



SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS  
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 124-80-04



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

Subject: New Wales Chemicals, Inc.  
Polk County, Florida  
Sulfuric Acid Plants Nos. 4 and 5  
Rate Increase

Dear Mr. Smallwood:

This is in response to your letter of January 9, 1981, requesting clarification of information submitted to you in support of a request by New Wales Chemicals, Inc., to increase the production rate of the Nos. 4 and 5 sulfuric acid plants at the New Wales Chemical complex in Polk County. In your letter you requested clarification of the sulfur dioxide emission data used in the air quality review and clarification on the expected completion of construction dates for the Nos. 4 and 5 plants.

We reviewed the air quality modeling submitted to your office and discovered there were indeed some inconsistencies. These inconsistencies have been rectified and several of the air quality models rerun. To expedite your review I have summarized, in the attached table, the maximum hourly and annual average daily sulfur dioxide emission rates for all of the sulfur dioxide emitting sources at the New Wales Chemical Complex. These emission rates are representative of sulfur dioxide emissions from the various sources with the sources operating at the permitted maximum rated capacity, or in the case of the Nos. 4 and 5 sulfuric acid plants, at the proposed maximum rated capacity.

The revisions in the air quality modeling to rectify the inconsistencies in the emission data include revisions to CRSTER model runs 3/74 through 3/78 and revisions to PTMTPW model runs 14 through 17, 20 through 25 and 28. With the PTMTPW model runs, the modified runs are designated by the original number followed by the letter A (e.g., modified run 14 becomes run No. 14A). These revisions are incorporated in a revised Section 5.0 of the permit application support document submitted by New Wales Chemicals, Inc. We are also submitting as a separate document,

**Best Available Copy**

copies of computer print-outs for revised CRSTER runs 3/74 through 3/78 and PTMTPW runs 10 through 28A. If there are further questions regarding this air quality review, please feel free to contact me.

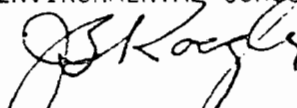
Regarding the completion of construction dates for the Nos. 4 and 5 sulfuric acid plants, it was originally anticipated that the completion of construction of the two plants would be June 30, 1983. As the construction project has progressed, it has become apparent to New Wales that both Nos. 4 and 5 sulfuric acid plants will be completed earlier than originally anticipated. It is now anticipated that the No. 4 sulfuric acid plant will be completed on September 1, 1981 and that the No. 5 sulfuric acid plant will be completed on December 1, 1981.

When the permit applications for the two sulfuric acid plants were submitted to your staff on December 17, 1980, both state and federal permit applications were submitted. The federal PSD application was submitted since FDER now has technical review responsibility for these applications. Subsequent to submittal, your staff forwarded the federal PSD application to EPA, Region IV with a request to determine whether the requested production rate increase would be handled as a new PSD application or a modification to the PSD approval granted to New Wales in May, 1980. I was informed on January 21, 1981, by Gordon Nixon of EPA by telephone that the request would be treated as a new PSD application. This determination is to be confirmed by letter with a copy to your office.

I trust the above will provide you with the information requested in your letter of January 9, 1981 and clarify the status of the federal review required for the production rate increase. If any other questions arise during the review of the permit applications, please contact us.

Very truly yours,

SHOLTES & KOGLER  
ENVIRONMENTAL CONSULTANTS

  
John B. Koogler, Ph.D., P.E.

JBK:sc  
Enclosures

cc: Mr. R. E. Jones, Jr., V.P. New Wales Chemicals, Inc.  
Mr. Larry George, FDER  
Mr. Tom Rogers, FDER  
Mr. Joseph A. Baretincic, New Wales Chemicals, Inc. (w/enc)  
Mr. A. L. Girardin, New Wales Chemicals, Inc.

SUMMARY OF SULFUR DIOXIDE EMISSIONS(1)  
WITH SOURCE AT 100 PERCENT CAPACITY

NEW WALES CHEMICALS, INC.  
POLK COUNTY, FLORIDA

Name	Source		Sulfur Dioxide Emissions	
	Number		(grams/sec)	(tons/day)(2)
Sulfuric Acid 1	59-02		54.60 <sup>115/hr</sup> <sub>433.</sub>	5.20
Sulfuric Acid 2	59-03		51.91 <sub>412.</sub>	4.94
Sulfuric Acid 3	59-04		53.93 <sub>428.</sub>	5.14
Sulfuric Acid 4 (new)	59-94		57.75 <sub>458.</sub>	5.50
Sulfuric Acid 5 (new)	59-95		57.75 <sub>458.</sub>	5.50
Auxiliary Boiler	59-13		71.73 <sub>569.</sub>	6.83
DAP No. 1	59-09		0.82 <sub>6.5</sub>	0.08
DAP No. 2 (new)	59-96		5.54 <sub>44.</sub>	0.53(3)
GTSP	59-10		1.89 <sub>15.</sub>	0.18
AFI	59-27		3.78 <sub>30</sub>	0.36
Multiphos	59-33		5.36 <sub>42.5</sub>	0.51

- 
- (1) Emissions are consistent with sulfur dioxide emissions used in New Wales federal PSD application PSD-FL-034, approved 5/23/80.
- (2) Assumed that all sources operate with annual operating factor of 1.0.
- (3) An emission rate of 1.39 tons per day was used for annual air quality modeling. This will result in an over-estimate of the annual sulfur dioxide impact.



SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS  
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822



SKEC 124-80-04

March 4, 1981

Mr. Willard Hanks  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301

Dear Willard:

Enclosed is a copy of the NO<sub>x</sub> emission test data from the New Wales sulfuric acid plant. If you have any other questions please give me a call.

Very truly yours,

SHOLTES & KOOGLER  
ENVIRONMENTAL CONSULTANTS

John B. Koogler, Ph.D., P.E.

JBK:ls

Enclosure

NO<sub>x</sub> EMISSION MEASUREMENTS  
AT NO. 1 SULFURIC ACID PLANT

NEW WALES CHEMICAL COMPANY  
POLK COUNTY, FLORIDA

On September 26, 1979 nitrogen oxides concentrations measurements were made in the tail gas stream from the No. 1 sulfuric acid plant at the New Wales Chemical Company. This plant is a 2,000 TPD double absorption contact sulfuric acid plant.

The purpose of the measurements were to obtain nitrogen oxides concentration data which could be used in estimating nitrogen oxides emissions from proposed plants of a similar design.

The emission measurements consisted of measuring the NO<sub>x</sub> concentration only using EPA Method 7 (40 CFR 60). These concentration data will be used with design tail gas flow rates from the proposed sulfuric acid plants to estimate NO<sub>x</sub> emissions.

The field and laboratory data sheets for the emission measurements follow this page.

The average NO<sub>x</sub> concentration (as NO<sub>2</sub>) was  $2.1 \times 10^{-6}$  pounds per standard cubic foot.



TABLE  
NO<sub>x</sub>  
EMISSION DATA

PLANT NEW WAGES  
STACK #1 H<sub>2</sub>SO<sub>4</sub>

Run No.	IA	IB	IC	ID
Date	9/26/79	9/26/79	9/26/79	9/26/79
Time	1320	1327	1333	1337
Flask No.	29	20	21	7
V <sub>f</sub> = Flask + Valve Volume, ml	2070	2101	2084	2084
V <sub>a</sub> = Absorbing Soln. Volume, vl	25	25	25	25
T <sub>i</sub> = Initial Flask Temp., °F	91 <sup>551</sup>	90 <sup>550</sup>	88 <sup>548</sup>	87 <sup>547</sup>
T <sub>f</sub> = Final Flask Temp., °F	75 <sup>(535°F)</sup>	75 <sup>535</sup>	75 <sup>535</sup>	75 <sup>535</sup>
P <sub>i</sub> = Initial Flask Vacuum, "Hg	27.5 <sup>2.25</sup>	27.5 <sup>2.25</sup>	27.6 <sup>2.15</sup>	27.6 <sup>2.15</sup>
P <sub>f</sub> = Final Flask Vacuum, "Hg	0.0 <sup>29.9</sup>	0.0 <sup>29.9</sup>	0.0 <sup>29.9</sup>	0.0 <sup>29.9</sup>
V <sub>g</sub> = Gas Sample Volume, ml*	1868.78	1896.84	1887.39	1887.13
M = Mass of NO <sub>2</sub> in Gas Sample, µg	83.75	62.04	64.11	62.04
NO <sub>2</sub> Concentration, lbs/scf	2.80 x 10 <sup>-6</sup>	2.04 x 10 <sup>-6</sup>	2.12 x 10 <sup>-6</sup>	2.05 x 10 <sup>-6</sup>
NO <sub>2</sub> Concentration, ppm				

dry, 70°F, 29.92"Hg

17.64

$$M_{NO_2} = 17.64 \times (V_f - V_a) \times \left( \frac{P_i}{T_i} - \frac{P_f}{T_f} \right)$$

$$NO_2 \text{ (lbs/scf)} = 6.2 \times \left( \frac{m}{V_{stpd}} \right) \times 10^{-5}$$

$$NO_2 \text{ (ppm)} = 8.406 \times 10^6 \times \frac{\text{lbs } NO_2}{\text{ft}^3}$$



TABLE

NO<sub>x</sub>

EMISSION DATA

PLANT NEW WALES  
 STACK #1 H<sub>2</sub>SO<sub>4</sub>

Run No.	2A	2B	2C	2D
Date	9/22/79			
Time	1342	1340	1350	1353
Flask No.	17	16	50	9
V <sub>f</sub> = Flask + Valve Volume, ml	2053	2071	2099	2077
V <sub>a</sub> = Absorbing Soln. Volume, vl	25	25	25	25
T <sub>i</sub> = Initial Flask Temp., °F	87 <sup>547</sup>	86 <sup>546</sup>	83 <sup>548</sup>	84 <sup>544</sup>
T <sub>f</sub> = Final Flask Temp., °F	75 <sup>535</sup>	75 <sup>535</sup>	75 <sup>535</sup>	75 <sup>535</sup>
P <sub>i</sub> = Initial Flask Vacuum, "Hg	27.6 <sup>2.15</sup>	27.5 <sup>2.20</sup>	27.6 <sup>2.15</sup>	27.6 <sup>2.15</sup>
P <sub>f</sub> = Final Flask Vacuum, "Hg	0.6 <sup>29.3</sup>	0.45 <sup>29.45</sup>	0.1 <sup>29.8</sup>	0.1 <sup>29.0</sup>
V <sub>stpd</sub> = Gas Sample Volume, ml*	1818.60	1841.29	1874.30	1873.16
m = Mass of NO <sub>2</sub> in Gas Sample, µg	65.14	67.21	66.18	63.07
NO <sub>2</sub> Concentration, lbs/scf	2.24 x 10 <sup>-6</sup>	2.28 x 10 <sup>-6</sup>	2.18 x 10 <sup>-6</sup>	2.10 x 10 <sup>-6</sup>
NO <sub>2</sub> Concentration, ppm				

\*Dry, 70°F, 29.92"Hg

$$V_{stpd} = 17.71 \times (V_f - V_a) \times \left( \frac{P_i}{T_i} - \frac{P_f}{T_f} \right)$$

$$NO_2 \text{ (lbs/scf)} = 6.2 \times \left( \frac{m}{V_{stpd}} \right) \times 10^{-5}$$

$$NO_2 \text{ (ppm)} = 8.406 \times 10^6 \times \frac{\text{lbs } NO_2}{\text{ft}^3}$$

Sample -  
 Barometric Temp.  
 19.00°C

Barometric pressure

Initial - 29.75" Hg  
Final - 29.90

SK

TABLE

NO<sub>x</sub>

EMISSION DATA

PLANT New Wake  
STACK #1 H<sub>2</sub>SO<sub>4</sub>

Run No.	3A	3B	3C	3D
Date	9/26/79			
Time	1357	1400	1402	1405
Flask No.	8	3	14	6
V <sub>f</sub> = Flask + Valve Volume, ml	2072	2083	2036	2047
V <sub>a</sub> = Absorbing Soln. Volume, vl	25	25	25	25
T <sub>i</sub> = Initial Flask Temp., °F	85 <sup>545</sup>	86 <sup>546</sup>	84 <sup>544</sup>	84 <sup>544</sup>
T <sub>f</sub> = Final Flask Temp., °F	75 <sup>535</sup>	75 <sup>535</sup>	75 <sup>535</sup>	75 <sup>535</sup>
P <sub>i</sub> = Initial Flask Vacuum, "Hg	27.6 <sup>2.15</sup>	27.6 <sup>2.15</sup>	27.6 <sup>2.15</sup>	27.6 <sup>2.15</sup>
P <sub>f</sub> = Final Flask Vacuum, "Hg	0.45 <sup>29.5</sup>	<del>0.45</del> 0.0 <sup>29.5</sup>	0.0 <sup>29.5</sup>	0.0 <sup>29.5</sup>
V <sub>stpd</sub> = Gas Sample Volume, ml*	1845.24	1885.95	1842.37	1852.44
m = Mass of NO <sub>2</sub> in Gas Sample, µg	62.04	62.04	62.04	68.24
NO <sub>2</sub> Concentration, lbs/scf	2.10 x 10 <sup>-6</sup>	2.05 x 10 <sup>-6</sup>	2.10 x 10 <sup>-6</sup>	2.30 x 10 <sup>-6</sup>
NO <sub>2</sub> Concentration, ppm				

\*Dry, 70°F, 29.92"Hg

$$V_{stpd} = 17.71 \times (V_f - V_a) \times \left( \frac{P_i}{T_i} - \frac{P_f}{T_f} \right)$$

$$NO_2 \text{ (lbs/scf)} = 6.2 \times \left( \frac{m}{V_{stpd}} \right) \times 10^{-5}$$

$$NO_2 \text{ (ppm)} = 8.406 \times 10^6 \times \frac{\text{lbs}}{\text{ft}^3} NO_2$$





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

FEB 18 1981

RECEIVED

REF: 4AH-AF

FEB 23 1981

DEPT. OF  
ENVIRONMENTAL REGULATION

Mr. Steve Smallwood  
Florida Dept. of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32301

Dear Mr. Smallwood:

This is in reference to the PSD application revision submitted by New Wales Chemicals, Inc. on January 9, 1981, to increase the previously permitted production rate of their two sulfuric acid plants near Mulberry, Florida.

It is EPA's position that this be treated as a new application, and therefore it is our conclusion that the Florida Department of Environmental Regulation be responsible for the technical review of this application in accordance with the agreements under Delegation of Authority.

If you have any questions concerning this matter, please contact Dr. Kent Williams, New Source Review Section at 404/881-4452.

Sincerely yours,

*Tommie A. Gibbs*

Tommie A. Gibbs  
Chief  
Air Facilities Branch

cc: Mr. John Koogler  
A. L. Girardin



*for  
New Wales  
Sulfuric Acid  
Plant*



INTERNATIONAL MINERALS & CHEMICAL CORPORATION

September 15, 1981

CERTIFIED-RETURN RECEIPT REQUESTED

Chief, Consolidated Permits Branch  
Enforcement Division  
U.S. Environmental Protection Agency  
345 Courtland St. NE  
Atlanta, GA 30365



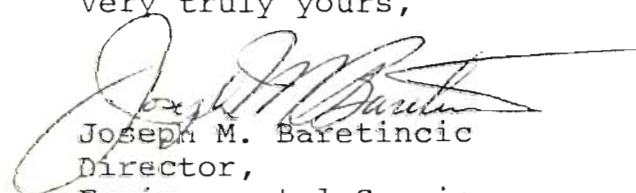
RE: PSD-FL-072

Dear Sir:

In accordance with Part II: General Conditions Section 3 of the above referenced PSD Permit, International Minerals & Chemical Corporation, New Wales Operations is hereby notifying you that the compliance testing and continuous monitor certification for Sulfuric Acid Plant No. 05 has been scheduled for the week of October 26, 1981.

IMC, New Wales Operations, intends to use the services of Sholtes & Koogler Environmental Consultants, 12316 NW 6th St., Gainesville, Florida 32601 for the performance of the required testing.

Very truly yours,

  
Joseph M. Baretincic  
Director,  
Environmental Services

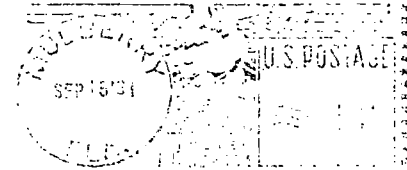
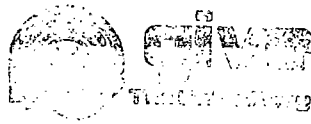
dma

CC: R. R. Garrett - Tampa  
S. Smallwood - Tallahassee



INTERNATIONAL MINERALS & CHEMICAL CORPORATION

P.O. Box 1035 • Mulberry, Florida 33860



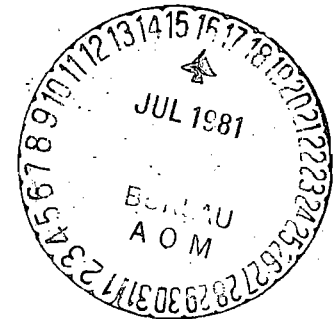
Mr. Steve Smallwood  
State of Florida  
Department of Environmental Regs.  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301

JUL 10 1981

4E-CP

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. R. E. Jones, Jr.  
Vice President  
New Wales Chemicals, Inc.  
P. O. Box 1035  
Mulberry, Florida 33860



Re: Proposed Modification to Sulfuric Acid  
Plants No. 4 and No. 5; PSD-FL-072

Dear Mr. Jones:

The review of your December 1980, application to modify Sulfuric Acid Plants No. 4 and No. 5 located at Highway 640 and County Line Road in Polk County, 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 modification as described in the application meets all applicable requirements of the PSD regulations. Accordingly, enclosed with this letter is your permit package including a Permit to Construct, Part I: Specific Conditions, and Part II: General Conditions. This authorization to construct is based solely on the requirements of 40 CFR 52.21 and does not apply to other permits issued by this or any other agency.

This final permit decision is subject to appeal under 40 CFR 124.19 by petitioning the Administrator of the EPA within 30 days after receipt of this notice of the final permit decision. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit becomes immediately effective. The petitioner may then seek judicial review.

Authority to construct this facility will take effect on the date specified in the permit. 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 Mr. Richard Schutt, Chief, Permit Processing Section, at 404/881-2017.

Sincerely yours,

Original Signed By

Howard D. Zeller  
Acting Director  
Enforcement Division

Enclosure

cc: Mr. Steve Smallwood  
Florida Dept. of Env. Regulation

JMANNING:tmc:2017:7/1/91

# AFFIDAVIT OF PUBLICATION

## THE LEDGER

Lakeland, Polk County, Florida



Case No .....

Attach Notice Here

STATE OF FLORIDA )  
COUNTY OF POLK )

Before the undersigned authority personally appeared Walter Garris, who on oath says that he is Controller of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a .....

### Public Notice

in the matter of .....

### Modify plants

in the .....

Court, was published in said newspaper in the issues of .....

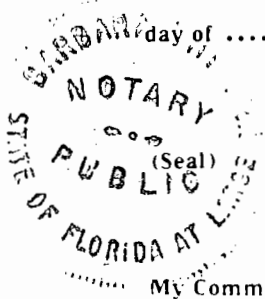
.....April 30, 1981.....

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the postoffice in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed Walter Garris  
Controller

Sworn to and subscribed before me this 5th .....

day of May..... A.D. 1981



Barbara J. Thompson  
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE  
MY COMMISSION EXPIRES NOV. 11, 1982  
BONDED THRU GENERAL INS. UNDERWRITERS

### Public Notice

PSD-FL-072

The New Wales Chemicals Company proposes to modify two double absorption type sulfuric acid plants, currently under construction at their chemical complex in western Polk County, to increase the production rate of each plant from 2,000 tons per day (TPD) to 2,750 TPD of 100% sulfuric acid.

Total emissions of air pollutants, in tons per year, resulting from the modification alone will be:

SO <sub>2</sub>	Acid Mist	CO	NO <sub>x</sub>
1050	39.4	3.0	36.8

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed modification under federal prevention of significant deterioration (PSD) regulations (40 CFR 52.21). The FDER has made a preliminary determination that the modification can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by New Wales Chemicals, Inc. are available for public review in the Bartow Public Library, Bartow, Florida, and the following FDER offices:

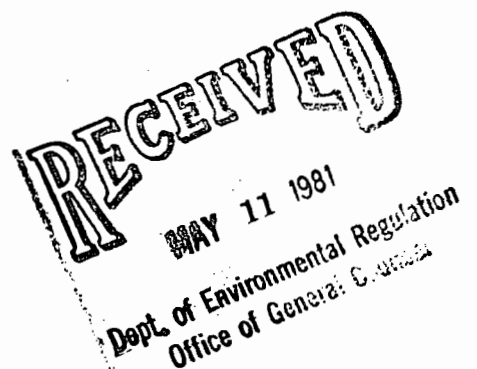
Southwest District Bureau of Air Quality Management  
7601 Highway 301 North 2600 Blair Stone Road  
Tampa, Florida 33601 Tallahassee, Florida 32301

The maximum percentage of allowable PSD increment consumed by the proposed modification is as follows:

SO <sub>2</sub>	Class II Increment		
	Annual	24-Hour	3-Hour
	4	14	18

Any person may submit written comments to FDER regarding the proposed modification. All comments postmarked not later than 30 days from the date of this notice will be considered by FDER in making a final determination regarding approval of this modification. These comments will be made available for public review at the above locations. Furthermore, a public hearing can be requested by any person. Such requests should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. Bill Thomas, P.E.  
New Source Review Section  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301  
P-152 - 4-30-1981





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JAN 25 1982

REF: 4AW-AF



Mr. J. M. Baretincic  
International Minerals & Chemical Corporation  
New Wales Operations  
P. O. Box 1035  
Mulberry, Florida 33860

Dear Mr. Baretincic:

We have received the continuous emissions monitoring report and the compliance report for SO<sub>2</sub> and sulfuric acid mist emissions from your 05 sulfuric acid plant at your New Wales operations. The reports of the tests conducted in October 1981 are complete and accurate and indicate compliance with the requirements of 40 CFR 60.82, 60.83 and 60.84 of Subpart 'H'. We have noted that the production rate during the compliance test was 94 percent of the maximum permitted rate.

We would like to remind you that compliance with the Federal New Source Performance Standards does not exempt you from compliance with any State regulations and/or procedures governing your operation.

Also, it will be necessary for you to continually maintain and operate the facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

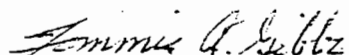
We encourage you to review the regulations (40 CFR 60) particularly Subpart A, General Provisions, and we call your attention to Part 60.7, Notification and Record Keeping and Part 60.9, Availability of Information. Also, we remind you that under Section 114(a) of the Clean Air Act, the Administrator may require additional source tests at any time so deemed appropriate.

Mr. Bartincic

Page 2

I would like to thank you for your cooperation with the Air Facilities staff and request that you continue to contact me at 404/881-4552 should you have any questions or if we can be of further assistance in any way.

Sincerely yours,

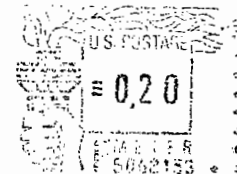
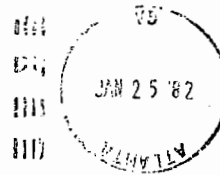


Tommie A. Gibbs  
Chief  
Air Facilities Branch  
Air & Waste Management Division

cc: Steve Smallwood  
FL Dept. of Environmental Regulation

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION IV  
345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

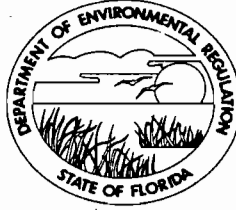


Mr. Steve Smallwood, Chief  
Bureau of Air Quality Mgmt  
Div. of Environmental Programs  
FL Dept. of Environmental Regulation  
2600 Blair Stone Rd.  
Jallahassee, FL 32301



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 1, 1981


Mr. Kent Williams, Chief  
New Source Review Section  
Air Facilities Branch  
U.S. Environmental Protection  
Agency, Region IV  
345 Courtland Street  
Atlanta, Georgia 30365

Dear Mr. Williams:

RE: PSD Permit Application - New Wales  
Chemicals, Inc. (PSD-FL-072)

Enclosed please find a copy of the proof of publication of the public notice and the Final Determination for the subject project. We recommend that the applicant be granted authority to construct, subject to the conditions in the Final Determination.

Sincerely,

  
Clair H. Fancy, P.E.  
Central Air Permitting

CHF:dav

# AFFIDAVIT OF PUBLICATION

## THE LEDGER

### Lakeland, Polk County, Florida



Case No .....

Attach Notice Here

STATE OF FLORIDA )  
COUNTY OF POLK )

Before the undersigned authority personally appeared Walter Garris, who on oath says that he is Controller of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a .....

..... Public Notice .....

in the matter of .....

..... Modify plants .....

in the .....

Court, was published in said newspaper in the issues of .....

..... April 30, 1981 .....

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the postoffice in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed Walter Garris  
Controller

Sworn to and subscribed before me this 5th day of May, A.D. 1981

(Seal) Barbara A. Higgins  
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE  
MY COMMISSION EXPIRES NOV. 11, 1982  
My Commission Expires BONDED BY GENERAL INSURANCE UNDERWRITERS

**Public Notice**  
PSD-R-072  
The New Wales Chemicals Company proposes to modify two double absorption type sulfuric acid plants, currently under construction at their chemical complex in western Polk County, to increase the production rate of each plant from 2,000 tons per day (TPD) to 2,750 TPD of 100% sulfuric acid. Total emissions of air pollutants, in tons per year, resulting from the modification alone will be:

SO <sub>2</sub>	Acid Mist	CO	NO <sub>x</sub>
1050	39.4	3.0	36.8

By authority of the U.S. Environmental Protection Agency, the Florida Department of Environmental Regulation (DER) has reviewed the proposed modification under federal prevention of significant deterioration (PSD) regulations (40 CFR 52.21). The DER has made a preliminary determination that the modification can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a permit submitted by New Wales Chemicals, Inc. are available for public review in the Sorrow Public Library, Bartow, Florida, and the following DER offices:

Southwest District Bureau of Air Quality Management  
7601 Highway 301 North 2600 Star Stone Road  
Tampa, Florida 33601 Tallahassee, Florida 32301

The maximum percentage of allowable PSD increments consumed by the proposed modification is as follows:

SO <sub>2</sub>	Class II Increment		
	Annual	24-hour	3-hour
	4	14	18

Any person may submit written comments to DER regarding the proposed modification. All comments postmarked not later than 30 days from the date of this notice will be considered by DER in making a final determination regarding approval of this modification. These comments will be made available for public review of the above locations. Furthermore, a public hearing can be requested by any person. Such requests should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. Bill Thomas, P.E.  
New Source Review Section  
Bureau of Air Quality Management  
2600 Star Stone Road  
Tallahassee, Florida 32301  
P-152 - 430, 1981



Final Determination

New Wales Chemicals, Inc.

PSD-FL-072

On April 22, 1981, FDER issued a Preliminary Determination that the source could be approved with conditions. The Preliminary Determination was advertised in the "Lakeland Ledger" on April 30, 1981 and made available for inspection at the Bartow Public Library and the FDER's Offices in Tallahassee and Tampa. No comments were received in response to the public notice, therefore, no change was made to the Preliminary Determination.

The FDER recommends that a Permit to Construct be issued to New Wales Chemicals, Inc. for the proposed sulfuric acid plant.

Final Determination

New Wales Chemicals, Inc.  
Polk County, Florida

Federal Permit Number  
PSD-FL-072

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting  
June 1, 1981

Final Determination  
New Wales Chemicals, Inc.  
PSD-FL-072

I. PROJECT DESCRIPTION

A. Applicant

New Wales Chemicals, Inc.  
P. O. Box 1035  
Mulberry, Florida 33860

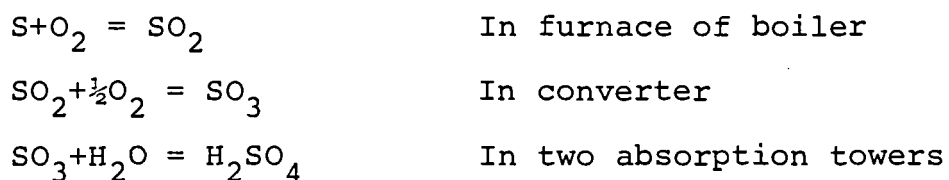
B. Project and Location

The applicant proposes to modify two double absorption type sulfuric acid plants, currently under construction, by increasing the production rate of each plant from 2,000 tons per day (TPD) to 2,750 TPD of 100% sulfuric acid. No physical change to the new plants is required to achieve the higher production rates. The affected plants are designated No. 4 and No. 5 by the applicant.

The plant site is in western Polk County, Florida, at Highway 640 and County Line Road. UTM coordinates are 396.6 km East and 3078.9 km North.

C. Process and Controls

The principal steps in the process consist of burning sulfur (S) in air to form sulfur dioxide (SO<sub>2</sub>), combining the sulfur dioxide with oxygen (O<sub>2</sub>) to form sulfur trioxide (SO<sub>3</sub>), and combining the sulfur trioxide with water (H<sub>2</sub>O) to form a solution containing sulfuric acid (H<sub>2</sub>SO<sub>4</sub>). The chemical reactions are:



The dual absorption process selected by the applicant is the best demonstrated control technology for SO<sub>2</sub> emissions from sulfuric acid plants. The high efficiency acid mist eliminator is the best demonstrated control technology for acid mist emissions. These controls will reduce the total emissions from the proposed sources to a level that is in compliance with the federal New Source Performance Standards (NSPS) requirements of 40 CFR 60, Subpart H.

## II. RULE APPLICABILITY

The proposed project (production rate increase) is subject to preconstruction review under federal prevention of significant deterioration (PSD) regulations, Section 52.21 of Title 40 of the Code of Federal Regulations (40 CFR 52.21) as amended in the Federal Register of August 7, 1980 (45 FR 52676). Specifically, the New Wales Chemicals plant is a major stationary source (40 CFR 52.21)(b)(1)) located in an area designated in 40 CFR 81.310 as unclassifiable for the criteria pollutant particulate matter and attainment for the remaining criteria pollutants including SO<sub>2</sub>. New Wales was granted authority to construct two 2000 TPD sulfuric acid plants on May 23, 1980 (federal PSD permit number PSD-FL-034). The proposed production rate increase (from 2000 TPD to 2750 TPD per plant) would result in a significant net emissions increase of SO<sub>2</sub> and sulfuric acid mist, thereby rendering it a major modification (40 CFR 52.21(b)(2)) subject to PSD review (40 CFR 52.21(i)).

Full PSD review is required for each pollutant for which a significant net emissions increase would occur, in this case SO<sub>2</sub> and sulfuric acid mist. The review consists of a determination of best available control technology (BACT) and an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the impact on soils, vegetation, visibility and air quality impacts resulting from associated commercial, residential, and industrial growth.

The proposed project is also subject to the provisions of the federal New Source Performance Standard (NSPS) for sulfuric acid plants, 40 CFR 60, Subpart H.



### III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

#### A. Emission Limitations

Table I summarizes the emissions of all pollutants regulated under the Act which are affected by the proposed modification. As the table shows, the proposed emissions increases of SO<sub>2</sub> and sulfuric acid mist exceed the significance levels set in the PSD regulations. The net emissions increases of carbon monoxide (CO) and nitrogen oxides (NO<sub>x</sub>) are not significant; therefore, these pollutants are not subject to PSD review.

Best available control technology (BACT) has been determined for SO<sub>2</sub> and sulfuric acid mist emissions from the proposed sources. The emission limiting standards selected as BACT and made a condition of this permit are listed in Table II. Justification for the standards selected is included in Technical Appendix A.

The permitted emissions, including those subject to BACT, are in compliance with the federal New Source Performance Standards (NSPS) requirements of 40 CFR 60, Subpart H.

Table I  
Emissions Summary

<u>Source</u>	Pollutant Emissions in Tons per Year			
	<u>SO<sub>2</sub></u>	<u>Acid Mist</u>	<u>NO<sub>x</sub></u>	<u>CO</u>
A. New Construction (1)				
No. 4 H <sub>2</sub> SO <sub>4</sub> Plant	1400	52.5	49.6	< 1
No. 5 H <sub>2</sub> SO <sub>4</sub> Plant	1400	52.5	49.6	< 1
B. After Modification (2)				
No. 4 H <sub>2</sub> SO <sub>4</sub> Plant	1925	72.2	68.0	< 1
No. 5 H <sub>2</sub> SO <sub>4</sub> Plant	1925	72.2	68.0	< 1
C. Increase from Modification (3)				
No. 4 H <sub>2</sub> SO <sub>4</sub> Plant	525	19.7	18.4	0.1
No. 5 H <sub>2</sub> SO <sub>4</sub> Plant	525	19.7	18.4	0.1
Fugitive Emissions (4)	0	0	0.2	2.8
D. Total Net Increase	1050	39.4	37.0	3.0
E. Significant Net Increase (5)	40	7.0	40.0	100

(1) Permitted allowable emissions (PSD-FL-034) at design rate of 2000 tons per day of 100% H<sub>2</sub>SO<sub>4</sub> for 8400 hours per year

(2) Permitted allowable emissions (PSD-FL-072) at design rate of 2750 tons per day of 100% H<sub>2</sub>SO<sub>4</sub> for 8400 hours per year

(3) Additional emissions which will result from increasing the production capacity of the No. 4 and No. 5 sulfuric acid plants from 2000 TPD to 2750 TPD each.

(4) Vehicle Traffic

(5) 40 CFR 52.21 (b) (23)

Table II

Allowable Emission Limits

Each Modified Sulfuric Acid Plant

<u>Pollutant</u>	<u>Maximum Emission-Pounds Per Hour</u>	<u>Emission Limiting Standard</u>	<u>Basis</u>
SO <sub>2</sub>	458.3	4 <sup>(a)</sup>	NSPS, BACT
Acid Mist	17.2	0.15 <sup>(a)</sup>	NSPS, BACT
Visible Emission		10% opacity	NSPS, BACT
NO <sub>x</sub>	16.2	2.1 x 10 <sup>-6</sup> lb/dscf	PSD-FL-034

(a) Pounds per ton of 100% H<sub>2</sub>SO<sub>4</sub> produced

## B. Air Quality Impacts

An air quality impacts analysis has been performed to evaluate the impact of the proposed project on ambient concentrations of SO<sub>2</sub> and sulfuric acid mist. Through the use of dispersion modeling, the analysis considered the impacts of all SO<sub>2</sub> emitting sources within the New Wales complex along with those sources at other facilities surrounding the site which may add to the impact from New Wales.

Results of the analysis provide reasonable assurance that the project, as described in this permit and subject to the conditions herein, will not lead to any violation of National Ambient Air Quality Standards or PSD increments. Details of the analysis are discussed in the Technical Appendix B.

## C. Additional Impact Analysis

An additional impacts analysis has been performed to assess (1) the impact of the proposed project on soils, vegetation, and visibility and (2) any air quality impacts resulting from associated commercial, residential, or industrial growth. No adverse impacts are expected; details of the analysis are discussed in Technical Appendix C.

#### IV. CONCLUSIONS

FDER proposes a final determination of approval with conditions for the modification project (production rate increase) requested by the New Wales Chemicals Company in the PSD permit application submitted in December, 1980 and made complete on January 26, 1981. The determination is based on the information contained in the application and the supplementary information provided by the applicant on January 26, 1981.

The specific conditions of approval are as follows:

1. The new facility shall be constructed in accordance with the capacities and specifications stated in Table I.

2. Emission of sulfur dioxide from each modified sulfuric acid plant shall not exceed 458.3 pounds per hour at the maximum allowable operating rate of 114.5 tons per hour of 100%  $H_2SO_4$ . At lesser operating rates, the emissions shall not exceed 4 pounds per ton of 100%  $H_2SO_4$  produced.

3. Emission of acid mist from each modified sulfuric acid plant shall not exceed 17.2 pounds per hour at the maximum allowable operating rates of 114.5 tons per hour of 100%  $H_2SO_4$ . At lesser operating rates, the emissions shall not exceed 0.15 pounds per ton of 100%  $H_2SO_4$ .

4. Visible emissions from each modified sulfuric acid plant shall not exceed 10% opacity.

5. Sulfur dioxide emissions from the modified sulfuric acid plants shall be continuously monitored in accordance with the provisions of Paragraph 60.84 of 40 CFR 60, Subpart H -

Standards of Performance for Sulfuric Acid Plants. The applicant shall also comply with all other applicable requirements of 40 CFR 60, Subpart H.

6. Compliance with all emissions limits shall be determined by performance tests scheduled in accordance with the attached General Conditions. Except as provided under 40 CFR 60.8(b), the performance tests shall be conducted in accordance with the provisions of the following reference methods in Appendix A of 40 CFR 60:

- a. Method 1 for sample and velocity traverses;
- b. Method 2 for volumetric flow rate;
- c. Method 3 for gas analysis;
- d. Method 8 for concentration of SO<sub>2</sub> and acid mist; and
- e. Method 9 for visible emissions.

A compliance test shall consist of the average of three consecutive runs. The maximum sample time and volume per run will be as specified in the NSPS (40 CFR 60.85). Each facility shall operate within 10 percent of maximum capacity during sampling. The parameters for the operating rate, control equipment variables and all continuous monitoring results shall be recorded during compliance testing and made a part of the test report.

7. Maximum operating time for each plant will be limited to 8400 hours per year.

8. This permit is not valid until the applicant has received permits covering the proposed modification issued under the State of Florida SIP. Any emission limits in these

permits which are more stringent than those specified in the conditions above shall become a condition of this permit.

9. The source shall comply with the requirements 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 compliance 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) anticipate 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.

## TECHNICAL APPENDIX A

### BACT ANALYSIS

The applicant is required, under the provisions of 40 CFR 52.21 as revised August 7, 1980 (45 CFR 52676), to apply BACT to all criteria and noncriteria pollutants for which a significant net emissions increase would occur.

A determination of BACT for the two sulfuric acid plants was made by the Environmental Protection Agency (EPA) in the original PSD permit, PSD-FL-034. This BACT determination is revised as part of this permit, PSD-FL-072, to reflect the greater production rate projected by the applicant.

The NSPS for sulfuric acid plants (40 CFR 60, Subpart H) specifies SO<sub>2</sub>, acid mist and visible emission limitations. These serve as a starting point for defining BACT. A recent review of the NSPS for sulfuric acid plants sponsored by EPA concluded that the current emission limitations should not be made more stringent. Therefore, the applicant proposed the NSPS levels as BACT. FDER agrees with the proposed limits as BACT for these sulfuric acid plants. The limits are summarized in Table II; a discussion of the BACT for each pollutant follows

#### 1. Sulfur Dioxide

The applicant proposed double absorption technology and an emission limit of 4.0 pounds per ton of 100% H<sub>2</sub>SO<sub>4</sub> produced as BACT for SO<sub>2</sub> from the sulfuric acid plants, based on the NSPS requirement (40 CFR 60.82). EPA recently reviewed available sulfuric acid plant technology and concluded that double

absorption remains the best technology for SO<sub>2</sub> emissions control. No basis for reducing the NSPS limit was found to exist. Similarly, no justification could be found by FDER to require a lower emission limit for the proposed plants.

## 2. Acid Mist

The applicant proposed high efficiency mist eliminators and an emission limit of 0.15 pounds of sulfuric acid mist per ton of acid produced as BACT, based on the NSPS requirements (40 CFR 60.83). FDER concurs that the NSPS for acid mist of 0.15 pounds per ton of 100% H<sub>2</sub>SO<sub>4</sub> produced and the proposed control equipment constitutes BACT for this case. No justification for more stringent control could be found.

TECHNICAL APPENDIX B

AIR QUALITY ANALYSIS

PSD Increment Analysis

PSD increment analysis pertains only to SO<sub>2</sub> and particulate matter (PM) for which maximum allowable increases (increments) are defined in 40 CFR 52.21(c). These increments provide for future industrial growth while also ensuring that "cleaner" areas of the nation remain relatively clean. In the vicinity of the New Wales plant, the Class II PSD increments apply.

For the proposed modification (production increase) at New Wales, only two pollutants, SO<sub>2</sub> and sulfuric acid mist, are subject to PSD review. Both have emission rate increases above the significance levels defined in 40 CFR 52.21 (b) (23). Only SO<sub>2</sub> is subject to PSD increment analysis.

The Single-Source (CRSTER) model was used initially to determine the maximum area of impact of the proposed modification. This was determined by finding the greatest distance to which the predicted ground-level concentration (g.l.c.) equaled or exceeded the significance level for each averaging time (annual, 24-hour, and 3-hour) for which SO<sub>2</sub> increments are established. The model was run with receptor distance ranges of 3,6,9,12, and 15 kilometers. The distances to the significance levels were interpolated from these runs.

The surface meteorological data used in this analysis and all subsequent analyses were that of the National Weather Service in

Orlando, Florida for the period 1974 to 1978. Upper air data for the same period were derived from soundings taken at Tampa, Florida. The table below shows the maximum areas of impact for the proposed emission increase given as radii of circles equal to the greatest distances as determined above.

<u>Pollutant (Avg. Time)</u>	<u>Significance Level</u>	<u>Impact Area Radius</u>
SO <sub>2</sub> (Annual )	1 ug/m <sup>3</sup>	3.0 km
SO <sub>2</sub> (24-hour)	5 ug/m <sup>3</sup>	10.3 km
SO <sub>2</sub> (3-hour)	25 ug/m <sup>3</sup>	5.6 km

The maximum impact due to increment consuming sources at New Wales and surrounding plants was considered next. To determine the annual impact, the Air Quality Display Model (AQDM) was run using the five years of meteorological data in the STAR format with five stability classes. For the short-term increment analysis the PTMTPW model ( a multiple point-source model) was used. This model was run for days of critical meteorology identified in the CRSTER runs, that is, days for which conditions were such that high concentrations were predicted to occur due to the New Wales sources only. Sources upwind of New Wales that consume increment were included for each critical day along with the New Wales increment consuming sources. The receptors for each model run for both the 24-hour and 3-hour averaging times were spaced at 0.1 kilometers. The maximum increment consumption concluded from the PTMTPW and AQDM modeling is summarized below.

<u>Pollutant (Avg. Time)</u>	<u>Maximum Impact of Modification Alone</u>	<u>Maximum Increment Consumed</u>	<u>Class II Allowable Increment</u>
SO <sub>2</sub> (annual)	0.7 ug/m <sup>3</sup>	6.6 ug/m <sup>3</sup>	20 ug/m <sup>3</sup>
SO <sub>2</sub> (24-hour)	12.9 ug/m <sup>3</sup> (1)	59.3 ug/m <sup>3</sup> (1)	91 ug/m <sup>3</sup>
SO <sub>2</sub> (3-hour)	90.4 ug/m <sup>3</sup> (1)	347.3 ug/m <sup>3</sup> (1)	512 ug/m <sup>3</sup>

(1) Highest second-high ground level concentration over the five year period.

The nearest Class I area to New Wales is the Chassohowitzka National Wilderness Area more than 100 kilometers to the north-west. The impact analysis of the proposed increase showed significant impact out to only 10.3 kilometers. Therefore, no increment consumption or adverse impact is predicted to occur in this Class I area.

#### National Ambient Air Quality Standards Analysis

The National Ambient Air Quality Standards (NAAQS) are established to protect public health and welfare. PSD regulations require the permit applicant to demonstrate that a proposed emissions increase subject to PSD review will not cause or contribute to any NAAQS violations. For the proposed modification at New Wales, PSD review is required for SO<sub>2</sub> and sulfuric acid mist; other emitted pollutants from the proposed modification, CO and NO<sub>x</sub>, fall below the significant emission rates and are exempt from PSD review. NAAQS are established for SO<sub>2</sub>; however, for this modification the permit applicant is exempt from the preconstruction monitoring requirements (40 CFR 52.21(m)) due to the maximum impact from the increase in SO<sub>2</sub> emissions being less than 13 ug/m<sup>3</sup> on a

24-hour average, (40 CFR 52.21(i)(8)).

The maximum annual average g.l.c. of SO<sub>2</sub>, taking into account all sources of SO<sub>2</sub> in the surrounding area of New Wales, was determined using the ADQM model. A background value of zero was assumed since all sources of SO<sub>2</sub> in the area were included in the modeling. A receptor grid spacing of 1.0 kilometer was used. The maximum predicted impact is 34.6 ug/m<sup>3</sup>.

The 24-hour and 3-hour maximum impacts were determined for selected days of critical meteorology as determined by the CRSTER model run for New Wales alone. PTMTPW was run for these days using all New Wales sources of SO<sub>2</sub> along with all significant sources upwind of the New Wales site. Again, a zero background concentration was assumed. The highest second-high days of critical meteorology were used and the grid spacing of the receptors was set at 0.1 kilometer. The results show maximum g.l.c.'s for 24-hour and 3-hour averages to be 223.4 ug/m<sup>3</sup> and 924.0 ug/m<sup>3</sup> respectively. The following table summarizes the results.

<u>Pollutant (Avg. Time)</u>	<u>Projected Air Quality</u>	<u>NAAQS</u>
SO <sub>2</sub> (annual)	34.6 ug/m <sup>3</sup>	80 ug/m <sup>3</sup>
SO <sub>2</sub> (24-hour)	223.4 ug/m <sup>3</sup> (1)	365 ug/m <sup>3</sup>
SO <sub>2</sub> (3-hour)	924.0 ug/m <sup>3</sup> (1)	1300 ug/m <sup>3</sup>

(1) Highest second-high ground level concentration over the five year period.



The proposed emissions increase in sulfuric acid mist is 39.4 tons per year. This is above the significance level given in 40 CFR 52.21(b)(23) and as such is subject to PSD review. Sulfuric acid mist is a non-criteria pollutant so there are no NAAQS with which to compare. However, dispersion modeling was conducted to determine the maximum g.l.c.'s of sulfuric acid mist for the same averaging times used in the SO<sub>2</sub> analysis. The results are shown in the table below.

<u>Pollutant (Avg. Time)</u>	<u>Maximum Impact of Modification Alone</u>	<u>Maximum Impact of All Sources</u>
Sulfuric Acid Mist (Annual)	0.03 ug/m <sup>3</sup>	1.0 ug/m <sup>3</sup>
Sulfuric Acid Mist (24-hour)	0.61 ug/m <sup>3</sup>	5.3 ug/m <sup>3</sup> (1)
Sulfuric Acid Mist (3-hour)	3.6 ug/m <sup>3</sup>	32.2 ug/m <sup>3</sup> (1)

(1) Maximum impact of all sources at New Wales only.

Downwash was considered and found to be not important due to the stack heights being nearly equal to the good engineering practice criterion, or 2.5 times higher than any local structure.

## TECHNICAL APPENDIX C

### ADDITIONAL IMPACT ANALYSIS

#### Impact on Soils, Vegetation, and Visibility

The maximum impact of the proposed increase in SO<sub>2</sub> emissions, as demonstrated through the air quality analysis, will be below the national secondary air quality standards established to protect public welfare related values. As such, no adverse effect on soils, vegetation, and visibility is expected. The small increase in sulfuric acid mist concentrations is also not expected to have any significant impact.

#### Growth Impacts

The proposed production rate increase will result in no new jobs and hence no impact on air quality in the area as a result of population growth. The air quality impact analysis shows the maximum impacts of the modification alone will use less than 18% of the allowable PSD increments for all averaging times. Therefore future industrial growth in the area is not seen to be significantly impeded.