

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

February 19, 1985

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. K. D. Fetrow
Manager of Manufacturing
Mobil Chemical Company
Post Office Box 311
Nichols, Florida 33863

Dear Mr. Fetrow:

Enclosed is Permit Number AC 53-090634 dated February 18, 1985, to Mobil Chemical Company issued pursuant to Section 403, Florida Statutes.

Acceptance of this permit constitutes notice and agreement that the department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

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

CHF/pa

Enclosure

cc: James T. Wilburn
Bill Thomas
John Koogler
Paul Swartz

Final Determination

Mobil Chemical Company
Nichols, Polk County, Florida

No. 4 Rock Dryer
Permit Number AC 53-090634

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

February 15, 1985

Final Determination
Mobil Chemical Company
AC 53-090634

Mobil's permit application to modify the operation of the No. 4 phosphate rock dryer has been reviewed by the department. Public notice of the department's intent to issue was published in the Polk County Democrat on January 7, 1985.

Copies of the Preliminary Determination and Technical Evaluation have been available for public inspection at the department's Southwest District office in Tampa and the Bureau of Air Quality Management office in Tallahassee.

Comments (Attachment J) were received from Mr. K. T. Matthews with Mobil Chemical Company, Nichols, Polk County, Florida, on January 7, 1985. As a result of the comments received and discussion between Mr. Willard Hanks and Mobil staff by telephone, the bureau agrees with certain revisions to the "Specific Conditions" and they shall read (Note: Attachment J will explain the revamping of three of the specific permit conditions):

Specific Conditions:

- No. 6: Nitrogen oxide emissions, as determined by EPA Reference Method 7 described in 40 CFR 60, Appendix A, shall not exceed 34.4 lb/hr and 0.37 lb/million Btu. Routine tests for nitrogen oxides will not be required if the initial test shows compliance with this specific condition.
- No. 10: During fuel oil firing of the dryer, the pH of the liquor exiting the caustic scrubber will be monitored and maintained at a level greater than or equal to the pH determined during performance testing to achieve the allowable SO₂ emission limit. Alternatively, during fuel oil firing, the SO₂ content of the dryer flue gases will be measured with a continuous SO₂ monitor/recorder. This instrument, if used, and its operation will comply with the applicable provision of 40 CFR 60.13. Records will be maintained and available for inspection for a period of at least two years.
- No. 13: Before this construction permit expires, the applicant shall test the emissions from the dryer scrubber, while it is operating at 90-100 percent of the maximum phosphate rock feed rate, and burning No. 6 fuel oil with approximately 2.5 percent sulfur for:

- a. Particulate Matter
- b. Sulfur Dioxide
- c. Nitrogen Oxides
- d. Opacity

Approved compliance stack testing of emissions must be conducted within approximately 10 percent of the permitted capacity. A compliance test submitted at operating levels less than 90 percent of permitted capacities will automatically constitute an amended permit at the lesser rate plus 10 percent until another test (showing compliance) at 90 percent of a higher capacity is submitted. Failure to submit the production rate of operation at conditions during testing which do not reflect actual operating conditions may invalidate the data (Chapter 403.161(1)(c), Florida Statutes).

Attachments to be Incorporated are:

J. K. T. Matthews letter dated January 4, 1985.

K. Thomas W. Devine letter dated March 20, 1980
and PSD-FL-042 Final Determination, 1979.

The final action by the Department shall be to issue the permit with the changes noted above.

ATTACHMENT J

Mobil Chemical Company

PHOSPHORUS DIVISION

P.O. BOX 311
NICHOLS, FLORIDA 33863
TELEPHONE (813) 425-3011

January 4, 1985

Mr. C. H. Fancy
Deputy Chief
Bureau of Air Quality Management
Fla. Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Mobil Chemical Company
No. 4 Phosphate Rock Dryer
Proposed Permit AC53-090634

Dear Mr. Fancy:

Dr. John B. Koogler of Sholtes & Koogler, Environmental Consultants and I have discussed two of the specific permit conditions of the subject permit with Mr. Willard Hanks of your staff and, by this letter, are requesting a modification to one of the specific conditions and a clarification on the other.

The specific condition for which we are requesting a modification is specific condition No. 10. This condition reads, in part "Further, during fuel oil firing the SO₂ content of the dryer flue gases will be measured with a continuous SO₂ monitor/recorder." In discussing this condition with Mr. Hanks, Mr. Hanks stated that this condition was incorporated in the subject permit strictly to make the subject permit consistent with the Federal Permit (PSD-FL-042) under which the No. 4 rock dryer was originally permitted.

In specific condition No. 6 of the Preliminary Determination for PSD-FL-042, it was specifically stated that continuous compliance with the SO₂ emission rate would be demonstrated through continuous monitoring of the sulfur dioxide content of the flue gas. In the Final Determination issued under PSD-FL-042 and transmitted to Mobil under cover letter dated March 20, 1980, and signed by Thomas W. Devine, Air and Hazardous Materials Division, U.S. Environmental Protection Agency, Region IV, Atlanta, Georgia, specific condition No. 6 was modified to read, in part "Continuous compliance with SO₂ and TSP allowable emission rates will be demonstrated through continuous monitoring and recording of . . . (3) the SO₂ content of the flue gases (or alternatively, the pH of the liquor exiting the scrubber)." Mobil Chemical Company elected

Mr. C. H. Fancy
January 4, 1985
Page 2

to monitor the pH of the scrubbing liquor and has consistently operated in compliance with this alternative monitoring requirement of the Federal Permit. A copy of the Final Determination for PSD-FL-042 is attached hereto for your files.

In view of the alternative monitoring requirement allowed under the Federal Permit issued for the No. 4 dryer, and the fact that Mobil has elected to use the alternative method of demonstrating compliance with the sulfur dioxide emission limit, Mobil is hereby requesting that the same alternative be incorporated into Permit AC53-090634. It is suggested that specific condition No. 10 of the subject permit read:

"10. During fuel oil firing of the dryer, the pH of the liquor exiting the caustic scrubber will be monitored and maintained at a level greater than or equal to the pH determined during performance testing to achieve the allowable SO₂ emission limit. Alternatively, during fuel oil firing the SO₂ content of the dryer flue gases will be measured with a continuous SO₂ monitor/recorder. This instrument, if used, and its operation will comply with the applicable provision of 40 CFR 60.13. Records will be maintained and available for inspection for a period of at least two years."

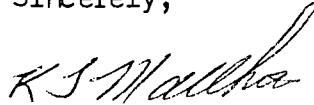
The specific condition for which we request clarification is specific condition No. 13. This condition states that: "Before this construction permit expires, the applicant shall test the emissions from the dryer scrubber . . . for: . . . c. nitrogen oxides . . ." Mobil understands that since the increased hours of operation addressed in the subject permit necessitated a PSD review for nitrogen oxides, there is a requirement to demonstrate compliance with the nitrogen oxides emission rate imposed as a permit condition. It is Mobil's understanding, based on discussions with your staff, that the requirement for nitrogen oxides emission measurements will be a one-time requirement to demonstrate compliance with the conditions of the construction permit and that emission measurements for nitrogen oxides will not be a requirement of the operating permit that will be issued for the No. 4 rock dryer. Mobil requests confirmation on this condition.

Mr. C. H. Fancy
January 4, 1985
Page 3

Regarding emission measurements on the No. 4 rock dryer, there have been discussions between the Central Air Permitting Section of FDER and the Southwest District Office of FDER (Tampa) regarding the conditions under which the No. 4 dryer will be tested. One alternative discussed was to require that the dryer operate at 90-100 percent of the maximum phosphate rock feed rate during emission tests while the other alternative requires that the dryer operate at 90-100 percent of the maximum heat input rate. Mobil's initial reaction to these alternatives is that either alternative is acceptable by itself but that both conditions imposed simultaneously would result in an operating condition that would be virtually impossible to meet. Hence, the requirement that the dryer operate at 90-100 percent of the maximum rock heat rate and 90-100 percent of the maximum heat input rate during emission tests is an unacceptable test condition.

We have appreciated the opportunity to discuss these matters with your staff and appreciate your consideration of the request made herein.

Sincerely,



K T. Matthews
Sr. Environmental Engineer

jm
Attach.

cc: Dr. J. B. Koogler, Sholtes & Koogler
B. Thomas, DER (Tampa)

ATTACHMENT K



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

RECEIVED
MAR 24 1980
R. E. S.
FLA OPERATIONS

MAR 20 1980

Handwritten: Xc: P. F. CASH
R. L. RHODES
W. L. LAL FERMAN
C. M. FURCH
G. D. GUTENBERG

REF: 4AH-AP

Mr. R. E. Schultz
Manager, Operations (Florida)
Phosphorous Division
Mobil Chemical Company
P. O. Box 311
Nichols, Florida 33863

Dear Mr. Schultz:

Review of your October 21, 1979 application to construct a surge capacity phosphate rock dryer (PSD-FL-042) near Nichols, Florida has been completed. The construction is subject to rules for the Prevention of Significant Air Quality Deterioration (PSD), contained in 40 CFR 52.21.


We have determined that the construction, as described in the application, meets all applicable requirements of the PSD regulations, subject to the conditions in the conclusions section to the Final Determination (enclosed). EPA has performed the Preliminary Determination concerning the proposed construction, and published a request for public comment on January 12, 1980. Only two comments were received; both were from your company. In response to these comments: 1) the maximum capacity was increased from 250 to 475 tons per hour, 2) the allowable emissions of particulate per ton of rock processed was reduced from 0.06 to 0.052 pounds per ton, and 3) the maximum allowable hourly rate of particulate emissions was increased from 15.4 to 24.9 pounds per hour. EPA has waived further public review of these changes on the basis that maximum ground level impacts from the source remain insignificant. Authority to Construct a Stationary Source is hereby issued for the facility described above, subject to the conditions in the enclosed Final Determination. This Authority to Construct is based solely on the requirements of 40 CFR 52.21, the Federal regulations governing significant deterioration of air quality. It does not apply to NPDES or other permits issued by this agency or permits issued by other agencies. Information regarding EPA permitting requirements can be provided if you contact Mr. Joe Franzmathes, Director, Office of Program Integration and Operations, at (404) 881-3476. Additionally, construction covered by this Authority to Construct must be initiated within 18 months from the receipt of this letter.

The United States Court of Appeals for the D. C. Circuit issued a ruling (December 14, 1979) in the case of Alabama Power Co. vs. Douglas H. Costle (78-1006 and consolidated cases) which has significant impact on the EPA prevention of significant deterioration (PSD) program and permits issued thereunder. The ruling will require modification of the PSD regulations and could affect permits issued under the existing program. You are hereby advised that this permit may be subject to reevaluation.

Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application will be subject to enforcement action.

Authority to Construct will take effect on the date of this letter. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Kent Williams, Chief, New Source Review Section (404/881-4552).

Sincerely yours,


Thomas W. Devine
Director
Air and Hazardous Materials Division

Enclosure

cc: S. Smallwood
Florida Department of Environmental Regulation

PSD-FL-042
Final Determination

I. Applicant

Mobil Chemical Company
Minerals Group
P. O. Box 311
Nichols, Florida 33863

II. Location

The proposed modification is to Mobil's phosphate processing plant located near Nichols, Florida. The proposed modification will be located at a latitude of 27° 53' 44" north and 82° 01' 55" west; the UTM coordinates are east 17-398290 and north 17-3084290.

III. Source Description

Mobil Chemical plans to modify the Nichols phosphate rock processing plant by adding a phosphate rock dryer with a design maximum throughput of 475 tons per hour of phosphate rock (nominal capacity 250 T/hr). The new dryer will be limited to 4000 hours of operation per year, and will be fired with No. 6 fuel oil (2.5% sulfur) or natural gas at a maximum rate of 94 million Btus per hour. Emissions of particulate (TSP) and sulfur dioxide (SO₂) will be controlled with the use of a venturi scrubber and a caustic scrubber operating in series.

The dryer is being added solely to handle high, short term, dryer demand and the overall capacity of the mining/rock processing complex will not change. This statement is based on the fact that plant capacity is limited by mining operations and not by rock drying capacity. Because total yearly production will not increase, total yearly emissions of fugitive (TSP) and other pollutants from plant equipment other than the dryer will not increase. Hourly emissions from some facilities may increase due to increased short term dryer capacity; however, these increases will not exceed the limits of current state operating permits. Thus, no facilities other than the new rock dryer are involved in this modification.

IV. Source Impact Analysis

The proposed modification has the potential to emit greater than 100 tons per year of TSP and sulfur dioxide (SO₂) as can be seen in Table I, and the modification will impact areas currently achieving National Ambient Air Quality Standards (NAAQS). Therefore, the proposed modification must undergo preconstruction review under the Federal Prevention of Significant Deterioration (PSD)

of Air Quality regulations (40 CFR 52.21). Full PSD review includes an analysis of the following points:

- a) Best Available Control Technology (BACT);
- b) Increment Impact;
- c) National Ambient Air Quality Standards (NAAQS) Impact;
- d) Class I Area Impact;
- e) Growth Impact; and
- f) Soils, Vegetation and Visibility Impacts.

However, allowable emissions of TSP and SO₂ do not exceed 50 tons per year, 1000 pounds per day or 100 pounds per hour as appropriate, and because of this, the proposed modification is exempt from most of these analyses and from any ambient air monitoring requirements. PSD review for this source is limited to insuring that no Class I area or area where the increment is known to be violated is impacted and determining that the new facilities meet all emission limitations and standards of performance under the State Implementation Plan and Code of Federal Regulations Title 40 Parts 60 and 61.

It should also be noted that the proposed modification is about 30 kilometers from a TSP non-attainment area in Hillsborough County. If the proposed modification impacted this area, it would be subject to offset and LAER requirements; however, as is shown in the subsequent air impact analysis section, this non-attainment area is not impacted and LAER and offset requirements are not required.

Class I Area Impact

The Class I area closest to the proposed modification is the Chassahowitzka National Wildlife Refuge which is located at a distance of about 130 kilometers from the Nichol's plant site. In most cases, air dispersion modeling is not necessary to estimate impacts on Class I areas at a distance greater than 100 kilometers. However, in this case, an analysis was performed for the dual purpose of demonstrating no Class I area impacts and no impact on the TSP non-attainment area located about 30 kilometers east of the plant.

The modeling analysis used EPA approved models: CRSTER for 3-hour and 24-hour averages and AQDM for the annual averages. Meteorological parameters used in the analysis were 1973 data from the Tampa area.

The results of this analysis are shown in Table II. Review of the results shows the source to have maximum ground level concentrations which are lower than the significance levels outlined in the Preamble to the PSD Regulations (40 CFR 52.21). These maximum concentrations occur at receptors located in the vicinity of the plant. The minor or "insignificant" maximum impacts from this source can be expected at a distance of over 100 kilometers. On the basis of these results, the proposed modification is determined not to significantly impact the non-attainment area in Hillsborough County or any Class I area.

State and Federal Emission Standards

The proposed modification is required to comply with all applicable emission and performance standards of the SIP and Federal Regulations 40 CFR 60 and 61. There are no specific emission limitations applicable to this modification in the SIP. The particulate emission limits proposed in the application will comply with the Florida process weight table emission limit requirements. Further, the applicant has obtained a state permit for construction of this new source which included a Florida State BACT review. Therefore, the proposed modification is in compliance with all SIP requirements.

As for federal emission standards applicable to this phosphate rock dryer, no such standards exist at this time. There is, however, a new source performance standard under development for phosphate rock processing plants which was proposed in the Federal Register on September 21, 1978, and which will likely affect this dryer. Since the standard is not yet promulgated, it cannot be considered in this Preliminary Determination. However, if the promulgated standard affects sources commencing construction since the time of proposal, the dryer will be required to meet the NSPS in addition to the requirements of the Final Determination regardless of whether or not promulgation follows permit issuance.

V. Conclusions

EPA proposes a Final Determination of approval with conditions for the construction of the rock dryer proposed in Mobil Chemical Company's application received by EPA on September 26, 1979. The basis for this determination is information contained in the application. The conditions set forth in the permit are as follow:

1. Construction of the dryer will be in accordance with the specifications, capacities, etc. contained in the application. This specifically includes a maximum hourly dryer feed rate of 475 tons (dry basis) and a maximum heat input of 94 million Btu's per hour (natural gas or No. 6 oil with maximum 2.5% sulfur). An hourly or continuous record of dryer feed will be maintained to determine compliance with this requirement.
2. The dryer will not operate more than 4000 hours in any 365 day period (one year). Records of the operating hours will be maintained. Such records shall include a log indicating cumulative hours of operation for each 365 day operating period and a statement signed by the unit operator of the time and date of each unit start-up and each unit shutdown. Log entries of unit startups shall be made not later than the time combustion commences in the dryer firebox, and log entries of unit shutdowns shall not be made prior to the time combustion in the dryer firebox ceases. Also, these times, by definition, determine the operating hours of the unit.
3. The dryer stack will not emit greater than the following emission limits (as stated in the application):
 - TSP - 0.52 pounds per ton of phosphate rock fed to the dryer (dry basis) and 24.0 pounds per hour.
 - SO₂ - 19.4 pounds per hour.
4. Compliance with the emission limits stated in condition 3 will be determined by performance tests. The dryer will be operated within 10 percent of the maximum rated capacity during the performance tests. Performance tests will be conducted in accordance with standard EPA methods, the applicable provisions of 40 CFR 60.8 and the following minimum sampling times and volumes:

<u>Pollutants</u>	<u>Test Method</u>	<u>Sample Period</u>	<u>Sample Volume</u>
TSP	Method 5	60 minutes (1 sample/run)	30 DSCF
SO ₂	Method 6	20 minutes (2 samples/run)	0.71 DSCF

5. Performance tests consistent with Condition 4 will be performed each time fuel conversion from natural gas to fuel oil occurs.
6. Continuous compliance with the SO₂ and TSP allowable emission rates will be demonstrated through continuous monitoring and recording of 1) the pressure drop across the scrubber, 2) the pressure of the scrubber liquid entering the venturi throat (or alternatively, the liquid flow in mass of liquid per volume air flow through scrubber), and 3) the SO₂ content of the flue gases (or alternatively, the pH of the liquor exiting the scrubber). The continuous SO₂ monitor and its operation (if used) will comply with the applicable provisions of 40 CFR 60.13. Each other monitored system parameter (pressure drop, pressure or flow, and pH), will be maintained at or above the "minimum value" required for meeting the allowable emission rates as determined by performance tests conducted according to the provisions of condition 4. System operation with parameters below these "minimum values" will constitute "excess emissions".
7. The applicant will meet the requirements and specifications of the attached General Conditions.

GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:
 - (a) description of noncomplying emission(s),
 - (b) cause of noncompliance,
 - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
 - (d) steps taken by the permittee to reduce and eliminate the noncomplying emission,and
 - (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
 - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
 - (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
 - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;
 - (d) to sample at reasonable times any emission of pollutants;and
 - (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to the:

Chief, Air Facilities Branch
Air and Hazardous Materials Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308
10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

TABLE I
EMISSIONS SUMMARY

	<u>TSP</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>HC</u>	<u>F</u>
Potential Emissions ^a (tons/year)	5400	520	76	0.2	4	Negligible
Allowable Emissions ^a Tons Per Year	49.8	39	b	b	b	b
Pounds Per Day	598	466	b	b	b	b
Pounds Per Hour	24.9 ^c	19.4	b	b	b	b

- a. All emissions are calculated at maximum hourly capacity and assuming a maximum of 4000 hours of operation per year as required in this permit.
- b. Potential emissions of this pollutant do not exceed 100 tons per year so that PSD review for these pollutants does not apply.
- c. No hourly increment level has been established for TSP; thus, the hourly emission rate does not affect PSD applicability.

TABLE II

	Maximum Impact ($\mu\text{g}/\text{m}^3$)	Defined Significance Levels ($\mu\text{g}/\text{m}^3$)
Annual Geometric Mean Concentration	TSP - 0.3 ^a SO ₂ - 0.2	1 1
24-Hour Average Concentration	TSP - 4.3 ^a SO ₂ - 3.7	5 5
3-Hour Average Concentration	TSP - N/A SO ₂ - 12.2	N/A 25

^a Modeling results in application adjusted for increase in allowable TSP emissions rate (24.9 lb/hr) over modeled emission rate (15.4 lb/hr).

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:
Mobil Chemical Company
P. O. Box 311
Nichols, Florida 33863

Permit Number: AC 53-090634
Expiration Date: July 31, 1985
County: Polk
Latitude/Longitude: 27° 53' 12"N/
82° 02' 00"W/
Project: Rock Dryer No. 4

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4, and 40 CFR 52.21. 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:

Increase hours of operation from 4000 to 8000 hours per year for the existing 475 TPH (max.) No. 4 rock dryer. The No. 4 dryer is a rotary dryer with concurrent flow and fired with No. 6 fuel oil or natural gas. The exhaust gases pass through dry cyclones, a Ducon venturi scrubber, and then a Ducon packed-bed scrubber before discharge to the atmosphere.

The facility is located near the intersection of Nichols Road and Anderson Road, Nichols, Polk County, Florida. The UTM coordinates of the site are 17-398.29 East and 3084.92 North.

The construction and operation of the No. 4 dryer shall be in accordance with the application for permit to construct, submitted by Mr. K.D. Fetrow on July 12, 1984, and the additional information provided in Mr. K.T. Matthew's October 12, 1984 letter, except for the changes listed in the specific conditions.

PERMITTEE:
Mobil Chemical Company

Permit Number: AC 53-090634
Expiration Date: July 31, 1985

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:
Mobil Chemical Company

Permit Number: AC 53-090634
Expiration Date: July 31, 1985

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:
Mobil Chemical Company

Permit Number: AC 53-090634
Expiration Date: July 31, 1985

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:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) 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:
Mobil Chemical Company

Permit Number: AC 53-090634
Expiration Date: July 31, 1985

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. This permit replaces state permit No. AC 53-24802 as it applies to the No. 4 phosphate rock dryer.
2. The phosphate rock dryer shall meet all applicable requirements of 40 CFR 60, Subpart NN - Standards of Performance for Phosphate Rock Plants, or the requirements in the permit, whichever is most restrictive.
3. Phosphate rock feed to the dryer shall not exceed 475 TPH.

PERMITTEE:
Mobil Chemical Company

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SPECIFIC CONDITIONS:

4. Particulate matter emissions from the dryer, as determined by the test methods and procedures described in 40 CFR 60.404, shall not exceed 0.052 lb/ton feed and 24.7 lb/hr. Visible emissions shall not exceed 10 percent opacity, as determined by reference method 9 described in 40 CFR 60, Appendix A.
5. Sulfur dioxide emissions, as determined by reference method 6 in 40 CFR 60, Appendix A, shall not exceed 19.4 lb/hr.
6. Nitrogen oxide emissions, as determined by EPA Reference Method 7 described in 40 CFR 60, Appendix A, shall not exceed 34.4 lb/hr and 0.37 lb/million Btu. Routine tests for nitrogen oxides will not be required if the initial test shows compliance with this specific condition.
7. Heat input to the dryer shall not exceed 94 million BTU/hr.
8. The dryer is allowed to operate 8000 hours per year.
9. Sulfur content of the fuel shall not exceed 2.5 percent by weight. Any oil burned in this dryer shall be "new". The "new" oil means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.
10. During fuel oil firing of the dryer, the pH of the liquor exiting the caustic scrubber will be monitored and maintained at a level greater than or equal to the pH level determined during performance testing to achieve the allowable SO₂ emission limit. Alternatively, during fuel oil firing, the SO₂ content of the dryer flue gases will be measured with a continuous SO₂ monitor/recorder. This instrument, if used, and its operation will comply with the applicable provision of 40 CFR 60.13. Records will be maintained and available for inspection for a period of at least two years.
11. Stack test facilities on the scrubbers shall meet the minimum specifications in Chapter 17-2.700(4), FAC.
12. The applicant shall monitor the scrubber operations as required in 40 CFR 60.403(c) and shall maintain a log on the dryer scrubber showing, for each day the dryer operates, the following:
 - a. Pressure drop of the gas in inches of water;
 - b. Flow rate of the scrubber water in GPM;
 - c. pH of the scrubber water; and
 - d. Pressure of the scrubber water.

PERMITTEE:
Mobil Chemical Company

Permit Number: AC 53-090634
Expiration Date: July 31, 1985

SPECIFIC CONDITIONS:

13. Before this construction permit expires, the applicant shall test the emissions from the dryer scrubber while it is operating at 90-100 percent of the maximum phosphate rock feed rate, and burning No. 6 fuel oil with approximately 2.5 percent sulfur for:

- a. Particulate Matter
- b. Sulfur Dioxide
- c. Nitrogen Oxides
- d. Opacity

Approved compliance stack testing of emissions must be conducted within approximately 10 percent of the permitted capacity. A compliance test submitted at operating levels less than 90 percent of permitted capacities will automatically constitute an amended permit at the lesser rate plus 10 percent until another test (showing compliance) at 90 percent of a higher capacity is submitted. Failure to submit the production rate of operation at conditions during testing which do not reflect actual operating conditions may invalidate the data (Chapter 403.161(1)(c), Florida Statutes).

14. The applicant will demonstrate compliance with the conditions of this construction permit and submit a complete application for an operating permit to the Southwest District prior to 90 days before the expiration date of this permit. The applicant may continue to operate in compliance with all terms of this construction permit until its expiration or until issuance of an operation permit.
15. Upon obtaining an operating permit, the applicant will be required to submit annual reports on the actual operation of the facility. These reports will include, as a minimum: type and quality of phosphate rock processed; total hours of operation of the dryer, and emission test reports for particulate matter and visible emissions.

PERMITTEE:
Mobil Chemical Company

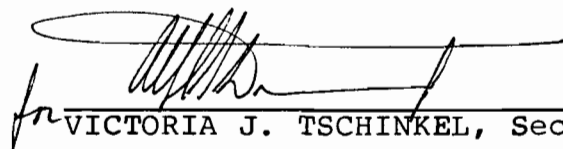
Permit Number: AC 53-090634
Expiration Date: July 31, 1985

SPECIFIC CONDITIONS:

16. The applicant will be required to do annual compliance tests for particulate matter and opacity.

Issued this 18th day of Feb, 1985.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION


VICTORIA J. TSCHINKEL, Secretary

___ pages attached

Best Available Control Technology (BACT) Determination
Mobil Chemical Company
Polk County

The applicant has requested an increase in the annual operating hours of their 475 ton per hour No. 4 rotary phosphate rock dryer. This dryer is one of three in operation at the Nichols plant. Operation of No. 4 dryer has been subject to the conditions of state permit AC 53-24802 and the federal permit PSD-FL-042. The applicant requests to increase the annual 4000 hour permit limitation to 8000 hours.

The two-fold increase in hours of operation of No. 4 dryer will increase the annual emission of air pollutants as follows:

<u>Pollutant</u>	<u>Increase (TPY)</u>	<u>Rate* (TPY)</u>
Particulate Matter	49.8	25
Nitrogen Oxides	68.7	40
Sulfur Dioxide	38.8	40
Carbon Monoxide	6.2	100
VOC	1.2	40

* Table 500-2 Regulated Air Pollutants - Significant Emission Rates, tons per year.

Rule 17-2.500(5) requires a Best Available Control Technology (BACT) review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in Table 500-2. The affected pollutants in this case are particulates and nitrogen oxides. The source is located in an area designated as unclassified for the pollutant particulate matter and in the area of influence of the Hillsborough County particulate matter nonattainment area. The area is classified attainment for the other criteria pollutants.

BACT Determination Requested by the Applicant:

The particulate emission limit is 0.052 pounds per ton of rock input. The nitrogen oxides emission limit is 0.37 pounds per million Btu heat input.

Date of Receipt of a BACT Application:

July 30, 1984

Date of Publication in the Florida Administrative Weekly:

August 10, 1984

Review Group Members:

The determination was based upon comments received from the Stationary Source Control Section, Air Modeling and Data Analysis Section and the Southwest District Office.

BACT Determined by DER:

Pollutant	Emission Limit No. 4 Dryer
Particulates	0.052 pounds per ton of phosphate rock feed
Nitrogen Oxides	0.37 pounds per million Btu heat input
Visible Emissions	Maximum 10 percent opacity

Any oil burned in the dryer will be "new". The "new" oil means an oil which has been refined from crude oil and has not been used, and which may or may not contained additives.

Compliance with the particulate and opacity limits will be in accordance with Subsection 60.404, New Source Performance Standard (NSPS) - Subpart NN.

Compliance with the nitrogen oxides emission limit will be in accordance with 40 CFR 60, Appendix A, Method 7.

Continuous monitoring devices will be installed as required in the NSPS - Subsection 60.403(c).

BACT Determination Rationale:

The New Source Performance Standard (NSPS), 40 CFR 60.400, Subpart NN- Phosphate Rock Plants was proposed on September 21, 1979. The proposed NSPS was the basis for the December 13, 1979, department BACT determined for this source. The NSPS was promulgated on April 16, 1982.

The proposed increase in the hours of operation is not considered a modification, 40 CFR 60.14(e)(3), which would subject this source to the NSPS. This source, however, was constructed after the applicability date of September 21, 1979, and is therefore subject to the provisions of the NSPS- Subpart NN.

Particulate emissions from No. 4 phosphate rock dryer are not to exceed 0.052 pounds per ton of rock feed, a limit more stringent than the NSPS standard of 0.06. This level of control is judged to represent BACT.

Particulate emissions will be controlled with a venturi scrubber/packed-bed scrubber system. The monitoring provisions of the NSPS Subsection 60.403(c) applies to this type of emission control system. A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber and the scrubbing liquid supply pressure is judged to represent BACT.

The department agrees that the combustion parameters in a phosphate rock dryer tends to minimize the formation of nitrogen oxides and that add-on controls are not needed. The proposed NO_x limit of 0.37 pounds per million Btu heat input is judged to represent BACT.

The opacity limit determined as BACT is equal to the NSPS opacity standard.

The air quality impact of the proposed emissions has been analyzed. Atmospheric dispersion modeling has been completed and used in conjunction with an analysis of existing air quality to determine maximum ground-level ambient concentrations of the pollutants subject to BACT. Based on these analyses, the department has reasonable assurance that the proposed sources at the Mobil Chemical Company, Nichols Plant, subject to the these BACT emission limitations, will not cause or contribute to a violation of any PSD increment or ambient air quality standard.

Details of the Analysis May be Obtained by Contacting:

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

Recommended by:

C. H. Fancy

C. H. Fancy, Deputy Bureau Chief

Date: 2/18/85

Approved by:

Victoria J. Tschinkel

Victoria J. Tschinkel, Secretary

Date: 18 Feb 85