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

December 7, 1982

Mr. L. C. Lahman
Agrico Chemical Company
P. O. Box 1969, S.P.C.W.
Bartow, FL 33830

Dear Mr. Lahman:

Re: Ninety-Day Extension of South Pierce Prilled Sulfur Handling Construction Permit Number AC 53-55780

The letter of H. W. Long, Jr., dated November 22, 1982, requesting a ninety-day extension of the permitting clock has been received by the Bureau along with the telephone conversation between Don Morrow and myself on December 3, 1982. Since additional information is needed to verify the prilled sulfur emission factor that was used by Agrico, and Agrico is presently starting a testing program, the Bureau accepts the extension requested. Testing needs to be expeditiously carried out so that the Bureau can evaluate the data, write the preliminary determination of the Department's intent, and provide a thirty-day public comment period of its intent. An extension of the permitting time clock to February 28, 1983 for the Department to issue an intent, and until March 31, 1983 for final agency action is hereby granted. If Agrico cannot provide the Department with adequate information by February 1, 1983, another waiver may be necessary.

The Bureau appreciates your cooperation in trying to provide this information. If there are any questions, please contact John Svec or myself at (904)488-1344.

Sincerely,

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

JS/ks

cc: Martha Hall
Dan Williams

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

To: Clair Fancy Loctn.: _____
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____

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

John

TO: Victoria J. Tschinkel

FROM: S. Smallwood

DATE: December 6, 1982

SUBJECT: Agrico S. Pierce Sulfur Handling Permit Application Status Report

Attached is a copy of the letter of intent to deny and a status report on the Agrico case that Jim Lewis asked me to prepare for you.

SS:jr

cc: Clair Fancy
Marti Hall
Larry Lukin

AGRICO S. PIERCE PLANT

PRILL SULFUR HANDLING PERMIT APPLICATION

STATUS REPORT

(12/6/82)

Following the meeting in your office on Friday morning, November 19 (Mary, Marti Hall, Dan Thompson, Clair Fancy, John Svec, you, and I) John and Marti drafted a letter of intent to deny (copy attached). The letter was signed by Larry Lukin, for you, and mailed that afternoon. I attempted to call Hal Scott by phone but was unable to reach him.

Early the following week, Clair, Marti, and I talked with various parties involved in the case and a meeting was arranged for Monday, November 29 to discuss the letter of denial with Hal Scott and Don Morrow. The Monday meeting was attended by Clair, John, Hal Scott, Don Morrow, Les Lahman and myself. Agrico agreed with us that they need to give us additional information to properly characterize the nature and amount of the emissions that could result from the operation of the new handling facility. We discussed the details of their proposed project, the nature of the additional information we need, gave them some practical suggestions on minor things they might consider to improve the proposed facility, and suggested they have Dr. Lundgren talk with Clair and I before he completes any further tests to define

the particulate emission factor for Fletcher prilled sulfur. Don and Hal said they would have Lundgren talk with us.

Hal said he was upset that we issued the letter of intent to deny without allowing Agrico the opportunity to waive the 90 day clock. I told Hal that Clair had previously asked Agrico to waive the clock to allow more time to sort out the issues involved in their application. Agrico refused to do so. Don Morrow confirmed that this was true but said that occurred before he and Hal became involved in the case. I explained to him that due to legal time constraints I felt we had to act by the 22nd; you were going to be out of town that week; I did not believe Agrico would agree to waive the time clock; but even if they would, the shortness of time required us to issue either an intent to issue or deny or we could lose some of our options in the process.

Hal asked if we could withdraw the letter of intent to deny if Agrico now waived the time clock. I asked Marti Hall to join us at that point. Marti advised me that we should not withdraw the letter until after Agrico actually provides the requested information and we determine that the permit can be issued. She explained her reasoning to Don and Hal.

We concluded the meeting by agreeing that Agrico would waive the 90 day clock long enough to allow Lundgren to complete additional tests; submit the results to us; and allow us reasonable time to assess the additional information and make a final determination on the permit. At that meeting the group thought that a waiver until February 18, 1983 would be sufficient to accomplish that. We agree to preserve

their right to request an administrative hearing within 14 days after we take final action or publish an intent. Marti Hall has drafted an Order for you to sign to accomplish this.

Several days after that Terry Cole suggested that it might be a good gesture to Hal if we could withdraw the letter of intent but not to do so if it would cause any problems. I thought about that and talked with Marti. In the process of our decision, I realized that what I thought we had agreed to at the Monday meeting would leave us where we are now on February 18. That was a mistake. Marti pointed out that February 18 would become the 90th day. I asked her and Clair to talk to Don Morrow and clarify the situation.

What we need is for Lundgren to meet with us and then complete a number of additional tests on the Fletcher prill. This could take until early or mid January. We then need to review that information. We probably need two weeks to do a reasonable job. We will then need to determine if the permit can be issued or should be denied. Either way, if we are going to review out findings with Agrico before we issue the required public notice (and I think we should) all <u>that</u> will take us until at least early or mid February. After we draft an intent to issue or publish the letter of intent to deny we need 30 days for public comment per 17-1 and a few more days to take final action on the permit. That takes us to around the end of March before we can take final agency action.

This morning (12/6/82) I talked with both Clair and Hal Scott. Both confirm that Don Morrow has agreed to extend the 90th day until March 31, 1983.

On the question of withdrawing the letter of intent to deny, I would be inclined to do it as a gester of good will to Hal Scott and Don Morrow, but after talking with Marti I don't think we should do it at this time. All of the parties have already seen the letter. To withdraw the letter now would stir up Agrico's opponents and give the impression that we are being indecisive on the question. We made the decision. I think it was the best choice at the time, and we should stand by it. If Agrico actually gives us information that allows us to issue the permit, we could then withdraw the letter and publish an intent to issue. If Agrico does not provide the needed information we should publish the letter (Agrico has not done that yet), and proceed to deny the permit.

Sincerely,

Steve Smallwood, P.E.
December 6, 1982

SS:jr

ONE OF THE WILLIAMS COMPANIES
AGRICO MINING COMPANY
A DIVISION OF AGRICO CHEMICAL COMPANY
P. O. BOX 1110
MULBERRY, FLORIDA 33860
813/428-1431

DON R. MORROW
GENERAL MANAGER

November 30, 1982

DER
DEC 06 1982
BAQM

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

Dear Steve:

In reference to our meeting on November 29, attached is a draft for a monitoring process for wet prilled sulfur to be conducted at a full scale operating rate at Coastal Sulfur's installation at the San Jacinto Port, Texas. Coastal has agreed to let us test their facilities for dust emission in relation to a proposed facility at our Faustina plant in Louisiana and will also permit a test for our Florida operations.

Agrico requests the FDER to review this procedure and participate in the monitoring. I recommend you visit the facility prior to the tests in order to be sure the proposed monitoring procedure satisfies your needs and then be on-site to observe the tests.

These tests should provide very valuable data on the amount of emissions under actual operating conditions. We hope this demonstration plus additional tests by Dr. Lundgren will eliminate the uncertainties of the amount of fugitive dust that can be expected from handling wet prills.

Please advise your intent. We will work together to schedule the tests at a time satisfactory to all parties.

Very truly yours,

Don Morrow

Don R. Morrow

DRM/jm
Attachment

DRAFT

AIR EMISSION SURVEY OF WET PRILL SULFUR PRODUCTION AND HANDLING FACILITIES

Introduction

In support of its "Request for Permit or P.S.D. Negative Determination for Proposed Wet Prill Sulphur Storage Terminal at Faustina Manufacturing Plant," Agrico proposes to conduct an air emission survey of Coastal Sulfur, Inc. facilities at Houston, Texas. Coastal Sulfur's installation is located in San Jacinto Port, opposite the Shell Refinery at Deer Park.

Description of Coastal Sulfur Facilities

The Coastal Sulfur prilling unit utilizes the patented Fletcher wet prill sulfur process. The facility receives mainly molten sulfur by truck, but it can also utilize crushed bulk sulfur. In this wet prilling process, molten sulfur is extruded through specially designed nozzles into a water quenching bath. The wet prills or nuggets are then screened off excess water and fines.

The wet priller discharges onto a 100' uncovered belt conveyor which conveys the prilled material to a 120' uncovered radial stacker. The stacker piles the sulfur on an asphalt pad 180' x 250'. Up to 40K tons can be stored if required. The largest vessel they have handled is 16,000 tons. When a vessel is to be loaded, the prilled sulfur is reclaimed by front-end loader and loaded into a hopper. The hopper feeds a 700' long uncovered belt conveyor that takes the material out to an oil dock. The oil dock is narrow, therefore, two temporary conveyors of 120' each at the end of the 700' conveyor and on the dock are utilized to take the prilled sulfur to the radial stacker, which is used to load vessels.

PROPOSED AIR EMISSION SURVEY

Normal Plant Operation

Agrico will arrange for a qualified, independent environmental consultant, normally engaged in air pollution monitoring work to perform on-site monitoring of Total Suspended Particulate (TSP) matter using low-vol and hi-vol samplers and impactors to characterize the particulate emission from the prilling sulfur plant conveyor belt line, belt line drop, and storage pile during normal operations of the plant. Upwind/downwind sampling will be employed, together with techniques for identifying material components of the filter mass loading. Representative low volume sample filters will be microscopically analyzed to identify sulfur particle size distributions and mass loadings, as well as to measure mass loadings and identify material from other fugitive sources, such as road dust and wind blown soil.

Total sulfur mass loading of the low volume filters will be determined by nondestructive testing using X-ray fluorescent (XRF) or by solvent extraction and chemical analysis (SECA). The choice of XRF or SECA will depend upon the total sample collected on the filter, size distribution of particles, reliability of techniques for specific samples collected, and cost considerations. Meteorological data for wind speed, wind direction, relative humidity and temperature will be recorded during the sampling period. Additional background hi-vol samples will be collected for two days prior to and following the study. A minimum of ten hi-vol and twenty low-vol filters will be collected.

In addition, the aerodynamic characteristics of the particles will be defined by the use of an Andersen impactor assembly. This procedure will serve to separate the fine fraction of the emissions capable of indefinite air suspension, generally less than 30 μM from nuisance type dust which would settle in the immediate vicinity of the facility.

Moisture and silt content of the material stored on the pile and handled on the conveyor will be determined.

Ship Loading Operation

Agrico will arrange for a qualified, independent environmental consultant, normally engaged in air pollution monitoring work to perform on-site monitoring of TSP using low-vol and hi-vol samplers to characterize the particulate emission from the conveyor belt loading operation, conveyor belts, belt to belt transfer point, and ship loading drop during normal ship loading operations. Upwind/downwind sampling will be employed together with techniques for identifying material components of filter mass loading. Representative low volume sample filters will be microscopically analyzed to identify sulfur particle size distributions and mass loadings, as well as to measure mass loadings and identify material from other fugitive sources, such as road dust and wind blown soil.

Total sulfur mass loading of the low volume filters will be determined by nondestructive testing using XRF or by SECA. The choice of SRF or SECA will depend upon the total sample collected on the filter, size distribution of particles, reliability of techniques for specific samples collected, and cost considerations. Meteorological data for wind speed, wind direction, relative humidity and temperature will be recorded during the sampling period. Additional background hi-vol samples will be collected for two days prior to and following the study. A minimum of ten hi-vol and fifteen low-vol filters will be collected.

In addition, the aerodynamic characteristics of the particulate emission will be defined by the use of an Andersen impactor assembly. This procedure will serve to separate the fine fraction of the emissions, capable of remaining suspended in the air indefinitely, from the coarser nuisance type dust, which would settle in the immediate vicinity of the facility.

Moisture and silt content of the material stored on the pile and handled on the conveyor will be determined.

Methodology and Techniques

The proposed air study will follow the methodology described in the following EPA publications:

EPA-600/1-76-089a "Technical Manual for Measurement of Fugitive Emissions: Upwind/Downwind Sampling Method for Industrial Emissions" by Henry J. Kolnsberb of TRC - The Research Corporation of New England.

EPA-450/3-77-010 "Technical Guidance for Control of Industrial Process Fugitive Particular Emissions" by PEDCo Environmental, Inc.

999-AP-26 "Workbook of Atmospheric Dispersion Estimates" by D. Bruce Turner.

Test Witnessing

Agrico proposes that representative(s) of the Office of Environmental Affairs, DER, witness the air survey in its totality.

Samples collected during the test will be handled in accordance with established procedures for complete accounting of an uninterrupted chain of custody from collection to analysis and reporting.

ECO/INTERFACE EVALUATIONS
Hal Scott

November 24, 1982

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

Re: Wet Prilled Sulfur

Dear Steve:

I am writing identical letters to you and Vicki Tschinkel because I have discussed in detail with each of you Agrico's plans to bring prilled sulfur into Florida. The letters are occasioned by an action of the Department which caught Agrico and me completely by surprise - an action which was very disappointing and embarrassing to Don Morrow, Agrico's General Manager, and to me. I refer, of course, to the issuance of a letter of Intent to Deny Agrico's South Pierce application.

I do not disagree with your contention that the file was incomplete. If the Department deems its information inadequate, it is incumbant upon Agrico to provide the additional information you require, or help you understand information you now possess about which you do not feel confident.

Since Vicki and I first discussed the matter, Agrico has followed my advice to the letter in an on-going effort to help DER prepare a comprehensive file on Sulfur. They have been more than cooperative and are deserving of the kind of consideration one gives those who cooperate with him. I am disappointed because no such consideration was given Agrico, and embarrassed because, on the basis of information I gave them after my meeting with you and your colleagues, Agrico expected to be consulted before any negative action was taken simply because the file was considered inadequate.

The notes I took during my meeting with you, Clair Fancy and John Svec on October 27, 1982 indicate that if the South Pierce application was incomplete Agrico would be so informed during the week of November 1, 1982. In fact, on November 8, 1982 John Svec informed Agrico that a draft letter of Intent to Grant the permit had been prepared. Nothing further was heard until November 19th at which time the letter of Intent to Deny was mailed from DER's office. Agrico was given no opportunity to agree to hold the clock while attempts were made to provide the agency with any and all information it felt was necessary to complete the file, even though you and your associates were aware that at my suggestion Agrico had undertaken a comprehensive effort to gather considerable additional data relating to wet prilled sulfur.

2918 WALNUT STREET / ORLANDO, FLORIDA 32806 / 305-894-6100

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

KAHEL		FANCY		STARNES	
BLOMMEL		THOMAS		MARTY HALL	
BARKER		GEORGE		MARSHALL MOTT-SMITH	
J. ROGERS		PALAGYI		S+CO	

REMARKS

For Agnco

S. Pioren

Permit File

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

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

FROM

STEVE SMALLWOOD SS

DATE 12-1-82

PHONE

Given the course Agrico pursued at my suggestion, and the information I conveyed to it about DER's intentions with regard to the South Pierce application, you can understand, I am sure, my shock and disappointment when the letter of Intent to Deny appeared without warning.

As you are aware, I am not interested in helping any firm do anything that will endanger Florida's environment or the health of its residents. I choose my clients with care and chose to work with Agrico because it desires to operate in a responsible fashion.

I met with Vicki on September 21, 1982 to determine whether there was anything intrinsically wrong with Agrico's proposals. She informed me there was not; that the problem related to the absence of adequate information to enable DER to fully understand any possible consequences of importing, storing, transporting and using prilled sulfur in the state. In turn, I committed myself and Agrico to a diligent and complete search for all relevant information about prilled sulfur and promised to share it with the appropriate agency personnel.

Following my meeting with Vicki on September 21st, Agrico agreed to the program I outlined, and gave me complete freedom in determining what should be done, who should do it, and how it should be accomplished. Let me outline what has been done since Vicki and I met:

September 28, 1982 - I met with Roger Stewart in Tampa to seek his ideas about what needed to be done to provide his agency with the information it needed to understand the implications of importing and using prilled sulfur;

October 7, 1982 - I visited Agrico's South Pierce Plant to see how sulfur was used there, and then visited Texasgulf's molten sulfur facility at the Port of Tampa and Agrico's Big Bend site where the sulfur will be imported and stored;

October 8, 1982 - Harold Long of Agrico and I visited with Orlando Laboratories' personnel and with Dr. Dale Lundgren to discuss the testing we would require on prilled sulfur samples;

October 12, 1982 - Harold Long and I met with Hillsborough County Planning Department representatives and the air and water personnel from the County Environmental Protection Commission, to discuss their concerns about the project;

October 18-19, 1982 - Mr. Long and I visited Coastal Sulphur Company's Fletcher Prilling Facility at Houston, Texas to observe the operation and collect samples for testing. Since the plant was not operating that day, I chose not to collect our samples because I would be unable to truthfully say that I knew the complete history of the material sampled. Despite the expense involved, Agrico did not dispute my decision and agreed that we should return when the plant was operating;

October 24-25, 1982 - Harold Long and I visited with Dr. John W. Fitzgerald of the University of Georgia, an acknowledged expert on sulfur bacteria, to discuss contracting with him to obtain information on the possible impacts of Thiobacillus sp. on stored prilled sulfur. Dr. Fitzgerald, who was one of the speakers at the recently concluded Sulpher '82 conference in London, has been retained by Agrico;

October 27, 1982 - I met with you, Clair Fancy and John Svec in your offices in Tallahassee to discuss what information you felt you needed, what information Agrico was developing and what else we could do that would enable you to prepare a complete file on prilled sulfur.

The subject of South Pierce was brought up by one of you gentlemen. I explained that I was employed to help gather information and to make sure the conditions surrounding the exchange of that information were constructive; that I didn't care about regulations, didn't understand them, and none of the references to chapters, etc. would mean a thing to me.

Nevertheless, I duly noted their comments and reported them to Agrico.

My conversations with you and your associates covered all aspects of prilled sulfur and gave me a wide variety of additional tasks which I advised Agrico it should undertake to assist DER. They agreed to my suggestions without hesitation.

The meeting was a most cordial and productive one from which I departed convinced that the adversarial relationship that had developed over the issue of prilled sulfur was a thing of the past;

November 1-2, 1982 - Harold Long and I returned to Houston and obtained samples of newly formed Fletcher prilled sulfur from the Coastal Sulphur plant while it was in operation. I photographed the sampling procedures and the preparation of the samples for shipping, then sealed them with railroad door seals. With Harold I took them to Ryder Truck Lines, thus maintaining a tightly controlled chain of custody over samples whose entire history I am familiar with.

November 8, 1982 - With Harold Long, I visited Orlando Laboratories and finalized with them the numerous tests they were to undertake with the sulfur which had been shipped to them from Houston. That afternoon when the shipment arrived I returned to assure that the seals were intact and the sample undisturbed. A chain of custody form was signed by Pat Evans of Orlando Labs and me, after which custody was accepted by Orlando Laboratories.

November 9, 1982 - The samples shipped to Dale Lundgren were received by him intact and with seals unbroken. Chain of Custody forms were completed and are in my possession;

November 14-18, 1982 - I attended the Sulphur '82 Conference in London at Agrico's request. (It turned out to be most revealing. Copies of papers relating to prilled sulfur, and a transcript of an interesting question and answer period that followed their presentation, will be given you Monday morning, November 29, 1982.)

Finally, because the issue of possible differences in Fletcher prilled sulfur produced by different manufacturers was raised during our meeting, Harold Long and I will be in Calgary, Alberta from November 30th until December 3rd to gather samples of material produced by P. V. Commodities Systems. Those samples, protected under the same chain of custody conditions that existed for the Houston samples, will be shipped to Orlando Laboratories and Dale Lundgren where they will be subjected to the same tests now being performed on Coastal Sulphur prills.

What I want to convey to you is that, under Don Morrow's leadership, Agrico is approaching the sulfur study and the permit issues in a comprehensive and cooperative fashion. They and I want to work with DER to assure the sulfur study and the permit issues involved with Agrico's use of prilled sulfur are models of how industry and the Department should interact. To do that, however, we need your help and your consideration so that future misunderstandings can be avoided.

Sincerely,

Hal Scott

ECO / INTERFACE EVALUATIONS
Hal Scott
2918 Walnut Street
Orlando, Florida 32806

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

ONE OF THE WILLIAMS COMPANIES
AGRICO MINING COMPANY
A DIVISION OF AGRICO CHEMICAL COMPANY
P. O. BOX 1110
MULBERRY, FLORIDA 33860
813/428-1431

DON R. MORROW
GENERAL MANAGER

November 23, 1982

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

DER
NOV 29 1982
BAQM

Dear Steve:

Attached is a curriculum vitae of Dr. Dale Lundgren who, as you know, has developed air particulate emission factors regarding wet prilled sulfur for Agrico. I am particularly impressed with this man's credentials.

Please note that prior to being employed as Professor of Air Pollution Engineering at the University of Florida, he was the Chief Engineer for Air Pollution Control Equipment Group, Environmental Research Corporation, St. Paul, Minnesota. Prior to that he was Air Pollution Specialist for the Air Pollution Research Center at the University of California. He was head of the Air Analysis Lab for the Center for Air Environment Studies at Pennsylvania State University.

In addition to his work experience, Dr. Lundgren is the editor of the book Aerosol Measurement and is co-author of the books, Airborne Pollutants: Characteristics and Detection; Aerosols and Atmospheric Chemistry; Control Technology: Particulates; Methods of Air Sampling and Analysis; and Fine Particles.

Agrico feels very comfortable having a scientist of Dr. Lundgren's caliber evaluating potential emissions from handling wet sulfur prills.

Very truly yours,

Don R Morrow

Don R. Morrow

DRM/jm
Attachment

Dale A. Lundgren
Professor of Air Pollution Engineering
Environmental Engineering Department
University of Florida, 410 Black Hall
Gainesville, Florida 32611
Phone: (904) 392-0846

PERSONAL RECORD

Birth Date and Place: 4-26-32, Duluth, Minnesota
Marital Status: Married, six children

SCHOLASTIC TRAINING

B.S. University of Minnesota, Mechanical Engineering, 1958
M.S. University of Minnesota, Mechanical Engineering, 1962
Ph.D. University of Minnesota, Environmental Health, 1973

PROFESSIONAL REGISTRATION

Mechanical Engineering, State of Florida

FIELDS OF SPECIALTY

Air Pollution, Industrial Hygiene and Applied Thermodynamics

EXPERIENCE

1972 - present	Professor - Environmental Engineering Department, University of Florida, Gainesville, FL
1969 - 1972	Chief Engineer - Air Pollution Control Equipment Group, Environmental Research Corp., St. Paul, MN
1967 - 1969	Air Pollution Specialist - Air Pollution Research Center, University of California, Riverside, CA
1965 - 1967	Instructor - Mechanical Engineering and Head - Air Analysis Lab, Center for Air Environment Studies, Pennsylvania State University, University Park, PA
1961 - 1964	Principal Scientist - Applied Sciences Division, Litton Industries, St. Paul, MN
1958 - 1961	Research Assistant - Mechanical Engineering Dept., University of Minnesota, Minneapolis, MN

SOCIETIES AND ORGANIZATIONS

Air Pollution Control Association
American Industrial Hygiene Association
American Society of Mechanical Engineering
American Association for Aerosol Research
Gesellschaft für Aerosolforschung

HONORS AND AWARDS

American Men in Science
Full Member in Sigma Xi
Pi Tau Sigma
BSME with Honors

Dr. Lundgren has been involved in the air pollution engineering field since 1958, as a researcher, design engineer, and teacher. He has over 60 publications in the air pollution and aerosol research fields. He has recently edited a major text titled "Aerosol Measurement" (1979). He has been very active on several professional committees including being chairman of the Intersociety Subcommittee on Particulate Matter. He is either a member of the editorial board or a reviewer for several professional society journals.

Dr. Lundgren is also well known for his inventions in the aerosol field, which include two aerosol generation instruments, four aerosol sampling devices, one aerosol fractionating device and one air pollution control device. To date he has three patents awarded.

He has organized and sponsored several specialty conferences on air pollution as well as taught over 50 short courses on various aspects of air pollution. A professor at the University of Florida, he also serves as the South East Region Air Pollution Area Training Center Director for EPA, and is known for his productivity in the training of students with a specialized knowledge in air pollution.

Having served as principal investigator on many government and industry funded research projects, he is very knowledgeable of the research process. He now serves as a member of the EPA research grant review panel and as a reviewer for the National Science Foundation.

Courses he has taught at the University of Florida are all related to the general Air Pollution - Industrial Hygiene Fields and include:

Elements of Atmospheric Pollution
Atmospheric Dispersion Modeling
Air Pollution Sampling and Analysis
Air Pollution Control Design
Aerosol Mechanics
Industrial Ventilation Design
Occupational Health

PUBLICATIONS

Books, editor

1. Dale A. Lundgren, et al, "Aerosol Measurement". University Presses of Florida. Gainesville, FL, 1979 (716 pp.).

Books, co-author or chapter author

1. Dale A. Lundgren, "Airborne Pollutants: Characteristics and Detection". Chapters I and II, MSS Information Corporation. New York, NY, 1974 (pp. 1-26).

2. Dale A. Lundgren, "Aerosols and Atmospheric Chemistry". One chapter, Edited by G. Hidy, Academic Press. New York, NY, 1972 (pp. 265-270).

3. Calbert, Lundgren and Mehta, "Control Technology: Particulates". One chapter, Edited by H. Englund and W. Beery, Air Pollution Control Association. Pittsburg, PA, 1973 (pp. 58-61).

4. Sholtes, Herrick, Lundgren, et al, "Methods of Air Sampling and Analysis". One chapter, American Public Health Association. Washington, D.C., 1972 (pp. 303-375).

5. Dale A. Lundgren, Lawrence D. Carter and Peter S. Daley, "Fine Particles". Edited by B.Y.H. Liu, Academic Press. New York, NY 1976.

ARTICLES IN REFEREED PUBLICATIONS

1. K.T. Whitby, Dale A. Lundgren, A.R. McFarland and R.C. Jordan, "Evaluation of Air Cleaners for Occupied Spaces". Journal of Air Pollution Control Association, 11:503-15 (1961).

2. Dale A. Lundgren, and K.T. Whitby, "Effect of Particle Electrostatic Charge on Filtration by Fibrous Filters". I & E. C. Proc., Design and Development, 4:345-49 (1965).

3. K.T. Whitby, and Dale A. Lundgren, "Mechanics of Air Cleaning". Trans. ASAE, 8:N.3, 342-52 (1965).

4. K.T. Whitby, Dale A. Lundgren, and C.M. Peterson, "Homogeneous Aerosol Generators". International Journal of Air and Water Pollution, 9:263 (1965).

5. Dale A. Lundgren, "An Aerosol Sampler for Determination of Particle Concentration as a Function of Size and Time". Journal of Air Pollution Control Association, 17:4, 225-229 (April 1967).

6. Dale A. Lundgren and W. Long, "Particle Size-Distribution Data Using an Inertial Classification-Light-Scattering Device". Journal of Air Pollution Control Association, 17:9 (1967).

7. Dale A. Lundgren and W. Long, "Spinning Disc Aerosol Generator". Journal of Air Pollution Control Association, 17:9 (1967).

8. Dale A. Lundgren and S. Calvert, "Aerosol Sampling with a Side Port Probe". American Industrial Hygiene Association Journal, 28:3, 208-215 (May/June 1967).

9. Dale A. Lundgren, "A Status Report on Aerosol Research". Journal of Air Pollution Control Association, 17:9 (September 1967).

10. S. Calvert and Dale A. Lundgren, "Particle Collection in a Venturi Scrubber". Journal of Air Pollution Control Association, 18:10 (October 1968).

11. Dale A. Lundgren and V.W. Greene, "Filtration and Dust Control Equipment in the Production of Controlled Air Environments". Filtration and Separation, 5:5 (September/October 1968).

12. Dale A. Lundgren and D. Cooper, "Effects of Humidity on Light-Scattering Methods of Measuring Particle Concentration". Journal of Air Pollution Control Association, 19:4 (April 1969).

13. Dale A. Lundgren, "Atmospheric Aerosol Composition and Concentration as a Function of Particle Size and of Time". Journal of Air Pollution Control Association, 20:9 (September 1970).

14. Dale A. Lundgren and A.R. McFarland, "Application of a Light-Scattering Aerosol Counter and a Four-Stage Impactor to Industrial Hygiene Air Sampling". American Industrial Hygiene Association Journal, 32:1 (January 1971).

15. Dale A. Lundgren, "A Sampling Instrument for Determination of Particle Composition, Concentration and Size Distribution Changes with Time". Atmospheric Environments, 5:645-651 (1971).

16. Dale A. Lundgren, et al. (Subcommittee 10 of Intersociety Committee), "Tentative Method of Analysis for Dustfall From the Atmosphere". Health Laboratory Sciences, 8:2 111 (April 1971).

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STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 19, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. L. C. Lahman, Plant Manager
Agrico Chemical Company
Post Office Box 1969, S.P.C.W.
Bartow, FL 33830

Dear Mr. Lahman:

Re: Agrico Chemical Company South Pierce Plant Prilled Sulfur Handling, Polk County
AC 53-55780

The Department intends to deny the permit application for the prilled sulfur handling facility because reasonable assurance has not been provided for the particulate emission factor. This decision has been reached because of the limited number of test (3) runs on a prilled sulfur sample to develop the Lundgren emission factor. In addition, preliminary information has been provided that the emission factor may be greatly underestimated. Therefore, it has been decided that more emission factor test runs are needed to provide a sounder data base to establish an emission factor for prilled sulfur handling. In absence of such assurance, the Department hereby gives notice of its intent to deny your application pursuant to Florida Administrative Code Rule 17-4.07.

You are required by Florida Administrative Code Rule 17-1.62(3) to publish the attached Notice of Proposed Agency Action in the legal ad section of a newspaper of general circulation in Polk County no later than fourteen days after receipt of this letter. The Department must be provided with proof of publication within seven days of the date the notice is published.

This constitutes a proposed action of the Department and is subject to administrative hearing under the provisions of Chapter 120, Florida Statutes, if requested within fourteen days from receipt of this letter. Any petition for hearing must comply with the requirements of Florida Administrative Code Rule 28-5.201 and be filed with the Office of General Counsel, Florida Department of Environmental Regulation, Twin Towers Office Build-

ing, 2600 Blair Stone Road, Tallahassee, Florida 32301.

When more data is collected and a sounder factor can be demonstrated, a permit application can be reassessed.

Sincerely,

For: Victoria J. Tschinkel
Secretary

VJT/bjm

By: L. D. Lukin, P. E.
Director, Division of
of Environmental Programs

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to deny 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.

No. 0157766

RECEIPT FOR CERTIFIED MAIL

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

SENT TO L. C. Lahman	
STREET AND NO. P.O. Box 1969, S.P.C.W.	
P.O., STATE AND ZIP CODE Bartow FL 33830	
POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
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RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$
POSTMARK OR DATE 11/19/82	

CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

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

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

2. ARTICLE ADDRESSED TO:
L. C. Lahman
Post Office Box 1969, SPCW
Bartow, FL 33830

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157766	

(Always obtain signature of addressee or agent)

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

4. DATE OF DELIVERY — POSTMARK

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5. ADDRESS (Complete only if requested)

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☆GPO: 1979-300-459

Smallwood - draft response

HILLSBOROUGH ENVIRONMENTAL COALITION

TAMPA - HILLSBOROUGH COUNTY

P.O. Box 2800, Tampa, Florida 33601

November 16, 1982

Victoria J. Tschinkel
Secretary
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Agrico Chemical Company's Proposed Prilled Sulfur Unloading Facility - South Pierce, Florida/Sulfur Rulemaking

Dear Vicki:

This is to express the Hillsborough Environmental Coalition's concern over DER action on pending solid sulfur permits, and the effect of such action on the rulemaking study being conducted by Steve Smallwood and his staff. As you know, the Coalition has strongly supported sulfur rulemaking, and has opposed the issuance of permits without any sulfur rules.

In this regard, it is our understanding that the Department will soon be making preliminary decisions on a large solid sulfur facility proposed by Agrico in South Pierce. Issuance of a permit for this facility would, in our opinion, seriously compromise Mr. Smallwood's rulemaking inquiry. Moreover, the Coalition is not aware of any new facts which would change the Department's earlier determination to deny Agrico's solid sulfur permit at Big Bend.

As long ago as 1978, Jim Tucker appeared before the ERC on behalf of the Coalition and stated:

> We don't want to be back here a year from now with a giant slime of sulphur over the horizon in Hillsborough County, just because you wouldn't listen to the pleadings that are being made today, because the Department guessed wrong on what is the best technology for sulphur. (12/15/78)

Mr. Tucker's remarks are still appropriate today.

We, therefore, urge the Department to continue its rulemaking for sulfur, and not to issue solid sulfur permits while this effort is underway.

The Hillsborough Environmental Coalition hopes that you will consider our concerns with this very important matter, especially because of the potential for adverse effects upon the air quality in Florida and Hillsborough County.

Sincerely,

Sally Thompson

HILLSBOROUGH ENVIRONMENTAL COALITION, INC.
Sally Thompson, President

cc: William Hennessey, DER-Tampa

THOMAS W. REESE
ATTORNEY AT LAW
123 EIGHTH STREET NORTH
ST. PETERSBURG, FLORIDA 33701

(813) 822-4084

November 4, 1982

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

RE: Agrico's Polk County sulphur permit

Dear Mr. Smallwood:

Could you please send me timely notice of any letter of intent on Agrico's proposed 600,00 ton Polk County solid sulphur facility.

It is Booker Creek Preservation, Inc.'s position that solid sulphur is currently a regressive technology for which no new permits should be issued until the ongoing sulphur rule-making is completed. This is especially true in light of DER's finding of facts in the Freeport/Agrico hearing and the fact that DER has dragged its feet for over four years on the sulphur rulemaking.

Very truly yours,

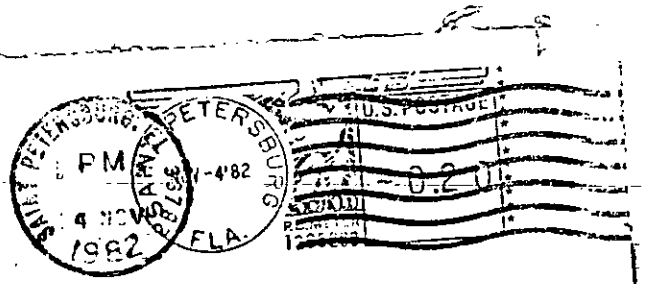
Thomas W Reese

Thomas W. Reese

TWR/jmt

cc: Dan Williams
Marty Hall, Esq.

THOMAS W. REESE
ATTORNEY AT LAW
123 EIGHTH STREET NORTH
ST. PETERSBURG, FLORIDA 33701



Steve Smallwood, Chief
Bureau of Air Quality
DER
2600 Blair Stone Rd
Tallahassee, FL 32301

Copy to Steve Fay.

Agrico

ONE OF THE WILLIAMS COMPANIES

RECEIVED
SEP 7 1982
Office of the Secretary

RECEIVED
SEP 7 1982
Office of the Secretary

DER
SEP 13 1982
BAQM

September 1, 1982

Ms. Victoria J. Tschinkel, Secretary
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

RE: AGRICO CHEMICAL COMPANY'S MAY 10, 1982 APPLICATION FOR A PERMIT TO CONSTRUCT A WET PRILLED SULFUR HANDLING FACILITY, NO. AC 53-55780

Dear Secretary Tschinkel:

Thank you for your letter of June 30, 1982, suggesting that, in light of the Department of Environmental Regulation's preliminary inquiry into sulfur handling, Agrico might wish to withdraw the above-referenced application or waive the applicability of the ninety-day permitting clock to that application.

Agrico understands the finite nature of the Department's resources, and its desire to, whenever possible, regulate through rules of general applicability instead of on an ad hoc basis. Agrico, however, also has finite resources, and only recently received, after extensive litigation, an air permit originally applied for in 1977 for a sulfur terminal in Tampa.

We do not believe that any delay in permitting the proposed sulfur handling facility is appropriate when based upon mere speculation that rules, which have not even been proposed, may, if they ever are promulgated, in some unspecified manner affects its emissions.

Accordingly, Agrico respectfully requests that the Department, as soon as it receives the response to Mr.

Agrico Chemical Company • South Pierce Chemical Works • P. O. Box 1969, Hwy. 630 • Bartow, Florida 33830
(813) 428-1423

C. H. Fancy's request of June 9, 1982, for additional information, promptly proceed with its consideration of the above-referenced application.

Sincerely,

AGRICO CHEMICAL COMPANY
SOUTH PIERCE CHEMICAL WORKS

L. C. Lahman
Plant Manager

LCL:des

de la PARTE AND GILBERT, P. A.
ATTORNEYS AT LAW

EDWARD M. CHEW
EDWARD P. de la PARTE, JR.
LOUIS de la PARTE, JR.
CAROLYN M. FIELDS
RICHARD A. GILBERT
WALTER R. HEINRICH
CLIFTON A. LIVINGSTON

705 EAST KENNEDY BOULEVARD
TAMPA, FLORIDA 33602
(813) 229-2775

June 28, 1982

Sam Sahebzamani
Permitting Engineer
Southwest District - DER
7601 Highway 301, N.
Tampa, Florida 33610-9544

Re: Permit Application No. IC29-55453

Dear Mr. Sahebzamani:

As you probably know, our firm represents Agrico Chemical Company in the above-referenced permit proceeding.

I recently received copies of a May 12 letter from Judith S. Kavanaugh, a May 26 letter from Gloria C. Rains, and a May 27 letter from Paul H. Amundsen. All these letters relate to this application and are filed at your office. In the future, please forward me copies of any such documents from third parties regarding this application or Agrico's prill sulphur terminal in general. I would appreciate your billing me for any costs incurred in reproducing these materials.

Sincerely,

Edward de la Parte

Edward P. de la Parte, Jr.

EPdlP/mew

cc: Martha H. Hall, Esq.
Steve Smallwood

de la PARTE AND GILBERT, P. A.
ATTORNEYS AT LAW

EDWARD M. CHEW
EDWARD P. de la PARTE, JR.
LOUIS de la PARTE, JR.
CAROLYN M. FIELDS
RICHARD A. GILBERT
WALTER R. HEINRICH
CLIFTON A. LIVINGSTON

705 EAST KENNEDY BOULEVARD
TAMPA, FLORIDA 33602
(813) 229-2775

June 28, 1982

C.H. Fansy, P.E.
Deputy Bureau Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Tower Office Building
Blair Stone Road
Tallahassee, Florida 32301

Re: Permit Application No. AC53-55780

Dear Mr. Fansy:

As you probably know, our firm represents Agrico Chemical Company in the above-referenced permit proceeding. Please forward me copies of any documents in your possession from third parties or objectors regarding the above-referenced permit application or Agrico's prill sulphur terminal in general. Also, in the future forward me copies of these documents when received by your office. I would appreciate your billing me for any costs incurred in reproducing these materials.

Sincerely,

Edward de la Parte

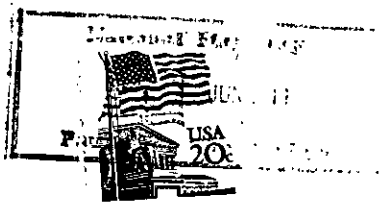
Edward P. de la Parte, Jr.

EPdlP/mew

cc: Martha H. Hall, Esq.
Steve Smallwood

de la PARTE AND GILBERT, P.A.
ATTORNEYS AT LAW
705 EAST KENNEDY BOULEVARD
TAMPA, FLORIDA 33602

TAMPA, FL 336
FM
28 JUN.
1982



Steve Smallwood, Air Quality Mgmt.
DER - 2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32301

de la PARTE AND GILBERT, P. A.
ATTORNEYS AT LAW

EDWARD M. CHEW
EDWARD P. de la PARTE, JR.
LOUIS de la PARTE, JR.
CAROLYN M. FIELDS
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WALTER R. HEINRICH
CLIFTON A. LIVINGSTON

705 EAST KENNEDY BOULEVARD
TAMPA, FLORIDA 33602
(813) 229-2775

June 28, 1982

C.H. Fansy, P.E.
Deputy Bureau Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Tower Office Building
Blair Stone Road
Tallahassee, Florida 32301

Re: Permit Application No. AC53-55780

Dear Mr. Fansy:

As you probably know, our firm represents Agrico Chemical Company in the above-referenced permit proceeding. Please forward me copies of any documents in your possession from third parties or objectors regarding the above-referenced permit application or Agrico's prill sulphur terminal in general. Also, in the future forward me copies of these documents when received by your office. I would appreciate your billing me for any costs incurred in reproducing these materials.

Sincerely,

Edward de la Parte

Edward P. de la Parte, Jr.

EPdlP/mew

cc: Martha H. Hall, Esq.
Steve Smallwood

de la PARTE AND GILBERT, P.A.
ATTORNEYS AT LAW,
705 EAST KENNEDY BOULEVARD
TAMPA, FLORIDA 33602

C.H. Fansy, P.E.
Deputy Bureau Chief
Bur. of Air Quality Mgmt.
DER - 2600 Blair Stone Rd.
Twin Towers Office Bldg.
Tallahassee, Florida 32301

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

June 22, 1982

Mr. Ed Mayer, Environmental Manager
Agrico Chemical Company
P.O. Box 1969
Bartow, Florida 33830

Dear Mr. Mayer:

In response to your letter of May 3, 1982, requesting a determination that PSD review is not required for the construction of prilled sulfur handling facilities at the South Pierce Chemical Complex, the Bureau of Air Quality Management has reviewed the information submitted. According to the information submitted, the Bureau concurs with your assessment that PSD review is not required in this case.

If the sources emit pollutants in amounts greater than the de minimus levels specified in 40 CFR 52.21(b)(23) and Table 500-2, 17-2.500, FAC, PSD review would be required. If the federally enforceable emission limitations contained in the state construction permit are below the de minimus levels, this project is exempt from PSD review.

If any further clarification is needed, please contact Mr. John Svec at (904) 488-1344.

Sincerely,

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

CHF:JS:ras

cc: Dan Williams

DYE, CLEARY, SCOTT & DEITRICH, P. A.

ATTORNEYS AT LAW

SOUTHEAST NATIONAL BANK BLDG.

BRADENTON, FLORIDA 33506

P. O. DRAWER 9480

PHONE (813) 748-4411

DEWEY A. DYE, JR.
ROBERT L. SCOTT
DAVID K. DEITRICH
PHILIP E. PERREY
JUDITH S. KAVANAUGH
PATRICIA A. PETRUFF
C. ROBERT PICKETT
JOHN V. QUINLAN

DEWEY A. DYE (1898-1969)

OF COUNSEL
KENNETH W. CLEARY

CERTIFIED MAIL
RETURN RECEIPT

June 10, 1982

DER
JUN 14 1982
EOM

Mr. William K. Hennessey
Department of Environmental
Regulation
7601 Highway 301 North
Tampa, Florida 33601

COPY

RE: Agrico Chemical Company Application for Permit to Construct An Air Pollution Source for a Prilled Sulphur Handling Operation; South Pierce Facility, Polk County, Florida; Dated May 7, 1982; Received by DER May 10, 1982.

Dear Mr. Hennessey:

This letter is written on behalf of Sulphur Terminals Company, Inc. ("Sulphur Terminals"), a client of this office, to notify the Florida Department of Environmental Regulation of Sulphur Terminal's substantial interest in all proceedings relating to the above described permit application. On behalf of Sulphur Terminals, I request written notice of all proceedings, permits, or other agency actions, formal, informal or proposed, relating to said permit, and I respectfully request that Sulphur Terminals be sent copies through this office of all letters, memos or other information received or sent by DER relating to the above permit application.

I thank you and your staff for your continued courtesy and assistance in this regard, and I remain,

Respectfully,

Judith S. Kavanaugh

JSK/th

cc: Dan Williams

DYE, CLEARY, SCOTT & DEITRICH, P. A.
ATTORNEYS AT LAW
SOUTHEAST NATIONAL BANK BLDG.
BRADENTON, FLORIDA 33506
P. O. DRAWER 9480
PHONE (813) 748-4411

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ROBERT L. SCOTT
DAVID K. DEITRICH
PHILIP E. PERREY
JUDITH S. KAVANAUGH
PATRICIA A. PETRUFF
C. ROBERT PICKETT
JOHN V. QUINLAN

DEWEY A. DYE (1898-1969)

OF COUNSEL
KENNETH W. CLEARY

CERTIFIED MAIL
RETURN RECEIPT

June 10, 1982

Victoria J. Tschinkel
Secretary, Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

COPY

RE: Agrico Chemical Company Application for Permit to Construct An Air Pollution Source for a Prilled Sulphur Handling Operation; South Pierce Facility, Polk County, Florida; Dated May 7, 1982; Received by DER May 10, 1982.

Dear Secretary Tschinkel:

This letter is written on behalf of Sulphur Terminals Company, Inc. ("Sulphur Terminals"), a client of this office, to notify the Florida Department of Environmental Regulation of Sulphur Terminal's substantial interest in all proceedings relating to the above described permit application. On behalf of Sulphur Terminals, I request written notice of all proceedings, permits, or other agency actions, formal, informal or proposed, relating to said permit, and I respectfully request that Sulphur Terminals be sent copies through this office of all letters, memos or other information received or sent by DER relating to the above permit application.

I thank you and your staff for your continued courtesy and assistance in this regard, and I remain,

Respectfully,

Judith S. Kavanaugh

JSK/th

cc: Martha H. Hall
Steve Smallwood
William K.Hennessey

DYE, CLEARY, SCOTT & DEITRICH, P. A.
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JOHN V. QUINLAN

DEWEY A. DYE (1898-1969)

OF COUNSEL
KENNETH W. CLEARY

CERTIFIED MAIL
RETURN RECEIPT

June 10, 1982

Mr. William K. Hennessey
Department of Environmental
Regulation
7601 Highway 301 North
Tampa, Florida 33601

COPY

RE: Detsco Terminals, Inc. Application To Construct an Air Pollution Source for a Boiler and Sulphur Terminals/Storage and Transfer Facility; Polk County, Florida; Dated April 5, 1982, Received by DER April 12, 1982.

Dear Mr. Hennessey:

This letter is written on behalf of Sulphur Terminals Company, Inc. ("Sulphur Terminals"), a client of this office, to notify the Florida Department of Environmental Regulation of Sulphur Terminal's substantial interest in all proceedings relating to the above described permit application. On behalf of Sulphur Terminals, I request written notice of all proceedings, permits, or other agency actions, formal, informal or proposed, relating to said permit, and I respectfully request that Sulphur Terminals be sent copies through this office of all letters, memos or other information received or sent by DER relating to the above permit application.

I thank you and your staff for your continued courtesy and assistance in this regard, and I remain,

Respectfully,

Judith S. Kavanaugh

JSK/th

cc: Dan Williams

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JOHN V. QUINLAN

DEWEY A. DYE (1898-1969)

OF COUNSEL
KENNETH W. CLEARY

CERTIFIED MAIL
RETURN RECEIPT

June 10, 1982

Victoria J. Tschinkel
Secretary, Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

COPY

RE: Detsco Terminals, Inc. Application To Construct an Air Pollution Source for a Boiler and Sulphur Terminals/Storage and Transfer Facility; Polk County, Florida; Dated April 5, 1982, Received by DER April 12, 1982.

Dear Secretary Tschinkel:

This letter is written on behalf of Sulphur Terminals Company, Inc. ("Sulphur Terminals"), a client of this office, to notify the Florida Department of Environmental Regulation of Sulphur Terminal's substantial interest in all proceedings relating to the above described permit application. On behalf of Sulphur Terminals, I request written notice of all proceedings, permits, or other agency actions, formal, informal or proposed, relating to said permit, and I respectfully request that Sulphur Terminals be sent copies through this office of all letters, memos or other information received or sent by DER relating to the above permit application.

I thank you and your staff for your continued courtesy and assistance in this regard, and I remain,

Respectfully,

Judith S. Kavanaugh

Judith S. Kavanaugh

JSK/th

cc: Martha H. Hall
William K. Hennessey
Steve Smallwood

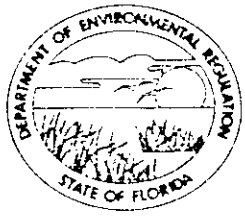
Dye, Cleary, Scott & Deitrich, P. A.
P. O. Box 9480
Bradenton, Florida 33506

Steve Smallwood, Bureau Chief
Bureau of Air Quality Manage.
Department of Environmental Regu.
2600 Blair Stone Road
Tallahassee, Florida 32301

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

June 9, 1982

Mr. L. C. Lahman, Plant Manager
Agrico Chemical Company
P. O. Box 1969
Bartow, Florida 33830

Dear Mr. Lahman:

RE: Air Pollution Source Construction Application-
South Pierce Chemical Complex, AC 53-55780

Your construction permit application for a prilled sulfur receiving and melting facility at your South Pierce Chemical Complex has been transferred to the Bureau of Air Quality Management for processing. The information submitted has been reviewed and is deemed incomplete. The following information is required to complete processing of the permit.

For both the particulate emission estimate and the hydrogen sulfide emission estimate, the basis of potential discharge is required as stated in the supplemental requirements. Therefore, a copy of Dr. Lundgren's "Determination of Emission Factors for Fugitive Emission Sources" and a copy of Dr. Raymont's technical data of hydrogen sulfide emissions during melting is required.

In the calculation of annual particulate emissions a factor of two dumps is used. The process diagram indicates there are five drop points for this facility, the truck/rail dump to conveyor, the conveyor to surge bin, the surge bin to vibrating feeder, and the vibrating feeder to two melting pits at one time. Therefore, provide the rationale behind the choice of the number of dumps in the calculation of particulate emissions.

Since no emission control equipment is contained in this application, the application must comply with the requirements of 17-2.610(3), FAC, Unconfined emissions of particulate matter. This section requires that reasonable precaution be applied to control such sources. Therefore reasonable precautions to prevent particulate emissions from the truck/rail dump,

the conveyors system, the surge hopper, the vibrating feeder and the melting pits must be proposed in accordance with this section.

Is the process rate from the surge hopper to the melting pits the same as the truck unloading rate? If it is different, specify the maximum feed rate of the vibrating feeder.

In the supplemental requirement section of the application form, design details for all pollution control systems is required for construction permit applications. Therefore, more information is needed concerning the wet scrubber. Information on the type of wet scrubber, scrubbing liquor, liquor flow rates, scrubber dimensions and estimate of efficiency should be included. A brochure from the manufacturer would be extremely helpful.

In the emission stack geometry and flow characteristics section, the gas flow rate does not correspond to the stack diameter and velocity. This section should be changed if any of these items were incorrect.

In supplement #3, maximum hydrogen sulfide emissions after controls is listed as 1.9 pounds per hour and 8.4 tons per year. In section III c. maximum emissions of hydrogen sulfide is indicated as 42. pounds per hour and 4.20 tons per year. What is the maximum controlled hydrogen sulfide emission rate that Agrico is proposing?

During the melting process, would emissions of the other criteria pollutants occur? If yes, what will the emission rate be? Submit detailed information and calculations showing how this information was derived.

When the above questions are answered, the processing of the construction permit can be finalized. If there are any questions concerning this matter, please contact John Svec at (904) 488-1344.

Sincerely,

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

CHF/JS/bjm

P167682478

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
L.C. Lahman
STREET AND NO.
P.O. Box 1969
P.O., STATE AND ZIP CODE
Bartow, Florida 33830

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CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
OPTIONAL SERVICES	RESTRICTED DELIVERY	¢
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PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1978

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2. ARTICLE ADDRESSED TO:
Mr. L.C. Lahman, Plant Mgr.
Agrico Chemical Co,
P.O. Box 1969
Bartow FL 33830

3. ARTICLE DESCRIPTION:

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PEEPLES, EARL, MOORE & BLANK

PROFESSIONAL ASSOCIATION
ATTORNEYS AT LAW

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(904) 222-5510

REPLY TO:

MIAMI

June 7, 1982

Mr. John Svec
Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting Staff
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Agrico Chemical Company's May 10, 1982 Permit Application to Construct An Air Pollution Source: A Facility To Handle, Store and Melt Solid, Prilled Sulphur in Polk County, Florida

Dear Mr. Svec:

This letter is written on behalf of Freeport Sulphur Company, a Division of Freeport Minerals Company, and Freeport Land Company which is also interested in sulphur related issues in Florida. As you know, this firm has the pleasure of representing Freeport in several proceedings concerning environmental technology for the transportation, handling and terminalling of elemental sulphur in Florida.

We are in receipt of a permit application filed at the Department's Southwest District Office on May 10th by Agrico Chemical Company to construct a solid, prilled sulphur handling facility in Polk County. As you know, Agrico was recently issued an air permit pursuant to a court order for another prilled sulphur facility at Big Bend in Hillsborough County. After a hearing on Agrico's Big Bend air application, the Department determined that Agrico had not provided reasonable assurance that sulphur dust emissions from the facility would not violate applicable Department air standards.

Agrico's latest permit application, which is the subject of this letter, proposes to bring in about twice as much solid sulphur -- 600,000 tons per year -- as it had previously proposed and was permitted by court order at Big Bend. This application provides even less information or assurance than the Big Bend application.

I. Agrico Proposes No Control Technology For Sulphur Dust.

Agrico's proposed solid sulphur handling facility in Polk County represents a radical departure from any previous prilled sulphur permit applications received by the Department. In general, Agrico proposes to unload prilled sulphur from railroad cars and/or trucks within a shed and on to a covered conveyor. The sulphur is then carried to a hopper or silo which also appears to be covered or partially enclosed. Next the prilled sulphur will be fed by a vibrating feeder into four covered sulphur melters. Curiously, despite the several transfers of material in these enclosed operations, no point sources of sulphur dust emissions are identified. "Particulate" emissions are identified later in the application presumably as fugitive emissions. No means of controlling sulphur dust emissions is mentioned. This is particularly odd since Agrico placed great importance upon the efficiency of water sprays proposed to control sulphur dust emissions at its Big Bend facility.

II. Fines Content.

It is unrealistic to predict, as Agrico does in Item 3.A., that there will be a .05 percent fines content. Fines content is dependent upon a variety of factors, none of which are disclosed in Agrico's submittals. For example, standardized tumble tests have been performed on various types of sulphur prills with widely varying results. Dusting characteristics vary from product to product and even from batch to batch. Agrico does not identify what kind of prilled sulphur it intends to bring in by rail and truck at a rate of 600,000 tons annually.

The fines content in prilled sulphur is highly dependent upon type of prill and prior handling which causes the material to break down. All forms of solid sulphur are friable. Handling

and rail transportation from Canada, or even the U.S. Gulf Coast, can generate a fines content which can well exceed .05 percent. Again, Agrico does not say from where or how far the prilled sulphur will journey by train, ship, or truck to reach its destination in Polk County. Because of this and because there is a diverse array of solid sulphur generically referred to as "prilled sulphur," Agrico's assertion of .05 percent fines content as received in Florida is indefensible. In addition, the term "wetted prill" in this application is not synonymous with the "wet prill" that Agrico proposed in their Big Bend Terminal application.

III. Emissions Estimates.

In supplement 2 and 3 of Agrico's permit application emission estimates are presented based upon an emission factor developed by Dr. Dale Lundgren. This emission factor is understated and was rejected by the Department in its denial of Agrico's permit application at Big Bend. Similarly, the two photographs presented by Agrico of a prilled sulphur installation in Canada are not representative and do not demonstrate the purported "lack of dust" at the proposed South Pierce facility. One photo is of a "resting" prill pile with no activity whatsoever taking place. The other photo is a "close-up" of a prill unloading chute which does not show the entire cargo hold. Neither photograph depicts prills which are comparable to transshipped prills that would be handled many, many times prior to reaching its ultimate destination at Agrico's facility in Polk County.

IV. Hazardous Waste And Explosivity.

The spent scrubber liquor described in Item 3.G. should be of special concern to the Department. This liquor will contain sodium hydrosulfide which is highly reactive and will evolve H_2S gas under acidic conditions. This waste meets the criteria of a hazardous waste and must be very carefully managed to prevent any danger to employees or the public. The treatment and/or disposal of this waste will require an appropriate permit from the EPA and the Department prior to construction. The location and type of recycling pond mentioned in Agrico's application should be clearly identified as it could be a significant threat to safety.

Also, it is well documented that sulphur dust is highly explosive. Given the total lack of any dust control measures and the enclosed nature of the operation, a potentially explosive threat is presented.

In conclusion, I am also enclosing my letter of May 10, 1982 to Mr. Dan Williams concerning another prilled sulphur application filed by Detsco Terminals, Inc. Many of the points raised in that letter are also applicable to Agrico's recent submittal. Agrico's Polk County facility, as proposed, suffers worse deficiencies identified in previously submitted prilled sulphur permit applications. Moreover, this facility must address the explosive hazards and hazardous waste implications of the scrubbing system.

On behalf of Freeport, we hope that this letter is of assistance. We are continuing our examination of Agrico's application and other concerns may also exist. If you have any questions, or if I can be of service, please call on me at any time.

Sincerely,

PEEPLES, EARL, MOORE & BLANK, P.A.

Paul H. Amundsen
For the Firm

PHA:lp
Enclosure

cc: Martha Harrell Hall, Esquire
Steve Smallwood
Dan Williams

PEEPLES, EARL, MOORE & BLANK

PROFESSIONAL ASSOCIATION
ATTORNEYS AT LAW

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(904) 222-5510

REPLY TO:
MIAMI

June 3, 1982

JUN 07 1982

BAQM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Re: Agrico Proposed Solid Sulphur Unloading Facility at South Pierce; Request for Notice

Dear Mr. Smallwood:

This firm represents Freeport Sulphur Company and Freeport Land Company in various matters relating to the transportation, handling and terminalling of elemental sulphur in Florida.

It has come to our attention that on May 10, 1982, Agrico Chemical Company filed a permit application at the Tampa Regional Office to construct a prilled sulfur unloading facility at South Pierce.

On behalf of our clients, we request notice of any proposed agency action on this permit.

Thank you for your assistance.

Sincerely,

PEEPLES, EARL, MOORE & BLANK, P.A.

Paul H. Amundsen
For the Firm

PHA:lp

PEEPLES, EARL, MOORE & BLANK
PROFESSIONAL ASSOCIATION
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MIAMI, FLORIDA 33131

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

CERTIFIED
No. 728552
MAIL

PEEPLES, EARL, MOORE & BLANK
PROFESSIONAL ASSOCIATION
ATTORNEYS AT LAW

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POST OFFICE BOX 1169
TALLAHASSEE, FLORIDA 32302
(904) 222-5510

REPLY TO:

MIAMI

May 10, 1982

BY HAND DELIVERY

Mr. Dan Williams
Department of Environmental Regulation
Tampa Regional Office
7601 Highway 301 North
Tampa, Florida 33610

Re: Detsco Terminals, Inc.'s April 12, 1982 Permit Applications to Construct Air Pollution Sources: A Coal Fired 600 Hp. Boiler and A Facility to Handle, Store, and Melt Solid, "Prilled" Sulphur in Polk County, Florida.

Dear Mr. Williams:

This letter is written on behalf of Freeport Sulphur Company, Division of Freeport Minerals Company, and Freeport Land Company which is also interested in sulphur related issues. As you know, this firm has the pleasure of representing Freeport in several proceedings concerning the environmental technology for the transportation, handling and terminalling of elemental sulphur in Florida. One such proceeding was the Agrico air permit matter where the court of appeals directed issuance of a solid sulphur construction permit to Agrico. This was done even though the Department found that Agrico did not provide reasonable assurance that the facility would comply with applicable standards. Rule 17-4.07, Fla.Admin.Code.

Another current DER proceeding is sulphur rulemaking where Steve Smallwood intends to thoroughly study numerous sulphur handling issues. This rulemaking is, in part, an outgrowth of the unique and unprecedented court reversal of Agrico's permit denial. The sulphur study is also, we believe, related to requests by Freeport, Sulphur Terminals and others, since 1977,

for DER to make an objective comparison between liquid form sulphur and solid form sulphur as a pollution control technology. The Smallwood study is tentatively expected to take about one year to complete.

Because of the foregoing, and because of the commercially unproven, environmentally inferior nature of solid form prilled sulphur, we are most concerned about the above captioned permit applications filed by Detsco Terminals, Inc. on April 12, 19[illegible]. These applications are:

(1) An application for a coal fired boiler;

(2) An application for a solid sulphur storage and transfer terminal. (Apparently two separate but similar applications have been concurrently submitted for this facility.)

To assist the Department, Freeport offers the following preliminary comments and observations:

I. General Comments On All Detsco Applications.

A. Apparently There Are Two Solid Sulphur Applications.

Our review of the files suggests that Detsco concurrently filed two similar solid sulphur applications accompanied by one application to construct a boiler. Please confirm whether or not this is correct. If so, your office should take appropriate steps to avoid an inadvertent "default permit" pursuant to Section 120.60(2), Florida Statutes.

B. No Reasonable Assurance That Ambient Air Quality Standards Will Not Be Exceeded.

No information is presented by Detsco to show that emissions from Detsco's proposed facilities will not cause or contribute to a violation of Ambient Air Quality Standards. Rule 17-2.300, Fla.Admin.Code.

C. Are Detsco's Facilities "Major Sources" Requiring PSD Review?

Detsco's emissions data is incomplete and undocumented. While one could surmise that these are "major" sources, no

reliable data is presented upon which one can make this judgment. Detsco's "N/A" response to whether PSD applies (Item II.G.3.) is insufficient.

D. What Technology-Based Standard Applies To Detsco's Sulphur Facility?

Item II.G.2. of each application form inquires whether Best Available Control Technology ("BACT") applies to this source. Detsco has responded with "N/A", noting that a "definitive State of Florida Regulation is in process."

This response is only partially correct. There is an important exception to the BACT requirement which applies to Detsco's solid sulphur application. DER's Rule 17-2.630(2)(b) reads, in its entirety:

> Any pending petition or proceeding involving a determination of Latest Reasonably Available Control Technology (LRACT) in process on the effective date of this Subsection, and any construction permit application or construction permit proceeding affected by such LRACT determination, petition or proceeding or relating to a category of sources encompassed by such proceeding shall be governed by the provisions of the LRACT rule, Chapter 17-2.03(30), and 17-2.03(1), Florida Administrative Code (Repealed).

By Order No. 34, dated February 1, 1978, the Environmental Regulation Commission unanimously granted requests by Freeport and others to determine LRACT for the transportation, handling and terminalling of elemental sulphur in Florida. That proceeding is pending today. Detsco's proposed solid sulphur facility is governed by this exception to the BACT rule.

II. Specific Comments on Boiler Application.

Pollution Controls:

The stated amount of $20,000 for "conventional and extraordinary control" equipment (Item II.C.) appears to be low, although control equipment is undescribed (Item II.A.). No

information is presented on control efficiency or other data required in Item III.D. This absence of information places substantial doubt upon the emissions estimates presented in Item III.C.

Emissions Estimates:

Apart from the absence of any information on control technology, Detsco's emissions estimates are not documented and are independently suspect.

Other Deficiencies:

In Item III.G., Detsco fails to state how it intends to dispose of the 588 tons of fly ash which its proposed boiler will generate each year. In addition to this fly ash, the application fails to address the potential of water pollution from Detsco's coal stockpile. These water pollution impacts and treatment methods are well documented in the literature. E.g., Brookman, et al., "Measurement and Modeling of Storm Water Runoff From Coal Storage Piles and the Impact on Receiving Waters." Similarly, air pollution emissions factors from coal piles have been developed and should be applied in evaluating Detsco's application. A sizeable stockpile of coal will undoubtedly be present at the site. The air and water pollution impacts from this coal pile cannot be ignored.

III. Specific Comments On Detsco's Sulphur Permit Applications.

A. Control Efficiency.

As you know, solid sulphur in any form is unique in several ways. One of these unique qualities is that it is difficult to wet. For this reason, Freeport is concerned about the information presented in Item III.D. First, the reference to AP-42 is probably the section on aggregate storage piles. The 90% control efficiency of Detsco's proposed water sprays stated cannot be applied to a sulphur storage pile. That figure was estimated for other, more wettable materials. Indeed, water sprays are most ineffective in controlling dust emissions from solid sulphur in any form. The 90% control efficiency represented by Detsco is unrealistically high.

B. 2% Moisture Content.

Freeport takes exception to the statement that a minimum of 2% moisture content of prilled sulphur "has been documented" to minimize dust emissions. We are aware of other similar representations, but it has not been documented as far as we know. More importantly, we do not believe it is either possible or commercially feasible to maintain the minimum 2% moisture content which Detsco relies upon. First, it is not possible because of the inherent difficulty in keeping sulphur wet; and phenomena such as draindown, channelization, and the raincoat effect when water is sprayed on a quantity of solid sulphur.

Secondly, it is commercially undesirable to keep sulphur as wet as Detsco proposes because of (1) shipping costs; (2) energy costs related to melting; and (3) the fact that solid sulphur, when wetted, is highly corrosive. This latter characteristic, for example, discourages spraying water in sulphur laden hopper cars, or during other phases of handling.

C. Fines Content.

We do not believe it is realistic to predict, as Detsco does in Item III.A., that there will be .05% fines content. Fines content is dependent upon a variety of factors, none of which are disclosed anywhere in Detsco's submittals. For example, standardized tumble tests have been performed on various types of sulphur prills with widely varying results. In its addendum, Detsco does not disclose what kind of prilled sulphur it intends to bring in at a rate of 400,000 tons annually.

Fines content is also highly dependent upon prior handling which causes the material to break down. Solid sulphur is highly friable, regardless of its form. Handling and rail transportation from Canada, or even the U.S. Gulf Coast, can generate a fines content which can well exceed .05%. Again, Detsco does not say from where and how far the prilled sulphur will journey by train into Florida. Because of this and because there is a diverse array of solid sulphur forms generically referred to as "prilled sulphur," Detsco's assertion of .05% fines content as received in Florida is indefensible.

D. Unsubstantiated Emissions Estimates.

For reasons already set forth, no credence can be given to Detsco's emissions estimates presented in Item III.C. Moreover, it cannot be ascertained from where or how these estimates were derived, or what emissions points were considered. Indeed, the emissions figures are inconsistent with the purported 90% control efficiency represented elsewhere by Detsco.

E. Other Impacts And Observations.

The prospect of acidic runoff, resulting from water sprays and rainfall is treated only in a cursory fashion. It is unlikely to expect Detsco's existing truck washdown facility to adequately capture, control, or treat this runoff.

CONCLUSION

The foregoing shows that there are numerous deficiencies, omissions and errors in Detsco's permit applications. We are continuing our examination of these documents and other concerns may also exist. On behalf of Freeport, we hope that this letter is of assistance. If you have any questions or if I can be of service, please call upon me at any time.

Sincerely,

PEEPLES, EARL, MOORE & BLANK, P.A.

Paul H. Amundsen
For the Firm

PHA:lp

cc: Martha Harrell Hall, Esquire

Agrico
ONE OF THE WILLIAMS COMPANIES

May 3, 1982

DER
MAY 10 1982
BAQM

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

Dear Mr. Smallwood,

Pursuant to 40 CFR 52.21 and 52.520, Agrico Chemical Company hereby requests a determination that PSD review is not required prior to construction of prilled sulfur handling facilities at the South Pierce Chemical Complex in Polk County, Florida.

Agrico is planning to construct facilities for unloading and moving 600,000 long tons per year of prilled sulfur. The entire amount of sulfur will be used in the manufacture of sulfuric acid at the existing and permitted acid plants. The prilled sulfur will contain approximately 2% moisture. At this moisture content, fine particles are very effectively held to the prill. Thus, the moisture content prevents aerosolization, or release, of particulates to the ambient air.

PSD review is required only for "major modifications" (40 CFR 52.21 (i)). If the proposed change will not result in a significant net emissions increase of any pollutant subject to regulations under the Clean Air Act, the change is not "major" (52.21 (b) (2)), and no review is required.

"Significant net emissions increase" means any increase in the sum of proposed emissions increases and "Contemporaneous" emissions changes which is above stated "de minimis" levels (40 CFR 52.21 (b) (3), (23)). Agrico's proposed changes will not result in a "significant net emissions increase". The following chart summarizes the effect of the proposed changes and compares them to the "de minimis" levels.

	(TPY)	
	Particulates	H_2S
Proposed emissions increase	4.56	8.4
Unreviewed "contemporaneous" emission changes	0	0
TOTAL	4.56	8.4
"De Minimis" levels (40 CFR 52.21 (b) (23))	25	10

Agrico Chemical Company • South Pierce Chemical Works • P. O. Box 1969, Hwy. 630 • Bartow, Florida 33830
(813) 428-1423

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO #61

ACTION OUT DATE 6-7-82

KAHEL		FANCY		STARNES	
BLOMMEL		THOMAS		MARTY HALL	
BARKER		GEORGE		MARSHALL MOTT-SMITH	
J. ROGERS		PALAGYI			

REMARKS

PSD Applicability Determination

Davico - South Please Complete

copies to
J.K
K.O
R.S
already delivered to K

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

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

FROM
STEVE SMALLWOOD

DATE

PHONE

The attachment to this letter more fully explains the derivation of the above numbers.

Based upon this information, Agrico requests a determination that its proposed addition is not a "major modification", and therefore, no PSD review is required prior to construction. If you have any questions, or if you need any further data, do not hesitate to call.

Sincerely,

Ed Mayer

Ed Mayer,
Environmental Engineer

EEM/lgm

EMISSIONS CALCULATIONS

I. PARTICULATE EMISSIONS

A. Estimated Emissions Increase

On February 28, 1979, Dr. Dale A. Lundgren, of the University of Florida, issued a report entitled "Determination of Emission Factors for Fugitive Emission Sources". The paper summarized research conducted to determine the emission rate of dust in the movement of prilled sulfur. The results of the research indicated that for prilled sulfur with 2% moisture, an emission rate of .0068 lb. of particulate per ton of material could be expected in a transfer-convey operation. At South Pierce, the sulfur will be unloaded from trucks and/or railcars and transferred into a silo.

Prill will arrive at the South Pierce Chemical Works by truck or railcar and will be transferred to a storage silo. The system will handle a maximum of 600,000 long tons per year and 1800 long tons in a 24 hour period.

On a yearly basis the following emissions are expected:

Assume: .0068 Lb/Ton Emission Factor
2 Transfer Locations

$$600{,}000 \frac{\text{L Tons}}{\text{Yr.}} \times .0068 \frac{\text{Lb}}{\text{Ton}} \times 2 \text{ dumps} \times 1.12 \frac{\text{Ton}}{\text{L Ton}} \times \frac{1 \text{ Ton}}{2000 \text{ Lb}} = 4.56 \frac{\text{Ton}}{\text{Yr.}}$$

TOTAL ESTIMATED EMISSIONS = 4.56 Ton/Yr. (Particulates)

B. Contemporaneous Emission Changes

On January 21, 1981, South Pierce was granted a PSD permit for addition of certain facilities. Since that time there has been no change in particulate emissions. Therefore, there are no "contemporaneous" emissions increases or decreases.

II. HYDROGEN SULFIDES

A. Estimated Emission Increase

Technical data obtained from Dr. Mike D. Raymont of the Sulfur Development Institute of Canada indicated that 25-50 PPM of H_2S could normally be released during melting of the prilled sulfur. Occasionally some sulfur could release as much as 250 PPM, however, this would be rare.

II. HYDROGEN SULFIDES (Continued)

The H_2S scrubber will be designed to control the worst case situation of a release of 250 PPM H_2S.

On a yearly basis the following emissions are expected:

Assume: 250 PPM H_2S input
The scrubber as designed by Barnard & Burk of Baton Rouge, LA is 95% efficient.

$$600{,}000 \frac{\text{L Tons}}{\text{Yr.}} \times .00025 \frac{\text{L Ton } H_2S}{\text{L Ton}} \times .05 \times 1.12 \frac{\text{Ton}}{\text{L Ton}} = 8.4 \text{ Ton/Yr. } H_2S$$

TOTAL ESTIMATED EMISSIONS = 8.4 Ton/Yr. (H_2S)

B. Contemporaneous Emissions Changes

On January 21, 1981, South Pierce was granted a PSD permit for addition of certain facilities. Since that time, there have been no changes in H_2S emissions. Therefore, there are no "contemporaneous" emissions increases or decreases.