



State of Idaho
DEPARTMENT OF HEALTH AND WELFARE
Division of Environmental Quality

450 W. State Street
Boise, Idaho 83720

CECIL D. ANDRUS
Governor

RICHARD P. DONOVAN
Director

April 10, 1990

CERTIFIED MAIL # P 037 427 291

Mr. Ward A. Wolleson
J.R. Simplot Company
P.O. Box 912
Pocatello, ID 83204

RE: Permit to Construct 1260-0006 -- J.R. Simplot Co.
(Pocatello) -- P-900305 (Extended Absorption Scrubber)

Dear Mr. Wolleson:

On March 9, 1990, the Bureau received your application to construct/install an extended absorption scrubber at the Don Siding Complex. We find that the proposed project meets the provisions of IDAPA 16.01.1012 (Rules and Regulations for the Control of Air Pollution in Idaho). Therefore, I am pleased to enclose your Permit to Construct.

Please pay particular attention to the reporting requirements contained on Page 6, Paragraph E, of the General Provisions section of the permit. This information is needed by the Department to properly track the progress of the project.

If you have any questions regarding the terms or conditions of the enclosed permit, please contact Mr. Orville D. Green, Manager, Planning and Permits Section, Air Quality Bureau at (208)334-5898.

Sincerely,

Joe Nagel
Administrator
Division of Environmental Quality

JN:lh

Enclosure

cc: A. Cole, PFO
D. Farrel, EPA-IOO
Engineering Source File
CDS/Source file
File Manual
COF 1.1





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M E M O R A N D U M

TO: Joe Nagel, Administrator
Division of Environmental Quality

FROM: Daniel P Heiser, Senior Engineer *DPH*
Planning & Permits

THRU: Orville Green, Manager
Planning & Permits

John Ledger, Chief
Air Quality Bureau

SUBJECT: Staff Recommendation on Permit to Construct 1260-0006:
J.R. Simplot Co. (Pocatello); P-900305 (Extended
Absorption Scrubber)

Purpose

The purpose of this memo is to satisfy the requirements of IDAPA 16.01.1012 (Rules and Regulations for the Control of Air Pollution in Idaho) for issuing Permits to Construct.

Description

This process involves treating superphosphoric acid (SPA) through oxidation. Nitric acid is reduced, while SPA is oxidized. Nitrogen oxides, a by-product of the nitric acid reduction, are converted back to nitric acid in an extended absorption scrubber.

Summary of Events

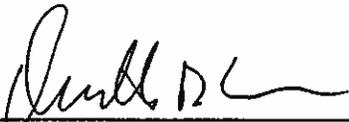
On March 9, 1990, the Bureau received Simplot's application to construct an extended absorption scrubber at the Don Siding Complex. The application was determined complete April 5, 1990.

J.R. Simplot Co.
April 10, 1990
Page Two

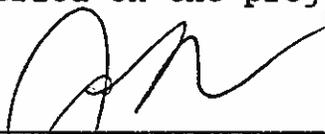
Recommendations

The staff reviewed the Permit to Construct application, and based on a review of applicable State and Federal regulations recommend that Simplot be issued a permit.

Staff also recommend that because the source does not fall under Prevention of Significant Deterioration requirements, there is no need to provide for a public comment period on the project.



Orville D. Green
Manager
Planning & Permits Section
Air Quality Bureau



John D. Ledger
Chief
Air Quality Bureau

ODG/JDL/lh

Enclosure

cc: A. Cole, PFO
D. Farrel, EPA-IOO
CDS/Source File
File Manual
COF 1.1

STATE OF IDAHO		PERMIT NUMBER	
PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE		1 2 6 0 - 0 0 0 6	
AQCR		CLASS	
0 6 1		A 1	
		SIC	
		2 8 7 4	
ZONE		UTM COORDINATE (km)	
1 2		3 7 5 . 4 , 4 7 5 1 . 3	
1. PERMITTEE			
J. R. Simplot Co. Don Siding Complex, Minerals and Chemical Group			
2. PROJECT			
Extended Absorption Scrubber			
3. ADDRESS		COUNTY	NO. OF FULL TIME EMPLOYEES
P. O. Box 912		Power	650
4. CITY	STATE	ZIP CODE	PROPERTY AREA AT SITE (Acreage)
Pocatello	Idaho	83204	900
5. PERSON TO CONTACT		TITLE	TELEPHONE NUMBER
Ward Wolleson		Environmental Engineer	(208) 235-2224
6. EXACT PLANT LOCATION			
Section 18, R34E, T6S		Don Siding	
S 1/2 Sect. 7, R 34E, T6S		West of Pocatello	
7. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS			
Manufacture of Nitrogen and Phosphate Fertilizer			
8. GENERAL CONDITIONS			
<p>This permit is issued according to the Rules and Regulations for the Control of Air Pollution in Idaho, Section 01.1012, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.</p> <p>This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare, or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.</p> <p>This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for two years.</p> <p>THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED WITH ITS APPLICATION. CHANGES OF DESIGN OR EQUIPMENT MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT.</p>			
ADMINISTRATOR		DATE	
DIVISION OF ENVIRONMENT			April 17, 1990
		<i>JAE NAC</i>	

PERMIT TO CONSTRUCT

P E R M I T N U M B E R

PERMITTEE, PROJECT, AND LOCATION

J.R. Simplot Co. Don Siding Complex
 Extended Absorption Scrubber
 Pocatello, Idaho

1	2	6	0	-	0	0	0	6
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SOURCE

Extended Absorption Scrubber

1.1 Source Description

This process involves treating superphosphoric acid (SPA) by restoring the product to a brilliant green color through oxidation. Nitric acid is reduced to nitrogen oxides and water while SPA is oxidized. The NO₂ species of nitrogen oxides are pressurized and absorbed in a dilute solution of aqueous nitric acid.

Three extended absorption scrubbers are used in series. Only the last absorption scrubber is a source of emissions. Sufficient reaction time is allowed in the absorber system to convert NO to NO₂ and continue to absorb NO₂ as nitric acid. The collected nitric acid will be recycled to the SPA oxidation reactor.

1.2 Controls

Nearly all NO_x emission is reacted in the extended water based scrubber system and collected as nitric acid. Packing material in the column are plastic Jaeger Tri-packs and metal VSP packing manufactured by Jaeger Products, Inc. There are no potential toxic chemicals and no waste stream for disposal. No particulate emissions will occur. Stack exit velocity is 1600 feet per minute at 100°F.

1.3 Equipment

1.3.1 A primary extended absorber tower is made of stainless steel. Section heights from bottom to top are 5.5 feet, 8 feet, 8 feet, 8 feet, and 2.5 feet, respectively. Random packing of 1 inch jaeger metal VSP is included in the primary extended absorber tower. Pressure rating is 150 PSIG, with a maximum temperature of 250°F, and a normal temperature of 120°F.

1.3.2 A secondary extended absorber tower is made of stainless steel, the bottom section height is 5.5 feet, the middle section height is 10 feet, and the top section height is 10 feet. A polypropoylene packed bed of 2 inch tripags is included in the secondary extended absorber tower. The pressure rating is 150 PSIG. The maximum operating temperature is 250°F and the normal operating temperature is 120°F.

ADMINISTRATOR
 DIVISION OF ENVIRONMENTAL QUALITY

DATE: April 17, 1990

PERMIT TO CONSTRUCT

P E R M I T N U M B E R

PERMITTEE, PROJECT, AND LOCATION

J.R. Simplot Co. Don Siding Complex
 Extended Absorption Scrubber
 Pocatello, Idaho

1	2	6	0	-	0	0	0	6
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SOURCE

Extended Absorption Scrubber (continued)

1.3.3 A final extended absorber is made of stainless steel. Section heights from bottom to top are 2 feet, 10 feet, 10 feet, and 2.5 feet, respectively. A polypropylene packed bed of 2 inch tripogs is included in the final extended absorber tower. Pressure rating is 150 PSIG, with a maximum temperature of 200°F, and a normal temperature of 120°F.

2. Emission Limits

2.1 Oxides of nitrogen (NO_x) shall not exceed the pound per hour (lb/hr) and ton per year (T/yr) values listed in Appendix A.

2.2 Carbon monoxide (CO) emissions shall not exceed the pound per hour (lb/hr) and ton per year (T/yr) values listed in Appendix A.

Monitoring Requirements

3.1 Emission Source Testing

3.1.1 NO_x Emissions

The permittee shall conduct an emission test to measure oxides of nitrogen using EPA Reference Method 7 (40 CFR 60, App. A, Method 7), or an alternative method approved by the Department, in accordance with General Provision F of this permit.

Operating Requirements

4.1 Maintenance on the extended absorber scrubber shall be performed when visible emissions from the extended absorption scrubber system exceed ten (10) percent opacity for more than three (3) minutes aggregate in any 60 minute period, as determined using the Department's "Evaluation of Visible Emission Manual".



ADMINISTRATOR
 DIVISION OF ENVIRONMENTAL QUALITY

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PERMIT TO CONSTRUCT

P E R M I T N U M B E R

PERMITTEE, PROJECT, AND LOCATION

J.R. Simplot Co. Don Siding Complex
Extended Absorption Scrubber
Pocatello, Idaho

1 2 6 0 - 0 0 0 6

SOURCE

Extended Absorption Scrubber (continued)

Reporting Requirements

5.1 The emission source testing results shall be reported to the Department within 30 days of performing the tests.

5.2 The permittee shall report opacity exceedances and corresponding maintenance plans to the Department within 15 days of the exceedance. Maintenance plans are subject to Department approval.

JN

ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY

DATE: April 17, 1990

APPENDIX A

Simplot SPAEmission Limits^a - Hourly (lb/h) and Annual^b (T/yr)

SOURCE DESCRIPTION	NOx		CO	
	lb/h	T/y	lb/h	T/y
	0.1 (c)	0.4 (c)	4.2	18.3

(a) As determined by a pollutant specific promulgated U.S. EPA Method, or Department approved alternative, or as determined by the Department's emission estimation methods used in this permit analysis.

(b) As determined by multiplying the actual or allowable (if actual is not available) pound per hour emission rate by the actual hours per year that the process(es) operates(s).

(c) The Department may approve an alternative emission limit for this innovative control technology, based on a Department approved source test.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

- A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules and Regulations for the Control of Air Pollution in Idaho**. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules and Regulations for the Control of Air Pollution in Idaho**, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.
- B. The permittee shall at all times (except as provided in the **Rules and Regulations for the Control of Air Pollution in Idaho**) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
- C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:
- 1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
 - 2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.
- D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
- E. The permittee shall notify the Idaho Air Quality Bureau, in writing, of the required information for the following events within five working days after occurrence:
- 1) Initiation of Construction - Date
 - 2) Completion/Cessation of Construction - Date
 - 3) Actual Production Startup - Date
 - 4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date
- F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control**, and will not be conducted on weekends or state holidays. Testing procedures and specific time limitations may be modified by the Idaho Air Quality Bureau by prior negotiation if conditions warrant adjustment. The Idaho Air Quality Bureau shall be notified at least fifteen (15) working days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

The performance tests will be performed at the **maximum** production rate. If this maximum rate is not achieved during testing, the allowable production rate will be limited to the production rate attained during testing.

- The provisions of this permit are severable, and if 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.