maximum operating times and rates of sulfur handling units are summarized below:

Unit	Capacity (LT)	OPTG Rate (LT/hr)	Annual OPTG Hours (hrs)
Ship	30,000	600	1000
Clamshell Bucket	NA	600	1000
Dockside Hopper	NA	600	1000
Belt Conveyor	1100/hr	600	1000
Storage - Load-in	50,000	600	1000
Storage - Load-out	50,000	75	8000
Payloader	NA	75	8000
Truck Bin Loadout	50	75	8000
Truck	25	75	8000

Note: (a) Tons (T) refers to short tons unless otherwise indicated as long tons (LT).

(b) Although the storage building activity is carried out for 8,000 hrs/yr, the actual storage pile exists all year round.

### III. Rule Applicability

The proposed project will emit the pollutant particulate matter and is subject to preconstruction review under Chapter 17-2 of the Florida Administrative Code (FAC).

The proposed project will be located within five kilometers of the nonattainment area for particulate matter in Hillsborough County under Rule 17-2.420, FAC. However, the proposed project is not subject to the Nonattainment Area New Source Review Requirements because it will be a minor modification to a minor facility, under Rule 17-2.510(2)(d)3, FAC.

The proposed project will be subject to the Source Specific New Source Review Requirements and shall be permitted under Rule 17-2.540(2), FAC, Sulfur Storage and Handling Facilities.

The proposed project shall prepare a preconstruction Ambient Air Quality Analysis and a Sulfur Deposition Analysis, as specified under Rule 17-2.540(2), FAC, using methods of emission estimation as specified in Rule 17-2.215, FAC.

The proposed project shall conduct post-construction air quality and sulfur deposition monitoring as specified under Rule 17-2.540(2)(c), FAC.

The proposed project shall comply with the Specific Source Emission Limiting Standards under Rule 17-2.600(11)(b), FAC, Solid Sulfur Storage and Handling Facilities.

The proposed project shall not handle, transfer, or store any form of solid sulfur other than standard sulfur pellets, in accordance with Rule 17-2.600(11), FAC.

The proposed project shall employ, as a minimum, the practices to minimize the emission of sulfur particulate matter into the atmosphere, as listed under Rule 17-2.600(11)(b), FAC; for:

1. Marine Vessel Unloading
2. Solid Sulfur Transfer
3. Solid Sulfur Storage

The proposed project shall not allow emissions from the storage building in excess of 0.03 lbs/hr per 1000 T of storage capacity, under Rule 17-2.600(11)(b)3, FAC.

The proposed project shall not have any visible emissions (5% opacity, six minute average), from any emission point in the solid sulfur handling area, in accordance with Rule 17-2.600(11)(b)5, FAC.

The proposed project shall be required to show compliance with emission standards by conducting DER Method 5, Determination of Particulate Emissions from Stationary Sources (by liquid impingement) in accordance with Rule 17-2.700(6)(a)5, FAC.

The proposed project shall also conduct compliance test, 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 the sources in the sulfur handling area.

The proposed project shall file reports of compliance tests in accordance with Rule 17-2.700(7), FAC.

#### IV. Ambient Air and Deposition Analysis

##### A. Introduction

The Agrico Chemical Company is proposing to construct a solid sulfur unloading and storage and shipping facility in Hillsborough County, Florida. The proposed facility is to be located at Agrico's Big Bend Terminal, the site of their existing granular fertilizer and phosphate rock receiving, storage, and shipping facility. The project is subject to Rule 17-2.540, FAC - Source Specific New Source Review Requirements. These requirements include:

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



The applicant has submitted the required preconstruction analyses. Based on these analyses, the department has reasonable assurance that the proposed solid sulfur handling and storage facility at the Agrico Big Bend Terminal, 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) model was used to predict 24-hour and annual average particulate matter ambient concentrations, and monthly and annual average particulate matter deposition. The ISC model is actually two separate models: a short-term model (ISCST), and a long-term model (ISCLT). The short-term model was used to predict the 24-hour average ambient concentrations using sequential, hourly meteorological data. The long-term model was used to predict annual average ambient concentrations, and monthly and annual average deposition using joint frequencies of wind direction, wind speed, and atmospheric stability.

The ISC models allow for various options to be selected based upon the geographical area and source characteristics of the industrial facility. These options include: distinguishing between point, area, and volume type sources; urban versus rural geography; building induced downwash; and gravitational settling of large particulates. The applicant has properly used the options available to best model the facility. The details of modeling methodology are contained in the attached air quality assessment submitted by the applicant.

The individual sources of particulate matter emissions for both the sulfur and phosphate storage and handling facilities are listed in Tables 1 and 2. The initial plume dispersion for the volume type sources were calculated in accordance with the guidelines contained in the ISC Users Manual. The length, width, and height dimensions of the storage building were used in the model to account for building wake downwash for the three point sources located on top of the building. All of the phosphate handling facility sources were modeled as points.

Tables 3 and 4 list the particulate matter emission rates used in the models for both the sulfur and phosphate handling facilities respectively. These emission rates were calculated according to the procedures specified in Rule 17-2.215, FAC.

Best Available Copy

Table 1

Source Attributes—Sulfur Facility

Source	Type	UTM E (km)	UTM N (km)	Source Dimensions/Attributes			Diameter (m)	Initial Plume Dispersion or Bldg. Dimensions	
				Height (m)	Horizontal (m)	Vertical (m)		Horizontal (m)	Vertical (m)
				Height (m)	Temperature (K)	Exit Velocity (m/s)		(2)	
Hamshell Hopper	Elevated Volume	361.10	3076.39	13.41	10.06	7.31		2.35	1.71
Hopper to Sulfur	Elevated Volume	361.10	3076.39	2.13	1.83	1.83		0.43	0.43
Hopper to Sulfur	Elevated Volume	361.10	3076.39	3.81	3.05	7.62		0.70	3.54
Storage Building	Point	361.01	3076.10	21.95	Ambient	0.10	1.00	106.1(3)	21.9(4)
	Point	361.01	3076.14	21.95	Ambient	0.10	1.00	106.1(3)	21.9(4)
	Point	361.01	3076.18	21.95	Ambient	0.10	1.00	106.1(3)	21.9(4)
Truck Loadout Building	Elevated Volume	361.045	3076.30	12.19	6.10	15.24		1.43	7.10
Truck Building	Ground based Volume	361.045	3076.3	2.29	6.10	4.57		1.43	2.13

1) Volume source dimensions; Horizontal and Vertical dimensions of volume sources

2) Point source attributes; Stack height, Exit velocity, and Stack Diameter

3) Horizontal dimension of equivalent square building (used as both width and length of the storage building)

4) Vertical dimension of the storage building.

Table 2

## Source Attributes—Phosphate Rock and Fertilizer Facility

Source (1)	UTM E (km)	UTM N (km)	Height (m)	Temperature (K) (2)	Velocity (m/s)	Diameter (m)
DC-A	362.255	3076.16	38.10	304	12.68	2.18
DC-B	362.225	3076.23	22.86	304	12.83	0.84
DC-C	362.195	3076.20	22.86	304	12.83	0.84
DC-D	361.515	3076.23	13.72	304	12.83	0.84
DC-E	361.495	3076.34	13.72	304	12.83	0.84
DC-F	361.285	3076.35	22.86	304	12.92	1.52
DC-G	362.095	3076.29	22.86	304	12.83	0.84
DC-H	361.505	3076.28	18.29	304	12.83	0.84
SCR-J	361.825	3076.30	38.10	304	12.13	1.22
SCR-K	361.595	3076.30	38.10	304	12.13	1.22
DC-L	362.165	3076.19	18.29	304	12.83	0.84
DC-A'	361.305	3076.16	38.10	304	12.83	1.68
DC-B'	361.345	3076.20	12.19	304	12.77	0.69
DC-C'	361.185	3076.18	18.29	304	12.77	0.69
DC-D'	361.185	3076.14	39.62	304	12.77	0.69
DC-E'	361.425	3076.19	15.24	304	12.77	0.69
DC-1	361.445	3076.16	22.86	304	13.08	0.45

(1) All point type sources; DC- Dust Collector, SCR - Scrubber

(2) Stack temperatures estimated at 15°F above ambient temperature of 72°F.

**Best Available Copy**

Table 3

Sulfur Particulate Emission Rates

Activity	Suspended Particulate Emissions		Total Particulate Emissions	
	lb/hr	short TPY	lb/hr	short TPY
<u>WET-FORMED PRILL</u>				
<u>Ship to Storage</u>				
Clamshell to hopper	0.056	0.028	0.118	0.059
Hopper to conveyor belt	0.036	0.018	0.076	0.038
Conveyor belt-to-belt transfer	0.036	0.018	0.076	0.038
Conveyor belt to storage pile	0.605	0.302	0.419	0.209
<u>Storage Pile Activity</u>				
Vehicle traffic	0.375	1.50	0.260	1.040
Payloader to conveyor belt	0.030	0.027	0.0048	0.019
<u>Truck Loadout</u>				
Conveyor belt to receiving bin	0.0045	0.018	0.0095	0.038
Bin dump	0.030	0.121	0.063	0.254
Bin to truck	<u>0.030</u>	<u>0.121</u>	<u>0.063</u>	<u>0.254</u>
Total	1.179	2.153	1.0893	1.949
<u>AIR-FORMED PRILL</u>				
<u>Ship to Storage</u>				
Clamshell to hopper	0.045	0.022	0.095	0.046
Hopper to conveyor belt	0.029	0.015	0.061	0.032
Conveyor belt-to-belt transfer	0.029	0.015	0.061	0.032
Conveyor belt to storage pile	0.484	0.242	0.335	0.168
<u>Storage Pile Activity</u>				
Vehicle traffic	0.375	1.50	0.260	1.040
Payloader to conveyor belt	0.0055	0.022	0.0038	0.015
<u>Truck Loadout</u>				
Conveyor belt to receiving bin	0.0036	0.015	0.0076	0.032
Bin dump	0.024	0.097	0.050	0.204
Bin to truck	<u>0.024</u>	<u>0.097</u>	<u>0.050</u>	<u>0.204</u>
TOTAL	1.019	2.025	0.9234	1.773

Note: Suspended Particulate Emissions include all emissions generated and do not take into consideration gravitational settling and deposition of particulate inside the storage building. The column of Total Particulate Emissions does include those factors.

Table 4  
 Phosphate Rock and Fertilizer Storage and Handling  
 Particulate Emission Rates

Source(1)	Permitted Particulate Emissions	
	(lb/hr)	(TPY)
DC-A	15.33	7.95
DC-B	2.30	1.19
DC-C	2.30	1.19
DC-D	2.30	2.38
DC-E	2.30	1.22
DC-F	7.66	6.01
DC-G	2.30	1.19
DC-H	2.30	1.19
SCR-J	6.84	3.60
SCR-K	6.84	3.60
SCR-L	2.30	1.19
DC-A'	9.20	3.68
DC-B'	1.53	0.61
DC-C'	1.53	0.61
DC-D'	1.53	0.61
DC-E'	1.53	0.61
DC-1	5.00	3.57
TOTAL	73.09	40.40

(1) DC - Dust Collector; SCR - Scrubber

In addition to the sources located at, or proposed to be located at, the Agrico Big Bend Terminal, the applicant has included in the modeling analysis particulate matter sources at the TECO Big Bend power plant and Gardinier Phosphate Company. These were the only other facilities expected to have a significant interaction with Agrico. All other sources of ambient particulate matter concentrations were included in a background concentration determined from local monitoring and added to the predicted modeled impacts.

The meteorological data used for the analyses consisted of a five-year period (1974, 1975, 1978, 1979, and 1981) of hourly surface weather observations from the National Weather Service station in Tampa and upper air observations from Ruskin. Since five years of data were used, the highest, second-high short-term predicted concentrations were compared with the appropriate ambient standards. For the long-term predicted concentrations and deposition, these same data were processed into annual joint frequency distributions of wind speed, wind direction and atmospheric stability. Further, for the required monthly average deposition calculations, monthly average joint frequency distributions were calculated and used for only the year in which the highest annual ambient concentrations occurred.

The particulate deposition rate analysis requires the applicant to define the particle size distribution. Given this distribution, the applicant separated the total particulate emissions into 10 size categories, each of equal mass. The gravitational settling velocity and surface reflection coefficient for each size category were calculated as specified in the ISC Users Manual. The ISCLT model used this information to calculate the maximum monthly and annual deposition rates.

The post-processing computer program, Calms Processor (CALMPRO), was used to adjust the short-term average concentrations when calm wind conditions occurred within the averaging period. The purpose of this post-processing was to adjust for the artificial persistence of wind direction in the processed hourly meteorological data set. Long-term predicted concentrations and deposition rates were not adjusted for calm conditions.

The receptor locations used in the modeling analysis began at the plant boundary of the Big Bend Terminal. The first ring of receptors were placed along this boundary unless a particular source within the facility was within 100 meters of the boundary. In that case the receptor was moved to a minimum of 100 meters from the source. Additional receptors were placed beyond the plant boundary with the densest array located to the northwest of the facility where the highest concentrations were expected. Because the facility emissions are to be released from relatively low level it was expected that the highest concentrations would

occur near the plant boundary. Hence, most of the receptors are located near the plant property. Special receptors were also placed along the edge of the particulate nonattainment area approximately four kilometers to the north.

The modeling methodology used by the applicant, as outlined above and explained in more detail in the applicant's air quality assessment report, followed the procedures and recommendations of the department.

### C. Analysis of Existing Air Quality

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

Four total suspended particulate matter monitors are located within 10 kilometers of the Agrico Big Bend Terminal. Table 5 lists these monitoring sites along with the 1984 data summary. Two of these sites (1800-066 and 1800-083) are located within the Tampa particulate nonattainment area. Since particulate matter emissions, both fugitive and captured, within the nonattainment area are more concentrated, it is expected that the other two monitors better represent the ambient conditions near the Big Bend Terminal.

Using the highest, second-highest 24-hour measured concentration from these monitors to represent a 24-hour background, and the highest annual concentration for the annual background value (both occurring at the nearest site, 1800-085) the background values are  $69 \text{ ug/m}^3$ , 24-hour average, and  $40 \text{ ug/m}^3$ , annual average.

### D. PSD Increment Analysis

The Agrico Big Bend Terminal is located in an area designated as "attainment" for meeting the ambient air quality standard for particulate matter. As such, increased emissions of this pollutant occurring after the baseline date must not cause ambient concentrations to increase beyond specified amounts known as PSD increments. Both the new sulfur handling facility and the previously permitted phosphate rock and fertilizer handling facility are subject to the PSD increment limitations.

Table 5

## Particulate Matter Monitoring Data - 1984

Site Number	Location with Respect to Agrico Facility		No. of Observations	Annual Geometric Mean ( $\mu\text{g}/\text{m}^3$ )	Highest 24-hr ( $\mu\text{g}/\text{m}^3$ )	Second Highest 24-hr ( $\mu\text{g}/\text{m}^3$ )
	Direction	Distance (km)				
1800-085	East- Southeast	3	61	40	72	69
1800-003	South- Southwest	10	61	38	84	68
1800-083	North- Northeast	7	63	51	105	100
1800-066	North	10	63	47	88	84



Table 6 summarizes the PSD increment consumption predicted to occur at the Agrico terminal. The maximum allowed increase (increment) is not exceeded.

#### E. Ambient Air Quality Standards Analysis

Given existing air quality in the area of the Agrico Big Bend Terminal, emissions from the proposed facility are not expected to cause or contribute to a violation of an ambient air quality standard (AAQS). The results of the AAQS analysis are contained in Table 7. These results were obtained using the modeling methodology previously discussed. A maximum expected ambient 24-hour average concentration of  $102 \text{ ug/m}^3$  is predicted; the ambient standard is  $150 \text{ ug/m}^3$ . A maximum expected annual average concentration of  $42 \text{ ug/m}^3$  is predicted; the ambient standard is  $60 \text{ ug/m}^3$ .

#### F. Particulate Deposition Rate Analysis

Table 8 gives the results of the sulfur particulate deposition rate analysis required by Rule 17-2.540, FAC. The maximum annual deposition rate predicted was  $0.68 \text{ g/m}^2$  ( $15.0 \text{ lb/ha}$ ). The maximum monthly deposition rate predicted was  $0.084 \text{ g/m}^2$  ( $1.85 \text{ lb/ha}$ ). There are no state or national standards with which to compare these deposition amounts.

#### G. Nonattainment Areas

The Agrico Big Bend Terminal is located within five kilometers of the Tampa particulate nonattainment area. Air quality modeling was performed to quantify the predicted impact on this area. The results are contained in Table 9. As can be seen, the impact of the increased particulate emissions on the nonattainment area are predicted to be less than the significant impact levels of  $5 \text{ ug/m}^3$ , 24-hour average, and  $1 \text{ ug/m}^3$ , annual average. As such, the nonattainment review requirements do not apply and no hinderance for the reasonable further progress of the nonattainment area to achieve compliance with the standards is expected.

#### V. Conclusion

The Agrico Chemical Company has applied to modify a permit to construct a solid sulfur handling and storage facility in Hillsborough County. The facility will be located at the existing Agrico Big Bend Terminal, the site of a previously permitted phosphate rock and fertilizer handling and storage facility.

The applicant has submitted along with the application an analysis of the impacts predicted to occur on the ambient air as a result of constructing the new facility. This analysis

Table 6

PSD Increment Consumption  
 Maximum Concentrations (ug/m<sup>3</sup>)

Pollutant	Averaging Period	Proposed Sulfur Facility Only	Total Increment Consumption	Max. Allowable Increase
Particulate Matter	24-hour	8.2	30.9	37
	Annual	1.2	1.9	19

Best Available Copy

Table 7

Ambient Air Quality Impacts

Concentrations (ug/m<sup>3</sup>)

Pollutant and Averaging Time	Maximum Impact Proposed Facility	Maximum Impact All Agrico Sources	Maximum Impact All Sources	Background	Total Impact	FAAQS
particulate matter						
24-hour	8.2	30.9	33.1	69	102.1	150
Annual	1.2	1.9	--	40	41.9	60

Table 8

## Sulfur Particulate Deposition

Period (1)	Maximum Deposition	
	g/m <sup>2</sup>	lb/hectare
January	0.031	0.68
February	0.033	0.73
March	0.033	0.73
April	0.051	1.12
May	0.057	1.26
June	0.072	1.59
July	0.059	1.30
August	0.084	1.85
September	0.077	1.70
October	0.073	1.61
November	0.046	1.01
December	0.055	1.21
Annual	0.68	15.0

---

(1) Based on 1978 meteorology data

Table 9

## Particulate Nonattainment Area Impact

Averaging Period	Maximum Impact ( $\mu\text{g}/\text{m}^3$ )	Significant Impact ( $\mu\text{g}/\text{m}^3$ )
24-hour	0.24	5
Annual	0.01	1

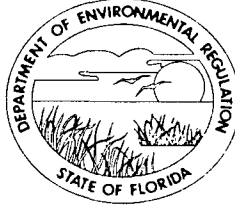
addressed all of the requirements of Chapter 17-2, FAC for an air quality impact analysis. Based on this information, submitted by Agrico Chemical Company, the department has reasonable assurance that the construction of the new sulfur handling and storage facility, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of an ambient air quality standard or PSD increment, or any other provision of Chapter 17-2, FAC.

In addition to the preconstruction review discussed in this report, the applicant is required by rule to complete post-construction monitoring for both ambient air particulate and deposition of particulate.

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:**  
Agrico Chemical Company  
P. O. Box 1110  
Mulberry, Florida 33860

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988  
County: Hillsborough  
Latitude/Longitude: 27° 48' 19"N/  
82° 24' 40"W

Project: Solid Sulfur Ship  
Unloading, Storage, and  
Shipping 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 solid sulfur ship unloading and storage facility consisting of a dockside traveling gantry equipped with a tight-lipped clamshell bucket, a dockside receiving hopper; conveyor belts, a storage building, front-end loaders, a reloading hopper, a load-out conveyor belt, a surge bin for truck loading, and a 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. Agrico Chemical Company's permit modification application, DER form 17-1.202(1) dated October 12, 1984.
2. DER's response letter dated October 25, 1984.
3. Agrico's Air Quality Impact Analysis dated May 6, 1985.
4. Agrico's Storage Building Plans dated June 17, 1985.

PERMITTEE:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

**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:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

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:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

**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:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

**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 Agrico Big Bend sulfur facility shall handle a maximum of 672,000 tons per year (TPY), or 600,000 long tons per year (LTPY), of standard sulfur pellets.

PERMITTEE:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

**SPECIFIC CONDITIONS:**

2. The maximum annual operating hours and rates for the operations at the sulfur facility are summarized below, with regards to material transfer:

Transfer Operation	Operating Hours	Operating Rates (TPH)
a) Ship to storage	1000	672
b) Storage activity	8000	NA
c) Storage to trucks	8000	84

3. The emissions of particulate matter from the sulfur storage building shall not exceed 1.7 lbs/hr for Agrico's 56,000 ton storage capacity, or 7 TPY.

4. There shall be no visible emissions (5% opacity, six minute average) from any source within the sulfur handling area.

5. All applicable emissions limiting precautions and procedures specified in this permit application, and in Rule 17-2.600(11)(b), FAC, Solid Sulfur Storage and Handling Facilities, shall be followed at all times.

6. No unenclosed sulfur handling operation shall be conducted when wind speed is in excess of 18 mph (five minute average).

7. Construction and operation shall reasonably conform to the information submitted in this application.

8. The following shall be submitted to Central Air Permitting (CAPS) for approval within 90 days after issuance of this construction permit, in accordance with Rule 17-2.540, FAC, and Rule 17-2.600(11)1, FAC, respectively:

- (a) A post-construction Air Quality and Sulfur Particulate Deposition Monitoring Plan, which will be in effect for a minimum of two years from the date of issuance of the initial air operating permit.
- (b) A detailed marine vessel unloading procedure shall be developed to minimize emissions of sulfur particulate.

PERMITTEE:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

**SPECIFIC CONDITIONS:**

9. The following shall be submitted to Hillsborough County Environmental Protection Commission (HCEPC) and DER's Southwest District office, within 45 days of completion of tests, and a minimum of 90 days before the expiration date of the construction permit, for approval (copy of submittal shall be sent to Central Air Permitting Office, CAPS):

- (a) Initial compliance tests reports of the DER Method 5 (Determination of Particulate Emissions from Stationary Sources using liquid impingement) conducted on emissions from the storage building.
- (b) Initial compliance test reports of the DER Method 9 (Visual Determination of the Opacity for Emissions from Stationary Sources) for all the sources within the sulfur handling area.
- (c) Initial sulfur deposition monitoring report, conducted according to Rule 17-2.753(2), FAC, (DER Reference Method for Monitoring the Deposition of Sulfur Particulate).

10. The applicant shall demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to Hillsborough County Environmental Protection Commission (HCEPC) (Copy to DER Southwest District office and CAPS), a minimum of 90 days prior to the expiration date of the construction permit.

11. Annual compliance tests shall be performed at 90-100% of the permitted operating rates and with a minimum wind speed of 8 mph (five minute average) for DER Method 9.

12. A 15 day prior notification of the compliance testing date(s) shall be given to DER's Southwest District office, Central Air Permitting and HCEPC.

13. A 15 day prior notification shall also be given of the unloading dates of the first three ships, to DER Southwest District office, Central Air Permitting, and HCEPC.

14. Upon obtaining an operating permit, the applicant will be required to submit annual reports on the actual operation and emissions of the source to the DER's Southwest District office and HCEPC.

15. Any significant delay in the construction or completion of this project shall be reported to the DER's Southwest District HCEPC, and CAPS.

PERMITTEE:  
Agrico Chemical Company

Permit Number: AC 29-5954  
Expiration Date: April 1, 1988

Issued this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION

\_\_\_\_\_  
VICTORIA J. TSCHINKEL, Secretary

\_\_\_\_\_ pages attached.